

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Main report and annexes

Mission Dates: 22 March - 30 April 2020

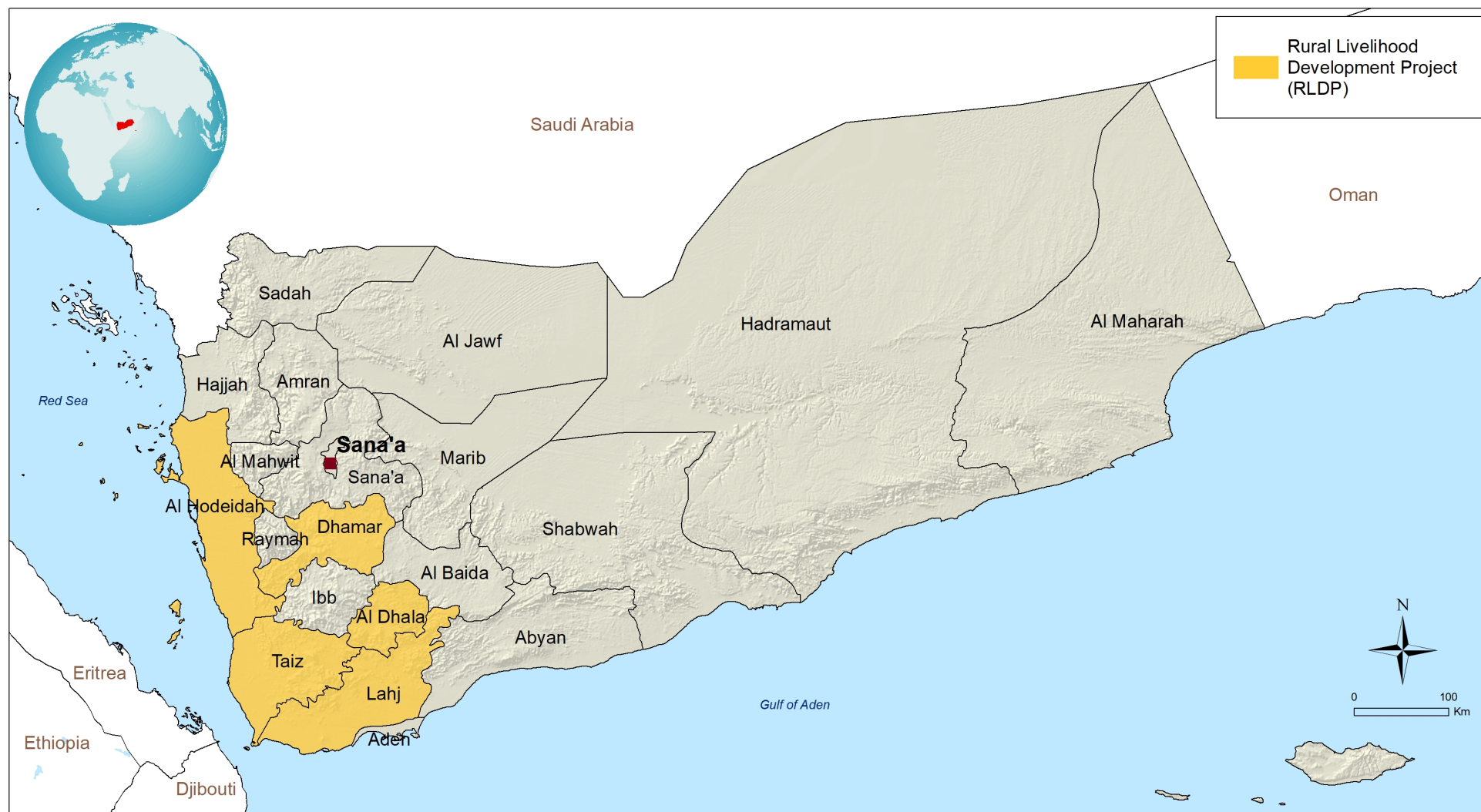
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Programme Management Department

Map of the Project Area



The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD | 04-05-2020

Abbreviations and Acronyms

ADCRMP	Al Dhala Community Resources Management Project
AREA	Agriculture Research Extension Authority
AWPB	Annual Work Plan and Budget
CAPs	Community Action Plans (<i>RGP</i>)
CDAs	Community Development Associations (<i>RGP</i>)
CFs	Community Facilitators (<i>RGP</i>)
DA	Designated Account
DPRDP	Dhamar Participatory Rural Development Project
EIRR	Economic Internal Rate of Return
EU	European Union
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GNI	Gross National Income
GoY	Government of Yemen
HDI	Human Development Index
HH	Household
ICARDA	International Centre for Agricultural Research in the Dry Areas
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
ITZ	Inter Tropical Convergence Zone
M&E	Monitoring and Evaluation
MoA	Ministry of Agriculture and Irrigation
MoF	Ministry of Finance
MoPIC	Ministry of Planning and International Cooperation
NAPA	National Adaptation Programme of Action
NENA	Near East and North Africa
NGO	Non-governmental Organization
NPCU	National Programme Coordination Unit
PIM	Project Implementation Manual (<i>IFAD</i>)
RGP	Rural Growth Programme (<i>IFAD</i>)
RIMS	Results and Impact Management System (<i>IFAD</i>)
PWP	Public Works Project
SCA	Saving and Credit Association
SCG	Savings and Credit Group
SFD	Social Fund for Development
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USD	United States Dollar
VU	Village Unit (<i>RGP</i>)
WB	World Bank
YER	Yemeni Riyal

In line with IFAD11 mainstreaming commitments, the project has been validated as:

Gender transformational Youth sensitive Nutrition sensitive Climate finance

IFAD Adaptation Finance	\$5,235,000
IFAD Mitigation Finance	N/A
Total IFAD Climate-focused Finance	\$5,235,000

Executive Summary

Overview

Yemen is in the midst of a complex conflict that is causing massive physical damage, devastating the economy, weakening institutions, and generating an unprecedented humanitarian crisis. The country is entering its sixth year of conflict, and there are substantial security, political and socio-economic challenges on the ground. The conflict in Yemen has had devastating effects on the rural population in terms of displacement, destruction of livelihoods, assets, infrastructure, disease outbreaks and a collapse of the health and public service systems. This has exacerbated the situation of the rural poor who face many additional challenges including unemployment, destitution and extreme poverty. Deterioration in income is forcing the affected population to sell their assets, which poses significant threats to the resilience of households. As a result of the crippling of crop and livestock production, more people are being pushed into hunger and the country has become heavily dependent on food imports at a great cost, further elevating the poverty and increasing the vulnerability to shocks. Yemen faces special challenges with respect to each of IFAD's corporate mainstreaming priorities namely gender, youth, nutrition, climate change and the environment. The United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA) estimates that more than 20 million people across the country are food insecure, including nearly 10 million who are suffering from extreme levels of hunger. Yemen has a long history of suffering from malnutrition and the nutrition situation in Yemen is a matter of growing concern. An additional risk which has emerged for the country is the risk from the pandemic on which Yemen is rated as high risk with a score of 6.4.

Despite the damage caused by the war to the irrigation infrastructure and productive assets, agriculture remained a key source of income for about 45 percent of the Yemen's population. The sector has been severely constrained by shortage of agriculture inputs such as seeds, fertilizer and fuel, damage to agricultural machinery and storage facilities, deterioration of basic water and electricity services, and breakdown of logistical and supply chains. Even before the war, Yemen was already a water deficit country and the conflict has further destroyed its irrigation systems and water infrastructure. Approximately 85 percent of the farming households lack access to water and fuel for irrigation and the production rates decreased by 52 percent after the crisis. The shortage of animal fodder and veterinary services have led to a decline in livestock production, a main source of income for many rural families. Agriculture sector mainly depends on very traditional methods and rain-streams, which make it vulnerable to extreme climate events such as drought and floods. The temperatures are reported to be increasing with rainfall becoming more uncertain. With the current weak adaptive and institutional capacity as well as climate change associated impact including more frequent and prolonged droughts, landslides and flooding are expected to exacerbate livelihood vulnerability of the poor, leading to further environmental resource degradation.

Rationale for IFAD involvement

Since the suspension of IFAD activities in the country in 2015, the Government of Yemen has been continuously asking for IFAD's re-engagement, as humanitarian support is not enough and development support is needed to rebuild livelihoods. GoY's request for assistance is consistent with IFAD's strategy for countries in fragile situations and its Special Programme, as well as its global experience, which indicates that while humanitarian aid is crucial, responsible and targeted investments in agriculture and rural development can make an important contribution to achieving peace and stability. While, IFAD has fulfilled all its internal procedures to re-engage in the country, the Government of Yemen cannot access the PBAS allocation because of arrears in its debt payments. Meanwhile, in November 2019 the President of IFAD agreed to exceptionally allocate USD 10 million from the IFAD grant's resources to a new grant-funded project in the country. Due to the uncertain security conditions in Yemen, the design of the project was planned remotely[1] even before the restrictions on account of COVID-19 pandemic had become apparent. The current investment aims at supporting the country in facing a long-term protracted political and developmental crisis that has weakened institutions, disrupted livelihoods, destroyed infrastructure, and made the people extremely vulnerable to food security, malnutrition, poverty and eroded their capacity to withstand economic and climate risks. While other agencies focus on dealing with the emergency and humanitarian crisis in the country, IFAD can play an important role through the Rural Livelihood Development Project (RLDP) in building the resilience of the communities on the ground, leverage on the investments made through past projects, and fill a gap between humanitarian aid and sustainable development.

Project Description

The goal of the project will be to reduce poverty and vulnerability of the targeted communities and improve the livelihoods of the poor. The project development objective will be to improve the food and nutrition security, to increase agriculture production and to build resilience to climate risks. It is expected that the project will benefit 26,000 households or 175,000 people. The project will also directly target women and youth in the components where the investment is being directly targeted at individuals and will reach 64 percent women and 53 percent youth.

Target areas and groups: The project will be implemented in the Governorates of Dhamar, Al-Dhala, Lahej, Taiz, and Al

Hudaydah. These Governorates were chosen based on their vulnerability to climate risks, food security (IPC classification) malnutrition level (Global Acute Malnutrition-GAM), population density and previous investments by IFAD in community-based association. The project will operate in 15 to 20 districts across the 5 Governorates. A long-list of 34 districts has been selected and will be further refined during implementation. Within each governorate, 3-5 districts will be selected giving priority to the following indicators; food security (IPC classification) malnutrition level (Global Acute Malnutrition Index-GAM), and climate vulnerability (including, erosion, landslide and flash flooding risks as well as other climatic variables), access based on security situation; lack of presence of other agencies and proximity to each other. The project will target poor and food and nutrition-insecure households engaged in agriculture (crop, livestock, mixed farming) as the main target group. The project will give priority to the poorest and most disadvantaged socio-economic categories like women, women-headed households and youth led households. Special consideration will be given to the inclusion of people affected by the conflict, specifically Internally Displaced People.

Components/outcomes and activities

The project will be implemented over a period of five years and will consist of three main components: (i) Community Mobilization and Strengthening; (ii) Climate-Resilient Community Infrastructure and (iii) Protection of Agriculture Livelihoods. The costs of project management, monitoring evaluation are provided in a project management component. These components will work in a complementary fashion to enhance the impact of project investments.

Component 1: Community Mobilization and Strengthening. The first component is designed to ensure that the project follows a community-based bottom-up approach to identify the investment options in close collaboration with the target group through an open, transparent and participatory mechanism. A diagnostic process will be followed in which a series of dialogues will be held with the community to identify their priorities and fix responsibilities of all implementing agencies and the community. The component will also provide the mechanisms for ensuring that there is synergy between the different components to derive maximum value added. The component consists of two sub-components namely sub-component 1.1 Community Mobilization and Engagement and sub-component 1.2 Community Capacity Building. The purpose of the component is to ensure that the investments made in community infrastructure, farmer's technical training, provision of livelihood packages and matching grants, adult literacy and nutrition are appropriate and relevant and beneficiaries are properly identified and selected from the most vulnerable Village units in the districts selected. This component will be implemented by local partners who will be competitively selected to provide field and logistical support and work closely with the beneficiaries.

Component 2: Climate Resilient Community Infrastructure. The specific objective of the component is to improve both domestic and irrigation water supply for the targeted communities, through development of water-related infrastructure. The investments will build on the experience from successful rainwater harvesting and small-scale spate improvement projects over the last fifteen years in Yemen. The component will consist of three 3 sub-components namely; Sub-component 2.1: Domestic Water Supply; Sub-component 2.2 Small-Scale Irrigation and flood-based livelihood systems; and Sub-component 2.3: Soil and Water conservation. The schemes will be chosen in a demand driven manner and the allocation of funds is indicative. This component will be implemented by SFD, with its widespread country presence and experience in other projects over many years of operation in Yemen.

Component 3: Protection of Agriculture Livelihoods. This component is designed to protect agriculture households and restore their livelihoods and provide some modicum of food and nutrition security. The component will consist of three sub-components; Subcomponent 3.1: Capacity Building for Agriculture Production through Farmer Field Schools; Sub-component 3.2: Food & Nutrition Security and Sub-Component 3.3: Livelihood Resilience and Value Addition. Given the COVID-19 pandemic, the nutrition education sessions will also include health education and awareness sessions. The component activities will be implemented in a gender and nutrition sensitive manner ensuring the inclusion of women and youth in all project activities. This component will be implemented by FAO given its strong field presence and experience of working in Yemen over the last few years and especially its experience of successfully negotiating between the de facto and de jure Governments.

Component 4: Project Management: This component will finance the incremental cost of project management and operations as well as the financial management, procurement, monitoring and evaluation of project activities.

Project Costs and Financing

The total project cost is estimated at USD 21.42 million, with an implementation period of 5 years. The project will be financed by an IFAD regular grant of USD 10 million, GEF financing of USD 10 million that has been earmarked for Yemen. The beneficiary contribution is expected to be equivalent to USD 1.421 million based on the actual contribution expected from the labour and in kind contribution for the operation and maintenance of infrastructure and as their equity contribution in their agriculture livelihoods and post harvesting activities.

Economic Feasibility

The project is assessed to be a technically and economically viable investment to the economy as a whole. The project has an Economic Internal Rate of Return of 21% and a Net Present Value (NPV) discounted at 10%, is YER 3,464 million (USD 14 million) indicating that it represents a sound investment. The Benefit Cost Ratio (BCR) is 1.27 for the base case scenario and it results in a payback period of eight years. A sensitivity analysis indicates that the project is more sensitive to a decline in benefits (switching value at -7%) compared with an increase in costs (switching value at +16%).

Project Implementation Arrangements

The project governance, implementation and supervision arrangements were designed keeping in mind the fragile and unusual political position of the country and use a hybrid model. In the context of Yemen, IFAD will diverge from its normal

implementation approach in which projects are implemented by Government. It will keep Government involved in an advisory and facilitative capacity but will use two agencies who have proved their capacity to effectively negotiate between different partners in the country and implement projects effectively on the ground. The RLDP implementation arrangements also take into account the need to select agencies with a strong performance orientation and country presence, sound systems for financial management and procurement, clear lines of accountability and responsibility, encourage the use of Government line agencies to build capacity, capitalize on the presence of local implementing partners that can ensure field presence, logistical support, community-mobilization and build the capacity of community based organizations. At the same time, it is important to keep the national Government involved and informed of project performance despite its tenuous position.

The United Nations have been managing the largest humanitarian assistance programme in the world in Yemen since the outbreak of the conflict. The UN system has a strong presence in the country within the United Nations Development assistance Framework (UNDAF). In its choice of lead implementing partners, IFAD considered a host of agencies on the ground which have strong presence such as the United Nations Development Programme, the World Food Programme, the Food and Agriculture Organization and the Social Fund for Development. FAO was preferred because of its technical capacity to deliver the types of investments that are being considered in the crop and livestock sector. The design also considered the need to engage with local partners with strong capacity, which have a good understanding of local dynamics are cost-effective and efficient. SFD has sustained delivery of critical programmes in the country throughout the conflict. SFD is a key institution for poverty reduction, and social and economic development in Yemen, with extensive experience of working with local communities and has been an important partner for many development agencies including IFAD in the country. FAO will be the lead project implementing agency and assume overall contractual responsibility for implementation and sign a subsidiary agreement with SFD which has been pre-selected to implement the infrastructure investments. During implementation, the project will liaise with WFP for improved targeting and building synergies between the project investments and the cash and nutrition assistance of WFP programmes in Yemen. IFAD will assume direct supervision responsibility by hiring local Third Party Teams for field support and organizing remote missions until it can directly visit the country. During implementation, the project will liaise with WFP for improved targeting and building synergies between the project investments and the cash and nutrition assistance of WFP programmes in Yemen.

Despite the difficult political situation and the challenges that the *de jure* Government faces in the country, it was considered key to keep the Government informed at the national level about project performance and to seek their guidance and support to facilitate implementation. Thus, it was decided to form an Advisory Steering Committee for the purpose with the Ministry of Planning and Coordination at its helm with other key Ministries represented. In order to strengthen the capacity of Government line agency staff which are present on the ground and continue to function despite erratic salary payments and limited or non-existent operational budgets, the project will use their experience and involve them as technical specialists. The plant production specialists and livestock production specialists in the selected Governorates will be used for conducting the Farmer Field Schools and guiding and monitoring field demonstrations. Where technical capacity from the Public Works Project is present, it will also be used for the technical designs of village infrastructure schemes.

1. Context

A. National context and rationale for IFAD involvement

a. National Context

1. Yemen is in the midst of a complex conflict that is causing massive physical damage, devastating the economy, weakening institutions, and generating an unprecedented humanitarian crisis. The country is entering its sixth year of conflict, and there are substantial security and political challenges on the ground. The COVID 19 pandemic and the recent floods in the country have further complicated the situation on the ground. Immediate prospects for peace remain uncertain as the conflict has deep roots in the legacies of the past which have become enmeshed with tribal conflict, regional power politics, and the challenges faced in the political transition following the Arab Spring uprising. On September 2014, Houthis took over Sana'a forcing the President to flee the country. The members of the internationally recognised Government have been in and out of Aden since. In its efforts to end the war in Yemen, the United Nations has hosted several peace meetings between the Government of Yemen and the Houthis leaders, but fighting has not yet ceased. To make matters worse, there has also been infighting within those who oppose the Houthis or the defector Government. At the end of November 2019, Yemen's internationally recognised government and the [UAE](#)-backed separatists signed a power-sharing deal to halt the in-fighting. The corona pandemic has made things on the ground even more debilitating due to the social distancing measures which have been put in place, the flash floods which have hit the country in April 2020 and the recent announcement by the separatists' Southern Transitional Council break the peace deal with the country's internationally recognized government and claimed it would "self-govern" the key southern port city and other southern provinces.
2. The conflict has taken a heavy toll on the people. The United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA) in its latest report issued at the end of 2018^[2] estimates that more than 20 million people across the country are food insecure, including nearly 10 million who are suffering from extreme levels of hunger. For the first time, the Integrated Food Security Phase Classification (IPC) has confirmed pockets of catastrophic hunger in some locations. A total of 17.8 million people lack access to safe water and sanitation, and 19.7 million people lack access to adequate healthcare. Poor sanitation and waterborne diseases, including cholera, left hundreds of thousands of people ill last year. In sum, needs have intensified across all sectors. Millions of Yemenis are hungrier, sicker and more vulnerable than a year ago, pushing an ever-greater number of people into reliance on humanitarian assistance.^[3] The current COVID-19 pandemic has further added to the vulnerability of the people due to its impact on the economy, further disruption of supply lines and the humanitarian efforts in the country.

3. Even before the pandemic, the Yemeni economy was on the verge of collapse. The economy contracted by about 50 per cent since the conflict escalated in March 2015. Employment and income opportunities have significantly diminished. Exchange rate volatility – including unprecedented depreciation of the Yemeni Rial (YER) between August and October 2018 – further undermined households’ purchasing power. Basic services and the institutions that provide them are collapsing, placing enormous pressure on the humanitarian response. The fiscal deficit since the last quarter of 2016 has led to major gaps in the operational budgets of basic services and erratic salary payments – severely compromising peoples’ access to basic services. Only 51 per cent of health facilities are fully functional. More than a quarter of all children are out of school, and civil servants and pensioners in northern Yemen have not been paid salaries for years. Humanitarian partners have tried to fill some of these gaps to ensure continuity of essential services.[\[4\]](#)

4. Yemen’s 2019 Human Development Index is 0.463, which is below the average of 0.55 for countries in the low human development group and below the average of 0.703 for other Arab States. Yemen ranks last out of the 144 countries included in the 2018 World Economic Forum’s Global Gender Gap Index, and has been in this position for the last 10 years. The conflict is reported to have caused widespread disruption of economic activities, dramatically diminished employment and income opportunities in the private and public sector, particularly among the youth with an unemployment rate of over 50 percent, according to UNDP. Yemen’s GDP is estimated to have contracted by about 50 percent since 2014 and its Gross National Income is estimated to have fallen below USD 1000 per capita level.[\[5\]](#) Oil and gas production and exports have come largely to a halt since 2015, running at about 10-15 percent of capacity.[\[6\]](#) The war has also halted Yemen’s exports, pressured the currency’s exchange rate, accelerated inflation, severely limited food and fuel imports, and caused widespread damage to infrastructure. The rebel-held territory does not pay taxes or revenues to the internationally recognized government in Aden. The salaries of 1.2 million government employees are paid very irregularly, if at all ([Al-Monitor, 2020](#)). The private sector is suffering due to the insecurity and instability in the country.[\[7\]](#)

5. Fragility assessment: In 2020, Yemen was scored as the worst country in Fragile States Index (FSI). Yemen ranks as the fourth-most worsened country in the world over the past decade of the FSI, along with Libya, Syria, and Mali.[\[8\]](#) This is attributed mainly to the continued war and unrest since 2011, the highly fragmented political cultures (two governments in addition to the separatist in the south), weak public and private institutions, and high levels of negative foreign intervention. Yemen’s fragility cannot only be attributable to the ongoing civil unrest in the country. Long before the conflict, Yemen had been ranked one of the most fragile countries globally. The fragility was deeply rooted in the social and economic inequalities undermining the country’s progress in improving democratic governance and wealth distribution. Widespread corruption and mismanaged state economy, favouring the political elite groups, weakened the country’s ability to adapt and cope with internal and external shocks. Yemen recorded its first case of COVID-19 in April, 2020 and the UN officials in the country assess that the pandemic could overwhelm Yemen’s understaffed and poorly equipped health facilities. The country is rated as high risk from the pandemic with a score of 6.4 based on the health and humanitarian impacts of COVID-19 that could overwhelm current national response capacity, and therefore lead to a need for additional international assistance ([OCHA, 2020](#)). The disruption of the logistics in the aftermath of the pandemic could pose threats to the country’s already weakened logistics and supply lines dependent on imports.

6. As the conflict escalated dramatically by the fall of 2015, 45 per cent of Yemenis surveyed said they had lost their main source of income due to the conflict. Fuel prices rose by 200 percent in 2018 compared to pre-crisis prices, affecting agriculture, water supply, transport, electricity, health and sanitation services. Before the crisis, poverty affected almost half the population. It has worsened dramatically after the crisis affecting 71 to 78 percent of Yemenis in 2019. In terms of number, the UN estimated that 24.1 million people—80 percent of the population—were “at risk” of hunger and disease, of which roughly 14.3 million were in acute need of assistance. An estimated 17.8 million people were without safe water and sanitation, and 19.7 million without adequate healthcare. According to UNHCR, an estimated 4 million people in Yemen were internally displaced by the end of 2019.

7. The conflict in Yemen has had devastating effects on the rural population in terms of displacement, destruction of livelihoods, assets, infrastructure, disease outbreaks and a collapse of the health and public service systems. This has exacerbated the situation of the rural poor who face many additional challenges including unemployment, destitution and extreme poverty. Deterioration in income is forcing the affected population to sell their assets, which poses significant threats to the resilience of households. As a result of the crippling of crop and livestock production, more people are being pushed into hunger and the country has become heavily dependent on food imports at a great cost, further elevating the poverty and increasing the vulnerability to shocks. In the 2018 Global Hunger Index, Yemen ranks 117th out of 119 countries in the list. The conflict has taken a heavy toll on the people. The United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA) in its latest report issued at the end of 2018[\[9\]](#) estimates that more than 20 million people across the country are food insecure, including nearly 10 million who are suffering from extreme levels of hunger. A total of 17.8 million people lack access to safe water and sanitation, and 19.7 million people lack access to adequate healthcare. Poor sanitation and waterborne diseases, including cholera, left hundreds of thousands of people ill last year. In sum, needs have intensified across all sectors. Millions of Yemenis are hungrier, sicker and more vulnerable than a year ago, pushing an ever-greater number of people into reliance on humanitarian assistance.[\[10\]](#) The current COVID-19 pandemic has further added to the vulnerability of the people due to its impact on the economy, further disruption of supply lines and the humanitarian efforts in the country.

8. Agriculture Sector, Conflict and Climate Change: Agriculture made up about 17.5 percent of the Yemen’s economy in 2017. The

sector remained a key source of income for about 45 percent of the Yemen's population in 2016, despite the fact that only 5 percent of the agricultural land is arable and agricultural productivity is low. The sector has been severely constrained by shortage of agriculture inputs such as seeds, fertilizer and fuel, damage to agricultural machinery, irrigation systems and storage facilities, deterioration of water and electricity services, and breakdown of logistical and supply chains. The conflict has severely disrupted agricultural production and markets, transportation and distribution systems. While productivity has always been low, the situation has become even worse with the conflict. Approximately 85 percent of the farming households lack access to water and fuel for irrigation and the production rates decreased by 52 percent after the crisis. The shortage of animal fodder and veterinary services have led to a decline in livestock production, a main source of income for many rural families. Agriculture sector mainly depends on very traditional methods and rain-streams, which make it vulnerable to extreme climate events such as drought and floods. The temperatures are reported to be increasing with rainfall becoming more uncertain. With the current weak adaptive and institutional capacity as well as climate change associated impact including more frequent and prolonged droughts, landslides and flooding are expected to exacerbate livelihood vulnerability of the poor, and lead to further environmental resource degradation.^[11]

9. A range of multilateral and bilateral humanitarian and development agencies are active in Yemen. The United Nations and its partners have been delivering essential humanitarian and development assistance to the country. The United Nations have been managing the largest humanitarian assistance programme in the world in Yemen since the outbreak of the conflict. The UN system has a strong presence in the country with the United Nations Development assistance Framework (UNDAF) providing the main guiding strategic framework of the UN system. Yemen's UNDAF has been extended four times, with the current extension ending in 2020. The Yemen Humanitarian Fund (YHF) is a Country-Based Pooled Fund (CBPF) that makes funding directly available to humanitarian partners operating in Yemen. Donor contributions are unearmarked and allocated to eligible partners through a transparent process in support of priorities set out in the Yemen Humanitarian Response Plan (YHRP). From January 2014 to December 2018, the YHF received \$571 million from 31 donors and allocated a total of \$478 million to 367 projects implemented by 68 partners, including UN agencies, NGOs and one Red Crescent Society. The support is targeted to mostly food security, nutrition and health, etc. The annual contribution in 2018 was around 209 million making it the largest CBPF in the world for a third consecutive year with the largest contribution coming from Germany, UK, Saudi Arabia, UAE, Netherlands, Denmark, etc., (UNOCHA, 2019). WFP provides over 12 million people with monthly food assistance through direct food distributions or vouchers that can be redeemed at retailers and is providing cash assistance in areas where markets are stable and can provide for communities' basic food needs using a biometric platform. In response to high acute, moderate and severe malnutrition rates among children, WFP is providing nutritional support to 3 million pregnant and nursing women and children under 5 (WFP, 2020).
10. The World Bank Group's Engagement Strategy for Yemen 2020–2021 remains focused on preserving basic services and the institutions that deliver them, and supporting people's livelihoods and the potential for economic recovery. Most of the recently approved projects focus on emergency assistance in the health and nutrition sectors, social protection, trade and public administration (USD 348 mn) with the most recent investment in the health sector to help the country deal with COVID-19 response (WB, 2020). USAID programs enable Yemenis to improve their economic and food security by supporting small and medium-sized enterprises, helping create jobs, and improving farm productivity and linkage to markets. In addition, USAID supports prioritized macroeconomic reforms needed to help stabilize a collapsing economy and reestablish a functioning trade regime. Such work includes supporting the Central Bank of Yemen and facilitating the flow of commercial goods and services through Yemen's ports (USAID, 2020). Most bilateral agencies work through the UN agencies, non-governmental organisations (NGOs) and other partners to respond to urgent humanitarian needs, and health risks.

b. Special aspects relating to IFAD's corporate mainstreaming priorities

11. Yemen faces special challenges with respect to each of IFAD's corporate mainstreaming priorities namely gender, youth, nutrition, climate change and the environment. The governorates selected have high levels of rural poverty: Taiz 41 percent, Al Hudaydah, 58.1 percent; Dhamar, 31.1 percent, Lahj 69.1 percent Al Dhala 59.8 percent (World Bank, 2017) and the most food insecure governorates in the country. The five Governorates comprise a total of 85 districts. They are also classified based on IPC classification and out of the total number, 24 districts are in a critical situation (IPC 3) while the remaining 61 are in emergency phase (IPC-4). The total number of population registered in IPC Phase-3 (3,309,500) and IPC phase-4 (3,760,500) together make 70 percent of the total population in the targeted governorates.
12. Furthermore, these aspects interact with each other in ways which have made the country even more vulnerable as elaborated below. Women are systematically denied access to jobs, are under-represented in public office, and bear disproportionate responsibility for unpaid care-giving and domestic work. This, combined with illiteracy and economic issues has led women to continuously be deprived of their rights as citizens of Yemen. Yemeni women and girls have always experienced systematic discrimination and marginalization which has only become worse with the ensuing conflict. Women and children have naturally been disproportionately affected by the conflict in Yemen. Children are among the most vulnerable group and are disproportionately affected by the conflict. An estimated 7.4 million children need humanitarian assistance, representing a 12 per cent increase since 2017. Severe protection risks, a nutrition crisis and interrupted schooling are the main consequences for children (OCHA, 2019) furthermore, child marriage rates have escalated to an estimated 66 percent in 2017 (WB, 2019b).
13. In the context of conflict, gender inequalities are both greater and more visible. One-fifth of Yemeni households are headed by women younger than 18 years old, and women and children account for three-quarters of those who are displaced. Conflict is also correlated to a rise in gender-based violence, which was documented 36 per cent more in 2016 than it was just one year earlier (UNDP, 2020). And in times of economic hardship, girls are less likely to stay in school, more likely to marry early, and

less likely to receive basic health services – including gynecological and obstetric care ([UNDP, 2020](#)). FAO reports that less than 1 percent of agricultural landholders in Yemen are female. However, women have a major role in agriculture, providing 60 percent of labour in crop farming, 90 percent in livestock rearing and 10 percent of wage labour. Female-headed households are generally more at risk of food insecurity and malnutrition, as their coping capacities in times of food shortage are significantly more limited than households headed by men. Even without any shocks they are likely to experience higher levels of food insecurity and large consumption gaps than men headed households (FAO, WFP and UNICEF, 2017). They are also often unable to ensure adequate nutrition for themselves and to household members, especially infants and children below 5 years.

14. Half of Yemen's people are under the age of 18 and over 20 percent of Yemen's population is aged between 15 and 24. According to IOM, estimates suggest that by 2025 the youth will have increased by 69 percent^[12] the second fastest growth rate in the Middle East and North Africa (MENA) region. The high level of illiteracy, youth unemployment and the prevalence of physical and psychological trauma will hinder the opportunities of today's youth to positively contribute to the future of Yemen. The youth rank among the poorest and are often landless, wage laborers, unpaid family labourer or unemployed. In general, the youth unemployment rate in Yemen for the age group 15-24 is 35 percent (with male below 30 percent and female exceeding 50 percent). In Yemen, 82 percent per cent of youth have less than primary education and two-thirds have no education (ILO, 2019). Education and ultimately employment are the main concerns for the youth in Yemen. The country cannot rebuild itself without the participation of youth, both economically and socially.
15. The nutrition situation in Yemen is a matter of growing concern. Yemen has a long history of suffering from malnutrition. This situation has worsened with the deepening economic crisis, 1.8 to 2.8 million children are at risk of being pushed into acute food insecurity and many more children could fall into life-threatening severe acute malnutrition^[13]. Rising food shortages have left an estimated 1.1 million pregnant women malnourished, and threaten the lives of 75,000 women who are likely to develop complications during childbirth, including risks of stunted growth of their newborns.
16. According to the Global Nutrition Report, the national prevalence of under-five stunting is 46.4 percent, which is significantly greater than the developing country average of 25 percent. Yemen's under-five wasting prevalence of 16.4 percent is also greater than the developing country average of 8.9 percent^[14]. The most common diseases associated with acute malnutrition are respiratory infections. Pneumonia and diarrheal diseases which account for approximately 27 percent of the mortality of children under five in Yemen.^[15] The dangers of compromised immunity of children is even more acute with the current COVID-19 pandemic which attacks the body's respiratory system.
17. According to UN data^[16] (OHCHR, 2015) There are an estimated three million people with disabilities (PWD) living in Yemen who are facing serious protection concerns and increasing difficulties in meeting their basic needs. The most commonly reported disabilities in Yemen are related to mobility, followed by visual, hearing, cognition and communication disabilities^[17]. The Yemeni government's national disability strategy affirms its commitment to the rights of persons with disabilities.^[18] Its Social Welfare Fund and Handicapped Welfare and Rehabilitation Fund still exist. However, the ongoing armed conflict has affected implementation^[19]. Prior to the war, there were more than 300 organizations that provided services for persons with disabilities. There are now only 26, all of which have limited capacity and programmes due to lack of funding and operational viability (OHCHR, 2015). The weakening or relocation of barely functioning state institutions, coupled with economic collapse and widespread lawlessness, has meant that persons with disabilities have often not been able to access the support of the relevant governmental entities. According to humanitarian needs overview (OCHA, 2018a), disabled people, together with women and children are Female- elderly- and disabled-headed households are seriously affected.
18. Climate change trends and extreme weather events have further exacerbated the food security situation in the country and pose additional risks to livelihoods reliant on agriculture. The analysis of historical data shows that climate change has already increased temperatures and led to change in precipitation level and increased the incidence of extreme weather events. Most of Yemen receives between 0 and 199 mm of annual rainfall. Historical analysis shows an overall decline in precipitation in Yemen between 1981 and 2018. The trend shows a decrease of 0.16 percent which means an average decline of 1.6 mm every decade. However, of greater concern is the increase in rainfall variability with an uneven distribution of precipitation across the country. These changes threaten the yields in the crop sector and also have an adverse impact on the livestock carrying capacity of rangelands. The frequency of flood events have been increasing lately with three flooding events occurring in 2019. The likelihood of drought events has also increased significantly in Yemen since the late 1990s. Yemen will likely suffer from more frequent and intense extreme events due to climate change. A climate risk map has been developed for the Village Units in the selected Governorates which shows the high level of risk due to climate change, erosion, landslides and flash floods in the project area.
19. The project will have a clear focus on gender, youth and be nutrition sensitive and climate focused. Separate targets for women, women headed-households and youth have been assigned to each sub-component that targets individuals directly, including IDPs and PWD. Women and women headed households will be consulted separately to ensure that activities consider women's views and feedback on the selection of infrastructure schemes. The project is nutrition sensitive and youth sensitive with a specific-sub-component designed for nutrition activities as well as mainstreaming nutrition considerations in other key activities. The project is climate-sensitive with 52 percent of IFAD financing dedicated for adaptation activities.
- 20.

Table 1. Mainstreaming theme eligibility criteria^[20]

21. This table is here for information purposes – it is mandatory to complete this table in ORMS by checking the applicable boxes.

	<input type="checkbox"/> Gender transformational	<input checked="" type="checkbox"/> Nutrition sensitive	<input checked="" type="checkbox"/> Youth sensitive	<input checked="" type="checkbox"/> Climate focused
Situation analysis	<input checked="" type="checkbox"/> National gender policies, strategies and actors <input checked="" type="checkbox"/> Gender roles and exclusion/discrimination <input checked="" type="checkbox"/> Key livelihood problems and opportunities, by gender <input type="checkbox"/> Use(pro-WEAI) ^[21] assessment for M&E baseline	<input checked="" type="checkbox"/> National nutrition policies, strategies and actors <input checked="" type="checkbox"/> Key nutrition problems and underlying causes, by group <input checked="" type="checkbox"/> Nutritionally vulnerable beneficiaries, by group	<input checked="" type="checkbox"/> National youth policies, strategies and actors <input checked="" type="checkbox"/> Main youth groups <input checked="" type="checkbox"/> Challenges and opportunities by youth group	Adaptation Finance: \$5 235 000 (52 percent).
Theory of change	<input checked="" type="checkbox"/> Gender policy objectives (empowerment, voice, workload) <input type="checkbox"/> Gender transformative pathways <input type="checkbox"/> Policy engagement on GEWE ^[22]	<input checked="" type="checkbox"/> Nutrition pathways <input checked="" type="checkbox"/> Causal linkage between problems, outcomes and impacts	<input checked="" type="checkbox"/> Pathways to youth socioeconomic empowerment <input checked="" type="checkbox"/> Youth inclusion in project objectives/activities	
Logframe indicators	<input checked="" type="checkbox"/> Outreach disaggregated by gender <input checked="" type="checkbox"/> Women are >40 percent of outreach beneficiaries <input type="checkbox"/> Pro-WEAI indicator ^[23]	<input checked="" type="checkbox"/> Outreach disaggregated by gender, youth, indigenous peoples <input checked="" type="checkbox"/> Women reporting improved diets AND/OR Persons reporting improved nutrition knowledge	<input checked="" type="checkbox"/> Outreach disaggregated by age	
Human and financial resources	<input checked="" type="checkbox"/> Staff with gender TORs <input checked="" type="checkbox"/> Funds for gender activities <input type="checkbox"/> Funds for Pro-WEIA surveys in M&E budget	<input checked="" type="checkbox"/> Staff or partner with nutrition TORs <input checked="" type="checkbox"/> Funds for nutrition activities	<input type="checkbox"/> Staff with youth-specific TORs <input checked="" type="checkbox"/> Funds for youth activities	

c. Rationale for IFAD involvement

22. Since the suspension of IFAD activities in the country in 2015, the Government of Yemen has been continuously asking for IFAD's re-engagement, as *humanitarian support is not enough and development support is needed to rebuild livelihoods*. The request is consistent with IFAD's strategy for countries in fragile situations and its Special Programme, as well as its global experience, which indicates that while humanitarian aid is crucial, responsible and targeted investments in agriculture and rural development can make an important contribution to achieving peace and stability. This is precisely the need that IFAD can fulfill with its previous experience in the country. IFAD can help supporting the country in facing the long-term protracted political and developmental crisis that has weakened institutions, disrupted livelihoods, destroyed infrastructure, and made the people extremely vulnerable to food security, malnutrition, poverty and eroded their capacity to withstand economic and climate risks. The livelihoods of millions of rural households engaged in crop, livestock and fisheries production have been seriously compromised and need to be rehabilitated. IFAD has the opportunity to build on its previous experience and knowledge of the country and promote community engagement for conflict resolution and stability. IFAD's strength is in implementing more flexible and responsive approaches for its work in Yemen, including simplified and flexible design and procedures that recognize the challenges of working in Yemen today.

23. While IFAD has fulfilled all its internal procedures to re-engage in the country, the Government of Yemen cannot access the PBAS allocation because of arrears in its debt payments. Meanwhile, in November 2019 the President of IFAD agreed to exceptionally allocate USD 10 million from the IFAD grant's resources to a new grant-funded project in the country. Due to the

uncertain security conditions in Yemen, the design of the project was planned remotely even before the restrictions on account of COVID-19 pandemic had become apparent. IFAD's engagement in the design was facilitated through the use of intense consultations between local partners and consultants and extensive discussions with potential implementing agencies with strong presence on the ground. The De Jure Government was kept informed of the process and the ministries of Planning, Agriculture and Environment reviewed project documents and have endorsed the design. The selection of the Governorates has been undertaken on the basis of vulnerability and not on the basis of political control.

24. While other agencies focus on dealing with the emergency and humanitarian crisis in the country, IFAD can play an important role through the Rural Livelihood Development Project (RLDP) in building the resilience of the communities on the ground, leverage on the investments made through past projects, and fill a gap between humanitarian aid and sustainable development. In February 2018, the Minister of Agriculture and Irrigation of the internationally recognized Government met with the President of IFAD in Rome. The Minister explicitly stated that while humanitarian assistance is needed now, development aid is critical if not more important for economic growth, creation of jobs and minimizing conflict. The IFAD experience in Yemen suggests that community-based programmes can build the basis for enhanced food security and resilience to conflict, growth and job creation. IFAD has extensive experience in Yemen in working with smallholder farmers and with rural youth and women. At this very critical time in the country, IFAD believes it can assist these households by helping to protect them against growing food insecurity and further deterioration of livelihoods and offering them support to rebuild their livelihoods through provision of critical agriculture inputs, equipment, productive assets, infrastructure and technical support.
25. IFAD has a strong corporate commitment to assist countries in fragile situations and build the risk management capacity and the resilience of its member states and communities on the ground. This commitment was recognized and highlighted in IFAD's Commitments under the Eleventh Replenishment. IFAD has an opportunity to make a difference to its key mainstreaming priorities such as gender mainstreaming, targeting of youth and vulnerable groups, dealing with malnutrition and climate risks as key components for addressing fragility in Yemen. IFAD operations and their pro-poor targeting approaches can contribute to building accountability and amplifying the voices of women and marginalized groups and their organizations. The RLDP project is designed to focus on women and will be helping to eliminate gender disparities, providing opportunities to youth to achieve literacy and numeracy, promoting gender equality, (SDG 4) and women's effective participation and equal opportunities for leadership, economic resources, as well as access to ownership and control over productive resources (SDG 5). IFAD has an opportunity to make a difference to the nutritional status of vulnerable households. The project will be a nutrition sensitive project as it will integrate activities that will enhance the nutritional status of the targeted households. The project will have an explicit nutrition related objective and will target the food insecure households and those at risk of malnutrition based on data provided by IPC and the Nutrition cluster.
26. The project will invest in climate resilient infrastructure and introduce more appropriate crop and livestock production practices. Investing in increasing the resilience of rural populations in the target areas in Yemen is crucial in helping vulnerable communities cope with climate change risks as well as the impact of conflict. IFAD can capitalize on leveraging the resources committed by the Global Environment Facility (GEF) to co-finance the project as these funds have been earmarked for the current investment. The project will build the capacities of farmers to adapt to climate change through mainstreaming climate resilience practices and protect the agricultural sector exposed to increased temperature, changing rainfall patterns and increased incidents of extreme weather events.
27. IFAD has the advantage of using its collaboration framework and establish partnerships and synergies with other Rome Based Agencies such as FAO, WFP as the three agencies have a strong commitment to work together. The project will be used to explore the opportunities of working together to meet their combined objectives with reference to the SDGs.

B. Lessons learned

28. IFAD's previous experience in Yemen and operating in other fragile contexts, yields lessons that are relevant in designing the scope of the project activities, implementation modalities, engagement with the community, fiduciary and procurement arrangements, partnership with other donors and RBAs and incorporating risk mitigation measures, etc. Based on these lessons the project will be kept simple and flexible with a clear focus on the most urgent development needs identified by the community. IFAD experience in Yemen also suggests that community-based programmes can build the basis for enhanced food and nutrition security and resilience to conflict. In the Dhamar Participatory Rural Development Project (DPRDP), for example, over 25,000 smallholders adopted new technologies, and 20,000 reported increased yields: farmers using improved seeds reported yield increases of 33 percent, and those using improved beehives reported yield increases of 300-600 percent. The average hunger period experienced by food-insecure households in the target area fell from six months to 2.1 months. In Al Dhala, one of the poorest and most food-insecure governorates in Yemen, the Al Dhala Community Resource Management Project (ADCRMP) benefitted more than 5,000 women and men smallholders as a result of community-led advisory services focusing on improved technologies.
29. Based on lessons from previous investments, the project will adopt a community-driven approach that can successfully address the most urgent poverty and food insecurity issues while empowering remote rural communities, particularly vulnerable households and rural women to build their livelihoods. Experience has shown that community driven approaches can achieve equal and fair distribution of resources through an open and transparent process of selection, contribute to peace building

through relevant interventions, reach the vulnerable households, and build the fractured linkages between the State and society. IFAD's experience in fragile situations also shows the importance of maintaining flexibility in the approach and scope of the project in order to accommodate any changes on the ground in an unpredictable environment. Building on previous lessons, the current project will not undertake investments on communal grazing rangelands which could be a source of potential conflict as these require strong community policing mechanisms and could be a source of conflict.

30. The project will build on the lesson that investments in both the domestic water and irrigation sectors, soil conservation and terrace rehabilitation is crucial to cope with the adverse effects of climate change and the destruction of the irrigation infrastructure in the country due to the war. Based on the lessons learned from the project financed by the Netherlands Climate Assistance Programme (NCAP) in Yemen, the implementation of drip irrigation was identified as the best strategy and preferred by the farmers for improving water efficiency. To ensure sustainability of infrastructure investments, particularly in a fragile country like Yemen, focus should be given to effective community mobilization, capacity building of water user associations and conflict resolution. According to IFAD's own previous experience in Yemen and that of other agencies like the World Bank, FAO, UNDP and DFID, communities in Yemen have a great deal of practical experience and have the capacity to provide solutions that are locally available and effective. Farmers are keen to learn and adapt to climate risks and incorporate practices that will help them become more resilient to climate change.

31. The experience of a host of other agencies such as the Food and Agriculture Organization (FAO), the Social Fund for Development (SFD) and the World Bank show that (i) connecting conflict affected persons with development programs can help to strengthen their capacities and build their resilience; (ii) Focusing on vulnerable households and women can build their confidence and help them rebuild their livelihoods and protect their families; (iv) successful nutrition interventions and behaviour change require sustained mentoring support and providing key inputs to enable sustainable change; (v) conflict and fragility environments require flexibility with regular review of performance to incorporate the lessons emerging from the ground; (vi) community based approach with stakeholder ownership of projects is key and requires a close working relationship with local communities following a demand-driven approach; (vii) when interventions are relevant for beneficiaries they assume strong ownership and support for them; [\[20\]](#) (viii) the use of implementing partners with strong field presence is key to ensuring that the community based approach is implemented in a systematic manner; (ix) the importance of keeping the Government line agencies involved to build their capacity and engagement with the community for long-term sustainability; (x) Supervision and implementation support are of key importance in fragile situations from a risk management perspective to ensure that fiduciary safeguards are being implemented, and guiding the application of flexible approaches to project management to address dynamic fragility contexts.

32. IFAD's experience in the remote design of this project shows that it is possible to undertake the design of a project remotely provided there is strong presence in the field with local knowledge such as that of FAO and SFD and with information that provides the level of detail and granularity that can help identify the village units with the highest vulnerability to food insecurity, climate risks and potential for growth. The use of maps can be effective in the selection. However, during the design, IFAD's own field presence was missed as it would have provided a strong resource for improving the design in the field and provided a mechanism for engagement with the community. The COVID pandemic further restricted the communication with local communities and further ground truth the relevance of some of the activities proposed directly with the communities. For the future, it would be beneficial find some mechanism for direct feedback with communities in the target area through local partner organizations and community representatives.

2. Project Description

C. Project objectives, geographic area of intervention and target groups

33. The goal of the project will be to rebuild communities' resilience against the economic and environmental shocks and improve the livelihoods of poor, excluded and deprived people. To development objective of the project will be to improve the food security and the incomes of smallholder farmers through increased agriculture production and resilience to climate risks. It is expected that the project will benefit 26,000 households or 175,000 people based on the estimate of 6.7 people in each household. The project will also directly target women and youth in those components where the investment is being directly targeted and will reach 64 percent women and 53 percent youth. Corresponding to 11,500 women and 9,600 youth.

Table 2: Expected Beneficiaries from Each Component

Component 2: Climate Resilient Community Infrastructure	Total Households	Total People	Women	Youth	(percent) women	(percent) youth
2.1. Domestic water supply	3284	22,000	11,322	3960	51	18

2.2: Small-scale irrigation and flood-based livelihood systems	2284	15,300	7,803	2,754	51	18
2.3: Soil and water conservation	2463	16,500	8,415	2,970	51	18
Component Total	8031	53,800	27,540	5582	51	18
Component 3 : Protection of Agriculture Livelihoods						
3.1. Capacity Building for Agriculture Production						
Farmer Field Schools	6000	40,200	2,400	2,400	40 percent	40 percent
3.2: Food and Nutrition Security						
Reflect Students	6000	40,200	4,200	4800	70 percent	80 percent
Nutrition Session Participants	4000	26,800	4,000	1600	100 percent	40 percent
3.3. Livelihood Resilience and Value Addition						
Livelihood Packages	1500	10,050	675	600	45 percent	40 percent
Matching grants	500	3,350	225	200	45 percent	40 percent
Total	26031	174,400	11,500	9,600	64 percent	53 percent

34. **Governorates characteristics:** The project will be implemented in the Governorates of Dhamar, Al-Dhala, Lahej, Taiz, and Al Hudaydah. The Governorates selected extend from those in the North to the South including those in the control of the competing political governments. These Governorates were chosen based on their vulnerability to climate risks, population density and previous investments by IFAD in community-based association. Governorates selected are representative of the various farming environments in Yemen, have high levels of rural poverty: Taiz 41 percent; Al Hudaydah, 58.1 percent; Dhamar, 31.1 percent, Lahej 69.1 percent Al-Dhala 59.8 percent [24] and are among the most food insecure governorates in the country according to IPC classification. The five Governorates comprise a total of 85 districts. The total number of agriculture households in the selected governorates is 903,721.

35. **District Targeting:** The project will operate in 15 to 20 districts across the 5 Governorates. Within each governorate, priority districts were identified in collaboration with FAO and a long-list of 34 districts has been identified. The selection is based on a ranking exercise based on Food security (IPC classification) malnutrition level (Global Acute Malnutrition-GAM), and climate vulnerability (including, erosion, landslide and flash flooding risks as well as accessibility and security. Both the long and short-list of districts is given in the table below with the long-list included in the PIM. The long list was validated based on additional criteria such as security, accessibility and number of IDPs. Due to the highly dynamic situation in Yemen, the final priority list remains subject to change at the start-up of the project. More details on targeting can be found in Annex 5 (SECAP) and Annex 8 (PIM).

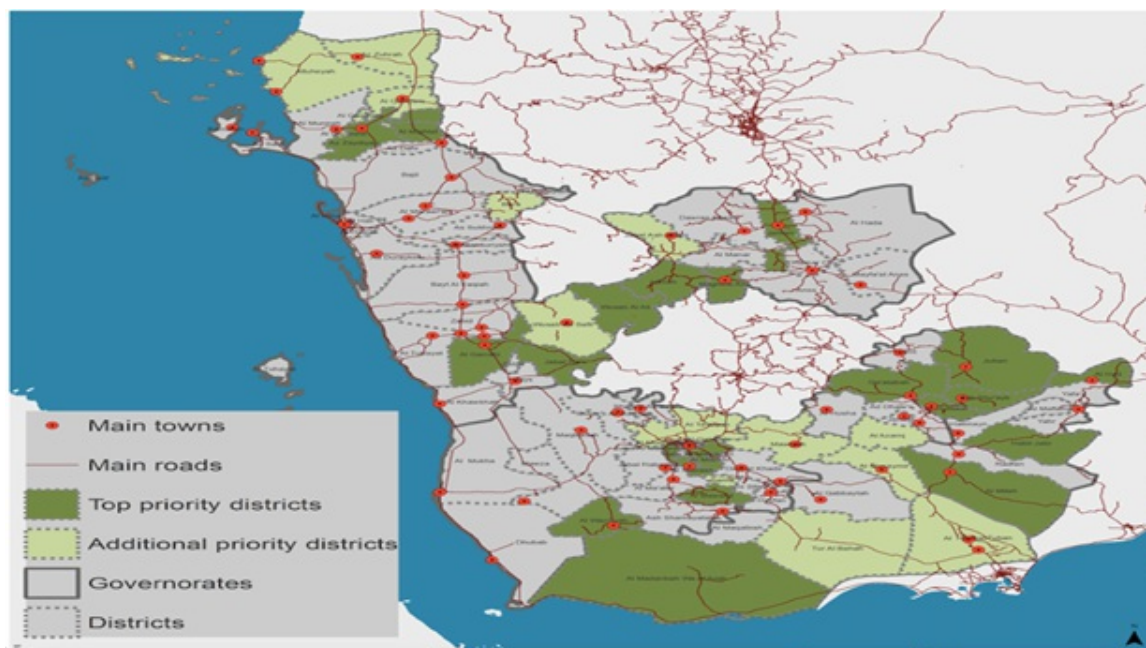
Table 3: List of Potential Districts for Project Investments

Governorate	Preselected districts (based on malnutrition, climate and environmental risk indicators) *	Population (2019)	Population HHs (2019)	% of HHs in Agriculture	Climate Vulnerability Index **	Erosion Risk **	Landslide Risk **	Flash Flooding Risk **	Malnutrition (GAM)	IPC Phase Classification	% of IDPs and Returnees	Number of pre-identified VUs
Taizz	Mawiyah	187 589	26 798	NA	0.477	0.451	0.157	0.393	15.0%	Phase 4	0%	15
Taizz	Sabir Al Mawadim	141 715	20 245	56%	0.440	0.526	0.474	0.229	15.0%	Phase 4	1%	3
Taizz	Al Misrah	134 789	19 256	47%	0.433	0.555	0.516	0.144	15.0%	Phase 4	2%	5
Taizz	Al Waz'iyah	9 626	1 375	56%	0.381	0.477	0.000	0.773	17.8%	Phase 4	74%	9
Taizz	Al Qahirah	120 505	17 215	NA	0.468	0.533	0.000	0.622	15.4%	Phase 4	9%	2
Taizz	Al Ta'iziyah	281 622	40 232	1%	0.486	0.530	0.051	0.583	15.0%	Phase 4	2%	15
Taizz	Al Mawasit	168 191	24 027	67%	0.472	0.558	0.099	0.479	15.0%	Phase 4	2%	11
Taizz	Sama	61 202	8 743	NA	0.514	0.482	0.090	0.339	15.0%	Phase 4	4%	3
Al Hudaydah	Az Zuhrah	224 061	32 009	52%	0.574	0.394	0.000	0.792	25.2%	Phase 3	0%	15
Al Hudaydah	Alluhayyah	171 578	24 511	52%	0.615	0.400	0.000	0.743	25.2%	Phase 3	0%	8
Al Hudaydah	Al Qanawis	119 096	17 014	52%	0.644	0.368	0.000	0.732	25.2%	Phase 3	1%	5
Al Hudaydah	Az Zaydiyah	153 759	21 966	52%	0.684	0.376	0.000	0.704	25.2%	Phase 4	3%	1
Al Hudaydah	Al Mighlaf	61 152	8 736	52%	0.670	0.333	0.000	0.757	25.2%	Phase 4	1%	5
Al Hudaydah	Bura	74 621	10 660	52%	0.535	0.457	0.519	0.231	25.2%	Phase 4	7%	8
Al Hudaydah	Jabal Ra's	72 309	10 330	52%	0.425	0.637	0.000	0.766	25.2%	Phase 4	6%	17
Al Hudaydah	Al Garrahi	129 050	18 436	52%	0.426	0.543	0.000	0.794	25.2%	Phase 4	0%	12
Dhamar	Ishran	138 899	19 843	66%	0.631	0.526	0.000	0.801	10.6%	Phase 3	1%	1
Dhamar	Jabal Ash sharq	100 576	14 368	66%	0.534	0.420	0.280	0.482	12.8%	Phase 4	0%	20
Dhamar	Maghirib Ans	86 699	12 386	66%	0.620	0.645	0.472	0.348	10.6%	Phase 3	0%	10
Dhamar	Utmah	243 119	34 731	66%	0.567	0.657	0.441	0.396	12.8%	Phase 3	0%	14
Dhamar	Wusab Al Ali	275 137	39 305	66%	0.427	0.878	0.603	0.358	12.8%	Phase 3	0%	17
Dhamar	Wusab As Safil	263 145	37 592	66%	0.407	0.651	0.185	0.611	12.8%	Phase 4	0%	28
Lahj	Al Had	77 336	11 048	62%	0.767	0.315	0.000	0.587	9.7%	Phase 4	5%	11
Lahj	Habil Jabr	59 521	8 503	80%	0.688	0.298	0.000	0.455	9.7%	Phase 4	15%	7
Lahj	Al Milah	40 094	5 728	81%	0.635	0.236	0.000	0.596	19.8%	Phase 4	4%	6
Lahj	Al Musaymir	37 439	5 348	68%	0.566	0.282	0.000	0.533	19.8%	Phase 4	7%	7
Lahj	Tur Al Bahah	66 342	9 477	72%	0.521	0.318	0.031	0.496	19.8%	Phase 4	1%	6
Lahj	Al Madaribah Wa Al Arah	71 844	10 263	65%	0.476	0.402	0.000	0.770	19.8%	Phase 4	2%	10
Lahj	Tuban	144 544	20 649	46%	0.705	0.259	0.000	0.593	19.8%	Phase 4	1%	5
Al Dhale'e	Juban	69 189	9 884	76%	0.757	0.462	0.000	0.538	12.1%	Phase 3	2%	9
Al Dhale'e	Qa'atabah	150 392	21 485	53%	0.641	0.421	0.015	0.524	12.1%	Phase 4	1%	15
Al Dhale'e	Ash Shu'ayb	63 121	9 017	56%	0.679	0.544	0.000	0.443	12.1%	Phase 3	3%	11
Al Dhale'e	Al Hussein	62 888	8 984	63%	0.636	0.461	0.000	0.427	12.1%	Phase 4	1%	8
Al Dhale'e	Al Azariq	64 847	9 264	88%	0.609	0.415	0.039	0.399	12.1%	Phase 3	1%	9
TOTAL	All preselected districts	4 125 997	589 428									328
TOTAL	20 top priority districts	2 246 167	320 881									171

* Highlights indicate the top four priority districts per governorate.
** Environment-related risks are rated on a scale of 0 (green) to 1 (red), with 1 showing the highest level of risk.

36. The final selection of the districts and the village units within them will be made at the time of implementation based on the dynamic security situation. Using GIS and secondary data sets, district-level IPC and malnutrition indicators were combined with village unit-level climate vulnerability data to develop maps for the most vulnerable districts in each of the 5 governorates. The maps were then used to compile a long list of districts ranked by vulnerability. The map below shows some of the priority districts as well as additional priority districts from which the districts will be selected. Detailed maps with geographic coordinates were prepared to choose those village units which are the most vulnerable to climate risks. Based on proximity it would appear that a mix of the top ranked districts and some of the additional priority districts might be preferred for operational convenience due to proximity. The maps are given in the PIM.

Figure 1: Map showing Priority Districts (RLDP)



37. **Target groups:** The project will target poor and food and nutrition-insecure households engaged in agriculture (crop, livestock, mixed farming) as the main target group. The project will give priority to the poorest and most disadvantaged socio-economic categories like women, women-headed households and youth led households. Special consideration will be given to the inclusion of people affected by the conflict, specifically Internally Displaced People.
38. **Poor and Food Insecure Households.** The project will target smallholder households below poverty line (USD 2 per day) engaged in agriculture production as main source of livelihood (crop, livestock, mix farming). In the target area (5 governorates) of the agriculture households, 48 percent undertake livestock farming, 46 percent undertake mixed farming and only 7 percent of the households are engaged in just crop farming. This shows the importance of agriculture to livelihoods and the key role of livestock in the farming system. Producers can be farm owners but more often are sharecroppers and tenants (being landless or near landless). Producers experience significant loss, shortages of agricultural inputs (seeds, fertilizers, fuel to power irrigation pumps, etc.) or are unable to afford them due to soaring prices. (ESFNA, 2017). Smallholder farmers engaged in crop production access an average of 0.5 to 1.5 – 2 ha of land, while for livestock activities average animals' ownership is 3-5 small ruminants or 1 to 2 cows. Main issues faced in the livestock sector are: bad feeding practices, animals' health and disease (ESFNA, 2017). Households in this category experience food consumption gaps which are reflected by high or above-usual acute and chronic malnutrition and are marginally able to meet minimum food needs (OCHA, 2019).
39. **Priority for the poorest and most disadvantaged households:** Households ranking among the poorest are those composed of high number of members/dependents (more than 9) with limited productive capacity, unable to fulfil households' basic needs (ESFNA, 2017) and those headed by women. According to the WB study *Poverty Notes* The incidence of poverty for households who had less than four members was 23.7 percent This increased to 55.4 percent where the household had more than ten or more members (WB, 2017). Similarly, female-headed households are generally more at risk of food insecurity and malnutrition, as their coping capacities in times of food shortage are significantly more limited than households headed by men. Even without any shocks they are likely to experience high levels of food insecurity and large consumption gaps than men headed households (ESFNA, 2017). They are also often unable to ensure adequate nutrition for themselves and to household members, especially infants and children below 5 years. Women of child bearing age, particularly Pregnant and Lactating Women (PLW), have limited or no access to reproductive health services. In general women's access to assistance and other services is reduced as a result of their high levels of illiteracy, posing an obstacle to accessing and understanding relevant information. The project will place strong attention on women education (literacy, life skills, nutrition) in addition to economic opportunities.
40. **Youth (15-24):** Youth rank among the poorest. They are often landless, wage laborers, unemployed or unpaid family labourers. In general, the youth unemployment rate in Yemen for age group 15-24 is 34.8 (with male below 30 percent and female exceeding 50 percent). Youth in the country are less likely to enjoy work in the tertiary sectors (and are more likely to be in low productivity agricultural employment), are less likely to be in wage employment and are less likely to be in formal sector employment. In Yemen 82 per cent have less than primary education and two-thirds have no education (ILO, 2016).
41. **Internally Displaced People (IDPs):** They rank among the poorest and most vulnerable. IDPs in the host communities can be engaged in agriculture related activities such as small livestock or work as occasional agriculture labours. They are considered the most vulnerable and food insecure (OCHA, 2019). Food security assessments have confirmed that IDP households are

facing the most extreme hunger levels. During displacement, the majority of IDPs turn to a number of food-related coping strategies and they were found to be much more severe and more frequently used, compared to those that households not displaced turn to in order to cope. The share of IDP households suffering from poor food consumption has increased by 35 percent in 2016 compared to 2014 data (ESFNA, 2017). About half of IDPs are female, including 27 per cent who are below the age of 18 years.

42. **Persons with Disabilities (PWD)** They account for about 3 Million (UN, 2015) although updated data is not available. They Rank among the most vulnerable. According to humanitarian needs overview (OCHA, 2018a), disabled people, together with women and children are Female- elderly- and disabled-headed households are seriously affected. Furthermore, significant body of research has shown that women and girls with disabilities – globally – are at greater risk of being subjected to gender-based violence, including sexual violence, with the threat particularly high in conflicts^[25].

Targeting and social Inclusion strategy:

43. The programme will be implemented applying a combination of self-targeting and direct targeting approach: Most of the interventions will be of interest for all target groups. Furthermore, specific activities are directed to specific disadvantaged categories and priority given to IDPs and PWD. The robustness of the target strategy relies on a diagnostic process to be conducted at the beginning of the operations. Specific needs of some target groups, such as women and youth will include special empowering measures to ensure their proactive involvement and participation. The same will apply for the most vulnerable social categories such as IDPs and PWD. Gender and youth awareness trainings will contribute fostering more equitable gender roles and relations at household and group levels. The gender and youth focal points and reflect facilitators will be directly responsible to facilitate separate consultation with those groups and their consequent mobilization within the proposed activities. The IP together with village elders will also ensure that the identification of beneficiaries is based on the selection criteria that is communicated during the first dialogue of the diagnostic process. Women and Youth will be consulted, selected by facilitators at the beginning of the project then organized in groups on the basis of their interests and different degrees of participation in the programme: i.e. as existing farmers' producers or new entrants; skilled or unskilled, thus being organized accordingly and receiving targeted interventions and trainings on the basis of their aspirations and interest in engaging in agricultural activities: as producers or in the post harvest /adding value sector (component 2) . Furthermore, young women will be targeted by specific interventions such as literacy, life skills and nutrition. Furthermore, through the leadership training, the project expects at least 30% women in leadership position in the institutions/committees formed under RLDP. (component 3).
44. The programme will have a special focus on vulnerable groups such as Internally Displaced People (IDP) and person with disabilities (PWD). In this regard, during diagnostic phase, IP will collaborate closely with institutions at local level (where existing) already engaged in work with such groups, especially to ensure that selected beneficiaries can be mobilised and benefit from project activities. Special capacity building training will be provided to facilitators to be able to work with IDP and PWD and identification of activities for them as part of IGA and matching grants. The IP will take into account existing global training materials (i.e. ILO)^[26] to be adapted to the local context and actions for inclusion of PWD will be aligned to national policies highlighting that financial support for persons with disabilities from low-income families who are seeking vocational training should be prioritized and that they should be considered for employment opportunities upon completion of the training.

D. Components/outcomes and activities

45. The project will be implemented over the period of five years and will consist of three main components and project management: (i) community mobilization and strengthening; (ii) climate-resilient infrastructure and (iii) Protection of Agriculture Livelihoods. The costs of project management, monitoring evaluation are provided in a project management component. These components will work in a complementary fashion to enhance the impact of project investments.

Component 1: Community Mobilization and Strengthening

46. This component consists of two sub-components namely sub-component 1.1 Community Mobilization and Engagement and sub-component 1.2 Community Capacity Building. The purpose of the component is to ensure that the investments made in community infrastructure, farmer's technical training, provision of livelihood packages and matching grants, adult literacy and nutrition are appropriate and relevant and beneficiaries are properly identified selected from the most vulnerable Village units in the districts selected. The component will also provide the mechanisms for ensuring that there is synergy between the different components to derive maximum value added.

- Sub-component 1.1 Community Mobilization and Engagement

47. One of the first tasks of FAO and SFD will be the finalization of the target districts based on the short-list identified during the design process and within these districts, identify the village units which are the most vulnerable based on the criteria identified and within them the hamlets that will be targeted. The identified lists will be shared with the implementing partners on the ground so that they can begin the process of the diagnostic survey and assess which households are willing to abide by the Terms of Partnership for participation in project activities. At the start of implementation, the accessibility to the districts and the security situation will be reviewed by FAO and SFD to make the final determination on the choice (PIM). Detailed maps were prepared during the design and these will be used during implementation to track and plot on the GIS the project activity locations.
48. This sub-component is designed to ensure that the project follows a community-based bottom-up approach to identify the investment options in close collaboration with the target group and that an open, transparent and participatory mechanism is in

place to communicate with the targeted communities and identify the target households. A diagnostic process will be followed in which a series of dialogues will be held with the community. The process outlined in this sub-component is designed to ensure proper communication with the beneficiaries about the objectives of the project and its implementation approach and activities. The process will ensure activities are transparently targeted, reduce the risk of elite capture and ensure that the investments selected for the specific village are relevant for the beneficiaries and that they are implemented in a manner which is appropriate. The grievance redress mechanism will also be elaborated during the dialogues with the community and the purpose of the project and the role and identify of the key financing agencies (IFAD and GEF), the lead implementing agencies (FAO and SFD) and the local implementing partners and community workers will be elaborated.

49. One or more local Implementing Partners (IPs) who will be non-Government organizations or private sector service providers will be competitively selected within the first six months of the project and assigned specific districts in which they will oversee and implement the project activities in a unified manner together with the technical experts of FAO and SFD and use of community facilitators, Reflect teachers, nutrition Facilitators and lead resource persons from the community. The IPs will be responsible for working with local communities for the identification of the infrastructure in close participation with local communities, identifying community members responsible for operating and maintaining infrastructure schemes and strengthening their capacity. The IPs will also be responsible for recruiting community extension agents for the FFS, the Reflect teachers for the adult literacy classes and the Nutrition Facilitators for the Nutrition interventions. The IPs together with the community members will try and maximize the impact of the project through building and exploring the synergies between the different project investments.
50. The selection, design and implementation arrangements of the community infrastructure schemes will be undertaken in close participation with community members. Representatives of the branch offices of SFD and their locally registered consultants will also accompany the Implementing Partner to the village during the preparatory meetings. Once the infrastructure schemes have been identified in an open manner, the SFD technical staff will be responsible for scheme design, implementation and supervision with close interaction and engagement with community members. The community representatives together with SFD staff will be responsible for determining the most appropriate contracting modality (community contracting, individual contracting or through private sector) for each type of infrastructure identified. The Terms of Partnership that will be signed between SFD and the representative community organization will specify the roles and responsibility of each partner, their contribution in cash and kind and the operation and maintenance arrangements, etc.
51. The Implementing partner will also follow the diagnostic process to identify the community needs for capacity building for agriculture production. FAO technical experts will together with the participating community members will refine the training topics, timing, location and format for the Farmer Field Schools. The selection of participants for adult literacy, nutrition support and the livelihood packages and matching grants will also follow a participatory process. Special attention will be paid to ensuring that the gender and youth targets are adhered to and that gender roles and responsibilities and concerns of women are incorporated in the planning and implementation of the sub-component activities. Synergies between the two project components will be sought to ensure maximum impact.

- Sub-component: 1.2: Community Capacity building

52. This sub-component will provide technical assistance to train community organizations and beneficiaries of the infrastructure schemes. The outcome will be strengthened capacity of community organizations and groups such as Water User Associations, Village Unit Management Groups, community development associations and participating farmer groups in the operation and management of the infrastructure schemes. The expected output will be the training of 3,300 beneficiaries (1700 men and 1600 women) in improved technical skills and knowledge to enhance the adaptive capacity of rural populations in operation and management of the water and irrigation schemes and soil and water conservation measures. SFD will be responsible for this sub-component as it is closely related to building the capacity of community members with reference to community infrastructure.

Component 2: Climate Resilient Community Infrastructure

53. The specific objective of the component is to improve both domestic water supply and irrigation water supply for the targeted communities, through development of water-related infrastructure. The investments will build on the experience from successful rainwater harvesting and small-scale spate improvement projects over the last fifteen years in Yemen. The component will consist of three sub-components namely; Sub-component 2.1: Domestic Water Supply; Sub-component 2.2 Small-Scale Irrigation and flood-based livelihood systems (spate diversion irrigation); and Sub-component 2.3: Soil and Water conservation. This component will be implemented by SFD, with its widespread country presence and experience in other projects over many years of operation in Yemen. The interventions under this component will be determined by communities following a community mobilisation and planning process and consideration of the technical, economic and social feasibility. The diagnostic process will be implemented by Implementing Partners (Non-Governmental organizations) that will be followed through the diagnostic process identified in component 1.1. The number of schemes selected in each category and the financing allocated to it is indicative as the final selection of each type will depend upon community identification and need.

- Sub-component 2.1: Domestic Water Supply

54. The drinking water supply intervention will be designed to provide the households, communities, and Village Units (VUs) with sustainable potable drinking water sources by restoring existing schemes or building new water facilities. The expected number of benefitting households beneficiaries will be about 3284 households or 22,000 persons. The types of schemes that will be supported could include: i) individual household rooftop rainwater harvesting system; ii) community drinking water schemes that

could include protected shallow wells/boreholes, and gravity-fed springs; and iii) rehabilitation of existing water supply projects at the village unit level serving about 200 households each. Community water schemes will be owned, operated, and managed by the Village Water Committees (VWCs). The technical specifications of the schemes will be prepared by SFD technical consultants who are available at the local level. In addition, the SFD technical experts will build the capacity of VWCs for improved operation and management of the water schemes.

55. The selection of households for rooftop and/or courtyard water harvesting should meet the following criteria: adequate average annual average rainfall (more than 200mm/yr.); solid rooftops with gutters and hard surface courtyard. Rooftop water will be collected and stored separately from the courtyard water for domestic use. The courtyard cistern can be used for gardening irrigation. Where courtyard water is to be used for domestic purposes, appropriate water treatment measures will be included. The requirements for water harvesting will be determined during design but may include water collection gutters and above ground tank or cisterns. The above ground readymade plastic tanks are available in all local markets, whereas the underground cistern/tank are constructed on site.

- Sub-component 2.2: Small-scale irrigation Schemes and flood-based agriculture

56. The objective of this intervention is to increase agriculture production through the rehabilitation and improvement of small-scale community level water infrastructures for irrigation schemes and flood-based agriculture schemes. The expected output will be improved irrigation and flood-based agriculture for about 2284 households or 15,300 persons. Communities will identify the specific schemes and type of small-scale irrigation schemes through a community based prioritization process explained above. Activities under this subcomponent may include the following: (i) *Rehabilitation and modernizing irrigation systems*: Use of micro-catchment rainwater harvesting and improved irrigation technologies at the farm level, that could include construction of farm ponds/water tanks for storing runoff water. The selection and design of each irrigation system will be site specific. Solar pumps will be considered as an option to provide power requirement for irrigation systems; (ii) *Rehabilitation of flood-based agriculture systems (Spate irrigation)*: Activities will include rehabilitation of civil infrastructures (hydraulic structure, canals, embankments, and levelling): for diverting floodwater to downstream farms. The rehabilitation and improvement of existing irrigation shallow wells and boreholes will be undertaken in association with spate irrigation schemes to provide supplementary irrigation. No new drilling and installation of wells unless geophysical survey and water potential investigation is carried out to confirm safe groundwater abstraction rates. Solar pumps will be considered as an option as well as use of modern irrigation technologies to improve irrigation efficiency. (iii) *Capacity building irrigation water users associations*: Activities will include the training of water user associations in operation and maintenance of irrigation equipment, water management and ground water monitoring. As existing infrastructure will be targeted, the experience of the existing water user associations will be leveraged on for greater impact.

- Sub-component 2.3: Soil and water conservation measures

57. The objective of this intervention is to reduce soil erosion, water loss and landslides which are induced by extreme cycles of droughts and floods that result in environment, social and economic costs. These interventions are expected to benefit approximately 2463 households or 16,500 people. This sub-component will provide support for a) rehabilitation of terraces and runoff control to enhance infiltration of water and b) rehabilitation of village roads. Terrace rehabilitation will focus on existing terraces with an improved design, to improve their performance and water use efficiency in the light of climate change and water scarcity. The project will also provide support in small wadis through traditional gabion check dams to capture sediments, reduce downstream erosion and increase water retention. Climate smart village road rehabilitation will provide improved and reliable access to markets and services as well as incorporating water harvesting structures into road drainage structures. An integrated approach to support rehabilitation of selected rural roads will combine the following options: i) climate resilient design and construction with improved surfaces and erosion protection works; ii) utilizing road surface as catchment areas to capture runoff in ponds for livestock and irrigation; and (iii) building community capacity in road management and maintenance.

Component 3: Protection of Agriculture Livelihoods

58. This component is designed to protect agriculture households and restore their livelihoods, which have been devastated by the on-going conflict and provide some modicum of food and nutrition security to vulnerable households. The component will consist of three sub-components; Subcomponent 3.1: Capacity Building for Agriculture Production through Farmer Field Schools; Sub-component 3.2: Food and Nutrition Security and Sub-Component 3.3: Livelihood Resilience and Value Addition. The component activities will be implemented in a gender and nutrition sensitive manner ensuring the inclusion of women and youth in all project activities. It is expected that the component will provide support to 18,000 vulnerable households directly targeting 64 percent women and 53 percent youth. This component will be implemented by FAO given its strong field presence and experience of working in Yemen over the last few years and especially its experience of successfully negotiating between the de facto and de jure Governments (PIM Institutional Analysis).

- Sub-component 3.2: Capacity Building for Agriculture Production

3.2.1 Farmer Field Schools

59. This sub-component is designed to achieve the following outcome; strengthen the capacity of farmers (both men and women) for climate resilient and sustainable agriculture production through the adoption of environmentally sustainable and climate resilient technologies and practices (3.2.2) by 4800 people or 80 percent of those targeted. The expected output will be 6000 persons trained in improved crop and livestock production and in the management of climate-related risk. Of these, 2400 people trained will be women and 2400 will be young men and women. While the main modality of the training will be through FFS, where appropriate some of the practices will also be demonstrated through field visits, pilot demonstrations of adaptation practices and

technologies, and the exposure to best practices on NRM and climate change adaptation from relevant experiences of other projects implemented in comparable context. The project will focus on a number of target value chains that have the most potential for growth and participation of smallholder farmers and that present good market potential. The key value chains will be decided in participation with the participating farmers and could include vegetable production, legumes, livestock, small ruminants and dairy. The project will also use the existing value chains studies for a better understanding of the constraints in the selected value chains.

60. The identification of farmers and implementation of the FFS will be undertaken by the IPs as outlined in the diagnostic process outlined above. The logistical arrangements and the venue for each will be determined in collaboration with the participating farmers. It is expected that each FFS will include around 20 farmers. The service providers will identify and organize 6000 farmers for the FFS over the five-year implementation period. Women are the mainstay of agriculture, accounting for more than 60 percent of crop labour and more than 90 percent of livestock labour. As such, separate sessions will be held for women farmers and at least 2400 women will be invited to participate in separate sessions for women. The duration, length and topics will be decided between the technical specialist of FAO, the extension agents of the Ministry of Agriculture and Irrigation (MAI) and the farmers.

3.2.2 Applied Research for Vulnerability Reduction in FFS

61. This sub-component will be supported by GEF and is designed to achieve the objective of improving research capacity and reducing climate vulnerability on farmer's fields. This will be achieved by improving crop productivity in each agro-climatic zone through the testing of appropriate technologies, techniques and management practices aimed at improving climate change resilience and risk mitigation in each governorate based on their specific agro-ecological conditions and identified climate risks. This sub-component will also contribute towards improved government policy and will contribute towards the Nationally Determined Contributions (NDC) to the Paris Agreement to increase Yemen's ability to adapt to the adverse impacts of climate change and foster climate resilience.
62. Building on the EU funded FAO project for strengthening improved seeds production capacities, 30 Agriculture Research and Extension Agency (AREA) researchers from the different agro-ecological zones will be given a 7-day training in two locations in the north and south of the project area. The training module will be supported by an initial climate vulnerability and research capacity assessment to be conducted by an international consultant that will also identify specific agro-ecological conditions and risks. The training will include the need for researchers to be farmer-focused, and how to test seed agro-climatic suitability, technologies and management practices that will enhance climate resilience and risk mitigation. Inter alia the training will also strengthen the research capacity in formulating research hypotheses, designing research methodologies and ability to write-up conclusions. Researchers will receive supporting guidance material that will complement their training course.
63. Through the GEF-supported knowledge management activities, AREA will also ensure knowledge sharing through the production of leaflets summarizing the findings and outcomes of the trials and the recommendations for its scaling up in all FFS on a yearly basis. At the end of the project an international consultant will be hired to produce a position paper based on the results of the 5 years' on-farm research. This paper will assess the RLDP research programme, draw conclusions and make policy recommendations that will complement the policy strengthening outputs produced by the FAO project for strengthening improved seeds production capacities. The paper will also be presented to the Environment Protection Agency (EPA) to raise awareness about the research being conducted and relevance towards the development of the NDCs

- Sub-component 3.3: Food and Nutrition Security

3.3.1 Empowering Women and Youth through Adult Literacy

64. It is expected that the expected outcome will be 6000 women and men (including from IDPs on a 10 percent basis) will become more empowered as a result of their participation in the literacy sessions and the empowering vision and modules that will be especially designed for them. Literacy sessions will be used as an entry point to weave into the training, topics such as empowerment of women using gender action learning system (GALS) modules and techniques where appropriate. The literacy sessions will use the Reflect approach which is designed to facilitate group learning for adults. In this approach, groups of adult learners, are convened to learn literacy, develop maps, calendars and matrices analysing different aspects of their own lives. These sessions will become the basis for a process of learning new words, gaining awareness of what causes underlying problems, and identifying action points and taking them forward. The sessions will also include topics such as nutrition, strategies for empowering women and protecting them from gender-based violence. This approach offers creative learning as a communicative means that gives them the strength for raising voices against the injustice and inequality that exists ([Action Aid, 2000](#)).
65. One of the requirements in the selection of the IP identified in sub-component 2.1 will be experience in designing and implementing adult literacy courses using the Reflect methodology which is a non-primer based adult education approach (PIM). The activities under this sub-component will include (i) adult literacy sessions with a range of sub-activities designed to support the sessions on adult literacy. The selected IP will be required to either have this experience directly or demonstrate that it has this expertise by having on its team a Reflect expert. The selected IP will be required to undertake the following tasks with respect to the literacy classes; (a) identification of 48 local teachers willing to serve in the project locations and signing of contracts with them; (b) development of a Reflect module for the young women and men in Yemen to ensure the course designed is context specific and includes key topics; (c) training of 48 local teachers and training them to conduct literacy sessions using the Reflect approach; (d) Oversee the selection of the students for the classes to ensure the agreed criteria has

been followed; (e) assist in developing the tools for monitoring student performance and reporting on it; (f) supervision of the Reflect teachers in the implementation of the literacy classes over the course of the project; (g) regular monitoring and feedback on course content, relevance and impact on participants.

3.3.2 Enhancing Nutritional Security through Nutrition Sessions

66. This sub-component outcome is improved quality of diets of at least 2400 vulnerable households or 60 percent of those mentored. The expected output is the provision of targeted support to 4000 households to improve their nutrition, including IPs. The nutrition education sessions will be designed to enhance awareness about nutrition, change attitudes, behaviours and practises that would improve nutrition outcomes of target groups. Given the current Corona pandemic, these sessions will also include modules on health and safety. The project will track the percentage of the targeted people who have improved knowledge, attitudes and practices of food, feeding, caring and hygiene. It is expected that at least 60 percent of the households targeted will have improved their knowledge, attitudes and practises (KAP) regarding food, feeding and hygiene. The nutrition activities will be implemented with 80 groups each year which will include 10 households per group. The first year will focus on the preparatory activities with field activities starting from year 2. Each year 800 households will participate in the group.
67. The main target of this intervention will be mothers and female head of the households including IDPs. The criteria for selection of households will include the following; (i) Households that are food insecure and nutritionally vulnerable and have at least one child under the age of five years; (ii) Household with children under five years who are in nutrition therapeutic programs/ being released from feeding centres (iii) Households with a malnourished mother; (iv) Women-headed households and iv) vulnerable households with pregnant and lactating women. The selection of the households will be undertaken jointly with the community elders and key resource persons and the IP and the FAO Nutrition Specialist. During implementation, additional households who may have been left out in the initial selection may also be included by the Community Nutrition Facilitators based on the original criteria.
68. The nutrition training will focus on the day-to-day household activities that are a natural entry points for improving nutrition metrics of the household. Emphasis will be placed on the practical aspects of food preparation, food hygiene, infant feeding, water safety, food storage and preservation among other sessions. Furthermore, there will also be focus on sustainable household food security and how families can increase food availability, accessibility and sustenance even during dry seasons. For the nutrition facilitators. The project will also provide support for improved family nutrition through providing inputs for; (a) Increasing production of vegetables through kitchen gardens; (b) Increased production and consumption of protein rich foods through provision of dairy goats, poultry, small ruminant production, subject to availability of rangeland and/or feed resources etc; (c) Support for food processing and preservation through simple equipment like community solar driers, boilers, steamers, stoves, bottling and packaging equipment, sterilizers, air-tight containers, etc; (d) collaborate with the water infrastructure team, to provide portable water for household use and water for kitchen garden irrigation. The specific packages that will be provided are included in the PIM.
69. This sub-component will be implemented with the technical expertise of FAO with field level activities being undertaken by an Implementing Partner. FAO will provide the technical assistance through its Nutrition expert in Sa'ana and by placing a full-time national nutrition expert in the project area. These specialists will provide technical support and supervision in the implementation of the nutrition component. The field level activities will be implemented by an IP supported by 40 Community Nutrition Facilitators (CNF) who would undertake the implementation of the work on the ground at the household level. The function, selection and management of the CNFs are described in their Terms of Reference. The Nutrition specialists would design a programme of support and awareness raising based on the local context and conduct field visits to periodically monitor the sessions it and train the IP in monitoring it on the ground.
- Sub-Component 3.4: Livelihood Resilience and Value Addition
70. This sub-component will be designed to help vulnerable households recover their livelihoods through providing them livelihood support packages and by helping them add value to their current production in order to make their livelihoods more resilient. The expected outcome will be increased production for 1200 households or 80 percent of those targeted including IDPs. The specific outputs under this sub-component will include the (i) provision of technical assistance to 1500 households on determining the economic and technical feasibility of the proposed investment; (ii) livelihood packages to 1500 households and (iii) post-harvest processing and marketing support to 500 households. The sub-component will target 40 percent women and 40 percent youth under this sub-component. The project will provide livelihood packages to 675 women and matching grants for processing and marketing activities to 225 women and 600 youth in each category. The grants will be provided in cash and kind based on the approach well developed by FAO for simple market activities in which the households may already be engaged. The selection of households for these activities will be undertaken based on well-established criteria which has been established by FAO and elaborated in the targeting criteria for the current project. The criteria include vulnerability, sources and level of income, land and livestock ownership pattern, household dependency ratio, willingness and commitment to participate in the proposed activity, etc. FAO will further refine these criteria based on their well-established model of providing livelihood packages. The term matching grant is meant to reflect the contribution of the household to the production and marketing activities and does not entail any actual cash from the targeted households.
71. Eligible activities will include (i) Provision of agriculture livelihood support kits to restore crop production and generate income and

(ii) Increasing value-added of key agricultural products through provision of equipment and inputs as well as technical training for improving processing, packaging and marketing, etc. This includes poultry, small-ruminants in areas where feed resources are available, low cost-green-houses, bee-keeping, milk processing, post-harvest and marketing, etc. However, this is not an exhaustive list and other packages can be added based on beneficiary assessment and technical feasibility of some of the other types of support that can assist them in strengthening their livelihoods.

Component 4: Project Management

72. This component will finance the incremental cost of project management and operations as well as the financial management, procurement, monitoring and evaluation of project activities. The overhead costs of FAO and the operational costs of SFD will be paid from the funds allocated under this component. The technical specialists will be procured using this allocation as well as undertaking all the surveys and reports required to meet the monitoring, evaluation and knowledge management aspects of the project. The training of front line implementers in highlighting and making IFAD's presence visible in Yemen with respect to all capacity building and infrastructure investments will be organized under this component.

E. Theory of Change

73. The people in Yemen have been devastated by the on-going conflict leading to a sharp increase in poverty rates and food insecurity. The war has led to destruction of social and economic infrastructure especially water and communication facilities and has diminished the productive asset base leading to a sharp decline in cultivated land, crop production and livestock holding in the country. Food insecurity and malnutrition impact a large proportion of the country especially the most vulnerable segments such as women and children. Some of the key causes of food insecurity in Yemen include: Conflict- which affects availability and accessibility of food, access to health services. It is further exacerbated by extremely high food prices, the liquidity crisis, disrupted livelihoods, and high levels of unemployment. These factors are also affecting nutrition security of households, and especially children, as food insecurity affects availability of foods for child feeding and maternal care; inadequate access to portable water may lead to diarrhea and cholera outbreaks leading weight loss that leads to under nutrition; and affected access to adequate healthcare which may lead to health deterioration due to childhood illnesses.
74. The theory of change of the project is based on the premise that despite the destruction of livelihoods and the difficult situation in which they live, the local communities and households are willing to pick themselves up and engage in productive activities to rebuild their lives and forge a future for themselves. There are promising pathways to enable the households in the selected governorates to rebuild their livelihoods and enhance their resilience. For this they need support in rehabilitating and reconstructing infrastructure particularly water for both domestic and irrigation supply, protection against floods and investments in terrace rehabilitation and infrastructure which is more climate resilient such as rural roads to enable them access to markets and maintain their supply lines. It is assumed that key investments in rebuilding water infrastructure, protecting fields against erosion and floods and helping to open access to markets will assist households in increasing crop and livestock production, protect themselves against damage from floods and improve their access to markets. Based on previous experience it is further assumed that communities and households will be able to maintain and operate the infrastructure on a sustainable basis themselves and will not be dependent upon peace and stability at the national level. The project will be conflict sensitive in that it will avoid building any asset that are potentially conflict generators such as investment in rangelands or communal grazing lands where rights may be subject to community policing or tribal tensions.
75. Local communities have also shown considerable interest in enhancing and updating their farming knowledge and practices especially in learning about how best to adapt to climate change and have in the past been actively participating in farmer field schools that have led to high adoption rates of climate resilient practices. Thus, a promising pathway for enhancing productive potential and building resilience to climate change would be participation in Farmer Field Schools (FFS) where a host of inputs such as drought resistant seed, water efficient technologies and water productivity enhancing techniques, grow bags and wicking beds, soil conservation techniques, etc., will be introduced. The project will also provide livelihood packages and matching grants for post-harvest activities to help to rebuild agriculture livelihoods. The capacity of the Agriculture Research & Extension Authority (AREA) of Yemen can be strengthened through short training of its researchers to test the suitability of seeds, technologies and management practices to different agro-climatic zones for enhanced climate resilience and risk mitigation and disseminating the findings in the FFS and to the wider farming community, private suppliers and policy makers.
76. Another mechanism of engagement of local communities and empowering them will be the organization of special sessions for young men and women to provide them literacy and numeracy skills as well as mentoring sessions in nutrition for women in households. The project will use the non-primer based Reflect approach which is a specially designed approach for adult literacy. The literacy sessions are being organized based on the previous experience that this is an important avenue for change and provides an opportunity to young women and men to become literate and numerate in a short span of time and also more importantly empowers the participants and gives them a renewed vision about their lives which is a key starting point in any process that aims to rehabilitate communities demoralized by unending conflict. The approach has proven effective in enabling communities to discuss key challenges and overcoming them. The approach has resulted in women's increased participation in family and community and resulted in changes in the gender division of labour in many different contexts ([Reflect, 1998](#)).
77. Another key pathway for behavior change is expected to be mentoring for women from vulnerable households. The project will work to enhance household food availability through local food production through kitchen gardens, small livestock and local food preservation. The key pathways for improving nutrition through agriculture in this project will include Food production and women

empowerment pathways. The food production pathway (that is implemented through the kitchen gardens and small livestock rearing) will increase household food availability, therefore impacting on diets of household members. This will improve maternal and child nutrition outcomes. The women empowerment pathway (that will be implemented through nutrition education) is expected to improve the maternal caring capacity and practices, which will improve maternal and child nutrition outcomes. Evidence has shown that malnutrition is due not only to lack of adequate food quantity and lack of diversity in diets but poor knowledge and deeply ingrained behaviours. While it is generally known that there are lifelong benefits of exclusive breastfeeding including high immunity in children, reduced chances of stunting, good cognitive development among others, the rate of exclusive breastfeeding for the 0-5 months old children in Yemen is only 9.7 percent. This illustrates the heightened need to intervene in this area and protect the most vulnerable households in the target districts. The project intervention in this area is based on the evidence that sustained mentoring and participatory community-based nutrition education for caregivers improved child dietary diversity even in a food insecure area (Malawi, 2017), awareness through nutrition sessions can change behavior patterns, [28] improve feeding practices [29], integration of kitchen gardens to diversify diets and improve the nutritional status of children in vulnerable households. [30] Further evidence shows that integration of nutrition in agriculture extension approaches like FFS improves household dietary diversity [31].

78. The project builds on the experience that an integrated approach has the potential to deliver much greater impact than interventions which are implemented in isolation. The project approach also capitalizes on lessons that a community based approach in which participating households and communities identify their own priority needs are much more relevant and build ownership. Using these two findings, the RLDP approach will follow a community-based diagnostic process in which participating communities identify their priorities from the menu of options included in the project design. The project approach will focus on targeted village units which are the most vulnerable to food insecurity and climate risks and deliver a package of complementary activities. The combined impact of the project investments will be reduction in poverty and vulnerability as a result of increase in agriculture production, enhanced resilience to climate risks and improved food and nutrition security. The diagrammatic illustration of the Theory of Change is given in Annex 2.

F. Alignment, ownership and partnerships

79. The project is closely aligned with several SDG Goals such as reducing poverty and building the resilience of the poor and reducing their exposure to climate related extreme events (SDG 1.2 and 1.5) and ending hunger, malnutrition, increasing agriculture productivity and opportunities for value addition (SDG 2.1, 2.2 and 2.3). This sub-component is designed with the objective to achieve some of the targets of Sustainable Target Goals (SDG) by assisting to eliminate gender disparities in education (SDG 4) and contribute to achieving women's full and effective participation and equal opportunities for leadership, giving women equal rights to economic resources, as well as access to ownership and control over productive resources (SDG 5). The project is aligned to strengthening the resilience and adaptive capacity to climate related hazards and build institutional capacity on climate change adaptation (SDG 13).
80. Due to the ongoing conflict, the GoY has not updated its country strategy documents. However, the RLDP objectives are aligned with the priorities of the Government, which are documented in the Transition Plan for Stabilisation and Development 2012 – 2014, Development Plan for Poverty Reduction 2012-2015, Yemen's National Adaptation Plan of Action (NAPA) and the National Water Sector Strategy & Investment Program, and MoPIC's National Food Security Strategy. The priorities were also validated during the workshop in Cairo in 2018 with the representatives from the recognized Government in Aden and the Houthis Government in Sana'a.
81. RLDP is well aligned with the Intended Nationally Determined Contribution (INDC-2015) in terms of promotion and scale-up of rainwater harvesting to reduce climate induced water shortage; promoting agriculture drought management as well as sustainable crop and livestock management; implementing proper land resources management programs; and capacity building and awareness raising of communities. RLDP is well aligned with the Third National Communication under the United Nations Framework Convention on Climate Change (TNC) in terms of improving water irrigation efficiency and reducing water losses; alternative cropping schemes such as drought resistant crops, crop diversification and crop rotation patterns; soil conservation measures and protection from soil erosion; diversifying livelihoods and promoting opportunities for off-farm income; and building local capacities for farmers to deal with climate risks and use improved technologies in farming.
82. In line with the Strategic Objectives approved in 2019 in IFAD's Country Strategy Note for Yemen, the programme will contribute to IFAD's overall strategic goal at the corporate level to "reduce poverty and enhance food security through remunerative, sustainable and resilient livelihoods". It will also contribute to IFAD 11 commitment by supporting the four key priority areas namely gender and youth mainstreaming, climate focus and integration of nutrition sensitive interventions.
83. IFAD expects to work closely and collaborate with the humanitarian and development agencies, which have continued their support to Yemen despite the on-going conflict with positive results. IFAD will use the opportunity to abide by its commitment to forge strategic and complementary partnerships with the Rome-based agencies (RBAs) as FAO and WFP have active presence in all the governorates in Yemen. IFAD will build synergies and exchange learnings as well as strategically plan for development activities in a way to complement the strong nexus between humanitarian and development support, and focus on a well-structured graduation path from aid support to self-reliance. The project will be implemented by FAO as the lead implementing agency. The project will build on FAO's presence on the ground to increase crop and livestock production supported by the UN

hubs at the governorate level. Opportunities to liaise with WFP for improved targeting and building synergies between the project investments and the cash and nutrition assistance of WFP programmes in Yemen will be sought where possible. IFAD will also work closely with the World Bank in the areas of programming including knowledge management, and policy advocacy on the wide range of issues to influence the government decision making to lead policy change towards sustainable rural development.

84. Placement of visibility materials will be handled in coordination with IFAD's communications team and a project communication consultant whom will be hired through a retainer contract. FAO and SFD will ensure that both IFAD and GEF are properly branded through the referral to IFAD and GEF in the content and the display of proper IFAD and GEF corporate logos in regular analytics reporting, knowledge products and events, dissemination materials distributed to stakeholders including beneficiaries, signage/plates used in demonstration sites, and media communications including podcast, videos, and newsletters. IFAD will ensure adherence to visibility protocols during the mission and throughout the implementation.

G. Costs, benefits and financing

a. Project costs

85. This section describes the assumptions underlying the derivation of costs, estimated costs and financing plan for the programme. Key assumptions are:
- Total programme costs are based on May 2020 prices.
 - The RLDP project will be financed over a five-year period starting from beginning 2021.
 - The base rate of domestic inflation has been set at 10 per cent throughout programme duration while international inflation is estimated at 1 per cent during the implementation period.
 - The exchange rate was fixed at 1USD = 250 YER as per average market forex rate during 2019/2020.
 - Both types of contingencies have been taken into account and included in the costing of project. In particular, most categories include a physical contingency of 2 per cent with an exception on the "Civil Work" category where a 5 per cent physical contingency is considered.
 - Taxes and duties have been considered for each cost item.
 - The value added tax (VAT) in Yemen is equal to 5% and is levied on all imported and locally procured goods and services.
86. Concerning climate financing, the project has allocated resources to components 1 (sub-component 1.2) and component 2 (2.1, 2.2, 2.3) that count in part towards IFAD climate-focused financing. In particular, the mitigation/adaptation ratio of the project and the total climate-focused contribution is as follows:
- IFAD adaptation finance: USD 5,235,000 (52%)
 - IFAD mitigation finance: USD 0 (0%)
 - Total: USD 5,235,000 (52%).

Table 4; Programme/project costs by component (and sub-components) and financier
(Thousands of United States dollars)

	IFAD Grant		GEF		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Community Mobilization & Strengthening										
1. Community Mobilization & Engagement	1,781	100.0	-	-	-	-	0	-	1,781	8.3
2. Community Capacity Building	21	8.9	214	91.1	-	-	0	-	235	1.1
Subtotal	1,802	89.4	214	10.6	-	-	0	-	2,016	9.4
B. Climate Resilient Community Infrastructure										
1. Domestic Water Supply	276	8.9	2,416	77.6	422	13.6	0	-	3,114	14.5
2. Small-scale irrigation and flood-based livelihoods systems	950	33.0	1,544	53.7	381	13.3	0	-	2,875	13.4
3. Soil and water conservation	2,588	81.5	154	4.9	433	13.8	0	-	3,176	14.8
Subtotal	3,814	41.6	4,114	44.9	1,237	13.5	0	-	9,165	42.8
C. Protection of Agriculture Livelihoods										
1. Capacity Building for Agriculture Production	-	-	2,056	100.0	-	-	0	-	2,056	9.6
2. Food and Nutrition Security	1,180	56.8	898	43.2	-	-	0	-	2,078	9.7
3. Livelihood Resilience and Value Addition	-	-	2,090	91.9	184	8.1	0	-	2,275	10.6
Subtotal	1,180	18.4	5,045	78.7	184	2.9	0	-	6,409	29.9
D. Project Management, M&E and KM										
1. Project Management Unit	2,321	82.3	500	17.7	-	-	0	-	2,821	13.2
2. M&E and Knowledge Management	353	73.6	126	26.4	-	-	0	-	480	2.2
Subtotal	2,674	81.0	626	19.0	-	-	0	-	3,300	15.4
E. Unallocated	530	100.0	-	-	-	-	-	-	530	2.5
Total PROJECT COST \$	10,000	46.7	10,000	46.7	1,421	6.6	0	-	21,421	100.0

Table 5: Programme/project costs by expenditure category and financier
(Thousands of United States dollars)

	IFAD Grant		GEF		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs										
A. Technical Assistance & Consultancies	2,077	76.4	640	23.6	-	-	0	-	2,717	12.7
B. Grants and Subsidies	530	100.0	-	-	-	-	-	-	530	2.5
C. Goods Services & Inputs	598	16.2	2,914	78.8	184	5.0	0	-	3,697	17.3
D. Training Workshops & Meetings	402	19.0	1,717	81.0	-	-	0	-	2,119	9.9
E. Civil Work	3,002	36.4	4,005	48.6	1,237	15.0	0	-	8,244	38.5
Total Investment Costs	6,609	38.2	9,276	53.6	1,421	8.2	0	-	17,307	80.8
II. Recurrent Costs										
A. Salaries and Allowances	1,132	61.0	724	39.0	-	-	0	-	1,855	8.7
B. Operating Costs /a	2,259	100.0	-	-	-	-	0	-	2,259	10.5
Total Recurrent Costs	3,391	82.4	724	17.6	-	-	0	-	4,114	19.2
Total PROJECT COST S	10,000	46.7	10,000	46.7	1,421	6.6	0	-	21,421	100.0

Table 6: Programme/project costs by component and year
(Thousands of United States dollars)

	2021	2022	2023	2024	2025	Total
A. Community Mobilization & Strengthening						
1. Community Mobilization & Engagement	218	441	445	337	340	1,781
2. Community Capacity Building	55	54	45	45	37	236
Subtotal	273	494	490	382	378	2,016
B. Climate Resilient Community Infrastructure						
1. Domestic Water Supply	610	1,044	878	433	149	3,114
2. Small-scale irrigation and flood-based livelihoods systems	680	788	666	449	293	2,875
3. Soil and water conservation	504	698	789	607	578	3,176
Subtotal	1,793	2,530	2,333	1,488	1,020	9,165
C. Protection of Agriculture Livelihoods						
1. Capacity Building for Agriculture Production	168	455	511	455	468	2,056
2. Food and Nutrition Security	337	424	452	433	432	2,078
3. Livelihood Resilience and Value Addition	-	-	1,132	1,143	-	2,275
Subtotal	505	880	2,094	2,031	900	6,409
D. Project Management, M&E and KM						
1. Project Management Unit	565	568	571	557	560	2,821
2. M&E and Knowledge Management	106	59	44	85	186	480
Subtotal	671	627	615	642	745	3,300
E Unallocated	106	106	106	106	106	530
Total PROJECT COST S	3,348	4,637	5,637	4,649	3,149	21,421

b. Project financing/co-financing strategy and plan

87. Total project cost (investment cost and incremental recurrent cost, including physical and price contingencies) is estimated at about USD 21.4 million. IFAD will contribute grant resources amounting to USD 10 million (46% of the total cost) to finance the various project components. Provisions amounting to USD 530,000 (2.4% of total cost) for emergency and unforeseen expenses are included in the "Unallocated" category and directly sourced from IFAD funds. FAO service fee is currently accounted for under the operating cost section of the Project Management Unit and equal to USD 1.13 Million (5% of total project cost).
88. The Global Environment Facility (GEF) will co-finance RLDP through a grant of USD 10 million (46% of total cost). The funds will be allocated on all project components as follows: a) USD 214,339 (1% of total cost) for component 1; b) USD 4.1 million (19% of total cost) for component 2; c) USD 5 million (23.5% of total cost) for component 3; and d) USD 500,000 for the project management unit (2.3% of total cost). GEF funds will also be used to finance M&E-related functions for an amount of USD 126,500 (0.6% of total cost)
89. During the RLDP preparation, the project team has assumed that the Government of Yemen (GoE) is currently facing considerable constraints to provide resources for the co-financing of the project. Therefore, concession was made on the established practice of recipient governments paying taxes and duties on project activities. In the current scenario, such amounts will be financed out of the proceeds of the IFAD and GEF Grants. The estimate of taxes and duties amount to USD 758,000 and its calculation was based on the rates prevailing at the time of the design.
90. Contribution from beneficiaries, both in-kind and in-cash, are equal to USD 1.4 million (6.6% of total cost) and will mainly co-finance infrastructure in component 2 and diversified livelihood activities of component 3.
91. The foreign exchange component is estimated at about USD 7.6 million. Funds allocated to the Project Management Unit are estimated as USD 2.8 million, equal to 13% of the total cost. The indicated threshold is higher than the usual 8% limit considered in most IFAD projects. Nonetheless, it is important to remark that the currently on-going civil war and the extremely volatile security situation makes operating in the country particularly difficult and expensive. During the project preparation, the team

carried out an extensive analysis of possible arrangements and elaborated several costing scenarios to identify the most cost-effective solutions – the latter being presented here.

c. Disbursement

92. Flow of funds. Disbursement to FAO shall be made on the basis of advance of funds method. FAO is required to prepare and submit AWPB in accordance with the format and periodicity agreed with IFAD. The grants proceeds will be transferred into the FAO bank account based on withdrawal application submitted to the IFAD. FAO Yemen Office has bank accounts in commercial bank in Yemen both in US dollars and Yemeni rial. The first advance will cover projected expenditures for the activities for the first six months of the AWPB. Subsequently, for each new advance, the FAO will need to justify 75 percent of cumulated advance received, up to the project's achievement, reconciling against amounts previously withdrawn against the grants amounts. The funds related to the implementing of component 2 will be transferred to SFD by FAO on the basis of the progress of the execution of the activities implemented under the responsibility of SFD.

d. Summary of benefits and economic analysis

93. The economic and financial analysis (EFA) of RLDP accounts for benefits and costs directly linked to the project interventions. The target group is expected to experience increase in income as a direct result of the: (i) increased water availability for productive use; (ii) diversification of productive activities and sources of income thanks to greater access to technical assistance and inputs; (iii) increased food availability for rural poor, (iv) increased value-added of agricultural outputs; (v) enhanced productivity through improved infrastructure; (vi) improved quality of processed products, thus attracting higher prices at local market; (vii) increased employment opportunity either for hired or family labour, for both on-farm and off-farm activities; and (viii) tax revenues as a result of increased volume of taxable production.
94. The EFA of the RLDP was prepared remotely due to current travel restrictions. The analysis made use of indicative crop, activity and farm models to assess the RLDP impact. The EFA builds upon the precautionary principle, accounting for project benefits in a realistic and conservative manner. A cash-flow analysis is finally carried out to present the “with” and “without” project analysis. The key-indicators used to carry out the analysis are Net Present Values (NPVs), Financial and Economic Internal Rate of Return (FIRR - EIRR), Benefit-cost ratio (BCR). The EFA is formulated by using the newly developed IFAD-FARMOD software^[32] (v. 5.03).
95. A number of indicative economic activities to be supported by the project were identified during the design mission and are presented in the table below. These production models are used as building blocks for the elaboration of eight household/farm models where differentiation is made both in terms of cultivation patterns, land holding, source of income and production systems. The table below summarizes the key characteristics of each farm/household model while greater details are provided in the EFA annex.

Table 7: Key characteristics of farm/household models

Code	Model	Ha	Crops	Livestock	Project interventions
MXD-SML	Mixed farming (small)	0.3	Sorghum, Cowpea, Barley, Potatoes, Tomatoes	Chicken, Goat	Rehabilitation of flood based systems, Farmer Field School
MXD-MED	Mixed farming (medium)	1	Sorghum, Cowpea, Barley, Potatoes, Tomatoes, Onion	Chicken, Goat	
CRP-SML	Crop farm (small)	0.3	Sorghum & Cowpea	-	Rehabilitation of check/dikes
CRP-MED	Crop farm (medium)	1	Coffee	-	
CRP-SOL-SML	Crop farm (small)	0.3	Sorghum & Cowpea	-	Rehabilitation and modernization of irrigation systems (solar panels)
CRP-SOL-MED	Crop farm (medium)	1	Coffee	-	
TRC-CRP	Reclaimed land (small)	1	Sorghum & Cowpea, potatoes	-	Terraces rehabilitation
TRC-COF	Reclaimed (medium)	1	Coffee	-	

HON-SML	Small-scale honey farm	n/a	Honey	-	Livelihoods support packages and matching grants
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96. The economic evaluation of the entire project is based on the aggregated net incremental benefits of the target population. In order to include both on- and off-farm benefits in the EFA, other economic models were considered. Key characteristics for each model are summarized in the table below.

Table 8: Key characteristics of additional economic models

Model	Unit	Crops	Other benefits	Project interventions
Village Groundwater Schemes	60 ha	Coffee, Wheat, Sorghum, Cowpea, Barley, Potatoes, Tomatoes, Onion	-	Construction/Rehabilitation of groundwater watershed schemes
Village road	1 km	Mango, Coffee, Sorghum, Cowpea, Barley, Potatoes	Reduction in travel time, Reduction in post-harvest losses	Construction/Rehabilitation of climate-smart village roads
HHs water supply	1 HHs	Tomatoes, Potatoes, Onion, Sorghum & Cowpea	Time saved from collecting water	Provision of rainwater harvesting technology at HHs level
Communal multipurpose water-harvesting	1 village		Time saved from collecting water, Averted illness, Savings in health-related expenses	Construction of village-based water-harvesting structures

97. All the technical assumptions considered in the models were sourced from field surveys shared by the FAO country-office, national statistics, technical studies and reports. The diagram in the figure below provides a logical sketch of the adopted approach while summary results from the financial models are presented in Table 9.

Figure 3: EFA diagram

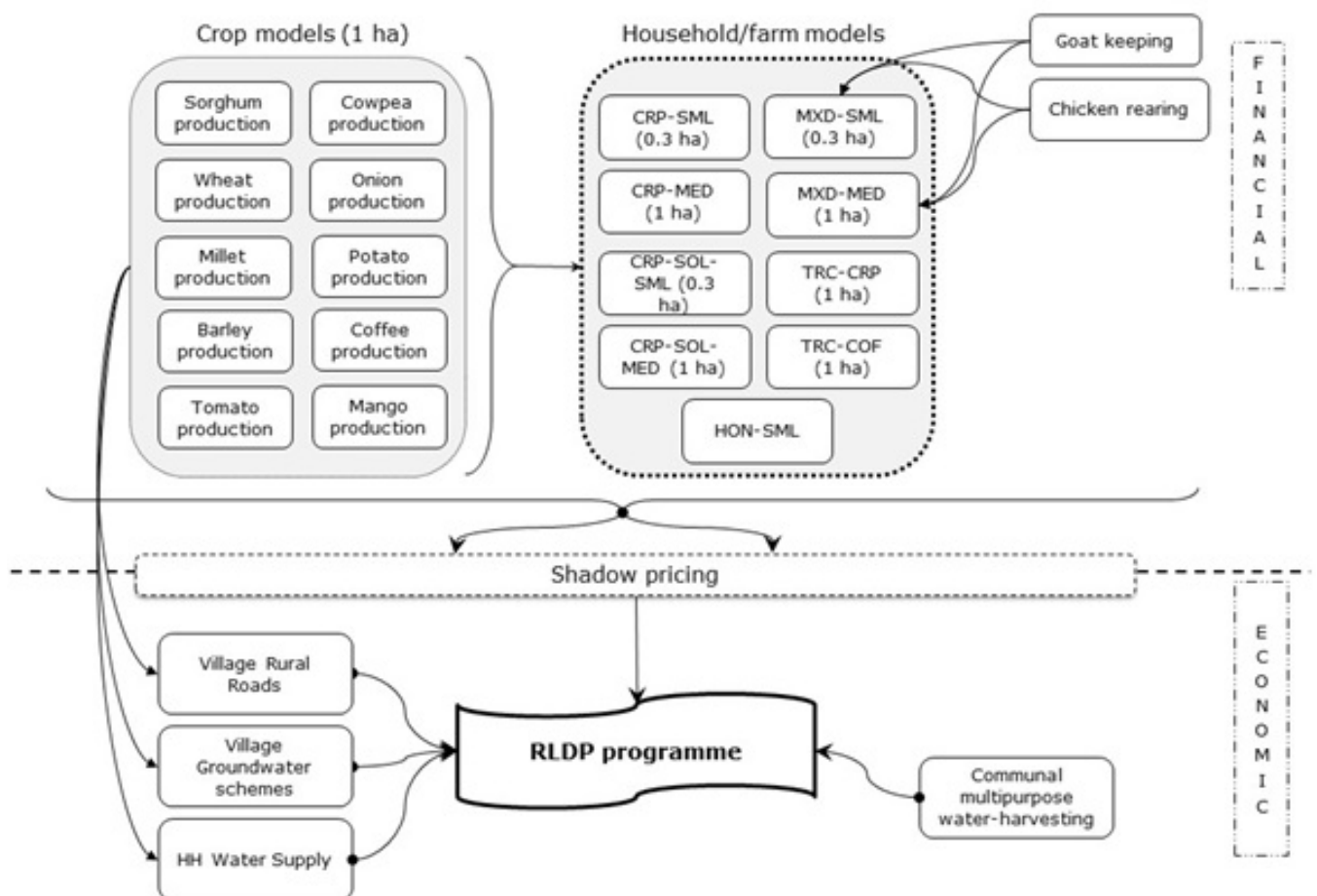


Table 9: Summary of financial models' results

MODELS	Before financing			After financing		
	NPV ('000 YER) @ 20%	IRRf	B/C ratio	NPV ('000 YER) @ 20%	IRRf	B/C ratio
MXD-SML	177	31%	1.11	408	122%	1.26
MXD-MED	701	33%	1.14	1,370	101%	1.27
CRP-SML	198	30%	1.26	400	86%	1.52
CRP-MED	1,555	35%	1.55	2,229	63%	1.78
CRP-SOL-SML	40	21%	1.04	409	80%	1.44
CRP-SOL-MED	934	27%	1.27	2,161	57%	1.62
TRC-CRP	600	27%	1.05	2,717	n/a	1.23
TRC-COF	391	22%	1.06	2,951	58%	1.49

HON_SML	498	46%	1.60	667	90%	1.80
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98. Programme target group and beneficiaries. The primary target group for the Programme will be smallholder farmers - particularly women and youth. It is estimated that the number of direct beneficiaries will be 23,031 HHs, of whom 15,988 HHs are directly accounted for in the EFA models considered here. The aggregation for production models is based on the number of HHs directly engaged in the activity, the number of hectares brought into the new production systems or the number of infrastructures rehabilitated or newly established. The inclusion pattern of the EFA modes and beneficiary is described the EFA appendix below.
99. Key assumptions. The following sources of information gathered during the design mission have been used to set up the analysis: a) Survey data from the FAO Yemen country office; b) official statistics and surveys from the Yemeni Bureau of Statistics, c) Research papers, d) technical reports; e) past country/programme evaluation reports, and e) own estimates. In particular, information on labour and input requirements for various operations, capital costs, prevailing wages, yields, farm gate and market prices of commodities, input and farm-to-market transport costs were updated from previous from similar past investments in the country. Country data and information from the WFP VAM platform and FAO price tool were also used for data validation. Conservative assumptions were made for inputs and outputs, and do take account of possible risks.
100. Exchange rate. The exchange rate used in the analysis is fixed at 1 USD = 250 YER computed as the average exchange rate prevailing during the design mission. It is important mentioning that even though Yemen's currency market is officially set as a floating regime, the current market and social conditions have favoured the creation of multiple concurring exchange rates and black currency markets. The aspect of multiple unofficial rates has been duly accounted for in the calculation of the shadow price for the currency in the economic analysis.
101. Numeraire and Prices. The adopted numeraire for the EFA is the domestic price level expressed in local currency unit. The financial prices for project inputs and products represent average farm-gate and market prices prevailing in May 2020. Prices used represent estimates of the average seasonal prices and the analysis is carried out using nominal constant prices.
102. Labour. Family labour has been valued both in financial and economic analysis. It has been assumed that farm labour is provided by the households and is valued at YER 3,150 day⁻¹. Hired labour (skilled) is priced at YER 4,500 day⁻¹, which is the prevailing market rate for on-farm activities.
103. Opportunity cost of capital. A discount rate of 20 per cent has been used in the financial analysis to assess the viability and robustness of the investments. In the economic analysis this value is reduced to 10 per cent consistently with data on lending and deposit interest rates, Treasury bill yield rates and the risk profile of the economy.
104. Other quantified benefits and economic models. This EFA includes economic benefits related to the provision of infrastructures with an intrinsic public nature, such Village groundwater watershed schemes, village roads, Water harvesting structures and technology at both communal and HHs level. Benefits, costs and economic profitability results have been estimated as follows:
- Village Groundwater water-based schemes: The Village unit is assumed to be composed by 200 HHs with a total cultivated land of 60 hectares. The infrastructure is expected to increase water availability and extend the irrigation period during the dry season. Increase in yields are expected accordingly. The investment yields a positive ENVP of YER 150 million and EIRR 43 per cent. The benefit-cost ratio is equal to 1.48 therefore generating an additional wealth of 0.48 Rial for each Rial invested.
 - Village roads: Key benefits in this model are linked to the reduction in travel time and consequently also the reduction in post-harvest losses of about 6% of the total annual production. The economic results of the rehabilitation of a 1km road segment are positive and amounting to an ENPV of 38 million, an EIRR of 45 per cent and a BCR equal to 3.7.
 - Rainwater harvesting at HHs level: Benefits for this type of roof-top water collection infrastructure are mainly related to increase availability of water in the household with multiple destination use. Expected benefits relate to increased production from backyard farming (mainly vegetables) and reduced time to fetch water from alternative sources (a task mainly carried out by women in the HHs). The investment yield a positive ENPV of YER 773,093 and EIRR of 40 per cent and a BCR of 1.30.
 - Communal multipurpose water harvesting infrastructure: These intervention will provide beneficiaries with potable drinking water sources by restoring existing schemes or building new water facilities. The benefits expected range from health improvement to time saving. The detailed assumptions about the economic calculation are provided in the EFA annex. The Disability-Adjusted-Life-Year is used as a key metric to show potential health increase and reduction in water borne diseases (i.e. diarrhoea) diseases made possible by the access to safe drinking water. The economic results are positive, with the ENPV equal to YER 114 million, the EIRR of 154 per cent and a BCR of 4.27.
105. Benefits Estimation and results by sub-components The incremental benefits stream comprises the economic net values of all the models developed in the analysis. The analysis can also show the contribution of each sub-component to the final results (table 10).

Table 10: Summary of economic results by sub-components

	ENPV @10% (Millions of YER)	EIRR (%)	BCR	
2.1. Domestic water supply	2,107	54	1.50	
Individual household water supply				
Communal multi-purpose rainwater harvesting				
Village groundwater-based water schemes				
2.2: Small-scale irrigation and flood-based livelihood systems	1,086	34	1.28	
Rehabilitation and modernising irrigation systems				
Rehabilitation of flood-based agriculture systems				
2.3: Soil and water conservation	1,634	42	1.98	
Rehabilitation/construction of check dikes and gabions				
Terraces rehabilitation				
Climate smart village road rehabilitation				
3.1. Capacity Building for Agriculture Production	Results integrated in 2.2			
Inputs for FFS /d				
3.3. Livelihood Resilience and Value Addition	630	30	1.58	
Livelihood Packages				

106. **Economic Profitability.** The project is a technical and economically viable investment to the economy as a whole. The project economic NPV of the net benefit stream over the 20-year timeframe, discounted at 10%, is YER 3,464 million (USD 14 million). This value yields an EIRR of 21% and BCR of 1.27 for the base case scenario and it results in a payback period of eight years.

107. **Sensitivity Analysis.** The section presents the effect of variations in Programme benefits and costs. Programme results were tested to sensitivity analysis so as to measure variations due to unforeseen factors, hence identifying those variables affecting final results the most. Table 11 shows the extent to which a change in key variables (the change is marked on the vertical axis) would induce a change to the project ENPV (reported in columns). The project is more sensitive to decline in benefits (switching value at -7%) rather than increase in costs (switching value at +16%).

Table 11: Sensitivity of the ENPV to variations of benefits and costs

	Benefits decrease	Cost increase

0%	3,464	
1%	2,943	3,242
2%	2,421	3,020
3%	1,900	2,798
4%	1,379	2,576
5%	857	2,355
6%	336	2,133
7%	-185	1,911
8%	-707	1,689
9%	-1,228	1,467
10%	-1,750	1,245
11%	-2,271	1,023
12%	-2,792	801
13%	-3,314	579
14%	-3,835	357
15%	-4,356	135
16%	-4,878	-87
17%	-5,399	-309
18%	-5,921	-531
19%	-6,442	-753
20%	-6,963	-975

108. Finally, the sensitivity analysis allows to examine the effects of a simultaneous variation of decrease in benefits and increase in costs, on the overall project profitability, hence determining all possible combinations of variables' changes that would result in a negative (or positive) NPV. Furthermore, a final test is carried out to measure the effect of implementation delays on the

economic results.

Table 12: Simultaneous sensitivity analysis

Combined Factors	EIRR	ENPV	BCR
1%,1%	18.6%	2,721	1.21
2%,2%	16.2%	1,978	1.15
3%,3%	13.8%	1,234	1.09
4%,4%	11.5%	491	1.04
5%,5%	9.2%	(252)	0.98
Benefits Delay			
1 year	14.2%	1,576	1.12
2 year	9.7%	(142)	0.99
3 year	6.3%	(1,702)	0.87

e. Exit Strategy and Sustainability

109. The overall approach of the project is designed to embed a clear exit in all key project components (Annex 10) and to strengthen the prospect for sustainability in the manner in which the investments are designed and implemented. The overall approach of the project is to enhance the resilience of vulnerable households by protecting their agriculture livelihoods through a package of support for critical infrastructure, building their productive asset base and capacity building for increased production, adaptation to climate change, nutrition security and adult literacy for young women and men. The project will adopt a community-based approach for the identification of priority needs to ensure that the community takes strong ownership of all investments. While the project will work with the Government where these institutions are present and willing to participate, the outcomes and their sustainability will not be dependent on sustained delivery of assistance or services from the public sector before or after the end of the project.

110. All infrastructure schemes will be identified through a systematic diagnostic process in discussion with the community. A clear criteria for selection of both community and household schemes has been developed and included in the PIM. This will be adopted by the community members under supervision of the field level implementing partners and supervised by the technical specialists from SFD. Clear terms of Partnership between the project and the community will ensure that there is a proper plan for operation and maintenance of the schemes (sub-component 1.1). The project plans to leave the management of the scheme to the communities after scheme completion and commission. There is sufficient evidence that a high proportion of schemes previously constructed at the village level are functioning as long as these have not been damaged during the conflict. A capacity building and training of community management committees has been included in the project for the purpose (Sub-component 1.2). The rainwater harvesting schemes at the household level which constitute almost 40 percent of the budget of the domestic water supply schemes will be the responsibility of the individual households. Many of the other community schemes are those which the communities have a strong experience of managing traditionally because these are so vital for their survival. The project intends to make these structures climate resilient by adding features that will protect them against climate hazards such as excessive rainfall, floods, etc.

111. The project will help to enhance the capacity of smallholder crop and livestock farmers in key aspects of crop and livestock production. There will be special focus to assist the farming community with production practices and introduction of technologies which will build their resilience to climate change. Given the growing water scarcity in the country, the project will focus on water efficiency and productivity enhancing practices, inputs and technologies that have been used successfully in the region. The project will also make farming households more sustainable by providing livelihood packages and grants that enhance their processing and marketing capacities. Each training course is for one crop cycle or a discrete period of time depending upon the

training topics and the pedagogical considerations. These practices are expected to be adopted by the farming and practiced on an -ongoing basis. There is strong evidence that a high proportion (80 percent) of the farmers adopt the practices taught through the FFS. The project is financing some adaptive research which will be mainstreamed in subsequent FFS and there will be increased capacity of researchers to conduct farmer-focused adaptive research.

112. The project also has special focus on building the capacity of the most vulnerable households for enhancing their food and nutrition security through a programme of mentoring. This support will be for a discrete period of time that will entail close mentoring for the first six-months with follow-up for the next six months. Based on experience from many countries where such programmes have been implemented, this period is sufficient for sustained behavior change and improved dietary intake and diversity. In order to ensure sustainability of the nutrition outcomes after the project closure, it is proposed for the project implementation team to strengthen the working relationships with the local health facilities and the agriculture extension workers. It is also proposed as the project implementation starts, that the training materials that will be prepared for the nutrition activities, be shared with the agriculture extension workers, and the local health facilities so that they can be used to educate communities whom the project may not be able to reach.
113. The project will also be investing in literacy classes for young women and men following the Reflect approach which has been known to be transformative in changing people's self-esteem, and vision leading to changes in their lives. The literacy training is a nine-month course which is life changing for many of those who attend.

3. Risks

H. Project risks and mitigation measures

114. The project is expected to face a range of risks which may have an impact on its overall objectives and outcomes. These risks have been summarized in this section with more details and mitigation measures outlined in Annex 9. The major risks are associated with the on-going conflict, the political instability and insecurity in the country, the risks associated with climate change and natural disasters such as the recent flooding and the increasing threat from COVID-19 with a high risk index of 6.4 ([OCHA, 2020](#)). The coronavirus is spreading silently since testing is almost non-existent ([TIME, May 2020](#)). The project will not put any one in undue risk and follow all safety protocols which are put in place to ensure that social distancing norms are practiced. The project time-frame of five -years is also intended to let the peak of the pandemic pass. A contingency budget has also been allocated to assist the Government deal with any additional health or other risks. The main thrust of the project is investments in agriculture which have been shown to be two to three times more effective at reducing poverty and helping small-holders combat a crisis and enable rural communities to recover.
115. The security risks in the country and the tense and complicated political landscape is a high risk. There is a de facto Government, a de Jure Government which is internationally recognized with a splinter within it which is also exercising control of some areas further adds complexity. The project has chosen implementing agencies which have learnt to negotiate the difficult political situation effectively among the different political entities to work directly with communities on the ground. In terms of security, areas which are deemed unsafe will be avoided during implementation. Project districts have been selected based on the selection of areas which are deemed safe by the local UN agencies who monitor the situation very closely.
116. There are a range of operational risks that the project is likely to experience because of weakened Government institutions, heightened tensions in the community because of the on-going conflict, growing insecurity and destruction of productive resources and growing food insecurity. The project will be implemented through FAO and SFD who have both got strong presence on the ground and perceived as neutral agencies. A key aspect of the mitigation strategy will be to provide operational support and incentives to Government line agency staff based in the field and closely supervise them and update their knowledge where required. The project will use local implementing partners and community agents for field level support. IFAD will provide people a real incentive to rebuild their lives and contribute to stability and peace, and focus on poverty targeting and identification of priority needs and beneficiaries through an open and transparent diagnostic process.
117. It is already clear that IFAD Supervision teams may not be able to visit the area due to security concerns further complicated by COVID-19 concerns and travel restrictions. IFAD will follow the approach recommended by the World Bank which is to directly hire local Third Party Monitors to assist with the field work and organize IFAD remote missions to undertake supervision. IFAD will further strengthen this approach by asking FAO to put in place a business continuity plan which enables digital connectivity in case of any further disruptions and puts in place a Standard Operating Procedure with a data base of the co-ordinates and phone numbers and digital ids of all key partners and community leaders.
118. Climate induced changes and extreme weather events can have a debilitating impact on productive assets and yields. The project has included a range of climate adaptation risks and practices in all its components. The first reported case on COVID in

Yemen has led to a severe restriction on movement in the country and is likely to have a further detrimental impact on the supply lines and the economy. All prescribed procedures will be followed during implementation for safety and health of all. Awareness about safe measures will be included as part of the training sessions to be delivered by the project. As far as possible ICT will be used for communication. A contingency budget will be allocated for any technical support and emergency activities to ensure that the project has the resources to respond quickly in case of unforeseen causes. IFAD will closely coordinate with its implementing agencies both FAO and SFD in this regard.

119. Fiduciary risk is rated high. There is a potential risk related to weak fiduciary oversight and grievances mechanism at the local level. Due to the political conflict and the security issues, and the difficulty of the monitoring and the supervision of the project in the field, the residual financial management risk is rated as Substantial, after the implementation of appropriate risk mitigation measures to ensure accountability of funds such as training and support in FM guidelines of IFAD and the preparation of Project Implementation Manual (PIM). In addition, the high risk will be mitigated by hiring a Third Party Monitoring agency and an audit agency with clear oversight responsibility in the scope of its assignment.
120. The proposed RLDP will be implemented by FAO through the application of the Financing Agreement signed with IFAD. RLDP will be implemented directly by staff and consultants of FAO and through contracting with implementation partner FAO is currently implementing a number of development projects for WB, the EU and JICA in Yemen. Some staff will be full time dedicated to the project such as a Project Manager and a Nutrition Specialist. Most of the other staff will not be full time dedicated for the project, but will have specific responsibility for the project. FAO will subcontract the Social Fund for Development(SFD) for specific capacity building and infrastructure investments. FAO will also engage local implementing partners for field level activities especially community mobilization and engagement. The FAO and IFAD implementation agreement will be based on performance and the FAO management fee will be on the basis on actual expenditure on investment costs only. This will be negotiated and included in the agreement with FAO.
121. SFD has strong experience in implementing projects funded by international donors (World Bank, USAID, EU AID, Islamic Bank, KfW, UNDP, FAO DFID, etc). A financial management capacity assessment of the SFD was carried out to ensure it complies with IFAD policies and requirements for the project management. The FM assessment covered the human resources, the accounting system, the internal control mechanism, the external audit, the information system, and the capacities of the project reporting system. The assessment of SFD financial management capacity concluded that the project financial management arrangements and internal control systems as set out for this project will satisfy IFAD's minimum requirements to provide to the Lead Implementing Agency, with reasonable assurance, accurate and timely information on the progress of project implementation and appropriate accountability for funds.

I. Environment and Social category

122. The project is expected to have a positive impact on social cohesion, mitigating the impact of climate hazards on the environment and capacity of communities to deal with climate risks. The approach of the project is designed to be conflict sensitive in these communities ravaged by unending war by following an open and transparent process of identifying community needs and selecting beneficiaries based on a clear criteria. The project plans to invest in climate resilient infrastructure such as rainwater harvesting domestic and irrigation schemes including spate irrigation, small flood protection works and rehabilitation of small dams, soil and water conservation measures such as terrace rehabilitation and climate proofing of community access roads. The project will not invest in any water harvesting structures or small dams with reservoirs exceeding 3 million m³; large-scale irrigation schemes of more than 100 ha; or rural roads above 10 km long or cause damage to any farmer with more than 10 per cent of his/her private land being affected. The project also plans to invest in a range of measures that will build the resilience of vulnerable households to climate risks through introduction of climate adaptive practices, technologies and inputs (described in detail in PIM), and plans to enhance food and nutrition security by enhancing awareness about good nutrition practices, support to establish kitchen gardens, livelihood support packages and support for post-harvest activities. Hence, the RLDP is classified as a **Moderate Risk: Category B** project based on IFAD's SECAP guidelines and the responses to the "Guiding questions for environment and social screening". An Environmental and Social Management Plan is detailed in Annex 5.4.

J. Climate Risk classification

123. Yemen is vulnerable to climate change impacts due to the predicted rise in temperature, increase in rainfall variability and increase in the frequency of extreme weather events. The country will likely suffer from increased water scarcity, sea level rise and increase in the frequency of drought, floods and cyclones. RLDP interventions are specifically intended to mitigate the vulnerability of target populations and resources to climate induced hazards such as floods, landslides and droughts. In the selection of the project area, those village units which were particularly vulnerable to climate risks such as floods, landslides, soil erosion were selected. Hence, the proposed project is classified as of High Climate Risk according to IFAD's SECAP guidelines and the responses to the "Guiding questions for climate risk screening" (Annex 5.5). A detailed climate risk analysis is included in Annex 5.2.

4. Implementation

K. Organizational Framework

a. Project management and coordination

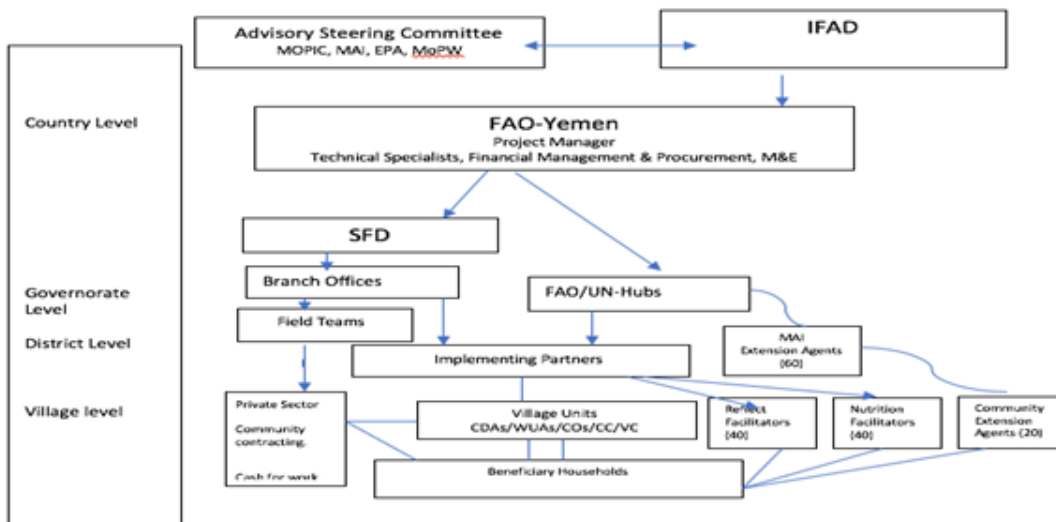
124. The implementation arrangements for the Project are based on a hybrid approach given the unusual political situation in the country. In the context of Yemen, IFAD will diverge from its normal implementation approach in which projects are implemented directly by Government. IFAD will execute a contract with FAO in two stages to enable it to accommodate the realities on the ground. The first contract will be for a period of three years and in case there is any change in the situation on the ground which enables IFAD to establish direct presence on the ground and enables the *de Jure* Government to implement the project directly, the normal IFAD design approach will be re-established to allow Government to assume a more direct role in implementation. In case, there is little progress on the ground, FAO's contract will be extended for another two years until project completion. In any case, IFAD will keep internationally recognized Government involved in an advisory and facilitative capacity but will use implementing agencies on the ground who have proved their capacity to effectively negotiate between different political Governments in the country and implement projects effectively on the ground. The fact that the public administrative structure is in place at the field level regardless of the political control of the area at higher levels greatly supports this approach. The main implementing partners (FAO and SFD) and the local implementing NGOs all have experience and capacity to work on the ground regardless of the political reality of which Government controls a particular area. Experience of SFD with other donor project also shows that communities are able to identify, implement and maintain and operate small infrastructure schemes at the village level. Where possible, FAO and SFD will liaise with WFP to provide cash for work for construction of community schemes.
125. The project governance, implementation and supervision arrangements were designed keeping in mind the fragile position of the Government, the dynamic and evolving security situation, the unusual situation of the Central Bank and lack of IFAD field presence. The RLDP implementation arrangements also took into account the need to select agencies with a strong performance orientation and country presence, ability to navigate competing authorities on the ground, demonstrated technical capacity for implementation, sound systems for financial management and procurement, clear lines of accountability and responsibility, encourage the use of Government line agencies to build capacity, capitalize on the presence of local implementing partners that can ensure community-mobilization and build the capacity of community based organizations for operation and maintenance.
126. Despite the difficult political situation and the challenges that the *de jure* Government faces in the country, it was considered key to keep the Government informed at the national level about project performance and to seek their guidance and support to facilitate implementation. Thus, it was decided to form an Advisory Steering Committee for the purpose with the Ministry of Planning and Coordination at its helm with other key Ministries represented. An Advisory Steering Committee (ASC) will be formed at the country level which will be chaired by the Ministry of Planning and International Cooperation (MoPIC). Its members will include the Ministry of Agriculture and Irrigation, the Environmental Protection Authority and the Ministry of Public Works. Other members can be seconded as and when required. IFAD will be a member of the ASC. The ASC will be kept informed of project performance through an annual meeting that will be organized on a remote basis. As key implementing agencies, FAO and SFD will be invited to present the project progress to the ASC on an annual basis, identify key challenges and future plans. The ASC's main task will be to facilitate implementation where possible and guide the implementing agencies and suggest potential linkages to enhance synergy and increase impact. The Third Party Monitoring agents recruited to undertake the annual supervision of the project will also be expected to share their report with the ASC and seek their guidance to improve performance. The Ministry of Planning and International Cooperation will attend the meetings of the ASC and provide overall guidance in the supervision, monitoring and evaluation of the project
127. In order to strengthen the capacity of Government line agency staff which are present on the ground and continue to function despite erratic salary payments and limited or non-existent operational budgets, the project will use their experience and involve them as technical specialists. The plant production specialists and livestock production specialists in the selected Governorates will be used for conducting the Farmer Field Schools and guiding and monitoring field demonstrations. Where technical capacity from the Public Works Department is present, it will also be used for the technical designs of village infrastructure schemes.
128. In its choice of lead implementing partners, IFAD considered a host of agencies on the ground which have strong presence such as the United Nations Development Programme (UNDP), the World Food Programme (WFP), the Food and Agriculture Organization (FAO) and the Social Fund for Development (SFD). FAO was preferred because of its technical capacity to deliver the types of investments that are being considered in the crop and livestock sector and its experience of effectively delivering similar World Bank projects on the ground such as the Yemen Smallholder Agricultural Productivity Restoration and Enhancement Project. FAO is well positioned in Yemen to support and lead on issues related to agriculture given its mandate, technical expertise and presence on the ground since it started operating in the country in 1990. FAO is currently operating in 13 governorates, including all the governorates hosting the largest number of food insecure households. The World Bank experience with FAO shows good progress with implementation despite the exceptionally challenging environment. The design also considered the need to engage with local partners with strong capacity, who have a good understanding of local dynamics are cost-effective and efficient such as SFD. Until December 2018, SFD had effectively utilized resources valued at more than USD 500 million for a host of agencies including the World Bank, DFID, Islamic Development Bank, Arab Fund for Economic and Social Development (AFESD), German Government and KfW, etc. ([SFD, 2020](#)). SFD is a key institution for poverty reduction, and social and economic development in Yemen, with extensive experience of working with local communities and has been an important partner for many development agencies including IFAD in the country.
129. The project will be implemented by FAO under its framework agreement with IFAD. FAO will be the recipient of the IFAD grant as well as the managing and implementing entity with overall responsibility for the project. The FAO Representation in Yemen will be responsible for implementation of the project. SFD will be contracting by FAO for implementation of specific project

activities related to the infrastructure component. FAO will also use other local implementing partners through the FAO relevant agreements. FAO and SFD have established institutional and implementation mechanisms for the delivery of the project relevant activities in Yemen. FAO has in place fast-track procedures for countries in level 3 emergencies such as Yemen where there is a dedicated country Emergency Support Team to ensure that the required technical and operational support are provided to the country timely. SFD has sustained delivery of critical programs in the country throughout the conflict.

130. FAO will oversee and provide technical backstopping support for the project and supervise SFD. FAO will not establish a PMU but will use its existing staff to implement project activities. FAO will competitively recruit a dedicated full-time project Manager who will assume overall responsibility for the project and act as the Project Manager. The FAO technical specialists who are part of the Agriculture and Rural Development Unit will provide technical expertise for the FFS and the provision of livelihood support packages and support packages for nutrition support. The FAO team in the office in Sana'a will be in charge of the day-to-day management of the project, preparation of Annual Work Plans and Budgeting (AWP&B), maintenance of financial records, flow of funds, withdrawal applications, no-objection certificates, monitoring and evaluation including all fiduciary aspects, safeguards, monitoring and reporting. FAO will also provide its technical expertise in crops, livestock and nutrition on a part time basis and recruit dedicated staff as and when required. FAO will also provide an International and Local Nutrition Specialist, Environmental and Social Safeguard Specialist, Procurement, M&E specialist, Finance Officer, and short-term technical specialists (dairy, horticulture and beekeeping). At the regional level, implementation will be supported by the FAO regional hubs. FAO will competitively recruit two to three local implementing partners for implementing the activities on the ground. In addition, community level workers will be hired for each of the main component activities.

131. FAO will sign a subsidiary agreement with the Social Fund for Development which has been pre-selected to implement specific activities in the project related to the infrastructure investments. The subsidiary agreement will be reviewed by IFAD prior to signature and will ensure that SFD is given flexibility in implementation through an appropriate amount of advance and replenishment of funds after a certain proportion has been disbursed. SFD will follow its own M&E, and financial management procedures which will be aligned with FAO procedures. For the Procurement procedures, SFD will follow its own Procurement Procedures under the supervision of FAO. These procedures were reviewed and were found acceptable to IFAD. Since the fund will be channeled through FAO, the SFD financial and audit reports will be consolidated by FAO and submitted to IFAD. At the field level, SFD will use its branches in each of the Governorates to implement the project and use its registered technical consultants to provide technical support as and when required for the preparation of the technical, social and economic feasibility of the selected schemes. Staff in the SFD branch offices include branch manager, procurement officer, financial management (FM) officer, technical officer for the quality supervision, M&E, Information Technologies (IT) which are involved in the day-to-day activities. Additional personnel will be recruited to cover areas where there are gaps.

Figure 4: Project Structure and Organogram



132. FAO and SFD will jointly follow the procedures for community mobilization and capacity building outlined in Component 1 to ensure that a participatory and open process is followed and that the synergy between the various components is capitalised upon. SFD will also be responsible for strengthening community organizations (component 1.2) for the management of the infrastructure schemes and investments made under community infrastructure component. SFD will be responsible for implementing Component 2: Climate Resilient Community Infrastructure through its Water & Environment and Agriculture & Rural Development Units. FAO will undertake direct responsibility for the implementation of Component 3: Protection of Agriculture Livelihoods through its Agriculture and Rural Development Unit through the UN hubs and selection of implementing partners. A Social safeguard and environment specialist will ensure that environment standards in scheme design and implementation are followed and the grievance redress mechanisms outlined in the RLDP project documents are adopted. The two agencies will also

ensure that due visibility and acknowledgement is given to IFAD and GEF who are financing the project through appropriate billboards and signage. In order to deal with the restrictions on movement and social distancing measures due to the COVID-19 pandemic, FAO and SFD will be required to submit a business continuity plan in case the COVID-19 restrictions continue during the implementation of the project.

133. At the level of the village or Village Unit, the project will use a cost-effective, risk-mitigation and local capacity building and engagement approach of relying on local implementing partners. The UN agencies have listed more than 75 such partners across the country who are used for implementing activities on the ground. These local implementing partners work with the UN cluster organizations to help them mitigate their risk and high cost of field visits, provide skills to negotiate the complex tribal norms and capitalize on their local knowledge. Where required, these agencies are also able to source technical capacity for more specialized activities. The project will hire two or more such implementing partners to assist FAO and SFD for all field level activities including community mobilization and engagement, identification of community priority needs, identification of beneficiaries based on established criteria, logistical support and follow-up in the field and regular tracking and supervision. The local implementing partners will be sub-contracted through standard FAO Letters of Agreement for an 18 month period at a time.
134. In selecting the Implementing Partners special care will be taken to ensure that they have the technical expertise to implement some of the specific activities to be implemented such as Adult Literacy using the Reflect approach, nutrition mentoring and support, etc. An important pillar of the project approach is to hire men and women from the selected communities to build their capacity and self-esteem, provide employment and leave behind a trained resource. The partners will be selected based on their technical and logistical capacities with experience of working with local communities in a transparent and accountable manner. Each implementing partner will be required to maintain records and monitoring tools for tracking the targeted households and providing GIS-referenced records through the project MIS.

b. Financial Management, Procurement and Governance

135. Internal Control. To provide reasonable assurance that project funds are spent for the intended purposes, the following arrangements will be in place: (i) reliance on established FAO internal control mechanisms for the process of disbursement, documentation of expenditures and reporting; (ii) use of third party monitoring (TPM) to verify physical implementation of the activities of the project and the compliance with the internal controls and financial management arrangements; and (iii) preparation of timely financial reports submitted to IFAD. Furthermore, the internal control system in place within the SFD has been deemed acceptable by IFAD. Indeed, it guarantees the segregation of the duties through several levels of independent controls. SFD has a comprehensive manual of operation, prepared in 2010, including financial management procedures, in place. This manual needs to be updated to take account of the specific aspects of RLDP. All internal control mechanisms will be detailed within the RLDP Project Implementation Manual (PIM) to be prepared before disbursement.
136. Accounting system. FAO will maintain a financial management system, including records and accounts, adequate to reflect the transactions related to the activities, in accordance with the requirements of the FAO financial regulations and rules and maintain separate accounts in their books to record the financial transactions of the project. SFD uses accounting software (MIS) linked to a financial system for the project monitoring. These two systems are in line with IFAD requirements. The financial reporting of the projects is automatically generated by the system, including withdrawal applications. MIS provides statements on commitments and payments by component, sub-component, activities and by financing sources. Tax exemptions, based on exemption certificates, and beneficiaries' contributions in kind to reflect counterpart contributions will also be recorded in the accounting system issued under each contract.
137. Financial Reports. SFD will prepare and submit to FAO, on quarterly basis, financial reports related to component 2 of the project. The reports include a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB, and will be submitted to FAO no later than 20 days after the end of each quarter. FAO will prepare, on quarterly basis, interim unaudited financial reports (IFRs) for the whole project, in accordance with the format acceptable to IFAD, and template will be available within the Project Implementation Manual. The IFRs will be submitted to IFAD no later than 45 days after the end of each quarter. The IFRs should reflect all project activities, financing, and expenditures, including a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB and counterpart funds in cash or in the form of tax exemption. They should also include an estimation of the beneficiaries' contribution in kind and all other co-financing. FAO will also prepare unaudited annual financial reports, which will be submitted to IFAD within four months of the end of the fiscal year.
138. External audit. As per IFAD Handbook for Financial Reporting and Auditing of IFAD-Financed Projects, the grants of any amounts provided to United Agencies, subject to the Policy for Grant Financing, are classified as Type C Grants. The Recipient should submit annually to IFAD certified Statements of Expenditures (SoE) signed by an authorized signatory) within 45 days of the period-end. Therefore, FAO as recipient is exempted from the submission of audited financial statements of the project.
139. The SOEs shall disclose the sources and uses of funds spent to finance the grant activities, specifically:
- Source of financing, whether funded in cash or by contributions in-kind;
 - Funds received from IFAD and other co-financiers, as applicable;
 - Expenditures incurred by the recipient and sub-grantees, on a consolidated basis (if applicable) and in accordance with the pre-established expenditure categories or components.
140. SOEs submitted to IFAD shall be presented in the same currency as the denomination currency of the grant agreement. If projects incur expenditures in currencies other than that of the grant agreement, the exchange rate to be used for reporting expenditures is the rate applied when funds were received, on a first in, first out basis. The proposed format for the SOE is outlined in appendix 5 of the IFAD Handbook for Financial Reporting and Auditing of IFAD-Financed Projects.

141. A final certified SOE shall be submitted by the Grant Closing Date for the totality of eligible expenditures incurred by the project during the project implementation period, with segregation of winding-up expenditures incurred between the Project Completion Date and the Grant Closing Date.
142. **Procurement.** The procurement of goods, works and services to be financed from the proceeds of IFAD's financing would be in accordance with the FAO Procurement procedures and guidelines except for the component implemented by SFD, where SFD's Procurement procedures will be followed under the supervision of FAO. This implementation arrangement is done based on an assessment done by IFAD during the Design phase and a previous World Bank's assessment done based on their Project Procurement Strategy for Development (PPSD). During implementation, FAO and SFD shall observe the following specific principles: (a) procurement would be carried out in accordance with the Financing Agreement and any duly agreed amendments thereto; (b) it would be conducted within the project implementation period, except as provided in the financing agreement; (c) the cost of the procurement is not to exceed the availability of duly allocated funds as per financing agreement, and (d) the Revised IFAD Policy on Preventing Frauds and Corruption in its Activities and Operations are to be respected. FAO will assign SFD as a preselected Implementing Partner under the Project for the implementation of Component 2. SFD will follow its own Procurement procedures under the supervision of FAO.
143. **Procurement Planning and AWPB:** An initial 18-month Procurement Plan will be prepared by both FAO and SFD using the template provided by IFAD. Each party will prepare the plan for its component(s) and FAO will have the responsibility of consolidating the plan before its submission to IFAD as part of a complete AWPB. The community participation activities will be included in the PP under a separate dedicated sheet. For the subsequent periods, 12-month procurement plans need to be prepared following the same arrangements.
144. **Prior/Post Review:** No contract would be subject to prior review as long as FAO is applying their own rules and procedures as specified above and supervising the procurement done by SFD whenever applicable. The Post review will be covered by the external Auditors in accordance with their TORs.
145. **Record Keeping:** The Recipient will provide reasonable space for electronic and in paper filing. The filing, from advertisement till payment invoices, including correspondence with contractors, suppliers and consultants, and submitted deliverables and reports, is to be chronological and well maintained up to three (3) years after the completion of the bid or contract. The procurement documents may be reviewed by IFAD in case needed.
146. **Analysis of the Procurement Risk:** The Procurement risk under RLDP is relatively high given the current situation in Yemen which limited the competition and the availability of the required goods and services to be delivered. No Procurement Risk Matrix (PRM) was prepared for the Project since FAO's Procurement Procedures and Guidelines will be applied with FAO being a United Nations' agency with sound Procurement systems and where the Country Risk Assessment (Pillar A of the PRM) doesn't apply. SFD procurement procedures will be used for the implementation of Component 2 under the supervision of FAO. As discussed above, an assessment of FAO Procurement system was done by IFAD during the Design phase and a previous World Bank's assessment was done based on their Project Procurement Strategy for Development (PPSD) and FAO's Procurement system was found acceptable. The Procurement procedure of SFD were revised by IFAD and found acceptable. In light of the continuous conflict, this risk can be mitigated only by advance planning and commitments by FAO which take into consideration the current situation in Yemen and the fast-track procedures that FAO has in place for countries in level 3 emergencies such as Yemen. In addition, SFD's presence in the different governorates and its continuous operations in the country throughout the conflict will help in mitigating this risk.
147. **Co-financing:** The Global Environment Facility (GEF) Least Developed Country Fund (LDCF) will be co-financing USD 10 million in addition to the IFAD agency fee and pursuant to the financing agreement between IFAD and GEF, upon successful approval of the GEF/LDCF project document. The GEF/LDCF activities will be fully mainstreamed into the RLDP, GEF funds will flow directly to IFAD and will be subject to IFAD's financing agreement with its chosen executing partner: FAO. As the GEF Implementing Agency, IFAD will ensure global oversight of the project's implementation and compliance with its – as well as GEF's – financial, technical, social, environmental, climate, health and safety safeguards. IFAD's oversight role will include reviewing and providing non-objections for key annual planning documents and contracting/procurement actions. GEF/LDCF activities will be executed by FAO as the lead executing agency responsible for overall project performance. FAO will sign a subsidiary agreement with SFD for implementation of specific project components. FAO will also engage local implementing partners for community mobilization and providing local logistical, implementation and follow up support.

L. Planning, M&E, Learning, KM and Communication

a. Planning, M&E, Learning, Knowledge Management and Communication

148. **Planning:** A consolidated Annual Work Plan and Budget (AWP&B) will be prepared by FAO the lead implementing agency. The AWP&B will incorporate the activities to be undertaken by SFD as well. The process for preparing the AWP&B will be initiated at the village units and consolidated into district level and Governorate level with FAO hubs, SFD branch offices and the Implementing Partners in the field outlining the agreed actions with the targeted communities. SFD and FAO will take responsibility for preparing the plans for the sub-components they are managing. The lessons from the field will be incorporated in subsequent stages of planning and implementation. The AWP&B will be submitted to IFAD for its No Objection at least 60 days prior to the start of the relevant implementation year.
149. **Monitoring & Learning:** The primary responsibility for the design and implementation of the Project M&E System will be

assumed by FAO. One full time M&E Officer will be recruited by FAO on a competitive basis to undertake the overall responsibility for monitoring the RLDP under the supervision of the Head of M&E Department at FAO. Two M&E associates will be assigned at FAO Field Hubs in Aden and Sana'a on a cost-sharing basis with FAO. In addition, the M&E section of the Social Fund for Development will work closely with the FAO M&E Team and provide all required reports from its branch offices with reference to the progress on the activities being implemented by it.

150. The M&E system will be designed to report on the key indicators identified in the Log-Frame Indicator. In addition to the log frame indicators, the M&E system will periodically monitor the progress of resilience and risk indicators (Resilience Index and Measurement Analysis (RIMA) methodology of FAO), as well as specific performance indicators for components based on the frameworks provided in the PIM. The M&E system will establish a robust digital database management system for all project beneficiaries. The beneficiary record will be disaggregated by age, sex, target segments, and location. The database will allow the flexible integration of Business Intelligence tools (i.e. Cognos or tableau) for easy search, query and reporting on a dashboard.
151. RLDP activities will be geo-referenced at the village level. This will allow for monitoring of the coverage of the project interventions as well as digital monitoring of progress of activities through remote sensing against some baseline attributes such as vegetative cover, soil stability and erosion, damage from floods, impact of flood protection structures and weirs, etc.
152. The M&E system will produce a six-monthly and an Annual progress report including details on the cumulative expenditures, physical progress, outreach and emerging lessons. M&E Team will also submit the Complaint Status Report retrieved from the FAO Grievance Mechanism to IFAD in the Progress Report. FAO will commission a baseline, Mid-Term, and Impact Assessment integrating the core outcome measurements into the methodology.
153. **Knowledge Management:** The communications and knowledge management strategy for Yemen will be carefully crafted by FAO and IFAD during the start up workshop to balance the competing requirements of working remotely in a fragile environment and at the same time use the opportunity for proper communication and visibility of the IFAD programme in the country. A KM plan will be prepared annually as an integral part of the M&E Plan. FAO will jointly organize KM events annually to share learning during the implementation including the impact of targeted investments in agriculture and rural development in fragile states based on experience in Yemen IFAD will establish a mechanism for on-going discussion and engagement with the Government in the policy dialogue and to keep them informed of the performance of the country programme and use their good offices for facilitation and coordination on the ground. FAO expertise in developing knowledge products will be leveraged. The Head of FAO's Agriculture & Rural Development Unit will be the custodian of KM practices and the M&E Officer at FAO will be responsible for the products and activities that will be undertaken as part of it at an operational level.
154. The KM system will be responsible from delivering the knowledge products, specifically on the Project's contribution to improve resilience and learnings from the operations in fragility and conflict context, the linkages between development and humanitarian works and graduation from assistance to self-reliance, and the NRM approaches addressing the outbreaks (i.e. covid-19). These KM products will be developed by subject of experts recruited by FAO. KM system will also utilize the research and studies conducted by the project such as developing easy to follow manuals for farmers based on the research on Climate Change and Adaptation. In addition to these specific studies, KM will produce other reports, newsletters, and audio-visual products based on the findings and lessons derived from the operations and particularly from the insights provided by the M&E system.
155. Knowledge generated during the implementation including the KM products will be periodically disseminated to influence policy level decision making through the Advisory Steering Committee meetings and annual stakeholder workshops. FAO will lead the efforts in the food security cluster to promote the outputs of the KM system and provide guidance on the food security and agriculture development. Sufficient budget is allocated for the preparation and distribution of KM products. IFAD's visibility will be increased among the external groups and the public through the publication of these KM products and events. IFAD will ensure that the official corporate logo and the references to its contribution are included in the communication materials produced by the Project.
156. An adequate grievance redress mechanism (GRM) will be established to ensure beneficiaries may communicate their concerns due to subproject activities either with the relevant focal point at the local level or with FAO/SFD central level. This mechanism will be publicized at the local level and in the local language. The Project will follow established FAO Yemen and SFD practices, and will provide multiple access points (telephone, complaints box, website, email, postal address) so that beneficiaries know whom to contact with regard to their concerns. The Head of the Agriculture & Rural Development Unit at FAO will have the overall responsibility to address concerns brought to the attention of the focal point regarding any environmental and/or social impacts due to subproject activities. Complaints received by the implementing agency shall be recorded and documented in the subproject file and the subproject progress report including the number and type of complaints and the results of their resolution will be shared as part of the six-monthly and annual reports.

b. Innovation and scaling up

157. The project will introduce several innovative aspects in the way that it implements the project and in some of the investments that it undertakes. A summary of the innovations and the prospect for scaling up are indicated in the table below. One of the key innovative features is the systematic manner of engagement with the community through a diagnostic process that involved discrete dialogues with the community and terms of partnership specifying the roles and responsibilities of the community, project and any other partners. While the community-based development approach is not new in the country, the systematic and sequenced approach outlined in the project is new. This will make the process open and transparency and ensure participation of a majority of the households.

158. The project will also be introducing several innovative aspects in its investments in community infrastructure. While the investments are not entirely new in themselves they have innovative elements. These include the use of more economic plastic tanks for water storage and locating them more strategically for effective use for the multiple uses in a homestead. Similarly, the design of the roads will incorporate specific features to make them more resilient to floods and to harvest water through road drainage structures that can then be used for irrigation or livestock. Water efficient irrigation systems are not new and neither is the use of solar powered pumps. However, these are relatively new in Yemen and their use in smallholder farms is not very common. The upscaling and use of these innovations will depend upon the adoption of these practices by the households and their provision by the private sector which stocks them based on market demand.

159. Another novel aspect of the project is the focus on research on farmer's fields of a range of inputs, practices and technologies for climate adaptation. Using the research capacity of the Agriculture Research and Extension Agency of Yemen, GEF will finance research on farmer fields through forum provided by the Farmer Field School for different agro-ecological zones in the project area. The project will conduct trials and test technologies and management practices that will enhance climate resilience such as new seed and crop varieties tolerant to multiple climate stresses such as drought, heat, humidity, salinity, etc. In addition, the project will introduce changes in cropping patterns, and water productivity enhancing technologies such as grow bag, wicking beds, conservation techniques, etc (See PIM for detail).

Table 13: Summary of Innovations and Scaling-Up Potential

Component	Activity	Innovative Feature	Rationale for Introduction	Prospects for Scaling up
Component 1: Community Mobilization	Diagnostic process at the community level	Community based approaches have been used in Yemen in many development projects including in previous IFAD projects. However, the systematic diagnostic approach with a series of dialogues and Terms of Partnership is new.	Greater transparency and participation.	Dissemination of the approach and adherence by the community to the procedures introduced.
Component 2: Climate Resilient Community Infrastructure	Roof top water harvesting	Rainwater harvesting in Yemen is a traditional practice used for centuries. However, some new features will be added to the design such as use of plastic tanks and locating it for enhancing use for domestic, crop and livestock use.	Economy and durability.	By private sector based on household level demand.
Component 2: Climate Resilient Community Infrastructure	Climate resilient rural roads	The addition of specific features in road construction to make it more resilient and incorporating water harvesting into road drainage structures.	Durability and utilizing road surface as catchment areas to catch surface runoff for livestock and irrigation.	Incorporate these features in road design by engineers and financiers of public works.

Component 2: Climate Resilient Community Infrastructure	Introduction of water savings irrigation systems such as drip, bubbler, sprinkler, and pipe conveyance systems along with solar powered pumps.	The irrigation systems are not new but their use in the project area will be new especially the use of solar pumps.	Water efficiency and energy efficiency.	Demand generated by individual household and supplied by private sector.
Component 3: Applied Research for Vulnerability Reduction	Testing of agro-climatic suitability, technologies and management practices that will enhance climate resilience and risk mitigation.	Identifying new crop varieties tolerant to multiple stresses, drought, floods, heat, humidity, salinity, pests and diseases.	Improved farming practices for increased climate resilience, testing and genetic improvement of climate-change resilient tolerant varieties.	Multiplication of tested seed varieties by certified seed producers and farmer groups. Adoption of improved practices by farmers.
Component 3: Protection of Agriculture Livelihoods	Farmer Field Schools	Introduction of water productivity enhancing technologies and new technologies such as wicking beds, grow-bags, changes in crop calendar to adapt better to climate change.	Prevention of loss and reduction in yield due to climate changes. Increase in water productivity.	Adoption of improved practices by farmers.

M. Implementation plans

a. Supervision, Mid-term Review and Completion plans.

160. The two key implementing agencies on the ground which will be implementing project activities namely FAO and SFD are already well established in Yemen. FAO, the lead implementation agency has a full team of staff based in San'a and field presence at the Governorate level through UN hubs. The only staff it will need to hire for the project will be a dedicated Project Manager, a Nutrition Specialist three M&E staff members and technical experts on social safeguards and environment. SFD has been operating across the country and has its head office in Sana'a and branch offices in all Governorates. It also has a team of technical experts at the district level who are registered with it and can be called on short notice for a range of investments including infrastructure design, implementation and supervision. Thus, RLDP will benefit by this strong presence on the ground. The only activities that will be needed for implementation readiness will be the signing of the (i) agreement between IFAD and FAO; (ii) subsidiary agreement between FAO and SFD; (iii) finalization of the terms of reference of the Implementing Partners for field support; (iv) selection and procurement of the IPs so that the work can be initiated on the ground as soon as possible.

161. Approval formalities will have to be completed to ensure that GEF financing is available for the project given the lapse of time and the changes required in the original design. The original GEF Project Implementation Form (PIF) was submitted in January 2013 and approved the same year by the GEF Secretariat (GEFSEC). This enabled IFAD to use the Project Preparation Grant (PPG) to conduct specific studies and stakeholder consultation activities to complete the design of the former GEF Rural Adaptation in Yemen, that was mainstreamed into the IFAD Rural Growth Programme Project in 2014. In accordance with GEF procedures, the project proposal was submitted for CEO Endorsement in 2014. The GEF proposal was put on hold due to the war. The GEF proposal had to be modified given the revised scope of the project. However, the revisions are within the prescribed limits and it is expected to receive CEO Endorsement by December 2020.

Supervision, Mid-term Review and Completion plans.

162. The supervision of the project will be conducted by IFAD on an annual basis. However, based on the fact that the on-going conflict in Yemen shows no sign of abatement, flexible approaches will be applied for supervision and implementation support. Specific procedures will be developed for remote and off-site supervision. While IFAD will be responsible for direct supervision, field missions may be contracted to an Independent Third Party (ITP). The ITP will be directly recruited by IFAD and supported by FAO and SFD who will provide them all relevant reports and details of beneficiaries and project locations. IFAD may also assign off-site technical specialists and staff to complement the field missions. IFAD will resume with regular on-site supervision once the security conditions improve in the country.

163. Mid-term review (MTR) mission will be organized three years after the project start up and will be an external review led by IFAD

in coordination with FAO and SFD. The Project will use the third party monitoring agent contracted by the FAO Yemen CO to conduct the mid-term surveys. Similarly, the Project Completion Review (PCR) will be undertaken by IFAD, FAO and SFD jointly in close collaboration with the community in the field. Impact assessment surveys will be contracted to an external service provider through a competitive selection process. FAO and SFD will be jointly responsible to complete the required studies before the MTR and PCR missions as per the specifications provided in the PIM. A consolidated project completion report will be prepared by FAO with inputs by SFD on activities under its responsibility.

Footnotes

[1] The current design was undertaken remotely because of the security situation and the COVID-19 pandemic in March-May 2020. The mission members worked from their home stations. Virtual meetings with GoY, FAO, SFD were facilitated by IFAD's regional office in Cairo. One of the local consultants on the ground provided ground truthing and verification of some key aspects for design and implementation.

[2] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[3] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[4] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[5] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[6] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[7] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[8] Fragile States Index. Fund for Peace 2020. <https://fragilestatesindex.org/country-data/>

[9] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[10] OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

[12] IOM. 2017 Yemeni Youth Year [https://www.iom.int/sites/default/files/country/docs/yemen/Yemeni-Youth-Year\[-\]2017.pdf](https://www.iom.int/sites/default/files/country/docs/yemen/Yemeni-Youth-Year[-]2017.pdf)

[13] <https://www.unicef.org/yemen/nutrition>

[14] Global Nutrition Report, October 2019, <https://globalnutritionreport.org/resources/nutrition-growth-commitment-tracking/yemen/>

[15] Yemen Nutrition Cluster GAM Rate classification December 2019

[16] UN Office of the High Commissioner for Human Rights (OHCHR) press briefing notes on Yemen, 2015.

[17] Humanity & Inclusion – Handicap International, Report on situation analysis: Inclusion in Yemen 2018 (hereinafter HI Inclusion Report), December 2018.

[18] Ministry of Social Affairs and Labour, National Disability Strategy (2014-2018).

[19] The Social Welfare Fund was created by Law No. 31 (1996). It is a government-funded social safety net for at-risk people in Yemen, including persons with disabilities. Articles 28 and 29 of the law establishing the fund state that financial support for persons with disabilities from low-income families who are seeking vocational training should be prioritized and that they should be considered for employment opportunities upon completion of the training, in line with Yemeni Labour Law, which stipulates that 5% of jobs be reserved for persons with disabilities. The Handicapped Welfare and Rehabilitation Fund was created by Law No. 2 (2002).

[20] *These checklists have been simplified for data entry purposes. Please refer to the Mainstreaming Annex in the Project Design Guidelines for detailed guidance and the full criteria.*

[21] Project level Women's Empowerment in Agriculture Index

[22] Gender Equality and Women's Empowerment

[23] To be provided by ECG

[24] Lamis Al-Iryani, Alain de Janvry & Elisabeth Sadoulet. The Yemen Social Fund for Development: An Effective Community-Based Approach amid Political Instability Pages 321-336 | Published online: 20 Jul 2015

<https://www.tandfonline.com/doi/full/10.1080/13533312.2015.1064314>

<http://pubdocs.worldbank.org/en/644081520538165428/SSLF18-Humanitarian-Assistance-Yemen.pdf>

[25] UN Population Fund (UNFPA), Young Persons with Disabilities: Global Study on Ending Gender-based Violence, and Realising Sexual and Reproductive Health and Rights, July 2018.

[26] Example of existing training materials: (i) Disability Equality Training for Facilitators (ILO 2013); (ii) Inclusion of people with

disabilities in vocational training: a practical guide / International Labour Office, Gender, Equality and Diversity – Geneva: ILO, 2013;
(iii) Rural skills training A generic manual on training for rural economic empowerment (TREE) section on PWD.

[27] World Bank, Yemen Poverty Notes, 2017.

[28] Masoomah, G, et al. Impact of Nutrition education in improving dietary pattern during pregnancy based on Pender's health promotion model. A clinical trial. Iran J Nurs Midwifery Res. 2018 Jan-Feb 23(1): 18-25.

[29] Debnath and Agrawal. Effect of nutrition education and dietary modification

[30] FAO, USAID. 2019. Trials for improved practices (TIPS) report- Kenya.

[31] Kimani A,M et al. A comparative study of the household food access by farmers in farmers field and life schools in Gatanga Constituency, Muranga County, Kenya. Afr. J. Food Agric. Nutr.Dev. 2019; 19(3) 14622-14637

[32] The author of this analysis is grateful to the originator of the new IFAD-FARMOD software - Mr. Jorge Piña - for clarifying some of the technical features of the tool, and for the kind and unconditional support received although this EFA preparation.

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 1: Logframe

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Rural Livelihood Development Project (RLDP)

Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
<p>Outreach Total project outreach target is made 80% of Component 2: Climate Resilient Community Infrastructure and 50% of Component 3 : Protection of Agriculture Livelihoods. For Indicator 1.a No of Households reached, 12.2% of total HHs are female headed. For indicator 1.b Estimated corresponding total number of HH members, the calculation is based on the average number of people in one HH in the Project area is 6.7</p>	1 Persons receiving services promoted or supported by the project				M&E Beneficiary Database	Annual	FAO M&E Unit in coordination with SFD M&E Unit	Political and Macro-Economic instability do not interfere with the implementation and lead to inappropriate targeting Instability in local communities are provided real incentive to rebuild their lives and contribute to stability and peace
	Females		27782	39040				
	Males		24258	32760				
	Young		9266	15182				
	Total number of persons receiving services		52040	71800				
	1.a Corresponding number of households reached				M&E Beneficiary Database	Annual	FAO M&E Unit in coordination with SFD M&E Unit	
	Women-headed households		1882	3176				
	Households		15425	26031				
	1.b Estimated corresponding total number of households members				M&E Beneficiary Database	Annual	FAO M&E Unit in coordination with SFD M&E Unit	
	Household members		103348	174400				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Project Goal Rebuild communities resilience against the economic and environmental shocks and improve the livelihoods of poor, excluded and deprived people	Percentage reduction in the number of target rural households living below the poverty line				National/ regional statistical services / WB and UN statistics/ Baseline and completion surveys, RIMA Scores	MTR and completion	Targeting Specialist and FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors	Political and Macro-Economic instability do not interfere with the implementation and lead to inappropriate targeting Instability in local communities are provided real incentive to rebuild their lives and contribute to stability and peace
	Reduction	0	5	10				
	Percentage improvement in the average score of the Resilience Index Measurement and Analysis (RIMA)				National/ regional statistical services / WB and UN statistics/ Baseline and completion surveys, RIMA Scores	MTR and completion	Targeting Specialist and FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors	
	Improvement		5	15				
Development Objective Improve the food security and the poverty level of smallholder farmers through increased agriculture production, employment opportunities, and the efficient use of Natural Resources	Percentage of beneficiary households reporting at least 20% increase in average HH net income from both farm and non-farm activities/services				National/ regional statistical services / WB and UN statistics/ Baseline and completion surveys, RIMA Scores	MTR and completion	Targeting Specialist and FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors	Political and Macro-Economic instability do not interfere with the implementation and lead to inappropriate targeting; Instability in local communities are provided real incentive to rebuild their lives and contribute to stability and peace
	Households	0	50	70				
	Percentage of poor rural smallholder HHS increased climate resilience				National/ regional statistical services / WB and UN statistics/ Baseline and completion surveys, RIMA Scores	MTR and completion	Targeting Specialist and FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors	
	Households		50	80				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	Percentage of households satisfied with project-supported services				National/ regional statistical services / WB and UN statistics/ Baseline and completion surveys, RIMA Scores National/ regional statistical services / WB and UN statistics/ Baseline and completion surveys, RIMA Scores	MTR and completion	Targeting Specialist and FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors	
	Total		60	80				
	Men		60	80				
	Female		60	80				
	Youth		60	80				
Outcome The community and farmer institutions are strengthened to deliver the services effectively and to ensure the sustainability of project investments	Number of Community Institutions (CDA/WUAs/VCU/CBOs) become functional or successfully implementing O&M activities				Mid-term and Completion Survey	MTR and completion	FAO/SFD M&E units, Mid-term, and Impact assessment contractors	Intra-community conflicts prevent formation of effective CDAs
	Community		20	30				
	SF.2.2 Households reporting they can influence decision-making of local authorities and project-supported service providers				COI Mid-term and Completion Survey	MTR and completion	FAO/SFD M&E units, Mid-term, and Impact assessment contractors	
	Households (%)		50	70				
	Households (number)		7713	18222				
Output Capacity building and training activities are delivered	Number of people trained under the capacity building activities				M&E Beneficiary Database	Quarterly	FAO M&E Unit in coordination with SFD M&E Unit	Intra-community conflicts prevent formation of effective CDAs (R
	Men		1096	1686				
	Women		1054	1623				
	Youuth		455	700				
	Total		2150	3309				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Outcome Strengthen the environmental sustainability and climate resilience of poor rural people	3.2.3 Households reporting a significant reduction in the time spent for collecting water or fuel				COI Baseline, mid-term and Completion survey	Baseline, mid-term and Completion	FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors.	Sufficient implementation capacity and capable service providers to develop infrastructure. Intervene in areas where there is no active fighting and work through partners who have developed a good modus operandi in securing clearances from local authorities and are trusted by local communities.
	Total household members		14080	17600				
	Males		6834	8542				
	Females		7246	9058				
	Young		2534	3168				
	1.2.3 Households reporting reduced water shortage vis-à-vis production needs				COI Baseline, mid-term and Completion survey	Baseline, mid-term and Completion	FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors.	
	Total number of household members		9792	12240				
	Males		4798	5998				
	Females		4994	6242				
	Young		1763	2203				
	3.2.2 Households reporting adoption of environmentally sustainable and climate-resilient technologies and practices				COI Baseline, mid-term and Completion survey	Baseline, mid-term and Completion	FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors.	
Households		64	80					
Output Rural population access to clean drinking water	Number of individual households provided with water supply (i.e. Rooftops and courtyard water harvesting)				M&E Beneficiary Database	Quarterly	FAO SFD M&E Unit in coordination with FAO M&E Unit, TPM	
	Households		500	800				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output Rehabilitation or improvement of small-scale community level water infrastructures for irrigation schemes and flood-based agriculture schemes(50% irrigated landholdings and 20% rain fed impacted land)	2.1.5 Roads constructed, rehabilitated or upgraded				M&E Beneficiary Database	Quarterly	FAO SFD M&E Unit in coordination with FAO M&E Unit, TPM	
	Length of roads		14	20				
	Area served under the rehabilitation of flood-based agriculture system and irrigation systems				M&E Beneficiary Database	Quarterly	FAO SFD M&E Unit in coordination with FAO M&E Unit, TPM	
	Hectares of land		525	715				
	3.1.4 Land brought under climate-resilient practices				M&E system	annual	FAO SFD M&E Unit	
	Hectares of land		1688	3253				
Outcome Enhance the resilience and protect the livelihoods of agriculture households in Yemen. (The core indicator 1.2.2, results from the women and youth respondents will be extrapolated proportionally beyond the original observation range).	1.2.2 Households reporting adoption of new/improved inputs, technologies or practices				COI and FFS Surveys, Adoption surveys	Annual FFS methodology, Baseline, mid-term and Completion	FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	Traditional views of women's role in family and society can be change Tension with the host community is softened through project support providing win-win solutions
	Households		60	80				
	1.2.4 Households reporting an increase in production				COI Survey and FFS Surveys, Adoption surveys	Annual FFS methodology, Baseline, mid-term and Completion	FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	
	Households		50	75				
	1.2.9 Households with improved nutrition Knowledge Attitudes and Practices (KAP)				KAP surveys	Annual KPAs, Baseline, mid-term and Completion	IP Nutrition Field officers, FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	
	Households (%)		45	60				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output Trainings provided to improve crop and livestock production and in the management of climate-related risk	1.1.4 Persons trained in production practices and/or technologies				M&E Beneficiary Database	Quarterly	IP Nutrition Field officers, FAO M&E unit, TPM	
	Total number of persons trained by the project		2400	6000				
	1.1.3 Rural producers accessing production inputs and/or technological packages				M&E Beneficiary Database	Quarterly	IP Nutrition Field officers, FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	
	Total rural producers		138	346				
Output The provision of targeted support to the rural households to improve their nutrition	1.1.8 Households provided with targeted support to improve their nutrition				M&E Beneficiary Database	Quarterly	IP Nutrition Field officers, FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	
	Females		1600	4000				
Output Providing livelihood support packages to smallholders to add value to their current production in order to make their livelihoods more resilient	1.1.3 Rural producers accessing production inputs and/or technological packages				M&E Beneficiary Database	Quarterly	IP Nutrition Field officers, FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	
	Females		451	900				
	Males		722	1446				
	Young		400	800				
	Total rural producers		1173	2346				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Output Capacity is built to carry out, communicate and to use knowledge products	Policy 1 Policy-relevant knowledge products completed				Stakeholder platforms, meetings, and network with national/local institutions	Annual	Project Manager, M&E Officer, SFD Focal Points	Political and governance risks can impede implementation, control of the country by different parties could lead to interferences
	Number		2	4				

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 2: Theory of change

Mission Dates: 22 March - 30 April 2020

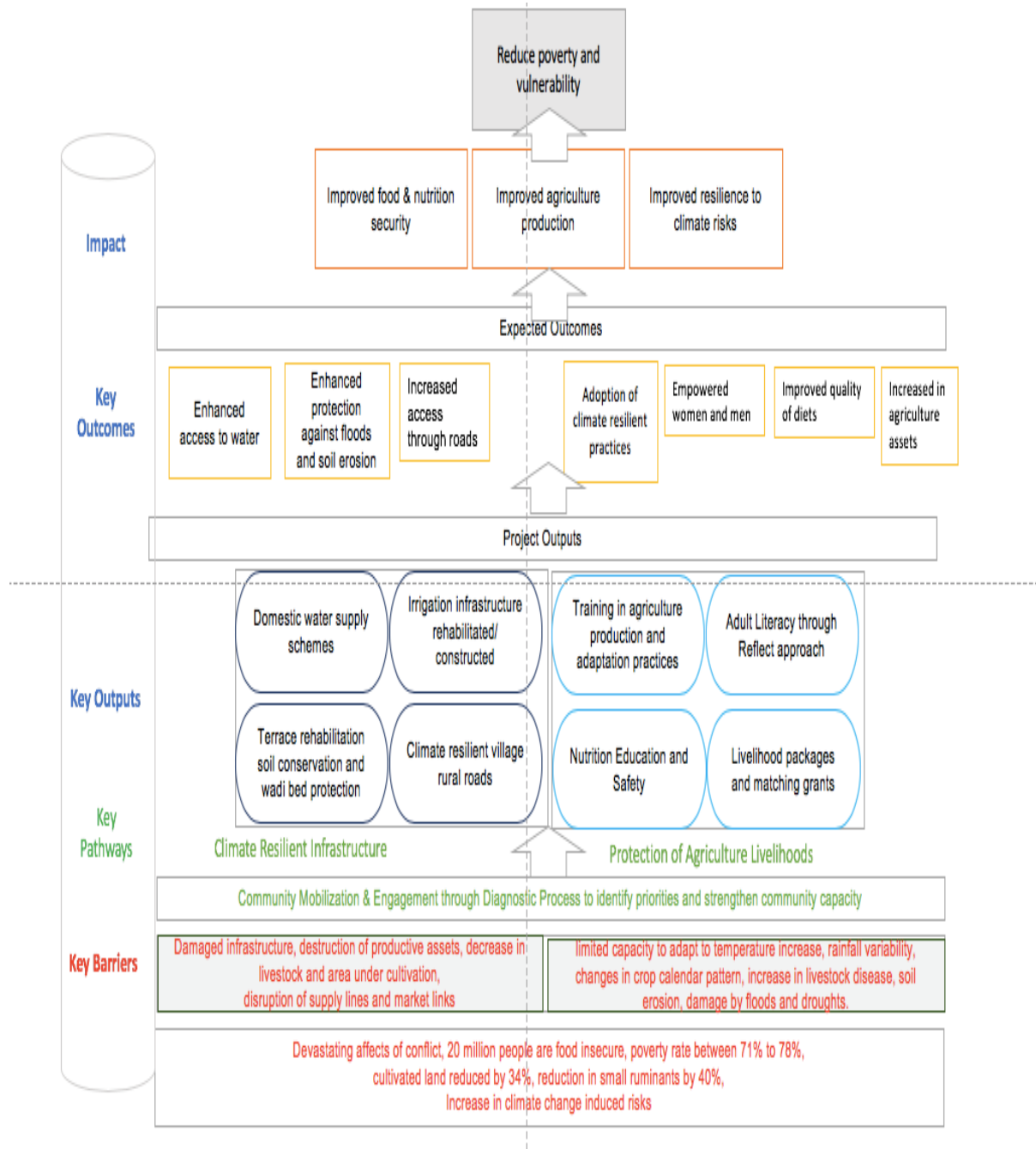
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Near East, North Africa and Europe Division
Programme Management Department

Annex 2: Theory of Change Rural Livelihoods Development Project



Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 3: Project cost and financing: Detailed costs tables

Mission Dates: 22 March - 30 April 2020

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Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Annex 3: Project Costing and Financing

A. Project Costs

Main assumptions

- 1. Introduction.** This annex describes the assumptions underlying the derivation of costs, estimated costs and financing plan for the project. Total project costs are based on May 2020 prices.
- 2. Project Period.** The project will be financed over a five-year period starting from beginning 2021.
- 3. Inflation.** The base rate of domestic inflation has been set at around 10 per cent throughout project duration while international inflation is estimated at 1 per cent for the whole implementation period.

Table 1: International and Domestic Price Inflation (%)

	2021	2022	2023	2024	2025
International Inflation Rate	1	1	1	1	1
Domestic Inflation Rate	10	10	10	10	10

Source: IMF - Data retrieved on May 2020

- 4. Exchange Rate.** The exchange rate was fixed at 1USD = 250 YER as per average official market rate during the 2019/2020. Project costs are presented in both YER and USD currency.
- 5. Physical and price contingencies.** Both types of contingencies have been taken into account and included in the costing of project. In particular, most categories include a physical contingency of 2 per cent with an exception on the "Civil Work" category where a 5 per cent physical contingency is considered.
- 6. Taxes and Duties.** There is VAT of 5% levied on all imported and locally procured goods and services. Most items procured under the project would be purchased locally.
- 7. Expenditure Accounts.** Project 's expenditure accounts will be the following:
 - Technical Assistance and Consultancies
 - Grants and Subsidies
 - Goods, Services and inputs
 - Trainings, Workshops and Meetings
 - Civil Works
 - Salaries and Allowances
 - Operating costs
- 8. Total cost and Financing.** Total project cost (investment cost and incremental recurrent cost, including physical and price contingencies) is estimated at about USD 21.4 million, 10 million (46% of the total cost) of which will be grant financing by IFAD. Ifad contribution will finance all project components as follows: USD 1.8 million (8.4% of total cost) to finance Component 1, USD 3.8 million (17.8% of total cost) for Component 2, USD 1.1 million for component 3 (5.5% of total cost), and USD 2.6 million for the Project management and M&E functions (12.4 % of total cost). Provisions amounting to USD

530,000 (2.4% of total cost) for emergency and unforeseen expenses are included in the "Unallocated" category and directly sourced from IFAD funds.

9. The Global Environment Facility (GEF) will co-finance RLDP through a grant of USD 10 million (46% of total cost). The funds will be allocated on all project components as follows: a) USD 214,339 (1% of total cost) for component 1; b) USD 4.1 million (19% of total cost) for component 2; c) USD 5 million (23.5% of total cost) for component 3; and d) USD 500,000 for the project management unit (2.3% of total cost). GEF funds will also be used to finance M&E-related functions for an amount of USD 126,500 (0.6% of total cost)

10. During the RLDP preparation, the project team has assumed that the Government of Yemen (GoE) is currently facing considerable constraints to provide resource for the co-financing of the project. Therefore, concession was made on the established practice of recipient governments paying taxes and duties on project activities. In the current scenario, such amounts will be financed out of the proceeds of the IFAD and GEF Grants. The estimate of taxes and duties was based on the rates prevailing at the time of the design.

11. Contribution from beneficiaries, both in-kind and in-cash, are equal to USD 1.4 million (6.6% of total cost) and will mainly co-finance infrastructure works in component 2 and diversified livelihood activities of component 3.

12. The foreign exchange component is estimated at about USD 7.6 million. Taxes and duties are estimated at USD 758,000. Funds allocated to the Project Management Unit are of USD 2.8 million, equal to 13% of the total cost. Tables below summarizes Project costs and financing. Detailed cost estimates are provided in appendix A and B to this annex.

Table 1: Project cost by components (YER '000 / USD '000)

Yemen Rural Livelihood Development Project Components Project Cost Summary	(YER '000)					(US\$ '000)				
	Local	Foreign	Total	%	% Total	Local	Foreign	Total	%	% Total
				Exchange	Base				Exchange	Base
A. Community Mobilization & Strengthening										
1. Community Mobilization & Engagement	217,000	217,000	434,000	50	8	868	868	1,736	50	8
2. Community Capacity Building	30,885	25,738	56,623	45	1	124	103	226	45	1
Subtotal	247,885	242,738	490,623	49	10	992	971	1,962	49	10
B. Climate Resilient Community Infrastructure										
1. Domestic Water Supply	397,650	331,375	729,025	45	14	1,591	1,326	2,916	45	14
2. Small-scale irrigation and flood-based livelihoods systems	367,088	305,906	672,994	45	13	1,468	1,224	2,692	45	13
3. Soil and water conservation	403,350	336,125	739,475	45	14	1,613	1,345	2,958	45	14
Subtotal	1,168,088	973,406	2,141,494	45	42	4,672	3,894	8,566	45	42
C. Protection of Agriculture Livelihoods										
1. Capacity Building for Agriculture Production	372,438	119,138	491,575	24	10	1,490	477	1,966	24	10
2. Food and Nutrition Security	423,088	74,588	497,675	15	10	1,692	298	1,991	15	10
3. Livelihood Resilience and Value Addition	271,428	271,428	542,855	50	11	1,086	1,086	2,171	50	11
Subtotal	1,066,953	465,153	1,532,105	30	30	4,268	1,861	6,128	30	30
D. Project Management, M&E and KM										
1. Project Management Unit	695,513	-	695,513	-	14	2,782	-	2,782	-	14
2. M&E and Knowledge Management	66,400	50,150	116,550	43	2	266	201	466	43	2
Subtotal	761,913	50,150	812,063	6	16	3,048	201	3,248	6	16
E. Unallocated	66,250	66,250	132,500	50	3	265	265	530	50	3
Total BASELINE COSTS	3,311,088	1,797,696	5,108,784	35	100	13,244	7,191	20,435	35	100
Physical Contingencies	70,812	56,797	127,609	45	2	283	227	510	45	2
Price Contingencies	829,144	485,076	1,314,220	37	26	300	176	475	37	2
Total PROJECT COSTS	4,211,044	2,339,570	6,550,613	36	128	13,827	7,594	21,421	35	105

Table 2: Project expenditure accounts by components (USD '000)

Yemen
Rural Livelihood Development Project
Expenditure Accounts by Components - B
(US\$ '000)

	Climate Resilient Community Infrastructure										Protection of Agriculture Livelihoods			Project Management, M&E and KM		Physical Contingencies	
	Community Mobilization & Strengthening		Small-scale irrigation and flood-based livelihoods systems			Capacity Building for Agriculture Production		Food and Nutrition Security		Livelihood Resilience and Value Addition	Project Management Unit	M&E and Knowledge Management	Unallocated	Total	%	Amount	
	Mobilization & Engagement	Capacity Building	Domestic Water Supply	Water	Soil and water conservation	Agriculture Production	Food and Nutrition Security	Resilience and Value Addition	Management	M&E and Knowledge							
I. Investment Costs																	
A. Technical Assistance & Consultancies	1,736	27	24	77	8	55	25	350	-	350	-	2,651	-	-	-	-	
B. Grants and Subsidies	-	-	-	-	-	-	-	-	-	-	530	530	-	-	-	-	
C. Goods Services & Inputs	-	179	-	-	-	898	572	1,821	-	51	-	3,521	2.0	70	-	-	
D. Training Workshops & Meetings	-	-	-	-	-	795	1,164	-	-	65	-	2,024	2.0	40	-	-	
E. Civil Work	-	-	2,627	2,371	2,682	-	-	-	-	-	-	7,679	5.0	384	-	-	
Total Investment Costs	1,736	206	2,651	2,447	2,689	1,748	1,761	2,171	-	466	530	16,406	3.0	495	-	-	
II. Recurrent Costs																	
A. Salaries and Allowances	-	-	-	-	-	218	230	-	1,361	-	-	1,809	-	-	-	-	
B. Operating Costs /a	-	21	265	245	269	-	-	-	1,421	-	-	2,220	0.7	16	-	-	
Total Recurrent Costs	-	21	265	245	269	218	230	-	2,782	-	-	4,029	0.4	16	-	-	
Total BASELINE COSTS	1,736	226	2,916	2,692	2,958	1,966	1,991	2,171	2,782	466	530	20,435	2.5	510	-	-	
Physical Contingencies	-	4	137	123	139	34	35	36	-	2	-	510	-	-	-	-	
Price Contingencies																	
Inflation																	
Local	250	31	347	341	454	461	502	354	431	70	-	3,241	-	-	-	-	
Foreign	23	2	28	27	36	14	7	33	-	5	-	176	-	-	-	-	
Subtotal Inflation	272	33	375	368	490	475	510	387	431	75	-	3,417	-	-	-	-	
Devaluation	-227	-28	-314	-309	-412	-419	-457	-320	-392	-64	-	-2,942	-	-	-	-	
Subtotal Price Contingencies	45	5	61	60	78	56	53	67	39	11	-	475	2.5	12	-	-	
Total PROJECT COSTS	1,781	235	3,114	2,875	3,176	2,056	2,078	2,275	2,821	480	530	21,421	2.4	523	-	-	
Taxes	-	9	155	140	158	89	91	96	15	6	-	758	3.4	26	-	-	
Foreign Exchange	891	107	1,419	1,310	1,447	500	312	1,137	-	206	265	7,594	3.1	233	-	-	

Table 3: Financing Plan by Components (USD '000)

Yemen
Rural Livelihood Development Project
Components by Financiers
(US\$ '000)

	The Government		IFAD Grant		GEF		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
A. Community Mobilization & Strengthening													
1. Community Mobilization & Engagement	0	-	1,781	100.0	-	-	-	-	1,781	8.3	891	891	-
2. Community Capacity Building	0	-	21	8.9	214	91.1	-	-	235	1.1	107	119	9
Subtotal	0	-	1,802	89.4	214	10.6	-	-	2,016	9.4	998	1,009	9
B. Climate Resilient Community Infrastructure													
1. Domestic Water Supply	0	-	276	8.9	2,416	77.6	422	13.6	3,114	14.5	1,419	1,541	155
2. Small-scale irrigation and flood-based livelihoods systems	0	-	950	33.0	1,544	53.7	381	13.3	2,875	13.4	1,310	1,425	140
3. Soil and water conservation	0	-	2,588	81.5	154	4.9	433	13.6	3,176	14.8	1,447	1,570	158
Subtotal	0	-	3,814	41.6	4,114	44.9	1,237	13.5	9,165	42.8	4,176	4,536	453
C. Protection of Agriculture Livelihoods													
1. Capacity Building for Agriculture Production	0	-	-	-	2,056	100.0	-	-	2,056	9.6	500	1,468	89
2. Food and Nutrition Security	0	-	1,180	56.8	898	43.2	-	-	2,078	9.7	312	1,676	91
3. Livelihood Resilience and Value Addition	0	-	-	-	2,090	91.9	184	8.1	2,275	10.6	1,137	1,042	96
Subtotal	0	-	1,180	18.4	5,045	78.7	184	2.9	6,409	29.9	1,949	4,185	275
D. Project Management, M&E and KM													
1. Project Management Unit	0	-	2,321	82.3	500	17.7	-	-	2,821	13.2	-	2,806	15
2. M&E and Knowledge Management	0	-	353	73.6	126	26.4	-	-	480	2.2	206	268	6
Subtotal	0	-	2,674	81.0	626	19.0	-	-	3,300	15.4	206	3,074	21
E. Unallocated	-	-	530	100.0	-	-	-	-	530	2.5	265	265	-
Total PROJECT COSTS	0	-	10,000	46.7	10,000	46.7	1,421	6.6	21,421	100.0	7,594	13,069	758

Table 4: Financing Plan by Expenditure Accounts (USD '000)

Yemen

Rural Livelihood Development Project

Expenditure Accounts by Financiers

		(US\$ '000)												
		The Government		IFAD Grant		GEF		Beneficiaries		Total		For.	Local	Duties &
		Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.	(Excl. Taxes)	Taxes
I. Investment Costs														
A. Technical Assistance & Consultancies		0	-	2,077	76.4	640	23.6	-	-	2,717	12.7	1,358	1,358	-
B. Grants and Subsidies		-	-	530	100.0	-	-	-	-	530	2.5	265	265	-
C. Goods Services & Inputs		0	-	598	16.2	2,914	78.8	184	5.0	3,697	17.3	1,848	1,664	185
D. Training Workshops & Meetings		0	-	402	19.0	1,717	81.0	-	-	2,119	9.9	-	2,013	106
E. Civil Work		0	-	3,002	36.4	4,005	48.6	1,237	15.0	8,244	38.5	4,122	3,710	412
Total Investment Costs		0	-	6,609	38.2	9,276	53.6	1,421	8.2	17,307	80.8	7,594	9,010	703
II. Recurrent Costs														
A. Salaries and Allowances		0	-	1,132	61.0	724	39.0	-	-	1,855	8.7	-	1,855	-
B. Operating Costs /a		0	-	2,259	100.0	-	-	-	-	2,259	10.5	-	2,204	55
Total Recurrent Costs		0	-	3,391	82.4	724	17.6	-	-	4,114	19.2	-	4,059	55
Total PROJECT COSTS		0	-	10,000	46.7	10,000	46.7	1,421	6.6	21,421	100.0	7,594	13,069	758

Appendix A: Summary Cost Tables

Table of Contents

Table 1A: Components Project Cost Summary (YER `000 / USD `000)

Table 2A: Expenditure Accounts by Components – Total Including Contingencies (USD `000)

Table 2AA: Expenditure Accounts by Components – Total Including Contingencies (YER `000)

Table 3A: Project Components by Year – Totals Including Contingencies (YER `000)

Table 3AA: Project Components by Year – Totals Including Contingencies (USD `000)

Table 4A: Expenditure Accounts by Year – Totals Including Contingencies (YER `000)

Table 4AA: Expenditure Accounts by Year – Totals Including Contingencies (USD `000)

Table 5A: Project Components by Financiers (USD `000)

Table 5AA: Project Components by Financiers (YER `000)

Table 6A: Disbursement Accounts by Financiers (YER `000)

Table 6AA: Disbursement Accounts by Financiers (USD `000)

Table 1A: Components Project Cost Summary (YER '000 / USD '000)

Yemen

Rural Livelihood Development Project

Components Project Cost Summary

	(YER '000)					(US\$ '000)				
	Local	Foreign	Total	%	% Total	Local	Foreign	Total	%	% Total
				Foreign Exchange	Base Costs				Foreign Exchange	Base Costs
A. Community Mobilization & Strengthening										
1. Community Mobilization & Engagement	217,000	217,000	434,000	50	8	868	868	1,736	50	8
2. Community Capacity Building	30,885	25,738	56,623	45	1	124	103	226	45	1
Subtotal	247,885	242,738	490,623	49	10	992	971	1,962	49	10
B. Climate Resilient Community Infrastructure										
1. Domestic Water Supply	397,650	331,375	729,025	45	14	1,591	1,326	2,916	45	14
2. Small-scale irrigation and flood-based livelihoods systems	367,088	305,906	672,994	45	13	1,468	1,224	2,692	45	13
3. Soil and water conservation	403,350	336,125	739,475	45	14	1,613	1,345	2,958	45	14
Subtotal	1,168,088	973,406	2,141,494	45	42	4,672	3,894	8,566	45	42
C. Protection of Agriculture Livelihoods										
1. Capacity Building for Agriculture Production	372,438	119,138	491,575	24	10	1,490	477	1,966	24	10
2. Food and Nutrition Security	423,088	74,588	497,675	15	10	1,692	298	1,991	15	10
3. Livelihood Resilience and Value Addition	271,428	271,428	542,855	50	11	1,086	1,086	2,171	50	11
Subtotal	1,066,953	465,153	1,532,105	30	30	4,268	1,861	6,128	30	30
D. Project Management, M&E and KM										
1. Project Management Unit	695,513	-	695,513	-	14	2,782	-	2,782	-	14
2. M&E and Knowledge Management	66,400	50,150	116,550	43	2	266	201	466	43	2
Subtotal	761,913	50,150	812,063	6	16	3,048	201	3,248	6	16
E. Unallocated	66,250	66,250	132,500	50	3	265	265	530	50	3
Total BASELINE COSTS	3,311,088	1,797,696	5,108,784	35	100	13,244	7,191	20,435	35	100
Physical Contingencies	70,812	56,797	127,609	45	2	283	227	510	45	2
Price Contingencies	829,144	485,076	1,314,220	37	26	300	176	475	37	2
Total PROJECT COSTS	4,211,044	2,339,570	6,550,613	36	128	13,827	7,594	21,421	35	105

Table 2A: Expenditure Accounts by Components – Total Including Contingencies (USD '000)

Yemen

Rural Livelihood Development Project

Expenditure Accounts by Components -
(US\$ '000)

	Climate Resilient Community Infrastructure					Protection of Agriculture Livelihoods			Project Management, M&E and KM		Unallocated	Total
	Community Mobilization & Strengthening		Small-scale irrigation and flood-based livelihoods systems		Soil and water conservation	Capacity Building for Agriculture Production	Food and Nutrition Security	Livelihood Resilience and Value Addition	Project Management Unit	M&E and Knowledge Management		
	Community Mobilization & Engagement	Community Capacity Building	Domestic Water Supply									
I. Investment Costs												
A. Technical Assistance & Consultancies	1,781	27	24	77	8	56	25	361	-	358	-	2,717
B. Grants and Subsidies	-	-	-	-	-	-	-	-	-	-	530	530
C. Goods Services & Inputs	-	187	-	-	-	944	598	1,914	-	54	-	3,697
D. Training Workshops & Meetings	-	-	-	-	-	833	1,218	-	-	68	-	2,119
E. Civil Work	-	-	2,814	2,543	2,887	-	-	-	-	-	-	8,244
Total Investment Costs	1,781	214	2,838	2,620	2,894	1,833	1,841	2,275	-	480	530	17,307
II. Recurrent Costs												
A. Salaries and Allowances	-	-	-	-	-	224	237	-	1,395	-	-	1,855
B. Operating Costs /a	-	21	276	255	281	-	-	-	1,426	-	-	2,259
Total Recurrent Costs	-	21	276	255	281	224	237	-	2,821	-	-	4,114
Total PROJECT COSTS	1,781	235	3,114	2,875	3,176	2,056	2,078	2,275	2,821	480	530	21,421
Taxes	-	9	155	140	158	89	91	96	15	6	-	758
Foreign Exchange	891	107	1,419	1,310	1,447	500	312	1,137	-	206	265	7,594

/a including maintenance

Table 2AA: Expenditure Accounts by Components – Total Including Contingencies (YER '000)

Yemen

Rural Livelihood Development Project

Expenditure Accounts by Components - Totals In
(YER '000)

	Climate Resilient Community Infrastructure					Protection of Agriculture Livelihoods			Project Management, M&E and KM		Unallocated	Total
	Community Mobilization & Strengthening		Small-scale irrigation and flood-based livelihoods systems		Soil and water conservation	Capacity Building for Agriculture Production	Food and Nutrition Security	Livelihood Resilience and Value Addition	Project Management Unit	M&E and Knowledge Management		
	Community Mobilization & Engagement	Community Capacity Building	Domestic Water Supply									
I. Investment Costs												
A. Technical Assistance & Consultancies	558,953	7,877	6,300	20,147	1,969	15,711	6,484	116,727	-	110,941	-	845,109
B. Grants and Subsidies	-	-	-	-	-	-	-	-	-	-	132,500	132,500
C. Goods Services & Inputs	-	57,951	-	-	-	306,833	187,003	619,604	-	17,496	-	1,188,887
D. Training Workshops & Meetings	-	-	-	-	-	264,532	383,042	-	-	20,363	-	667,936
E. Civil Work	-	-	840,665	769,978	902,000	-	-	-	-	-	-	2,512,643
Total Investment Costs	558,953	65,828	846,965	790,125	903,969	587,076	576,528	736,331	-	148,800	132,500	5,347,075
II. Recurrent Costs												
A. Salaries and Allowances	-	-	-	-	-	69,873	77,055	-	434,649	-	-	581,577
B. Operating Costs /a	-	6,469	82,307	76,853	87,824	-	-	-	368,508	-	-	621,961
Total Recurrent Costs	-	6,469	82,307	76,853	87,824	69,873	77,055	-	803,157	-	-	1,203,538
Total PROJECT COSTS	558,953	72,298	929,272	866,978	991,792	656,949	653,584	736,331	803,157	148,800	132,500	6,550,613
Taxes	-	2,898	46,149	42,342	49,491	28,568	28,502	30,980	4,277	1,893	-	235,099
Foreign Exchange	279,477	32,914	423,482	395,063	451,984	161,272	96,743	368,166	-	64,218	66,250	2,339,570

/a including maintenance

Table 3A: Project Components by Year – Totals Including Contingencies (YER '000)

Yemen

Rural Livelihood Development Project

Project Components by Year -- Totals Including Contingencies

	Totals Including Contingencies (YER '000)					Total
	2021	2022	2023	2024	2025	
A. Community Mobilization & Strengthening						
1. Community Mobilization & Engagement	56,963	125,318	137,849	113,726	125,098	558,953
2. Community Capacity Building	14,323	15,266	13,823	15,205	13,680	72,298
Subtotal	71,285	140,583	151,672	128,931	138,779	631,251
B. Climate Resilient Community Infrastructure						
1. Domestic Water Supply	159,352	297,048	271,867	146,105	54,900	929,272
2. Small-scale irrigation and flood-based livelihoods systems	177,484	224,199	206,370	151,338	107,587	866,978
3. Soil and water conservation	131,597	198,586	244,424	204,668	212,517	991,792
Subtotal	468,433	719,833	722,660	502,112	375,004	2,788,042
C. Protection of Agriculture Livelihoods						
1. Capacity Building for Agriculture Production	43,751	129,572	158,205	153,498	171,922	656,949
2. Food and Nutrition Security	88,094	120,688	140,014	146,033	158,754	653,584
3. Livelihood Resilience and Value Addition	-	-	350,634	385,697	-	736,331
Subtotal	131,845	250,260	648,853	685,228	330,677	2,046,863
D. Project Management, M&E and KM						
1. Project Management Unit	144,760	153,069	162,210	166,326	176,792	803,157
2. M&E and Knowledge Management	27,444	16,046	12,387	27,101	65,822	148,800
Subtotal	172,203	169,116	174,597	193,427	242,614	951,957
E. Unallocated	26,500	26,500	26,500	26,500	26,500	132,500
Total PROJECT COSTS	870,267	1,306,292	1,724,283	1,536,198	1,113,574	6,550,613

Table 3AA: Project Components by Year – Totals Including Contingencies (USD '000)

Yemen

Rural Livelihood Development Project

Project Components by Year -- Totals Including Contingencies

	Totals Including Contingencies (US\$ '000)					Total
	2021	2022	2023	2024	2025	
A. Community Mobilization & Strengthening						
1. Community Mobilization & Engagement	218	441	445	337	340	1,781
2. Community Capacity Building	55	54	45	45	37	235
Subtotal	273	494	490	382	378	2,016
B. Climate Resilient Community Infrastructure						
1. Domestic Water Supply	610	1,044	878	433	149	3,114
2. Small-scale irrigation and flood-based livelihoods systems	680	788	666	449	293	2,875
3. Soil and water conservation	504	698	789	607	578	3,176
Subtotal	1,793	2,530	2,333	1,488	1,020	9,165
C. Protection of Agriculture Livelihoods						
1. Capacity Building for Agriculture Production	168	455	511	455	468	2,056
2. Food and Nutrition Security	337	424	452	433	432	2,078
3. Livelihood Resilience and Value Addition	-	-	1,132	1,143	-	2,275
Subtotal	505	880	2,094	2,031	900	6,409
D. Project Management, M&E and KM						
1. Project Management Unit	565	568	571	557	560	2,821
2. M&E and Knowledge Management	106	59	44	85	186	480
Subtotal	671	627	615	642	745	3,300
E. Unallocated	106	106	106	106	106	530
Total PROJECT COSTS	3,348	4,637	5,637	4,649	3,149	21,421

Table 4A: Expenditure Accounts by Year – Totals Including Contingencies (YER '000)

Yemen

Rural Livelihood Development Project

Expenditure Accounts by Years -- Totals Including

Totals Including Contingencies (YER '000)

	2021	2022	2023	2024	2025	Total
I. Investment Costs						
A. Technical Assistance & Consultancies	125,816	139,240	199,545	195,067	185,441	845,109
B. Grants and Subsidies	26,500	26,500	26,500	26,500	26,500	132,500
C. Goods Services & Inputs	40,387	115,600	420,460	462,506	149,935	1,188,887
D. Training Workshops & Meetings	80,057	121,492	159,559	147,005	159,824	667,936
E. Civil Work	398,416	656,098	658,675	457,654	341,801	2,512,643
Total Investment Costs	671,176	1,058,929	1,464,739	1,288,731	863,500	5,347,075
II. Recurrent Costs						
A. Salaries and Allowances	84,683	109,754	120,729	126,863	139,549	581,577
B. Operating Costs /a	114,408	137,610	138,815	120,604	110,524	621,961
Total Recurrent Costs	199,091	247,364	259,544	247,466	250,073	1,203,538
Total PROJECT COSTS	870,267	1,306,292	1,724,283	1,536,198	1,113,574	6,550,613

_____ /a including maintenance

Table 4AA: Expenditure Accounts by Year – Totals Including Contingencies (USD '000)

Yemen

Rural Livelihood Development Project

Expenditure Accounts by Years -- Totals Including

	Totals Including Contingencies (US\$ '000)					
	2021	2022	2023	2024	2025	Total
I. Investment Costs						
A. Technical Assistance & Consultancies	483	492	648	583	511	2,717
B. Grants and Subsidies	106	106	106	106	106	530
C. Goods Services & Inputs	155	406	1,357	1,371	408	3,697
D. Training Workshops & Meetings	307	427	515	436	435	2,119
E. Civil Work	1,525	2,306	2,126	1,356	930	8,244
Total Investment Costs	2,575	3,738	4,752	3,852	2,390	17,307
II. Recurrent Costs						
A. Salaries and Allow ances	324	386	390	376	380	1,855
B. Operating Costs /a	449	514	496	421	380	2,259
Total Recurrent Costs	773	899	885	797	759	4,114
Total PROJECT COSTS	3,348	4,637	5,637	4,649	3,149	21,421

/a including maintenance

Table 5A: Project Components by Financiers (USD '000)

Yemen

Rural Livelihood Development Project

Components by Financiers

	(US\$ '000)												
	The Government		IFAD Grant		GEF		Beneficiaries		Total		For.	Local	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.	(Excl. Taxes)	Taxes
A. Community Mobilization & Strengthening													
1. Community Mobilization & Engagement	0	-	1,781	100.0	-	-	-	-	1,781	8.3	891	891	-
2. Community Capacity Building	0	-	21	8.9	214	91.1	-	-	235	1.1	107	119	9
Subtotal	0	-	1,802	89.4	214	10.6	-	-	2,016	9.4	998	1,009	9
B. Climate Resilient Community Infrastructure													
1. Domestic Water Supply	0	-	276	8.9	2,416	77.6	422	13.6	3,114	14.5	1,419	1,541	155
2. Small-scale irrigation and flood-based livelihoods systems	0	-	950	33.0	1,544	53.7	381	13.3	2,875	13.4	1,310	1,425	140
3. Soil and water conservation	0	-	2,588	81.5	154	4.9	433	13.6	3,176	14.8	1,447	1,570	158
Subtotal	0	-	3,814	41.6	4,114	44.9	1,237	13.5	9,165	42.8	4,176	4,536	453
C. Protection of Agriculture Livelihoods													
1. Capacity Building for Agriculture Production	0	-	-	-	2,056	100.0	-	-	2,056	9.6	500	1,468	89
2. Food and Nutrition Security	0	-	1,180	56.8	898	43.2	-	-	2,078	9.7	312	1,676	91
3. Livelihood Resilience and Value Addition	0	-	-	-	2,090	91.9	184	8.1	2,275	10.6	1,137	1,042	96
Subtotal	0	-	1,180	18.4	5,045	78.7	184	2.9	6,409	29.9	1,949	4,185	275
D. Project Management, M&E and KM													
1. Project Management Unit	0	-	2,321	82.3	500	17.7	-	-	2,821	13.2	-	2,806	15
2. M&E and Knowledge Management	0	-	353	73.6	126	26.4	-	-	480	2.2	206	268	6
Subtotal	0	-	2,674	81.0	626	19.0	-	-	3,300	15.4	206	3,074	21
E. Unallocated	-	-	530	100.0	-	-	-	-	530	2.5	265	265	-
Total PROJECT COSTS	0	-	10,000	46.7	10,000	46.7	1,421	6.6	21,421	100.0	7,594	13,069	758

Table 5AA: Project Components by Financiers (YER '000)

Yemen

Rural Livelihood Development Project

Components by Financiers

	(YER '000)									
	The Government		IFAD Grant		GEF		Beneficiaries		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Community Mobilization & Strengthening										
1. Community Mobilization & Engagement	0	-	558,953	100.0	-	-	-	-	558,953	8.5
2. Community Capacity Building	0	-	6,469	8.9	65,828	91.1	-	-	72,298	1.1
Subtotal	0	-	565,422	89.6	65,828	10.4	-	-	631,251	9.6
B. Climate Resilient Community Infrastructure										
1. Domestic Water Supply	0	-	82,307	8.9	720,865	77.6	126,100	13.6	929,272	14.2
2. Small-scale irrigation and flood-based livelihoods systems	0	-	288,632	33.3	462,849	53.4	115,497	13.3	866,978	13.2
3. Soil and water conservation	0	-	811,272	81.8	45,220	4.6	135,300	13.6	991,792	15.1
Subtotal	0	-	1,182,211	42.4	1,228,935	44.1	376,896	13.5	2,788,042	42.6
C. Protection of Agriculture Livelihoods										
1. Capacity Building for Agriculture Production	0	-	-	-	656,949	100.0	-	-	656,949	10.0
2. Food and Nutrition Security	0	-	374,362	57.3	279,222	42.7	-	-	653,584	10.0
3. Livelihood Resilience and Value Addition	0	-	-	-	676,630	91.9	59,701	8.1	736,331	11.2
Subtotal	0	-	374,362	18.3	1,612,801	78.8	59,701	2.9	2,046,863	31.2
D. Project Management, M&E and KM										
1. Project Management Unit	0	-	646,822	80.5	156,336	19.5	-	-	803,157	12.3
2. M&E and Knowledge Management	0	-	106,615	71.6	42,185	28.4	-	-	148,800	2.3
Subtotal	0	-	753,436	79.1	198,521	20.9	-	-	951,957	14.5
E. Unallocated	-	-	132,500	100.0	-	-	-	-	132,500	2.0
Total PROJECT COSTS	0	-	3,007,932	45.9	3,106,084	47.4	436,597	6.7	6,550,613	100.0

Table 6A: Disbursement Accounts by Financiers (YER '000)

Yemen

Rural Livelihood Development Project

Disbursement Accounts by Financiers

	(YER '000)												
	The Government		IFAD Grant		GEF		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
Amount	%	Amount	%	Amount	%	Amount	%	Amount	%				
Technical assistance & Consultancies	0	-	661,551	77.0	197,226	23.0	-	-	858,778	13.1	422,554	435,540	683
Grants and Subsidies	-	-	132,500	100.0	-	-	-	-	132,500	2.0	66,250	66,250	-
Goods Services & Inputs	0	-	187,003	15.7	942,183	79.2	59,701	5.0	1,188,887	18.1	594,444	534,999	59,444
Training Workshops and Meetings	0	-	114,320	17.5	539,947	82.5	-	-	654,267	10.0	-	621,554	32,713
Civil Work	0	-	935,227	37.2	1,200,519	47.8	376,896	15.0	2,512,643	38.4	1,256,322	1,130,689	125,632
Salaries and Allow ances	0	-	638,338	73.8	226,208	26.2	-	-	864,546	13.2	-	864,546	-
Operating Costs	0	-	338,992	100.0	-	-	-	-	338,992	5.2	-	322,366	16,626
Total PROJECT COSTS	0	-	3,007,932	45.9	3,106,084	47.4	436,597	6.7	6,550,613	100.0	2,339,570	3,975,944	235,099

Table 6AA: Disbursement Accounts by Financiers (USD '000)

Yemen

Rural Livelihood Development Project

Disbursement Accounts by Financiers

(US\$ '000)

	The Government		IFAD Grant		GEF		Beneficiaries		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
Technical assistance & Consultancies	0	-	2,119	76.8	640	23.2	-	-	2,759	12.9	1,358	1,398	2
Grants and Subsidies	-	-	530	100.0	-	-	-	-	530	2.5	265	265	-
Goods Services & Inputs	0	-	598	16.2	2,914	78.8	184	5.0	3,697	17.3	1,848	1,664	185
Training Workshops and Meetings	0	-	360	17.3	1,717	82.7	-	-	2,077	9.7	-	1,973	104
Civil Work	0	-	3,002	36.4	4,005	48.6	1,237	15.0	8,244	38.5	4,122	3,710	412
Salaries and Allow ances	0	-	2,264	75.8	724	24.2	-	-	2,987	13.9	-	2,987	-
Operating Costs	0	-	1,127	100.0	-	-	-	-	1,127	5.3	-	1,072	55
Total PROJECT COSTS	0	-	10,000	46.7	10,000	46.7	1,421	6.6	21,421	100.0	7,594	13,069	758

Appendix B: Detailed Cost Tables

Table of Contents

Table 1B: Community mobilization & engagement (USD `000)

Table 2B: Community capacity building (USD `000)

Table 3B: Domestic water supply (USD `000)

Table 4B: Small-scale irrigation and flood-based livelihoods systems (USD `000)

Table 5B: Project management (USD `000)

Table 6B: M&E and knowledge management (USD `000)

Table 7B: Food and Nutrition Security (USD `000)

Table 8B: Livelihood Resilience and Value Addition (USD `000)

Table 9B: Project Management Unit (USD `000)

Table 10B: M&E and Knowledge Management (USD `000)

Table 11B: Unallocated (USD `000)

Table 1B: Community Mobilization & Engagement (USD '000)

Yemen
 Rural Livelihood Development Project
 Table 1. Community Mobilization & Engagement

Detailed Costs

	Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total
		2021	2022	2023	2024	2025			2021	2022	2023	2024	2025	
I. Investment Costs														
Implementing Partner for Mobilization and Logistical Support for all activities	Implementing partner	2	4	4	3	3	16	108,500	218,085	440,532	444,937	337,040	340,410	1,781,004
Total									218,085	440,532	444,937	337,040	340,410	1,781,004

Table 2B: Community Capacity Building (USD '000)

Yemen

Rural Livelihood Development Project

Table 2. Community Capacity Building

Detailed Costs

	Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total	
		2021	2022	2023	2024	2025			2021	2022	2023	2024	2025		
I. Investment Costs															
A. Training															
Water Engineer and Irrigation Engineer Trainer	Number	2	-	-	-	-	2	3,000	6,030	-	-	-	-	-	6,030
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	25	30	-	-	-	55	100	2,563	3,106	-	-	-	-	5,669
Training of WUAs by water engineer expert	Number	2	2	-	-	-	4	1,000	2,010	2,030	-	-	-	-	4,040
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	20	60	60	60	-	200	77	1,579	4,783	4,831	4,879	-	-	16,073
Training of farmers by water harvesting/irrigation engineers	Number	2	2	2	2	1	9	1,000	2,010	2,030	2,050	2,071	1,046	-	9,207
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	400	400	400	400	400	2,000	77	31,573	31,889	32,208	32,530	32,855	-	161,054
Training of community/HHs by water engineer in O&M	Number	1	1	-	-	-	2	1,000	1,005	1,015	-	-	-	-	2,020
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	20	30	-	-	-	50	80	1,640	2,485	-	-	-	-	4,125
Training program facilitators	Number	1	1	1	1	-	4	1,500	1,508	1,523	1,538	1,553	-	-	6,121
Total Investment Costs									49,917	48,861	40,627	41,033	33,901	-	214,339
II. Recurrent Costs															
Management fee for SFD	Lumpsum								4,918	4,803	3,990	4,030	3,326	-	21,067
Total Recurrent Costs									4,918	4,803	3,990	4,030	3,326	-	21,067
Total									54,836	53,664	44,617	45,063	37,227	-	235,407

Table 3B: Domestic water supply (USD '000)

Yemen

Rural Livelihood Development Project

Table 3. Domestic Water Supply

Detailed Costs

	Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total	
		2021	2022	2023	2024	2025			2021	2022	2023	2024	2025		
I. Investment Costs															
Identification and preliminary studies	Study	1	-	-	-	-	1	24,000	24,120	-	-	-	-	-	24,120
Individual household water supply	Number	100	200	200	200	100	800	1,240	130,851	264,319	266,962	269,632	136,164	1,067,928	
Communal multi-purpose rainwater harvesting	Number	1	2	1	-	-	4	150,000	158,288	319,741	161,469	-	-	639,497	
Village groundwater-based water schemes	Number	2	3	3	1	-	9	115,000	242,708	367,702	371,379	125,031	-	1,106,819	
Total Investment Costs									555,966	951,762	799,810	394,663	136,164	2,838,365	
II. Recurrent Costs															
A. Management fees for SFD															
Fee on studies	Lumpsum								2,460	-	-	-	-	2,460	
Fee on household water supply	Lumpsum								12,711	25,677	25,933	26,193	13,227	103,742	
Fee on rainwater harvesting	Lumpsum								15,377	31,061	15,686	-	-	62,123	
Fee on groundwater-based water scheme	Lumpsum								23,577	35,720	36,077	12,146	-	107,520	
Total Recurrent Costs									54,125	92,457	77,696	38,339	13,227	275,844	
Total									610,091	1,044,218	877,506	433,001	149,391	3,114,209	

Table 4B: Small-scale irrigation and flood-based livelihoods systems (USD '000)

Yemen

Rural Livelihood Development Project

Table 4. Small-scale irrigation and flood-based livelihoods systems

Detailed Costs

Unit	Quantities						Unit Cost (US\$)	Totals Including Contingencies (US\$)						
	2021	2022	2023	2024	2025	Total		2021	2022	2023	2024	2025	Total	
I. Investment Costs														
Identification and preliminary studies	Study	1	-	-	-	-	1	76,750	77,134	-	-	-	-	77,134
Rehabilitation and modernising irrigation systems /a	Number	9	10	6	4	4	33	27,500	261,174	293,096	177,616	119,595	120,791	972,272
Rehabilitation of flood-based agriculture systems	ha	100	150	150	100	50	550	2,660	280,697	425,255	429,508	289,202	146,047	1,570,708
Total Investment Costs									619,005	718,351	607,124	408,797	266,838	2,620,114
II. Recurrent Costs														
A. Management fees for SFD														
Fees on studies	Lumpsum								7,868	-	-	-	-	7,868
Fees on modern irrigation systems	Lumpsum								25,371	28,472	17,254	11,618	11,734	94,449
Fees on flood-based systems	Lumpsum								27,268	41,311	41,724	28,094	14,187	152,583
Total Recurrent Costs									60,507	69,783	58,978	39,712	25,921	254,900
Total									679,511	788,134	666,101	448,508	292,759	2,875,014

/a Small solar powered pumps

Table 5B: Soil and Water Conservation (USD '000)

Yemen

Rural Livelihood Development Project

Table 5. Soil and Water conservation

Detailed Costs

	Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total	
		2021	2022	2023	2024	2025			2021	2022	2023	2024	2025		
I. Investment Costs															
Identification and preliminary studies	Studies	1	-	-	-	-	1	7,500	7,538	-	-	-	-	-	7,538
Rehabilitation/construction of check dikes and gabions	ha	50	80	110	100	100	440	3,000	158,288	255,793	355,232	326,168	329,429	1,424,909	
Terraces rehabilitation	ha	4	6	4	3	-	17	9,500	40,100	60,751	40,905	30,986	-	172,742	
Climate smart village road rehabilitation	Km	4	5	5	3	3	20	60,000	253,260	319,741	322,938	195,701	197,658	1,289,297	
Total Investment Costs									459,185	636,284	719,076	552,854	527,087	2,894,485	
II. Recurrent Costs															
A. Management fees for SFD															
Fees on studies	Lumpsum								769	-	-	-	-	769	
Fees on construction of check dikes and gabions	Lumpsum								15,377	24,848	34,508	31,685	32,002	138,420	
Fees on terrace rehabilitation	Lumpsum								3,895	5,902	3,974	3,010	-	16,781	
Fees on climate smart village roads	Lumpsum								24,602	31,061	31,371	19,011	19,201	125,246	
Total Recurrent Costs									44,643	61,810	69,853	53,706	51,203	281,215	
Total									503,828	698,095	788,929	606,560	578,289	3,175,700	

Table 6B: Capacity Building for Agriculture Production (USD '000)

Yemen

Rural Livelihood Development Project

Table 6. Capacity Building for Agriculture Production

Detailed Costs

Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total	
	2021	2022	2023	2024	2025			2021	2022	2023	2024	2025		
I. Investment Costs														
Design modules for Climate Smart FFS (Crop, Livestock and apiculture) /a	no. of modules	6	2	-	-	-	8	4,700	28,341	9,541	-	-	-	37,882
Training Master Trainers for FFS /b	Master trainers	60	-	60	-	-	120	960	59,046	-	60,233	-	-	119,278
Conduct Climate Smart FFS (crops, livestock and apiary) /c	FFS	-	75	75	75	75	300	2,180	-	169,280	170,973	172,682	174,409	687,344
Inputs for FFS/d	Inputs	-	1,500	1,500	1,500	1,500	6,000	141	-	218,977	221,167	223,378	225,612	889,133
Climate Vulnerability Analysis	Study	1	-	-	-	-	1	8,000	8,040	-	-	-	-	8,040
Design modules for researcher capacity building	module	1	-	-	-	-	1	4,000	4,100	-	-	-	-	4,100
Training of trainers	master trainers	1	-	-	-	-	1	1,600	1,608	-	-	-	-	1,608
Researcher capacity building programme	Training	2	-	-	-	-	2	11,000	22,552	-	-	-	-	22,552
On-farm inputs	Lumpsum	-	-	-	-	-	-	-	-	13,434	13,568	13,704	13,841	54,546
Research paper for policy development	study	-	-	-	-	1	1	8,000	-	-	-	-	8,366	8,366
Total Investment Costs									123,687	411,232	465,940	409,764	422,228	1,832,852
II. Recurrent Costs														
Community Extension Agents	no. of agents	24	24	24	24	24	120	1,150	27,738	28,015	28,296	28,578	28,864	141,492
Transport and accommodation	Lumpsum	-	-	-	-	-	-	-	16,080	16,241	16,403	16,567	16,733	82,024
Total Recurrent Costs									43,818	44,256	44,699	45,146	45,597	223,516
Total									167,505	455,488	510,639	454,910	467,826	2,056,367

ia Twelve modules will be developed to cover the crops, livestock models apiary and nutrition sensitization and literacy courses for women

ib In each of the selected 20 districts, 3 Agriculture extension staff will be selected as FFS Facilitators

ic It is projected that each Facilitator will conduct one session per year with an average of 20 participants for five years

id Key adaptive inputs will be provided such as drought resistant seed, technologies that are more efficient in water use with a value of USD 150/per participant which can be given to the group (USD 3000) or to individuals as USD 150 per grantee

Table 7B: Food and Nutrition Security (USD '000)

Yemen
Rural Livelihood Development Project
Table 7. Food and Nutrition Security
Detailed Costs

Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total	
	2021	2022	2023	2024	2025			2021	2022	2023	2024	2025		
I. Investment Costs														
Designing Reflect Module	module	1	-	-	-	-	1	24,700	24,824	-	-	-	-	24,824
Training of Reflect Teachers	trainees	1	1	1	1	-	4	4,800	4,920	4,970	5,019	5,070	-	19,979
Literacy training for w omen /a	Reflect teachers	48	48	48	48	48	240	3,400	167,296	168,969	170,659	172,366	174,089	853,379
Training Community Nutrition Facilitators /b	Trainees	80	-	80	-	-	160	280	22,962	-	23,424	-	-	46,386
Nutrition Sensitization Sessions for vulnerable HHs (kitchen gardens, nutrition, dairy, poultry) /c	Sessions	-	50	50	50	50	200	1,420	-	73,510	74,245	74,987	75,737	298,480
Inputs for Nutrition Sessions for vulnerable HHs /d	inputs	800	800	800	800	800	4,000	143	117,271	118,444	119,629	120,825	122,033	598,202
Total Investment Costs									337,274	365,893	392,976	373,247	371,860	1,841,250
II. Recurrent Costs														
Community Nutrition Facilitators	facilitators	-	50	50	50	50	200	1,150	-	58,365	58,949	59,539	60,134	236,987
Total Recurrent Costs									-	58,365	58,949	59,539	60,134	236,987
Total									337,274	424,258	451,925	432,786	431,994	2,078,237

a Literacy classes will be organized for women and men that will weave into the curricula topics such as nutrition, child health, GBV, and life skills to empower the women participants. Each district will hire 2 instructors each and train women for one year

b Four relevant staff from local Government offices and IPs will be selected from each Governorate as Nutrition Facilitators

c Nutrition sessions will be held exclusively for women with each NF conducting 2 sessions per year for five years

d Key inputs will be provided which can help improve the nutrition status of the household with a value of USD 200 per participant

Table 8B: Livelihood Resilience and Value Addition (USD '000)

Yemen

Rural Livelihood Development Project

Table 8. Livelihood Resilience and Value Addition

Detailed Costs

	Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total
		2021	2022	2023	2024	2025			2021	2022	2023	2024	2025	
I. Investment Costs														
Technical Assistance	TA	-	-	1,000	1,000	-	2,000	175	-	-	179,410	181,204	-	360,614
Livelihood support Packages /a	no. of packages	-	-	750	750	-	1,500	780	-	-	611,737	617,855	-	1,229,592
Matching grants for post harvest support	no. of grants	-	-	423	423	-	846	770	-	-	340,596	344,002	-	684,599
Total									-	-	1,131,744	1,143,061	-	2,274,805

/a Livelihood support packages to 1500 HHs

Table 9B: Project Management Unit (USD '000)

Yemen
Rural Livelihood Development Project
Table 9. Project Management Unit
Detailed Costs

Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total	
	2021	2022	2023	2024	2025			2021	2022	2023	2024	2025		
II. Recurrent Costs														
A. Personnel														
RLDP Project Manager	Person month	12	12	12	12	12	60	5,000	60,300	60,903	61,512	62,127	62,748	307,591
Agriculture Specialist	Person month	1	1	1	1	1	5	19,000	19,095	19,286	19,479	19,674	19,870	97,404
Livestock Specialist	Person month	1	1	1	1	1	5	15,000	15,075	15,226	15,378	15,532	15,687	76,898
International Nutrition Specialist	Person month	2	2	2	1	1	8	19,000	38,190	38,572	38,958	19,674	19,870	155,263
Project Nutrition Specialist	Person month	12	12	12	12	12	60	3,000	36,180	36,542	36,907	37,276	37,649	184,554
Procurement Specialist	Person month	6	6	6	6	6	30	3,000	18,090	18,271	18,454	18,638	18,825	92,277
Procurement Associate	Person month	6	6	6	6	6	30	1,500	9,045	9,135	9,227	9,319	9,412	46,139
Financial Management Specialist /a	Person month	4	4	4	4	4	20	3,000	12,060	12,181	12,302	12,425	12,550	61,518
Environment, Social and Climate Specialist	Person month	8	8	8	8	8	40	3,000	24,120	24,361	24,605	24,851	25,099	123,036
M&E Specialist	Person month	12	12	12	12	12	60	3,000	36,180	36,542	36,907	37,276	37,649	184,554
M&E Associates /b	Person month	20	20	20	20	20	100	500	10,050	10,151	10,252	10,355	10,458	51,265
Grievance Mechanism - Operators	Person month	2	2	2	4	4	14	1,000	2,010	2,030	2,050	4,142	4,183	14,416
Subtotal									280,395	283,199	286,031	271,289	274,001	1,394,915
B. Operating cost														
Travel cost	Person month								18,928	19,117	19,308	19,501	19,696	96,550
Operational and maintenance cost	Lumpsum								18,827	19,015	19,205	19,398	19,592	96,037
Allowance for hosting RLDP Committee meetings /c	Lumpsum								20,000	20,000	20,000	20,000	20,000	100,000
FAO management fee	Lumpsum								226,375	226,375	226,375	226,375	226,375	1,131,877
Dummy value to round up budget	Lumpsum								268	268	268	268	268	1,339
Subtotal									284,398	284,775	285,157	285,542	285,931	1,425,803
Total									564,793	567,974	571,188	556,830	559,932	2,820,717

\a The position requires a level of effort of two days per week

\b Two people

\c It is assumed the Committee will meet every trimester - four times in each year

Table 10B: M&E and Knowledge Management (USD '000)

Yemen
Rural Livelihood Development Project
Table 10. M&E and Knowledge Management

Detailed Costs

	Unit	Quantities					Total	Unit Cost (US\$)	Totals Including Contingencies (US\$)					Total
		2021	2022	2023	2024	2025			2021	2022	2023	2024	2025	
I. Investment Costs														
Startup workshop	Number	1	-	-	-	-	1	25,000	25,628	-	-	-	-	25,628
Baseline Study	Lumpsum	1	-	-	-	-	1	60,000	60,300	-	-	-	-	60,300
Impact Assessment	Lumpsum	-	-	-	-	1	1	80,000	-	-	-	-	83,665	83,665
Third Party Monitoring	Lumpsum	-	-	-	-	-	-	-	10,000	10,000	10,000	10,000	10,000	50,000
External Audit	Lumpsum	2	2	2	2	2	10	5,000	10,000	10,000	10,000	10,000	10,000	50,000
Knowledge management products	no. of studies	-	-	-	1	1	2	10,000	-	-	-	10,355	10,458	20,813
Climate Change awareness raising and production of leaflets and KM material	Lumpsum	-	-	-	-	-	-	-	-	13,252	13,385	13,519	13,654	53,810
KM Workshops	event	-	1	1	1	1	4	10,000	-	10,354	10,457	10,562	10,667	42,039
Studies	Number	-	1	-	-	1	2	15,000	-	15,226	-	-	15,687	30,913
GEF M&E for Mid-term review	Number	-	-	-	1	-	1	30,000	-	-	-	31,064	-	31,064
GEF M&E for terminal evaluation	Number	-	-	-	-	1	1	30,000	-	-	-	-	31,374	31,374
Total									105,928	58,832	43,842	85,499	185,505	479,605

Table 11B: Unallocated (USD '000)

Yemen
Rural Livelihood Development Project
Table 11. Unallocated
Detailed Costs

I. Investment Costs
A. Emergency fund
Total

Unit	Quantities						Unit Cost (US\$)	Totals Including Contingencies (US\$)					
	2021	2022	2023	2024	2025	Total		2021	2022	2023	2024	2025	Total
lumpsum								106,000	106,000	106,000	106,000	106,000	530,000
Total								106,000	106,000	106,000	106,000	106,000	530,000

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 4: Economic and Financial Analysis

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

ANNEX 4: ECONOMIC AND FINANCIAL ANALYSIS

A. Introduction

1. The RLDP project is expected to generate substantial benefits for rural households and communities living in the project area. RLDP interventions are aimed at: i) diversifying productive activities for rural poor, ii) increasing farmers resilience by strengthening adaptation to climate change, iii) boosting agriculture production and productivity through increased access to water, technical assistance and inputs; iv) facilitating access to market through rehabilitation of rural roads; v) diversifying livelihoods and promoting entrepreneurship and value-addition in agriculture, vi) improving food and nutrition security; vii) increasing health – and decreasing water borne diseases - by access to safe drinking water.

2. The economic and financial analysis (EFA) of RLDP accounts for benefits and costs directly linked to the above mentioned interventions. The target group is expected to experience increase in income as a direct result of the: (i) increased water availability for productive use; (ii) diversification of productive activities and sources of income thanks to greater access to technical assistance and inputs; (iii) increased food availability for rural poor, (iv) increased value-added of agricultural outputs; (v) enhanced productivity through improved infrastructure; (vi) improved quality of processed products, thus attracting higher prices at local market; (vii) increased employment opportunity either for hired or family labour, for both on-farm and off-farm activities; and (viii) tax revenues as a result of increased volume of taxable production.

3. Increase in income would be largely dependent on rural household and rural communities adopting improved technologies which the project will promote through technical assistance, development plans and infrastructure investments, thereby improving market access, supporting marketing linkages and generally creating a favourable economic environment for farmers/rural community to produce more competitive products and expand production.

4. The EFA presented in this annex was prepared remotely due to current travel restrictions. The analysis made use of indicative crop, activity and farm models to assess the RLDP impact. The EFA builds upon the precautionary principle, accounting for project benefits in a realistic and conservative manner. A cash-flow analysis is finally carried out to present the “with” and “without” project analysis. The key-indicators used to carry out the analysis are Net Present Values (NPVs), Financial and Economic Internal Rate of Return (FIRR - EIRR), Benefit-cost ratio (BCR). The EFA is formulated by using the newly developed IFAD-FARMOD software¹ (v. 5.03).

B. Family farming in Yemen

The agricultural sector in Yemen is particularly relevant and contributes to a large extend to the welfare and food security of its rural population. According to the ESFNA report (2017)² there are three dominant farming systems in the country: a) Crop farming; b) Livestock farming; and c) Mixed farming (simultaneous crop and livestock farming).

¹ The author of this analysis is grateful to the originator of the new IFAD-FARMOD software - Mr. Jorge Piña - for clarifying some of the technical features of the tool, and for the kind and unconditional support received although this EFA preparation.

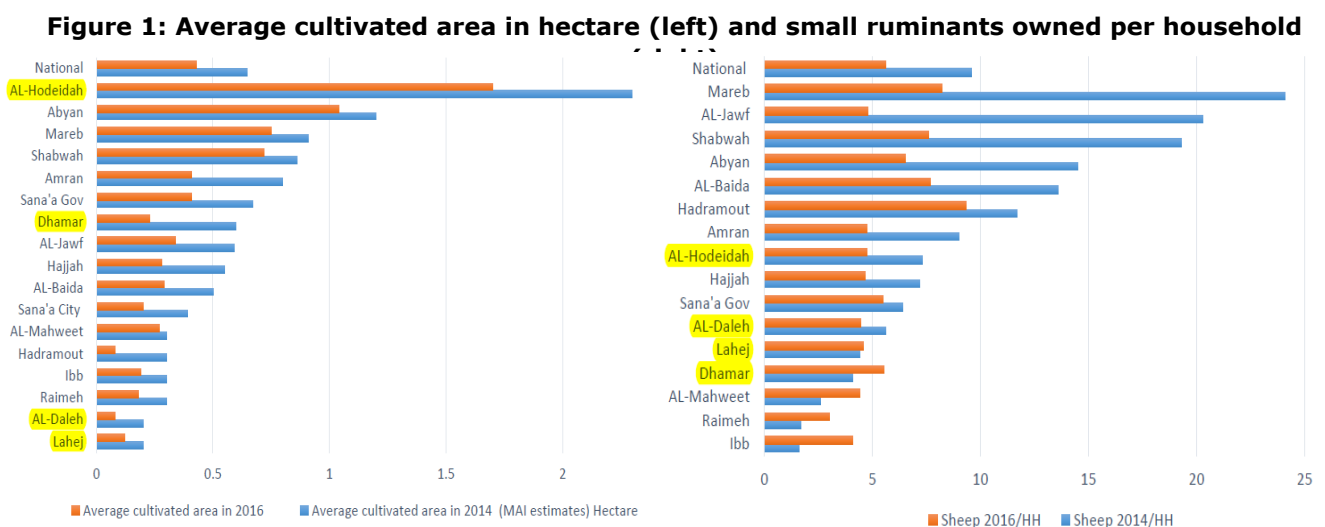
²Food Security and Agriculture cluster (2017); *Emergency, Food Security and Nutrition Assessment* (ESFNA); Yemen

Mixed farming is the most frequent production systems in Yemen and accounts for 48 per cent of the adopted practices. Crop production and livestock rearing are carried out simultaneously to sustain household food and cash needs. Small livestock (goats, sheep and chicken) is normally preferred to Cows, given the lower cash requirement involved.

Livestock farming alone is also a frequent choice and it is practiced by 40 per cent of Yemeni farmers. Also in this case, small ruminants (goats and sheep) are normally preferred to larger animals, given the higher flexibility and lower cash need warranted in their management.

Crop farming alone is the least preferred option and it is practiced by about 10 per cent of farmers in Yemen. This system is normally preferred for the production of cash crops (coffee and qat) and in fewer cases for the production of cereals.

Land and livestock holdings vary substantially in each governorate and they are determined by agro-ecological features as well as population size. Despite some degree of variation in the sample results, common patterns can be identified across variables. In particular, as shown in the graphs below, average land area cultivated per household amounts on average to 0.3-0.4 hectares, while livestock holding of small ruminants (sheep) averages 5 heads per household.



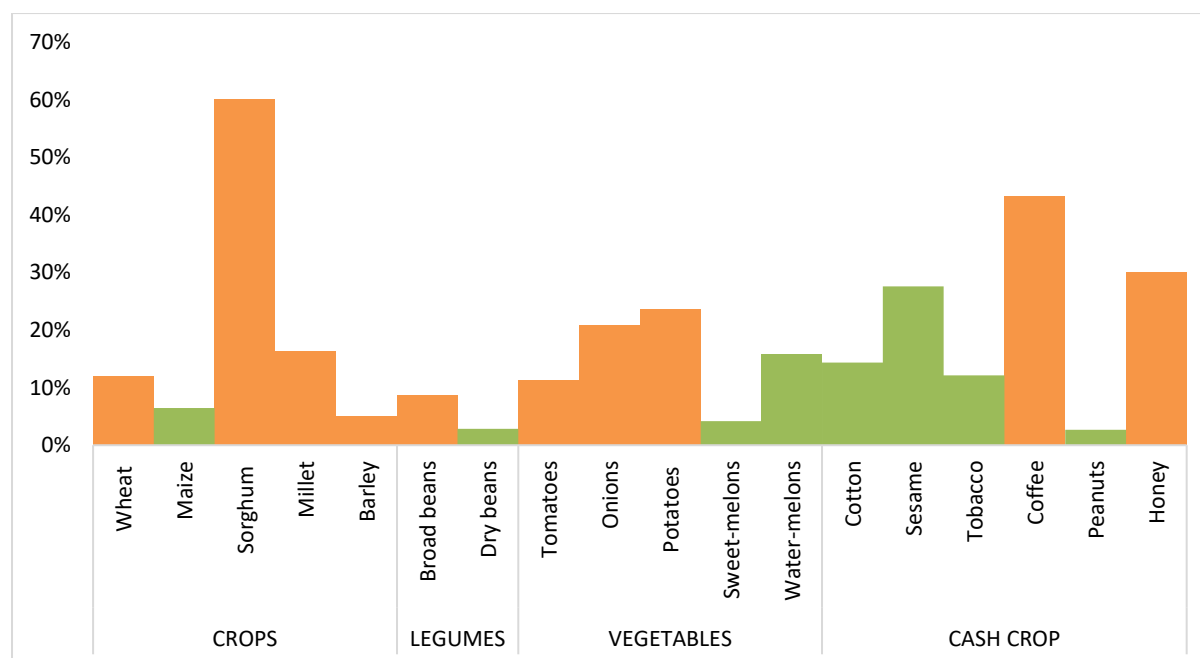
Source: ESFNA 2017

C. Methodology, data and assumptions

5. Financial analysis. The primary objective of the financial analysis is to determine the financial viability and incentives for the project target group as a result of their engagement in project activities, and hence to determine the economic impact on family labour, cash flow and household incomes. A number of indicative economic activities to be supported by the project were identified during the design mission and are presented in the table below.

Table 1: Key commodity considered in the EFA

Cereals	Legumes	Vegetables	Cash crops	Livestock
Wheat	Broad beans (cowpea)	Tomatoes	Coffee	Chicken
Sorghum		Onions	Honey	Goat
Millet		Potatoes	Mango	
Barley				

Figure 2: Crop relevance for family farming in Yemen (2017)

Source: Author's own elaboration from Statistical yearbook data (2017) - <http://www.cso-yemen.com>

6. These production models are used as building blocks for the elaboration of eight household/farm models where differentiation is made both in terms of cultivation patterns, land holding, source of income and production systems³. The table below summarizes the key characteristics of each farm/household model.

Table 2: Key characteristics of farm/household models

Code	Model	Ha	Crops	Livestock	Project interventions
MXD-SML	Mixed farming (small)	0.3	Sorghum, Cowpea, Barley, Potatoes, Tomatoes	Chicken, Goat	Rehabilitation of flood based systems, Farmer Field School
MXD-MED	Mixed farming (medium)	1	Sorghum, Cowpea, Barley, Potatoes, Tomatoes, Onion	Chicken, Goat	
CRP-SML	Crop farm (small)	0.3	Sorghum & Cowpea	-	Rehabilitation of check/dikes

³ The features considered in the elaboration of household models are based on evidences included in the Emergency Food Security and Nutrition Assessment (EFSNA) report of 2017 and on data sourced from WFP and FAO country statistics.

CRP-MED	Crop farm (medium)	1	Coffee	-	
CRP-SOL-SML	Crop farm (small)	0.3	Sorghum & Cowpea	-	Rehabilitation and modernization of irrigation systems (solar panels)
CRP-SOL-MED	Crop farm (medium)	1	Coffee	-	
TRC-CRP	Reclaimed land (small)	1	Sorghum & Cowpea, potatoes	-	Terraces rehabilitation
TRC-COF	Reclaimed (medium)	1	Coffee	-	
HON-SML	Small-scale honey farm	n/a	Honey	-	Livelihoods support packages and matching grants

7. The economic evaluation of the entire project is based on the aggregated net incremental benefits of the target population. In order to include both on- and off-farm benefits in the EFA, other economic models were considered. Key characteristics for each model are summarized in the table below.

Table 3: Key characteristics of additional economic models

Model	Unit	Crops	Other benefits	Project interventions
Village Groundwater Schemes	60 ha	Coffee, Wheat, Sorghum, Cowpea, Barley, Potatoes, Tomatoes, Onion	-	Construction/Rehabilitation of groundwater watershed schemes
Village road	1 km	Mango, Coffee, Sorghum, Cowpea, Barley, Potatoes	Reduction in travel time, Reduction in post-harvest losses	Construction/Rehabilitation of climate-smart village roads
HHs water supply	1 HHs	Tomatoes, Potatoes, Onion, Sorghum & Cowpea	Time saved from collecting water	Provision of rainwater harvesting technology at HHs level
Communal multipurpose water-harvesting	1 village		Time saved from collecting water, Averted illness, Savings in health-related expenses	Construction of village-based water-harvesting structures

8. All the technical assumptions considered in the models were sourced from field surveys shared by the FAO country-office, national statistics, technical studies and reports. The diagram in figure 1 **Error! Reference source not found.** provides a logical sketch of the adopted approach while summary results from the financial models are presented in table 4.

Figure 3: EFA diagram

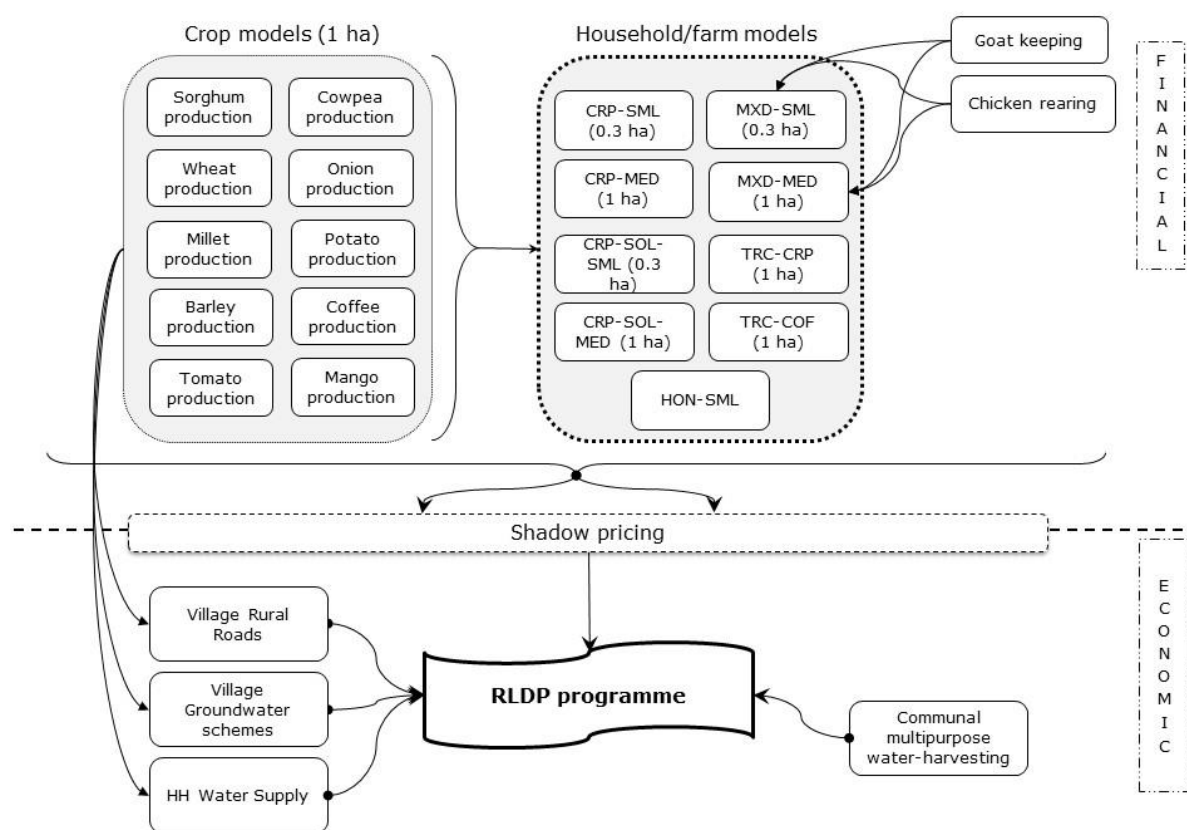


Table 4: Summary of financial models' results

MODELS	Before financing			After financing		
	NPV ('000 YER) @ 20%	IRRf	B/C ratio	NPV ('000 YER) @ 20%	IRRf	B/C ratio
MXD-SML	177	31%	1.11	408	122%	1.26
MXD-MED	701	33%	1.14	1,370	101%	1.27
CRP-SML	198	30%	1.26	400	86%	1.52
CRP-MED	1,555	35%	1.55	2,229	63%	1.78
CRP-SOL-SML	40	21%	1.04	409	80%	1.44
CRP-SOL-MED	934	27%	1.27	2,161	57%	1.62
TRC-CRP	600	27%	1.05	2,717	n/a	1.23
TRC-COF	391	22%	1.06	2,951	58%	1.49
HON_SML	498	46%	1.60	667	90%	1.80

9. Programme target group and beneficiaries. The primary target group for the Programme will be smallholder farmers - particularly women and youth. It is estimated that the number of direct beneficiaries will be 23,031 HHs, of whom 15,988 HHs are directly accounted for in the EFA models considered here. The aggregation for production models is based on the number of HHs directly engaged in the activity, the number of

hectares brought into the new production systems or the number of infrastructures rehabilitated or newly established.

10. Overall the project will benefits women, youth and men directly involved in farm and off-farm activities proposed by the project as well as indirect beneficiaries benefitting from the use of common goods and public infrastructures. The inclusion pattern of the EFA modes and beneficiary is described the table below.

Table 5: Phasing of beneficiary inclusion and investments

	No. of Households	Investment unit	QTY	Model used	Phasing					Totals
					Y1	Y2	Y3	Y4	Y5	
2.1. Domestic water supply	3,284	no. of systems	813		Discrete					
Individual household water supply	800	no. of systems	800	IND_SML	100	200	200	200	100	800
Communal multi-purpose rainwater harvesting	600	no. of systems	4	WATERSHED MD	1	2	1	0	0	4
Village groundwater-based water schemes	1,884	no. of systems	9	WATERSHED MD	2	3	3	1	0	9
2.2: Small-scale irrigation and flood-based livelihood systems	2,284	ha	500		Conversion factor system/ha 5					
Rehabilitation and modernising irrigation systems (solar pumps)		system	165	CRP_SML 75% CRP_MED 25%	33.8 11.3	37.5 12.5	22.5 7.5	15 5	15 5	165
Rehabilitation of flood-based agriculture systems		ha	550	MXD_SML 75% MXD_MED 25%	75 25	113 37.5	113 37.5	75 25	37.5 12.5	550
2.3: Soil and water conservation	2,463	ha	417							
Rehabilitation/construction of check dikes and gabions		ha	440	CRP_SML 75% CRP_MED 25%	37.5 12.5	60 20	82.5 27.5	75 25	75 25	440
Terraces rehabilitation		ha	17	TRC_RHB_CRP TRC_RHB_COF	2 2	3 3	2 2	1.5 1.5	0 0	17
Climate smart village road rehabilitation		km	20	ROAD MODEL	4	5	5	3	3	20
3.1. Capacity Building for Agriculture Production										
Inputs for FFS/d	5,957	Inputs	6000	integrated in 2.2 - MXD_SML/MXD_MED	0	1500	1500	1500	1500	6000
3.3. Livelihood Resilience and Value Addition										
Livelihood Packages	1,500	no. of packages	1,500	BEEKEEPING			750	750		1500

11. Key assumptions. The following sources of information gathered during the design mission have been used to set up the analysis: a) Survey data from the FAO Yemen country office; b) official statistics and surveys from the Yemeni Bureau of Statistics, c) Research papers, d) technical reports; e) past country/programme evaluation reports, and e) own estimates. In particular, information on labour and input requirements for various operations, capital costs, prevailing wages, yields, farm gate and market prices of commodities, input and farm-to-market transport costs were updated from previous from similar past investments in the country. Country data and information from the WFP VAM platform and FAO price tool were also used for data validation. Conservative assumptions were made for inputs and outputs, and do take account of possible risks.

12. Exchange rate. The exchange rate used in the analysis is fixed at 1 USD = 250 YER computed as the average exchange rate prevailing during the design mission. It is important mentioning that even though Yemen's currency market is officially set as a floating regime, the current market and social conditions have favoured the creation of multiple concurring exchange rates and black currency markets. The aspect of multiple unofficial rates has been duly accounted for in the calculation of the shadow price for the currency in the economic analysis.

13. Numeraire and Prices. The adopted numeraire for the EFA is the domestic price level expressed in local currency unit. The financial prices for project inputs and products represent average farm-gate and market prices prevailing in May 2020. Prices used represent estimates of the average seasonal prices and the analysis is carried out using nominal constant prices.

14. Labour. Family labour has been valued both in financial and economic analysis. It has been assumed that farm labour is provided by the households and is valued at YER 3,150 day⁻¹. Hired labour (skilled) is priced at YER 4,500 day⁻¹, which is the prevailing market rate for on-farm activities.

15. Opportunity cost of capital. A discount rate of 20% has been used in the financial analysis to assess the viability and robustness of the investments. In order to consider the profitability of the foreseen investments with market alternatives, the selected value is calculated as an average of the lending and deposit interest rates on the latest available data.

Table 6: Latest available data series on interest rate

	2008	2009	2010	2011	2012	2013
Lending interest rate (%)	18.0	18.0	23.8	25.0	24.5	22.1
Deposit interest rate (%)	13.0	10.7	18.7	20.0	19.5	15.3

Source: World Bank country data retrieved on May 2020

D. Households models and basic assumptions

16. Several farm/households models were elaborated to determine the financial viability of the proposed interventions. The underlying assumption is that, thanks to investment in infrastructure, increased access to water or water saving technologies and technical assistance, the project beneficiaries will be able and keen to expand production, reclaim and rehabilitate farm land and engage in new farming practices. Tables below shows the key assumptions concerning cropping patters and farm income composition based on landholding and activities.

Table 7: Assumptions related to HHs models

Model	hectares	SHARE OF CROPS ON TOTAL CULTIVATED AREA						Total
		Sorghum & Cowpea	Barley	Potato	Tomato	Onion	Coffee	
MXD-SML	0.3	30%	30%	20%	20%	-	-	100%
MXD-MED	1	30%	30%	10%	10%	10%	-	100%
CRP-SML	0.3	100%	-	-	-	-	-	100%
CRP-MED	1	-	-	-	-	-	100%	100%
CRP-SOL-SML	0.3	100%	-	-	-	-	-	100%
CRP-SOL-MED	1	-	-	-	-	-	100%	100%
TRC-CRP	1	50%	-	50%	-	-	-	100%
TRC-COF	1	-	-	-	-	-	100%	100%

Table 8: Relevance of crop/activity to formation of gross revenue

Model	CONTRIBUTION TO GROSS REVENUES								
	Sorghum & Cowpea	Barley	Potato	Tomato	Onion	Coffee	Goat	Chicken	Total
MXD-SML	13%	4%	22%	20%	-	-	35%	6%	100%
MXD-MED	13%	4%	12%	11%	32%	-	23%	4%	100%
CRP-SML	100%	-	-	-	-	-	-	-	100%
CRP-MED	-	-	-	-	-	100%	-	-	100%
CRP-SOL-SML	100%	-	-	-	-	-	-	-	100%
CRP-SOL-MED	-	-	-	-	-	100%	-	-	100%
TRC-SML	24%	-	76%	-	-	-	-	-	100%
TRC-MED	-	-	-	-	-	100%	-	-	100%

17. Furthermore, the analysis takes into account climate change effects and impacts on crop yields. Since this EFA adopted a dynamic factual-counterfactual comparison⁴, variations in yields from the table below are expressed as a change with respect to the current crop yields.

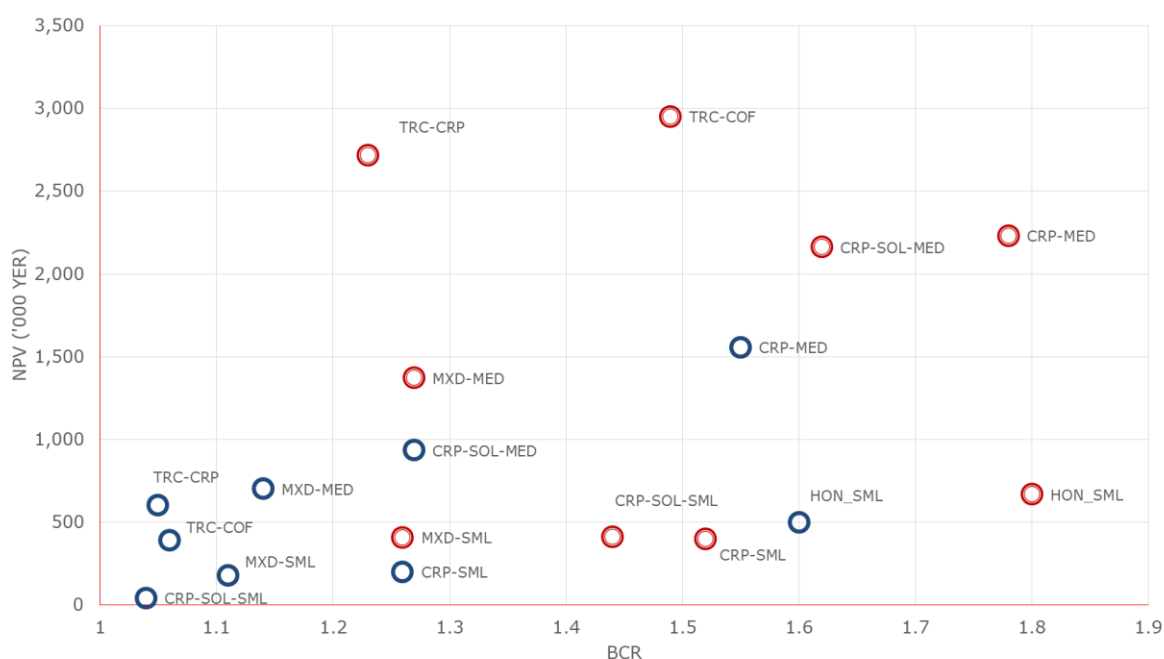
Table 9: Change in yields as a result of climate change and project interventions

	Yields (ton/ha)				
	Current (tons)	WOP future (tons)	Δ(%)	WP future (tons)	Δ(%)
Sorghum	0.7	0.6	-14%	1.2	71%
Cowpea	1.1	1.1	0%	1.8	64%
Barley	1.1	0.85	-23%	1.5	36%
Wheat	1.7	1.5	-12%	2.4	41%
Millet	0.76	0.7	-8%	1.2	58%
Potato	10	10	0%	15	50%
Tomato	10	10	0%	18	80%
Onion	13	12	-8%	21	62%
Coffee	1.6	1.4	-13%	2.5	56%

18. The HHS' models described so far present positive returns in both the pre- and the post-financing scenarios (Table 4). The results of the financial analysis indicates that the activities proposed under the RLDP project are technically viable solutions capable to address current production constraints and, on this basis, should be adopted by farmers. In addition, the EFA carried out a Financing analysis to present the set of incentives the target population may have while participating to the project. In light of the financial support provided by the project and since post-financing results are higher those shown in the pre-financing scenario, it is very likely that project activities will largely be taken up by farmers. The figure below provides a comparison of the pre-post financing results.

⁴ Both with and without- project scenarios present changing yields over the 20-year timeframe

Figure 4: Comparison of pre-financing (blue) and post-financing (red) results



D. Economic analysis

19. The objectives of the economic analysis are: (i) to examine the overall Programme viability; (ii) to assess the Project's impact and the overall economic rate of return; and (iii) to perform sensitivity analyses upon risks and variables affecting project's results.

20. Key Assumptions. Production and activity models considered in the financial analysis are used as building blocks for determining the viability of the whole project, once addressing for market distortion and opportunity costs for inputs and outputs. In addition, other quantifiable benefit related to public infrastructure have been estimated and included in the analysis. Their description and results are presented further below. The economic analysis of the project hinges on the following assumptions:

- i. Programme life has been assumed at 20 years in light of investments lifecycle;
- ii. Project inputs and outputs are valued at their economic parity prices estimated upon international prices as reported by the World Bank commodity outlook⁵, and on the basis of custom duties and taxes rates as provided by the national custom bureau of international trade;
- iii. An economic discount rate (a.k.a. social discount rate) of 10% has been calculate as the weighted average of saving interest rates, short-term bonds yields⁶ and the real interest rates from the latest available period. The calculation also takes

⁵ World Bank pink sheet – April 2020

⁶ Data on long term bonds – past or present – are not available for Yemen

into account economy and government risk as well as latest available estimates on the social discount rate for Yemen;

Table 10: Country data for the calculation of the social discount rate

	2008	2009	2010	2011	2012	2013
Lending interest rate (%)	18.0	18.0	23.8	25.0	24.5	22.1
Deposit interest rate (%)	13.0	10.7	18.7	20.0	19.5	15.3
Real interest rate (%)	(2.0)	29.3	0.2	5.8	17.6	11.8
Treasury bill yield - 1 year (%)	15.8	15.0	15.2	23.0	22.5	16.2
Treasury bill yield – Period average (%) ⁷	15.2	13.4	20.9	22.8	22.1	16.6
Risk premium on lending (%)	2.8	4.5	2.9	2.1	2.3	5.4
CPIA Debt policy rating (1=low; 6=High)	4.0	3.5	3.0	3.0	3.0	3.0
Estimated Social Discount Rate ⁸	-	-	-	-	-	1.8 - 2.2

Source: World Bank data unless differently specified in the footnotes

- iv. Family labour is valued at its opportunity cost amounting to 70% of its current market value;
- v. The shadow exchange rate factor (SERF) is calculated upon international trade statistics and applied to the conversion of tradable commodity prices. Following the standard calculation procedure based on the balance of trade method (table 10), the SERF value was estimated at 1.05. Nonetheless, this value cannot be consider an adequate measure of the opportunity cost of the currency, given the actual coexistence of an official and a parallel currency market in Aden and Sana'a. While the official USD:YER exchange rate is set at 250 Rial per US dollar, the shadow exchange rate runs on much higher values since the introduction of monetary restriction measures by the de facto authorities in Sana'a. Over the last 6 month, the currency has been exchanged at YER 570 per US dollar on average. Therefore, the calculation of the SERF is revised considering a weighted average approach, which leads to a SERF equal to 1.4. This is the SERF value finally adopted in the economic analysis of the RLDP.

Table 11: Calculation of the SERF based on the balance of trade method

		2015	2016	2017	2018	2019	Average
Total imports of Goods & Services	M	6,572	6,334	7,264	8,711	8,364	8,537
Total exports of Goods & Services	X	509	940	2,342	1,666	1,390	1,528
Average duties on imports	t	5.1%	5.5%	5.9%	6.5%	6.9%	6%
Import duties	Tm	338	348	428	566	577	571
Average taxes on exports	s	1%	1%	1%	1%	1%	1%
Export duties	Tx	5	9	23	16	13	13
	M+X	7,082	7,275	9,606	10,377	9,755	10,066
Total international commerce	M+Tm	6,911	6,682	7,692	9,277	8,942	9,109
	X-Tx	504	931	2,318	1,649	1,376	1,513
SCF		0.95	0.95	0.96	0.95	0.94	0.95

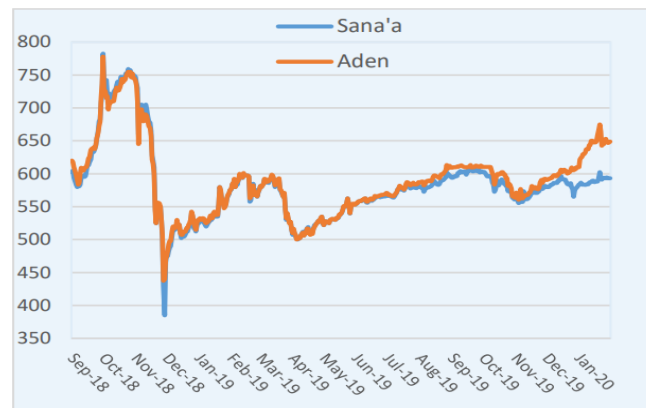
⁷ IMF 2019 statistical yearbook

⁸ Limam (2014); *Social Discount Rates for Public Sector Projects in Arab Countries*;

https://www.researchgate.net/publication/333044555_Social_Discount_Rates_for_Public_Sector_Projects_in_Arab_Countries

SERF	1.05	1.05	1.05	1.05	1.06	1.05
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Figure 5: Parallel market exchange rates (YER/USD)



Source: World Bank Yemen monthly economic update - January 2020

- vi. Conversion factors for main inputs and outputs are calculated in the FARMOD based on the SERF value, custom duty rates on import and export as well as on tax rates;

21. Other quantified benefits and economic models. This EFA includes economic benefits related to the provision of infrastructures with an intrinsic public nature, such Village groundwater watershed schemes, village roads, Water harvesting structures and technology at both communal and HHs level. Benefits, costs and economic profitability results have been estimated as follows:

- i. Village Groundwater water-based schemes: The Village unit is assumed to be composed by 200 HHs with a total cultivated land of 60 hectares. The investment is expected to increase water availability and extend the irrigation period during the dry season. Increase in yields are expected accordingly. Since water schemes will be owned, operated, and managed by the Village Water Committees (VWCs), users are expected to contribute an annual fee for using water in addition to their initial contribution – equal to 15 per cent of the investment cost – for the construction/rehabilitation work. The investment yields a positive ENPV of YER 150 million and EIRR 43 per cent. The benefit-cost ratio is equal to 1.48 therefore generating an additional wealth of 0.48 Rial for each Rial invested.
- ii. Village roads: It is assumed that the rehabilitation of village roads through climate-smart technology will provide improved and reliable access to markets and services. Key benefits in this model are linked to the reduction in travel time and consequently also the reduction in post-harvest losses of about 6% of the total annual production. All assumptions are specified in the tables that follows. Also in this case, beneficiary are expected to contribute to the initial investment with an in-cash/in-kind contribution equivalent to 15 per cent of the initial investment cost. The economic results of the rehabilitation of a 1km road segment are positive and amounting to an ENPV of 38 million, an EIRR of 45 per cent and a BCR equal to 3.7.

Table 12: Assumptions on travel time reduction

	UNIT	QUANTITY
Time saved increasing speed from 15km/h to 40 km/h on a 1 km road	minutes	2.5
Minimum no. of travel per person day	no. travels	2
Reduced travel time per person	minutes	5
Reduced travel time per person per year	minutes/year	1,825
Reduced travel time per person per year	Hours/year	30
Time saved per person per year	days/year	1.3
No. of people economically active in the village	people	460
Time saved in the village per economically active people	days/year	583

Table 13: Assumptions on reduced post-harvest losses

	UNIT	QTY	Ha	Proxy crop	Average yield (ton/ha)	Total production volume (tons)	Reduction rate in post-harvest losses	Additional marketed produce (tons)	Price (YER '000/ton)	Incremental economic benefit (YER '000/KM)
Number of household per village	no.	200								
Average cultivated area per HHs	ha	0.4								
Total cultivated area:	ha	80								
cereal crops	%	47%	37.6	Sorghum	1.2	45.1	6%	2.7	465	1,258
legumes	%	4%	3.2	Cowpea	1.8	5.7	6%	0.3	600	207
vegetables	%	6%	4.8	Potatoes	14	67.2	6%	4.0	428	1,725
fodder	%	12%	9.6	Barley	1.5	14.4	6%	0.8	516	445
cash crop	%	7%	5.6	Coffee	2.5	14	6%	0.8	1,700	1,428
fruit	%	8%	6.4	Mangoes	15	96	6%	5.7	350	2,016
fallow land	%	16%	12.8	n/a	0	0	0	0	0	0
									TOTAL	7,081

- iii. Rainwater harvesting at HHs level: Benefits for this type of roof-top water collection infrastructure are mainly related to increase availability of water in the household with multiple destination use. Expected benefits relate to increased production from backyard farming (mainly vegetables) and reduced time to fetch water from alternative sources (a task mainly carried out by women in the HHs). Both types of benefits were considered alongside with investment and O&M costs. The investment yield a positive ENPV of YER 773,093 and EIRR of 40 per cent and a BCR of 1.30.
- iv. Communal multipurpose water harvesting infrastructure: These intervention will provide beneficiaries with potable drinking water sources by restoring existing schemes or building new water facilities. The benefits expected range from health improvement to time saving. The detailed assumptions about the economic calculation is provided in the table below. The Disability-Adjusted-Life-Year is used as a key metric to show potential health increase and reduction in water borne diseases (i.e. diarrhoea) diseases made possible by the access to safe drinking water. The economic results are positive, with the ENPV equal to YER 114 million, the EIRR of 154 per cent and a BCR of 4.27.

Table 14: Benefits calculations and assumptions of access to safe drinking water

HEALTH RELATED BENEFITS	UNIT	QTY
Average number of people per HH	no.	6.9
Average number of HHs per village	no. of HHs	200
Economically active people per HH	no.	3
DALYs attribute to WASH *	per 100,000 population	981
Number of diarrhoea death from inadequate water *	no. of deaths	2,779
Number of cases of diarrhoea from WASH *	no. of cases	258,601
Attributable fraction of diarrhoea to drinking water *	%	35%
Total population (2016) *	Mil.	27.584
Number of per capita diarrhoea DALYs from inadequate water *	years/capita	0.0098
Average days of water-borne illness per capita per year	days/year	3.6
Total days of illnesses per year of economically active HH members	days/HH	10.7
Total days of illnesses averted of economically active village members	days/year	2148
Annual out-of-pocket expenditure for health related issue	USD/person	48
Annual out-of-pocket expenditure for health	YER/person	12,000
Water-borne disease incidence over total morbidity	%	1%
Annual savings in health related expenses	YER/person	120
Household annual savings in health related expenses	YER/HH	828
TIME SAVING BENEFITS	UNIT	QTY
Distance to source of water	minutes/day	20
Total hours per family per year	hours/year	122
Total hours per family per year per village	hours/year	24,333

Source: Author's own from data (*) extracted from *Safer water, better health*. 2019 update. Geneva: World Health Organization; 2019

22. Programme Economic Costs. The economic analysis includes the investment and incremental recurrent costs of project components. Programme financial costs have been converted to economic values by removal of taxes, duties and subsidies. In order to avoid double counting, the final aggregation considered only those costs that were not already accounted for in the productive models. Specifically, the estimation of economic costs considered: (a) all investments costs deducted from taxes; (b) the recurrent costs of the program; and (c) the use of a conversion factor of 1.40 (SERF) to correct market costs to economic costs into Costab.

23. Benefits Estimation and results by sub-components. The incremental benefits stream comprises the economic net values of all the models developed in the analysis. These benefits are then aggregated following the inclusion phasing foreseen for targeted households (table 5). The analysis can also show the contribution of each sub-component to the final results (table 15).

Table 15: Summary of economic results by sub-components

	ENPV @10% (Millions of YER)	EIRR (%)	BCR
2.1. Domestic water supply	2,107	54	1.50
Individual household water supply			
Communal multi-purpose rainwater harvesting			
Village groundwater-based water schemes			
2.2: Small-scale irrigation and flood-based livelihood systems	1,086	34	1.28
Rehabilitation and modernising irrigation systems			
Rehabilitation of flood-based agriculture systems			
2.3: Soil and water conservation	1,634	42	1.98
Rehabilitation/construction of check dikes and gabions			
Terraces rehabilitation			
Climate smart village road rehabilitation			
3.1. Capacity Building for Agriculture Production	Results integrated in 2.2		
Inputs for FFS /d			
3.3. Livelihood Resilience and Value Addition	630	30	1.58
Livelihood Packages			

24. Economic Profitability. The project is a technical and economically viable investment to the economy as a whole. The project economic NPV of the net benefit stream over the 20-year timeframe, discounted at 10%, is YER 3,464 million (USD 14 million). This value yields an EIRR of 21% and BCR of 1.27 for the base case scenario and it results in a payback period of eight years. The summary of economic analysis is presented in table 16.

Table 16: Programme economic cash flow (Millions of YER)

	Total incremental benefits	Total incremental costs	Total net incremental benefits
Year 1	31	750	(719)
Year 2	124	1,048	(924)
Year 3	413	1,508	(1,096)
Year 4	920	1,698	(778)
Year 5	1,784	1,759	25
Year 6	2,384	1,450	933
Year 7	2,916	1,616	1,300
Year 8	3,033	1,690	1,344
Year 9	3,189	1,701	1,488
Year 10	3,110	1,701	1,410
Year 11	3,095	1,701	1,395
Year 12	3,075	1,701	1,374
Year 13	3,059	1,701	1,359
Year 14	3,052	1,701	1,351
Year 15	3,052	1,701	1,351
Year 16	3,052	1,701	1,351
Year 17	3,052	1,701	1,351
Year 18	3,052	1,701	1,351
Year 19	3,052	1,701	1,351
Year 20	3,052	1,701	1,351
		EIRR	21.24%
	ENPV @10% (millions of YER)		3,464
	ENPV @10% (millions of USD)		14
		B/C Ratio	1.27

25. Sensitivity Analysis. The section presents the effect of variations in Programme benefits and costs. Programme results were tested to sensitivity analysis so as to measure variations due to unforeseen factors, hence identifying those variables affecting final results the most. **Error! Reference source not found.****Error! Reference source not found.**Table 17 shows the extent to which a change in key variables (the change is marked on the vertical axis) would induce a change to the project ENPV (reported in columns). The project is more sensitive to decline in benefits (switching value at -7%) rather than increase in costs (switching value at +16%).

Table 17: Sensitivity of the ENPV to variations of benefits and costs

	Benefits decrease	Cost increase
0%	3,464	
1%	2,943	3,242
2%	2,421	3,020
3%	1,900	2,798
4%	1,379	2,576
5%	857	2,355
6%	336	2,133
7%	-185	1,911
8%	-707	1,689
9%	-1,228	1,467
10%	-1,750	1,245
11%	-2,271	1,023
12%	-2,792	801
13%	-3,314	579
14%	-3,835	357
15%	-4,356	135
16%	-4,878	-87
17%	-5,399	-309
18%	-5,921	-531
19%	-6,442	-753
20%	-6,963	-975

26. Finally, the sensitivity analysis allows to examine the effects of a simultaneous variation of decrease in benefits and increase in costs, on the overall project profitability, hence determining all possible combinations of variables' changes that would result in a negative (or positive) NPV. Furthermore, a final test is carried out to measure the effect of implementation delays on the economic results.

Table 18: Simultaneous sensitivity analysis

Combined Factors	EIRR	ENPV	BCR
1%,1%	18.6%	2,721	1.21
2%,2%	16.2%	1,978	1.15
3%,3%	13.8%	1,234	1.09
4%,4%	11.5%	491	1.04
5%,5%	9.2%	(252)	0.98
Benefits Delay			
1 year	14.2%	1,576	1.12
2 year	9.7%	(142)	0.99
3 year	6.3%	(1,702)	0.87

Annex A

PRICES AND MODELS

Table A 1: Prices and conversion factors

Prices	Unit	Financial Prices	Economic Prices	Conv. Factor		Financial Prices	Economic Prices	Conv. Factor	
Outputs									
Crop Production					Husbandry Costs (Annual): Livestock				
Wheat grain	kg	492	334	0.68	Small ruminants: Straw	ton	5,190	4,931	0.95
Wheat straws	kg	200	190	0.95	Small ruminants: Sorghum stover	ton	40,000	38,000	0.95
Sorghum grain	kg	465	189	0.41	Veterinary services	lumpsum	6,641	6,309	0.95
Sorghum stalks	sack	2,657	2,524	0.95	Mineral blocks	unit	6,641	6,309	0.95
Sorghum stovers	bundle	133	126	0.95	Pen house	\$	25,000	18,661	0.75
Potatoes	kg	428	290	0.68	Fowl	head	2,000	1,493	0.75
Cowpea grain	kg	600	570	0.95	Chicks	no	864	645	0.75
Cowpea forage	kg	120	114	0.95	Tools for water and feed	lumpsum	1,200	1,140	0.95
Coffee beans (green)	kg	1,700	1,211	0.71	Chicken feed	kg	120	90	0.75
Tomato	kg	317	215	0.68	Vaccination	cycles	400	299	0.75
Onion	kg	410	264	0.64	Equipment	Lumpsum	1,500	1,120	0.75
Barley	kg	516	333	0.64	Leguminose green leaves	kg	200	149	0.75
Millet	kg	500	322	0.64	Transport				
Mango	per kg	350	249	0.71	Transport to local market (20 km)	lot (15 bag)	12,566	11,938	0.95
Livestock					Bags/boxes	unit	86	82	0.95
Goats (mature animals)	head	66,415	50,926	0.77	Labour				
Goats (young animals)	head	46,490	35,648	0.77	Oxen hire	day	17,000	16,150	0.95
Manure	kg	66	66	1.00	Supplementary irrigation water	hour	3,985	3,786	0.95
Goat milk	lt	600	570	0.95	Tractor hire	hour	10,000	9,500	0.95
Chicken	head	1,545	1,468	0.95	Comunitary investments				
Chicken eggs	no.	64	61	0.95	Watershed scheme investment	scheme	211,869,502	129,391,732	0.61
Savings benefit					Watershed scheme maintenance	\$	1	1	0.61
Time - saved from collecting water	per hour	315	315	1.00	Rural road investment	per km	16,140,838	9,857,440	0.61
Averted illness	person.da	4,500	4,500	1.00	O&M of rural road	\$	1	1	0.95
Household annual savings in health related expenses	YER/year/	828	787	0.95	Village groundwater-based water per system				
Reduction in travel time	pers.day	4,500	4,275	0.95	O&M of village water schemes	\$	1	1	0.95
Honey production					Communal multi-purpose rainwa	per system	39,968,583	24,409,385	0.61
Honey	kg	20,000	14,250	0.71	O&M of communal multi-purpose	\$	1	1	0.95
Wax	per kg	5,000	3,563	0.71	Water				
Propolis	per kg	100,000	71,250	0.71	water	m3	38	36	0.95
Foregone income (WOP counterfactual)	pers.day	4,500	4,275	0.95	Agricultural tools				
Inputs					Bags	sack of 50	100	75	0.75
Seeds					Tools	lumpsum	20,000	14,929	0.75
Sorghum seeds	kg	465	442	0.95	Infrastructure				
Cowpea seeds	kg	700	665	0.95	Rehabilitation of flood-based agri	per ha	714,000	436,050	0.61
Wheat seeds	kg	598	568	0.95	O&M rehabilitation cost	\$	1	1	0.95
Potato seeds	kg	629	598	0.95	In-kind contribution to infrastru	\$	1	1	0.95
Tomato seedlings	seedling	7	7	0.95	Rehabilitation/construction of chi	per ha	809,607	494,439	0.61
Coffee seedlings	seedling	664	631	0.95	Rehabilitation and modernising ir	per ha	1,474,507	900,502	0.61
Onion seeds	kg	28,286	21,113	0.75	Individual household rooftop rain	per system	333,728	203,812	0.61
Barley seeds	kg	516	385	0.75	Water fee for community infrastru	\$	1	1	0.95
Millet seeds	kg	450	336	0.75	Terrace rehabilitation	per ha	2,540,319	1,551,409	0.61
Starting kit (seeds) - FFS	per kit	18,750	12,723	0.68	Honey production				
Starting kit (fertilizers) - FFS	per kit	18,750	12,723	0.68	Beehives	per unit	16,000	9,771	0.61
Fertilizers, Pesticides, etc.					Kit for hives care	per kit	49,000	29,925	0.61
Urea	kg	955	616	0.64	Protection gears (gloves, mask, st	per set	34,000	20,764	0.61
TSP	kg	1,268	817	0.64	Bees families	lumpsum	15,000	11,196	0.75
Manure	kg	650	463	0.71	Small equipment for processing	lumpsum	12,000	8,957	0.75
Pesticides	lt	13,589	9,682	0.71	Tools	lumpsum	9,000	6,718	0.75
Ammonium sulphate	kg	928	661	0.71	Honey jars (5 kg)	each	1,900	1,418	0.75
Calcium carbide	kg	1,021	727	0.71	Medication	lumpsum	4,000	2,986	0.75
Potassium chloride	kg	977	696	0.71	Nutrition supplement	kg	600	448	0.75
KCL	kg	700	499	0.71	O&M on main investment	\$	1	1	0.95
Superphosphate 18% P2O5	kg	1,650	1,176	0.71	Manual Labour				
Basal Fertilizers (NPK, DAP, CAN)	kg	1,448	1,032	0.71	Unskilled agricultural labour (fam	pers.day	3,000	2,100	0.70
Herbicide	kg	15,000	10,688	0.71	Unskilled agricultural labour (hire	pers.day	3,460	2,422	0.70
					Land preparation	pers.day	4,500	3,150	0.70
					Planting	pers.day	4,500	3,150	0.70
					Irrigation	pers.day	4,500	3,150	0.70
					Fertilizer application	pers.day	4,500	3,150	0.70
					Weeding	pers.day	4,500	3,150	0.70
					Harvesting	pers.day	4,500	3,150	0.70
					Post harvesting and Marketing	pers.day	4,500	3,150	0.70
					Pesticides application	pers.day	4,500	3,150	0.70

Table A 5: Mised farming (medium) model (financial budget)

Yemen																						
Rural Livelihoods Development Project																						
Mixed farming model (Medium)/Farm Area Model																						
YR/ha	Without Project		With Project																			
	1	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
INCOMES																						
Main Production																						
Sorghum grain	97,650	83,700	97,650	95,837	90,675	149,963	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400	167,400
Sorghum stovers	95,760	79,800	95,760	93,685	87,780	117,306	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488	124,488
Cowpea grain	198,000	198,000	198,000	198,000	198,000	292,500	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000	324,000
Cowpea forage	36,000	36,000	36,000	36,000	36,000	76,500	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000
Barley	170,280	131,580	170,280	160,605	150,930	216,720	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200	232,200
Potatoes	428,000	428,000	428,000	428,000	428,000	616,992	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990	642,990
Tomato	317,000	317,000	317,000	317,000	317,000	540,168	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600	570,600
Onion	1,066,000	984,000	1,066,000	1,055,340	1,025,000	1,643,280	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000	1,722,000
Chicken eggs	128,000	128,000	128,000	128,000	180,139	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200	211,200
Goats (mature animals)	265,660	398,490	265,660	398,490	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320	531,320
Goat milk	600,000	660,000	600,000	631,200	720,000	811,200	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000
Sub-Total Main Production	3,402,350	3,444,570	3,402,350	3,542,157	3,764,844	5,206,477	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208
On-Farm Consumption																						
Sorghum grain	22,320	22,320	22,320	23,250	25,575	27,900	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225	30,225
Sorghum stovers	21,280	21,280	21,280	22,610	23,940	26,600	27,930	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260	29,260
Cowpea grain	42,000	42,000	42,000	48,000	54,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Cowpea forage	18,000	18,000	18,000	19,200	20,400	21,600	22,800	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
Barley	36,120	36,120	36,120	41,280	46,440	51,600	56,760	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920	61,920
Potatoes	55,640	55,640	55,640	59,920	64,200	68,480	72,760	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040	77,040
Tomato	110,950	110,950	110,950	114,120	117,290	120,460	123,630	126,800	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970	129,970
Onion	164,000	164,000	164,000	172,200	176,300	180,400	184,500	188,600	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700	192,700
Chicken eggs	26,880	26,880	26,880	27,520	28,160	28,800	29,440	30,080	30,720	31,360	31,360	31,360	31,360	31,360	31,360	31,360	31,360	31,360	31,360	31,360	31,360	31,360
Goats (mature animals)	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830	132,830
Goat milk	138,000	138,000	138,000	144,000	150,000	156,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000	162,000
Sub-Total Consumption	768,020	768,020	768,020	804,340	839,135	874,670	902,875	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755	922,755
Total Production	3,402,350	3,444,570	3,402,350	3,542,157	3,764,844	5,206,477	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208
NET INCOMES	3,402,350	3,444,570	3,402,350	3,542,157	3,764,844	5,206,477	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208	5,455,208
EXPENSES																						
Investment																						
Purchased Inputs																						
Pen house	0	0	0	50,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fowl	0	0	0	4,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chicks	0	0	0	8,640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rehabilitation of flood-based ag	0	0	714,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
In-kind contribution to infrastruc	0	0	107,100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Starting kit (seeds) - FFS	0	0	18,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Starting kit (fertilizers) - FFS	0	0	18,750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Purchased Inputs	0	0	858,600	62,640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Labor																						
Operating																						
Purchased Inputs																						
Sorghum seeds	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883	4,883
Manure	824,200	824,200	824,200	824,200	824,200	1,302,275	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600	1,367,600
TSP	127	127	127	127	127	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879	17,879
Ammonium sulphate	0	0	0	0	0	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992	12,992
Urea	120,808	120,808	120,808	120,808	120,808	156,954	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828	162,828
Pesticides	0	0	0	0	0	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589	13,589
Tools	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Bags	2,280	2,080	2,280	2,254	2,180	2,874	3,000	3,000	3,000	3,000												

Table A 15: Village groundwater-based watershed Schemes Model (Economic Budget)

Yemen Rural Livelihoods Development Project Village groundwater-based watershed Schemes Model/Farm Area Model																							
YER/ha	Without Project		With Project																				
	1	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
INCOMES																							
Main Production																							
Coffee beans (green)	29,070,000	25,436,250	29,070,000	29,070,000	30,499,621	33,513,038	37,974,764	42,081,421	44,510,842	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875	45,421,875
Wheat grain	2,837,786	2,503,929	2,837,786	2,989,691	3,422,036	3,866,066	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286	4,006,286
Wheat straws	760,000	665,000	760,000	802,222	844,444	886,667	928,889	971,111	1,013,333	1,055,556	1,097,778	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000	1,140,000
Tomato	21,510,714	21,510,714	21,510,714	23,747,829	30,115,000	36,654,257	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286	38,719,286
Potatoes	14,521,429	14,521,429	14,521,429	15,465,321	18,151,786	20,910,857	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143	21,782,143
Onion	24,051,625	22,201,500	24,051,625	25,975,755	31,452,125	37,076,505	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625	38,852,625
Barley	1,097,698	848,221	1,097,698	1,197,489	1,297,279	1,397,070	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861	1,496,861
Sorghum grain	1,987,875	1,703,893	1,987,875	2,342,853	2,697,830	3,052,808	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786	3,407,786
Sorghum stovers	4,548,600	3,790,500	4,548,600	4,889,745	5,230,890	5,572,035	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180	5,913,180
Cowpea grain	9,405,000	9,405,000	9,405,000	10,901,250	12,397,500	13,893,750	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000	15,390,000
Cowpea forage	1,710,000	1,710,000	1,710,000	2,351,250	2,992,500	3,633,750	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000	4,275,000
Sub-Total Main Production	111,500,726	104,296,435	111,500,726	119,733,404	139,101,012	160,456,803	172,746,819	176,895,697	179,367,341	180,320,596	180,362,818	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041
Total Production	111,500,726	104,296,435	111,500,726	119,733,404	139,101,012	160,456,803	172,746,819	176,895,697	179,367,341	180,320,596	180,362,818	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041
TOTAL INCOMES	111,500,726	104,296,435	111,500,726	119,733,404	139,101,012	160,456,803	172,746,819	176,895,697	179,367,341	180,320,596	180,362,818	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041	180,405,041
EXPENSES																							
Investment																							
Purchased Inputs																							
Village groundwater-based wate	0	0	18,776,396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
In-kind contribution to infrastruc	0	0	2,816,459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Purchased Inputs	0	0	21,592,855	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Labor																							
Operating																							
Purchased Inputs																							
O&M of village water schemes	0	0	0	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820	938,820
Water fee for community infrast	0	0	0	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292	563,292
Manure	25,027,275	25,027,275	25,027,275	27,643,931	35,102,559	42,753,384	45,233,419	45,233,419	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356	45,372,356
Urea	3,318,267	3,318,267	3,318,267	4,296,201	4,694,209	5,096,525	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015	5,356,015
KCL	0	0	0	224,438	336,656	448,875	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094	561,094
Calcium carbide	0	0	0	1,073,007	1,105,743	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567	1,127,567
Bags	113,905	101,962	113,905	118,404	127,577	138,813	146,908	152,550	156,125	157,828	158,409	158,989	158,989	158,989	158,989	158,989	158,989	158,989	158,989	158,989	158,989	158,989	158,989
Transport to local market (20 km	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574	656,574
Pesticides	0	0	0	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930	580,930
Tools	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286	567,286
Wheat seeds	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430	170,430
TSP	69,480	69,480	69,480	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792	506,792
Ammonium sulphate	0	0	0	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272	370,272
Superphosphate 18% P2O5	0	0	0	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828	1,792,828
Tomato seedlings	1,045,950	1,045,950	1,045,950	1,136,599	1,394,600	1,659,574	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250	1,743,250
Potassium chloride	139,223	139,223	139,223	556,890	696,113	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335	835,335
Basal Fertilizers (NPK, DAP, CAN	206,340	206,340	206,340	955,354	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694	1,161,694
Potato seeds	7,469,375	7,469,375	7,469,375	7,66																			

Table A 19: Individual household water supply model (economic budget)

Yemen																						
Rural Livelihoods Development Project																						
Individual household water supply/Farm Area Model																						
YER/ha	Without Project										With Project											
	1	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
INCOMES																						
Main Production																						
Tomato	215,107	215,107	215,107	237,478	301,150	366,543	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193	387,193
Potatoes	290,429	290,429	290,429	309,306	363,036	418,217	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643	435,643
Onion	171,797	158,582	171,797	185,541	224,658	264,832	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519	277,519
Sorghum grain	6,626	5,680	6,626	7,810	8,993	10,176	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359	11,359
Sorghum stovers	15,162	12,635	15,162	16,299	17,436	18,573	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711	19,711
Cowpea grain	31,350	31,350	31,350	36,338	41,325	46,313	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300	51,300
Cowpea forage	5,700	5,700	5,700	7,838	9,975	12,113	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250	14,250
Sub-Total Main Production	736,171	719,483	736,171	800,609	966,573	1,136,766	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974
On-Farm Consumption																						
Tomato	75,288	75,288	75,288	86,043	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798	96,798
Potatoes	81,320	81,320	81,320	81,320	84,224	87,129	90,033	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937	92,937
Onion	39,646	39,646	39,646	44,932	47,575	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861	52,861
Sorghum grain	5,680	5,680	5,680	5,680	5,680	6,626	7,194	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573	7,573
Sorghum stovers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cowpea grain	31,350	31,350	31,350	31,350	34,200	34,200	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050	37,050
Cowpea forage	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-Total Consumption	233,283	233,283	233,283	249,324	268,477	277,614	283,936	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219	287,219
Total Production	736,171	719,483	736,171	800,609	966,573	1,136,766	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974	1,196,974
Other Benefits																						
Time-saved from collecting water	0	0	0	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500
TOTAL INCOMES	736,171	719,483	767,671	832,109	998,073	1,168,266	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474	1,228,474
EXPENSES																						
Investment																						
Purchased Inputs																						
Individual household rooftop rainwater harvesting	0	0	203,812	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
In-kind contribution to infrastructure	0	0	30,572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Purchased Inputs	0	0	234,384	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating																						
Purchased Inputs																						
O&M rehabilitation cost	0	0	0	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191	10,191
Tomato seedlings	10,460	10,460	10,460	11,366	13,946	16,596	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433	17,433
Manure	232,257	232,257	232,257	259,697	337,734	417,855	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211	443,211
Urea	20,008	20,008	20,008	21,409	23,548	25,718	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472	26,472
TSP	82	82	82	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534	2,534
Potassium chloride	1,392	1,392	1,392	5,569	6,961	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353	8,353
Basal Fertilizers (NPK, DAP, CAN)	2,063	2,063	2,063	9,182	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246	11,246
Pesticides	0	0	0	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905	2,905
Potato seeds	149,388	149,388	149,388	153,272	164,326	175,680	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265	179,265
Ammonium sulphate	0	0	0	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984	1,984
Bags	948	799	948	985	1,075	1,167	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194	1,194
Transport to local market (20 km)	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791	1,791
Onion seeds	8,445	8,445	8,445	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557	10,557
Herbicide	0	0	0	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809	4,809
Calcium carbide	0	0	0	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275	7,275
Superphosphate 18% P2O5	0	0	0	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756	11,756
Sorghum seeds	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773	773
Tools	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746	746
KCL	0	0	0	374	748	1,122	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496	1,496
Cowpea seeds	1,496	1,496	1,496	1,579	1,663	1,746	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829	1,829
Total Purchased Inputs	429,849	429,700	429,849	518,753	616,566	714,802	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819	745,819
Labor																						
Land preparation	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238
Planting	5,670	5,670	0	8,033	9,765	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238	10,238
Irrigation	0	0	0	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025	11,025
Fertilizer application	8,978	8,978	8,978	13,230	13,230	13,230	13,230	13,23														

Table A 29: RLDP economic budget (2/2)

Operating																							
Purchased Inputs																							
OS&M rehabilitation cost	0	0	0	9,323,330	23,139,641	36,461,207	46,736,735	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	53,308,743	
Tomato seedlings	27,848,419	27,848,419	27,848,419	28,120,366	29,347,614	32,959,628	37,854,674	42,292,988	45,057,783	46,257,139	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	46,414,031	
Manure	600,564,059	600,564,059	602,927,178	614,559,893	653,351,093	759,229,943	899,912,128	1,027,570,450	1,107,748,039	1,142,906,174	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	1,148,257,583	
Urea	98,235,936	98,235,936	98,584,970	102,779,284	110,199,027	121,936,858	134,459,314	145,717,873	152,533,248	156,010,964	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	157,097,558	
TSP	769,384	769,384	3,056,490	3,056,490	6,452,816	11,238,735	15,538,297	19,155,323	20,422,304	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	21,055,795	
Potassium Chloride	3,706,799	3,706,799	4,959,802	4,959,802	7,465,807	11,886,121	16,358,644	19,717,387	21,492,877	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	22,420,794	
Basal Fertilizer (NPK, DAP, CAN)	5,493,803	5,493,803	7,703,704	7,703,704	11,593,513	18,233,234	23,743,544	27,380,285	28,123,859	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	29,892,476	
Pesticides	0	0	2,374,066	2,374,066	5,956,466	10,603,904	14,379,948	17,284,596	18,252,813	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	18,736,921	
Potato seeds	330,519,844	330,519,844	335,501,917	343,748,107	352,300,541	368,135,616	385,195,669	401,419,151	412,160,113	417,119,778	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	417,792,021	
Ammonium sulphate	0	0	1,883,098	4,679,974	6,000,890	12,095,332	15,021,142	16,046,002	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	16,558,432	
Bags	3,924,617	3,508,856	3,957,974	4,002,246	4,074,198	4,324,056	4,648,594	4,956,599	5,197,357	5,349,900	5,411,422	5,441,741	5,455,162	5,459,730	5,460,310	5,460,310	5,460,310	5,460,310	5,460,310	5,460,310	5,460,310	5,460,310	
Transport to local market (20 km)	19,490,086	19,490,086	19,569,710	19,736,838	19,888,089	19,995,528	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	20,031,341	
Onion seeds	22,042,472	22,042,472	22,042,472	22,844,784	24,153,819	25,673,990	26,708,550	27,236,387	27,447,522	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	27,553,090	
Herbicide	0	0	1,827,563	4,809,375	8,272,125	10,628,719	11,831,063	12,312,000	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	12,552,469	
Calcium carbide	0	0	2,960,045	7,869,617	13,645,742	17,661,335	19,803,712	20,662,117	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	21,069,496	
Superphosphate 18% P2O5	0	0	4,761,281	12,491,016	21,396,375	27,303,891	30,242,953	31,418,578	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	32,006,391	
Sorghum seeds	12,274,686	12,274,686	12,326,250	12,403,556	12,455,119	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	12,493,772	
Tools	19,663,168	19,663,168	19,712,955	19,817,455	19,912,027	19,979,206	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	20,001,599	
KCL	0	0	1,198,496	3,175,189	8,120,897	13,686,199	19,166,214	22,944,246	25,076,420	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	25,899,339	
Cowpea seeds	23,757,458	23,757,458	23,857,257	24,183,772	24,713,994	25,634,852	26,796,774	27,964,680	28,804,242	29,278,055	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	29,460,930	
OS&M of communal multi-purpos	0	0	1,220,469	3,661,408	9,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	4,881,877	
OS&M of village water schemes	0	0	1,877,640	4,694,099	7,510,558	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	8,449,378	
Water fee for community infrast	0	0	1,126,584	2,816,459	4,506,335	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	5,069,627	
Wheat seeds	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	1,533,870	
Barley seeds	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	4,437,010	
Small ruminants: Sorghum stove	137,940,000	156,750,000	137,940,000	139,841,900	145,917,150	155,162,550	166,506,500	177,622,450	184,725,600	187,552,800	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	188,100,000	
Small ruminants: Straw	4,067,663	5,694,728	4,067,663	4,231,109	4,731,431	5,475,444	6,386,230	7,286,663	7,861,682	8,090,951	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	8,135,325	
Mineral blocks	52,048,838	72,868,373	52,048,838	52,602,132	57,582,128	63,315,519	68,382,301	73,071,208	76,009,268	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	77,559,768	
Veterinary services	0	0	0	315,448	2,785,856	5,204,884	7,886,188	9,621,149	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	10,409,768	
Equipment	0	0	0	0	0	0	335,893	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	503,839	
Leguminose green leaves	0	0	0	485,179	11,924,196	37,228,125	69,979,732	114,875,357	121,817,143	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	123,160,714	
Tools for water and feed	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	1,881,000	
Chicken feed	31,775,464	31,775,464	31,775,464	31,775,464	32,241,012	33,633,959	35,691,975	37,676,094	39,080,126	39,745,194	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	39,904,071	
Vaccination	0	0	0	179,143	447,857	716,571	895,714	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	985,286	
OS&M of rural road	0	0	0	1,971,488	4,435,848	6,900,208	8,378,824	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	9,857,440	
OS&M on main investment	0	0	0	0	0	1,832,143	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	3,664,286	
Medication	0	0	0	2,239,286	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	4,478,571	
Nutrition supplement	0	0	0	0	0	5,038,393	10,076,786	10,076,786	10,076,786	10,076,786	10,0												

Table A 30: RDLP Economic budget and results (incremental)

NET INCREMENTAL BENEFIT																							
	Without Project		With Project																				
	1	20	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
INCREMENTAL PRODUCTION																							
Total Production	4,263,684,500	4,215,921,680	4,294,811,201	4,453,086,014	4,610,907,596	5,154,184,147	5,916,017,912	6,599,925,255	7,048,253,156	7,249,330,420	7,320,947,244	7,326,409,842	7,311,380,607	7,290,454,829	7,275,219,229	7,267,580,318	7,267,580,318	7,267,580,318	7,267,580,318	7,267,580,318	7,267,580,318	7,267,580,318	7,267,580,318
Incremental Production			31,126,700	124,406,134	412,881,017	919,904,519	1,783,649,253	2,383,623,575	2,916,074,497	3,033,218,740	3,188,958,585	3,110,488,162	3,095,458,927	3,074,533,149	3,059,297,549	3,051,658,638	3,051,658,638	3,051,658,638	3,051,658,638	3,051,658,638	3,051,658,638	3,051,658,638	3,051,658,638
INCREMENTAL PROJECT COST																							
Investment Input Costs	0	0	289,159,311	439,571,780	499,934,770	357,203,539	170,603,795	3,506,721	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investment Labor Costs	0	0	535,500	803,250	535,500	401,625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating Input Costs	1,401,974,575	1,442,815,414	1,409,982,932	1,475,722,575	1,625,091,921	1,895,789,072	2,194,847,960	2,449,181,721	2,599,335,148	2,664,805,763	2,675,970,012	2,676,347,674	2,676,500,033	2,676,336,654	2,676,505,181	2,676,505,181	2,676,505,181	2,676,337,235	2,676,505,181	2,676,505,181	2,676,505,181	2,676,505,181	2,676,337,235
Operating Labor Costs	551,316,150	551,316,150	552,891,938	590,813,738	698,246,325	832,989,150	918,694,088	983,530,275	1,006,607,700	1,016,861,738	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763	1,018,384,763
Project Costs	0	0	450,817,473	497,442,008	650,003,416	587,272,166	456,499,343	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL PROJECT COST	1,953,290,725	1,994,131,564	2,703,387,153	3,004,353,350	3,473,811,931	3,673,655,552	3,740,645,186	3,436,218,717	3,605,942,848	3,681,667,500	3,694,354,774	3,694,732,437	3,694,884,795	3,694,721,417	3,694,889,944	3,694,889,944	3,694,889,944	3,694,889,944	3,694,721,997	3,694,889,944	3,694,889,944	3,694,889,944	3,694,721,997
Incremental PROJECT Cost			750,096,428	1,047,960,187	1,508,470,240	1,698,124,142	1,759,088,621	1,450,331,689	1,616,433,221	1,689,576,251	1,700,722,879	1,700,600,873	1,700,753,231	1,700,589,853	1,700,758,380	1,700,758,380	1,700,758,380	1,700,590,433	1,700,758,380	1,700,758,380	1,700,758,380	1,700,590,433	1,700,758,380
NET INCREMENTAL BENEFIT			-718,969,727	-923,554,053	-1,095,589,224	-778,219,624	24,560,632	933,291,887	1,299,641,276	1,343,642,489	1,488,235,706	1,409,887,289	1,394,705,696	1,373,943,296	1,358,539,169	1,350,900,258	1,350,900,258	1,351,068,205	1,350,900,258	1,350,900,258	1,350,900,258	1,351,068,205	1,351,068,205
EIRR	21.24%																						
ENPV	3,464,244,174																						
B/C Ratio	1.27																						

Table A 31: Project economic costs (YER '000)

Yemen

Rural Livelihood Development Project

Project Components by Year -- Totals Including Contingencies

Economic Costs

	Economic Costs (YER '000)					Total
	2021	2022	2023	2024	2025	
A. Community Mobilization & Strengthening						
1. Community Mobilization & Engagement	65,100	130,200	130,200	97,650	97,650	520,800
2. Community Capacity Building	15,660	15,103	12,410	12,410	10,127	65,710
Subtotal	80,760	145,303	142,610	110,060	107,777	586,510
B. Climate Resilient Community Infrastructure						
1. Domestic Water Supply	172,809	292,346	243,240	118,837	40,595	867,826
2. Small-scale irrigation and flood-based livelihoods systems	193,089	220,651	184,640	123,093	79,552	801,025
3. Soil and water conservation	142,558	195,443	218,687	166,470	157,140	880,297
Subtotal	508,456	708,440	646,566	408,400	277,287	2,549,148
C. Protection of Agriculture Livelihoods						
1. Capacity Building for Agriculture Production	42,492	119,155	130,289	116,335	118,735	527,006
2. Food and Nutrition Security	87,082	105,821	111,247	105,821	104,658	514,628
3. Livelihood Resilience and Value Addition	-	-	319,566	319,566	-	639,131
Subtotal	129,574	224,976	561,101	541,721	223,393	1,680,766
D. Project Management, M&E and KM						
1. Project Management Unit	140,080	140,080	140,080	135,830	135,830	691,898
2. M&E and Knowledge Management	30,056	16,676	12,176	24,176	52,676	135,761
Subtotal	170,136	156,756	152,256	160,006	188,506	827,658
E. Unallocated	31,800	31,800	31,800	31,800	31,800	159,000
Total PROJECT COSTS	920,726	1,267,274	1,534,333	1,251,987	828,762	5,803,082

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 5: Social Environment and Climate Assessment (SECAP) Review Note

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Rural Livelihoods Development Programme (RLDP)

Annex 5

Social Environment and Climate Assessment (SECAP) Review Note

Contents

1. Introduction	3
2. Situational Analysis and Potential Project Impacts.....	3
A. Socio-economic and Poverty Assessment	3
B. Environment and Climate Context, Trends and Implications	11
C. Targeting Profiles	28
3. Institutional Analysis	31
4. Environmental and Social Category	45
5. Climate Risk Category	45
6. Recommendations for Project Design and Implementation	45
7. Further Studies Needed	56
8. Monitoring and Evaluation	56
9. References	59
Annex 5.1: Climate Vulnerability Assessment Framework	61
Annex 5.2: Climate Risk Analysis.....	62
A. Historical Data Analysis.....	62
B. Projections Data Analysis.....	74
C. Crop Analysis.....	85
Annex 5.3: Alignment with National Strategies.....	87
Annex 5.4: Environmental and Social Management Plan (ESMP)	89
Annex 5.5 IPC Classification, Farming Systems and Targeting Beneficiaries	103
Annex 5.6: Guiding Questions for Environmental, Social and Climate Risk Screening.....	106

1. Introduction

The Rural Livelihood Development Programme's (RLDP)¹ goal is to contribute to rebuilding communities' resilience against the economic and environmental shocks and improve the livelihoods of poor, excluded and deprived people. The project development objective is to improve the food security and the poverty level of smallholder farmers through increasing agriculture production and promoting the efficient use of natural resources.

The objective of the Review Note of the Social Environment and Climate Assessment Procedures (SECAP) is for the project to take into account social, environmental and climate change issues. The Review Note summarizes the development context, looks how the project might affect it with regards to IFAD's mainstreaming themes (gender, youth, nutrition, climate and environment) and makes specific recommendations on how the project can mitigate risks and better include social and environmental concerns.

2. Situational Analysis and Potential Project Impacts

A. Socio-economic and Poverty Assessment

i. Overall poverty situation

The Yemeni population is estimated at 29.8 million (UNDESA, 2020) the majority of which is rural, 63.36% and highly dependent on subsistence agriculture (World Bank, 2018a). Youth below 24 years old make up 62% percent of the total population (UNDESA, 2020). Poverty in Yemen has recently increased and it is estimated that now affects 71 to 78% of Yemenis (World Bank, 2019a). More than 40% of Yemeni households have lost their primary source of income and consequently find it difficult to buy even the minimum amount of food (World Bank, 2017).

Poverty was already very high during pre-conflict. A preliminary analysis of the 2014 Household Budget Survey (HBS) data shows that the economic and political turbulence in Yemen, even before the current armed conflict, had led to a sharp increase in poverty. Analysis of data suggests that poverty in Yemen was 49% in 2014 with rural poverty rate at 59%, significantly higher than estimated urban poverty rate of 24% (World Bank, 2017).

According to the Yemen Economic Outlook (World Bank, 2018b), 48% of the population lived on less than US \$1.90 a day in 2017 (up from 30% in 2015) and 78.5% lived on less than US \$3.20 (up from 65.6% in 2015). Estimates for years 2018 and forecast for 2019 and 2020 indicate that poverty rates for people below US \$3.20 is 80% and forecasted for 75% and 71% respectively and extreme poor below US \$1.90 a day is estimated at 51.9% and forecasted at 44.2% and 36.4% respectively (World Bank, 2018b).

According to the World Bank study on poverty in Yemen, it appears that there is a clear positive relationship between household size and poverty incidence, with larger households more likely to be

¹ This project has been designed remotely with no field visits. The SECAP is mainly based on a desk review and virtual meetings with various stakeholders.

poor. Based on HBS 2014, the incidence of poverty for households who had less than four members was 23.7%. This increased to 55.4% if the household had ten or more members (World Bank, 2017).

Households headed by better-educated household heads were less likely to be in poverty. There was a strong relationship between household-head education levels and poverty rates. Households with heads with no education had a 57.2% poverty rate in 2014. In comparison, households with heads with higher education had a significantly lower poverty rate of 23.8%. These results broadly suggested a positive association between the level of education and households not being in poverty (World Bank, 2017). Households headed by individuals working in wage agriculture had the highest likelihood of being in poverty (70%), followed by those in agricultural self-employment/worker and wage employment in non-agricultural sectors (between 30 and 50%). Households with self-employed/worker in non-agricultural sectors have the lowest probability of being in poverty (World Bank, 2017).

Human development Index: Prior to the recent conflict, Yemen was already the poorest in the Arab region suffering from weak human development outcomes compounded with a high population growth, repeated local conflicts, chronic food insecurity and uncertain political transition. With the violent armed conflict that started in 2015 human development indicators have plummeted further: Yemen's Human Development Index (HDI) value for 2018 is 0.463— which puts the country in the lowest human development category— positioning it at 177 out of 189 countries and territories. The 2018 female HDI value for Yemen is 0.245 in contrast with 0.535 for males, Yemen has a Gender Inequality Index (GII) value of 0.834, ranking it 162 out of 162 countries in the 2018 index. In Yemen, 0.5 percent of parliamentary seats are held by women, and 19.9 percent of adult women have reached at least a secondary level of education compared to 35.5 percent of their male counterparts. With an average labour force participation rate of 37.9 percent, the participation rate for men is significantly higher than that for women, 69.7 percent and 5.8 percent respectively (UNDP, 2019b).

ii. Gender

With persistent gender gaps existing prior to the conflict (with regard to education, legal restrictions on mobility and decision making, barriers to female participation in the labour force and in political life, and few opportunities for voice, paid work, and entrepreneurial activity), women are more vulnerable to the economic, social, and security challenges that result from the conflict. Stark gender gaps in Yemen are influenced by and set within the context of conservative and strict gender norms.

Certain groups, such as women, young people and marginalized communities, are disadvantaged in terms of land access and land rights; this is particularly the case for daughters and wives because of discriminatory inheritance practices. According to FAO (2018), less than 1% of agricultural landholders in Yemen are female. However, women have a major role in agriculture, providing 60 percent of labour in crop farming, 90 percent in livestock rearing and 10% of wage labour. Yet, with lower levels of schooling and higher rates of illiteracy they are constrained to subsistence farming with insufficient skills, access to markets and control over key assets and agricultural services, compared to men.

Women play a leading role in livestock production especially backyard poultry production and small ruminants (sheep and goats). In Yemen, small ruminants (sheep and goats) are among the main

source of income for small farmers, rural households, and any shock to these productive assets severely affect the household's food security and livelihoods (FAO, 2018).

Female-headed households are generally more at risk of food insecurity and malnutrition, as their coping capacities in times of food shortage are significantly more limited than households headed by men. Even without any shocks they are likely to experience higher levels of food insecurity and large consumption gaps than men headed households (FAO, WFP and UNICEF, 2017). They are also often unable to ensure adequate nutrition to household members, especially infants and children below 5 years.

Women of child bearing age, particularly Pregnant and Lactating Women (PLW), have limited or no access to reproductive health services. In general women's access to assistance and other services is constrained by high levels of illiteracy, posing an obstacle to accessing and understanding relevant information. In this regard the project places strong attention on women education (literacy, life skills, nutrition) in addition to economic opportunities. When food is scarce, women are the first family members to eat less as a coping mechanism, even though they continue to do hard labour (e.g. working in the fields). Agricultural extension and other services, including training opportunities, are not provided or limited for rural women.

The toll of the conflict has exacerbated gender inequality in the country. Yemen ranks at the bottom of the World Economic Forum's gender gap index for economic participation and opportunity. The significant escalation of violence and security concerns resulting from the ongoing war have further limited women's already limited opportunities to access economic activities, as their mobility and participation in the public sphere have been further restricted.

The government has made efforts to improve the rights of women in Yemen, including via the development of a Women's Development Strategy and a Women Health Development Strategy. However, poor implementation, along with many cultural and religious norms has meant Yemeni women still fail to have equal rights to men (GSDRC, 2017).

The chaos and violence since 2015—and already entrenched gender inequality—have had severe impacts. Women and girls suffered disproportionately from gender-based violence (GBV), poverty and violations of basic rights before the conflict. After years of conflict and economic decline women and girls are now facing even more complex risks and vulnerabilities (UNDP, 2019a). Reported GBVs increased by 36% in 2017 alone, and child marriage rates have escalated to an estimated 66% in 2017 (WB, 2019b).

The World Bank estimates that women are shouldering an inequitable share of the burden in terms of worsening poverty rates and deprivation compared to the average of the population (World Bank, 2018b). Deteriorating security and economic conditions are affecting women's and girls' mobility, as well as their access to services and resources. About half of IDPs are female, including 27% who are below the age of 18. With limited shelter options, displaced women and girls tend to suffer most from lack of privacy, threats to safety and limited access to basic services – especially in overcrowded collective centres (OCHA, 2018a). Children and women are particularly vulnerable to protection violations in famine-risk areas. Women leaving the home in search of food may be exposed to abuse, and time away from the home can reduce mothers' ability to breastfeed and care for their children. In most households, women and children are responsible for collecting water.

Many primary water sources have stopped functioning, which means longer distances to travel and additional threats to safety and dignity, including GBV. Children may remain out of school so they can fetch water, which families may prioritize over education (OCHA, 2018a).

Women of child bearing age, particularly Pregnant and Lactating Women (PLW), have limited or no access to reproductive health services including antenatal care, safe delivery, postnatal care, family planning and emergency obstetric and new-born care. Those suffering from chronic and non-communicable diseases are vulnerable due to lack of medicines caused by import difficulties and rising prices. People with war-related injuries continue to need special care (OCHA, 2018a).

Gender development Index: Yemen ranks as the country with largest gender gaps. It is positioned last in the ranking of 153 countries. In Yemen, only 35% of women are literate, compared with 73% of men and they are almost absent of political life (1.9%). The average score on the Economic Participation and Opportunity sub index is very low. With only 27.3 the country ranks as 151st. The female participation rate of 6.3% in economic opportunities² is the lowest in the world. Furthermore, the estimated earned income of women is on average 28% of what men earn (WEF, 2020).

iii. Youth

Yemen's population is one of the fastest growing in the region and is among the youngest in the world, with 60% percent under the age of 24 (about 17 million youth). Within this group 3.2 million youth are in the age group 15-19 and another 2.9 million in the age 20-24. With overall low levels of education, the situation of youth employment and opportunities is a major challenge (UNDESA, 2020).

The youth unemployment rate in the region is the highest in the world. Over 28% of all economically active 15-24 year-olds in the region are unable to find jobs. Yemen ranks as the worse off with 34.8 youth unemployment rate (with male below 30% and female exceeding 50%). Youth in the country are less likely to enjoy work in the tertiary sectors (and are more likely to be in low productivity agricultural employment), are less likely to be in wage employment and are less likely to be in formal sector employment.

Youth unemployed one year or more (compared to total unemployed figures) account for 21.3%. They are much more likely to be mired in informal and precarious forms of employment without written contracts. They are also more poorly paid and more likely to be in the ranks of the working poor. Youth unemployment is also linked to educational attainment. In Yemen 82 per cent have less than primary education and two-thirds have no education (ILO, 2016).

Challenges concerning the integration of youth in the national economy are the following: (i) low level of skill resulting from low educational standards; (iii) limited opportunities in all sectors: with

² This subindex contains three concepts: the participation gap, the remuneration gap and the advancement gap. The participation gap is captured using the difference between women and men in labour force participation rates. The remuneration gap is captured through a hard data indicator (ratio of estimated female-to-male earned income)¹ and a qualitative indicator gathered through the World Economic Forum 's Executive Opinion Survey (wage equality for similar work). Finally, the gap between the advancement of women and men is captured through two hard data statistics (the ratio of women to men among legislators, senior officials and managers, and the ratio of women to men among technical and professional workers).

agriculture having mostly small holdings and insufficient openings for casual labor, few industrial institutions (most of them being in larger cities), civil servant recruitment being theoretically frozen, and the services sector unable to absorb more than a minority of entrants; (iv) limited migration opportunities; (v) poverty preventing many from furthering their education; and (vi) little attractiveness of educational establishments due to the high level of unemployment of graduates.

Children are among the most vulnerable group and are disproportionately affected by the conflict. An estimated 7.4 million children need humanitarian assistance, representing a 12 per cent increase since 2017. Severe protection risks, a nutrition crisis and interrupted schooling are the main consequences for children. Children, mostly boys, are at an elevated risk of recruitment into armed groups (ILO, 2016). Child labour, remains an important policy concern. In Yemen almost 14 per cent of Yemeni children in the 5-14 years' age range (835,000 children in absolute terms) are in employment. In Yemen, two-thirds of all children in employment work without remuneration (70% of them are employed in agriculture and 19.9 in domestic services, mostly female) for their own families (ILO, 2016).

Strong interaction between children's employment and their schooling exists. Out of school children are also of particular concern where 14 per cent of all children in the 7-14 years' age range do not attend school, with girls more likely than boys to be denied schooling. Many of these children are educationally poor, i.e., lacking four years of education, and in need of second chance learning opportunities. The conflict has severely disrupted the financing and operation of the public education system (ILO, 2016).

iv. Nutrition

The Yemen Food Security Strategy (2011) prepared by IFPRI and Ministry of Planning and Internal Cooperation aimed to cut food insecurity by one third by 2015; make 90 percent of the population food secure by 2020; and reduce child malnutrition by at least one percentage point per year. The FAO plan of action for Yemen (2018-2020) aims to contribute towards improving food security and nutrition and strengthening the resilience of vulnerable rural and peri-urban households while restoring the agriculture sector of the country. The relevant objective to this, is to 'Address the immediate food security, nutrition and income generating needs of all affected rural and peri-urban households (including IDPs, refugees, migrants and women-headed households) in Yemen'.

The National Nutrition Strategy for Yemen (Ministry of Public Health and Population, 2009) aims to improve the health status of the Yemeni people through strengthening of the national nutrition interventions, with special focus on under nutrition; including anaemia, vitamin A deficiency, iodine deficiency, rickets, zinc deficiency; and household food insecurity. The country also joined the Scaling Up Nutrition (SUN) movement in November 2012. The national prevalence of under-five stunting is 46.4%, which is significantly greater than the developing country average of 25%. Yemen's under-five wasting prevalence of 16.4% is also greater than the developing country average of 8.9% (Global Nutrition Report, 2019). Table 1 below shows the key nutrition indicators for Yemen and Figure 1 below shows the spread of stunting³ in Yemen.

³ Stunting, or low height for age, is an indicator of chronic undernutrition. Stunting is caused by inadequate intake of nutritious food, frequent illnesses such as diarrhoea and intestinal worms, poor care practices, and lack

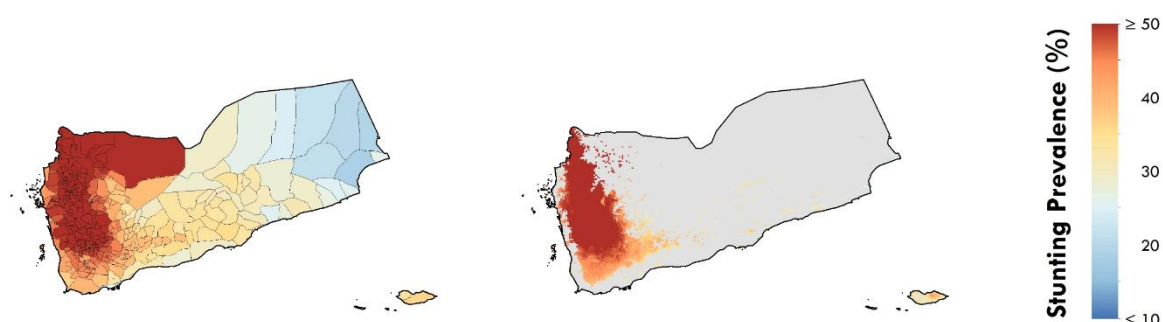
Table 1 Key Nutrition Indicators for Yemen in 2019 (Scaling Up Nutrition Report, 2019)

INDICATOR	PREVALENCE
Under five stunting	46.40%
Under five wasting	16.40%
Anaemia in women (15-49 yrs)	69.60%
0-5 months exclusive breastfeeding	9.70%
Under five overweight	2.50%
Female Adult overweight	32.10%
Male adult overweight	23.00%

Prevalence of under-five stunting

Stunting at subnational level

Stunting at 5km level



Source: Kinyoki, D.K. et al. Mapping child growth failure across low- and middle-income countries. *Nature* 577, 231–234 (2020) doi:10.1038/s41586-019-1878-8.

Notes: 5 km level map shows prevalence at the 5 x 5-km resolution. Prevalence is the 2017 estimated prevalence, based on a model using a range of surveys between 1998–2018. See source paper for full methods.

CONTENTS

Figure 1 Spread of Stunting in Yemen (Global Nutrition Report, 2019)

Between January and December 2019, there were 7.3 million persons in need of nutrition assistance. All the 5 governorates targeted by this project (Dhamar; Al Dhalae; Lahej; Tiazz and Al Hudayah) have Severe Acute Malnutrition (SAM), Moderate Acute Malnutrition (MAM) and Infant and Young Child Feeding (IYCF) programs running. Out of these 5 governorates, three (Lahej, Tiazz, and Al Hudayah)

of access to health and other essential services, especially in the first 1,000 days of a child’s life. In addition, a mother’s own health and nutrition have an impact on the baby’s nutrition. Food insecurity among households living in poverty, especially in emergency-prone countries, contributes to high prevalence of severe acute malnutrition and higher risk of death and stunting in children.

have very high Global Acute Malnutrition (GAM); while the remaining two- Al Dhalae and Dhamar have high GAM rates (OCHA, 2019a). The most common diseases associated with acute malnutrition are respiratory infections. Pneumonia and diarrheal diseases account for approximately 27% of the mortality of children under five in Yemen (Dureab, F. et al., 2019).

The ongoing intensified war and disrupted social services have had a clear impact on the general health and nutrition status of the children and entire population. The food distribution mechanism in the country has been severely disturbed as the country is highly dependent on imported food, and the current armed conflict has blocked food transportation, which has caused a food crisis.

Cost of Minimum/Survival Food Basket⁴ for 7 Persons: The national average cost of Minimum/survival Food Basket (MFB) as at February 2020 was 38,758 YER (Equiv. to 62 USD) (which was a 3% increase compared to previous month). Important to note that this had significantly increased by 123% compared to pre-crisis cost (Feb 2015). In the same month of February 2020, there was a general increase in prices of local fruit and vegetables in the market. Key sources include Onion, okra, carrots, green pepper, chili pepper, cucumber, bananas, mangoes, grapes and pomegranates. On the same note, animal source foods (ASF) also generally experienced an increase in prices ranging from 15.1% to 3.8% for chicken eggs, yoghurt, chicken meat and local cow milk. The commonly consumed types of fish (thamad, jahsh, Hajjah, bagha) also experienced price increases (World Bank, 2020a). Household coping mechanisms to secure daily meals included borrowing food to survive, changing types and quality of food, and decreasing the number of meals per day; some families sent their children to live with relatives.

Data from 2019 indicated that 20 million Yemenis (67 per cent of the population) were food insecure, including nearly 10 million who were suffering from extreme levels of hunger - a 14 per cent increase since 2018 and almost twice the figure before the escalation of the conflict. Nearly two thirds of all districts in the country (190 out of 333 districts were facing emergency IPC phase 4 conditions. Food insecurity is more severe in the areas with active fighting, and is particularly affecting Internally Displaced Persons (IDPs) and host families, marginalized groups, as well as landless wage labourers facing difficulties in accessing basic services and conducting livelihood activities. Overall, there are more than 3 million IDPs in Yemen who face comparatively worse food security outcomes (Food Security and Agriculture Cluster, 2019).

In terms of food insecurity severity (areas in IPC Phase 3 and above), the worst affected areas are located in **Al Hudaydah**, Amran, Hajjah, **Taiz** and Saada Governorates. In terms of magnitude, each of the governorates of **Al Hudaydah**, Amanat Al Asimah, **Dhamar**, Hajjah, Ibb and **Taiz** have more than one million people in IPC Phase 3 (Crisis) and above. It is estimated that 13 governorates would have populations experiencing catastrophic conditions (IPC Phase 5) without the mitigating effects of Humanitarian Food Assistance (Abyan, Aden, Al Bayda, **Al Dhaleé**, Al Hudaydah, Al Mahwit, Amran, Hadramout, Hajjah, Ibb, **Lahj**, Saada and Taiz) (IPC, 2019). Key drivers of food insecurity in Yemen include conflict and insecurity, high food prices, food imports disruptions, liquidity crisis, disrupted

⁴ Composition of Yemen Minimum/Survival Food Basket for 7 persons per month (Prepared and adopted by FSAC partners): 75Kgs Wheat Flour, 10Kgs Dry Weight Beans (Red Kidney of Beans), 8 Litres Vegetable Cooking Oil (Mostly Imported), 2.5 Kgs Sugar and 1Kg Iodized Salt.

livelihoods and high unemployment levels (Famine Early Warning Systems Network, 2020).

v. Internally Displaced People (IDPs)

As a result of conflict, as many as 4.3 million people have been displaced in the last three years, including approximately 3.3 million people who remain displaced and one million returnees. More than half are living in Amanat Al Asimah, Hajjah, Taizz, Al Hudaydah and Sa'ada governorates, and about 60% have been displaced since conflict escalated since 2015 (OCHA, 2018a).

Protracted displacement decreases resilience and exacerbates existing vulnerabilities, resulting in higher needs and negative coping mechanisms. Suffering from a severe economic decline and long term displacement, IDPs and their hosts are rapidly exhausting reserves to meet their needs. Food security assessments have confirmed that IDP households are facing the most extreme hunger levels resulting in adoption of negative coping strategies leading to protection risks (OCHA, 2018a).

An estimated 74% of IDPs outside hosting sites are living in rented accommodation (43%) or with host communities (22%). It places a continued and prolonged burden on hosting families and the wider community as well as on IDPs paying rent and those sheltering in spontaneous settlements. In avoiding collective centres, many families find themselves intensely indebted from paying rent. IDPs in hosting sites are considered the most vulnerable due to limited alternatives (OCHA, 2018a).

Displacement triggers a wide range of needs, for immediate assistance and medium-to longer-term support for livelihoods and for host communities. IDPs identify food, livelihoods and drinking water as their top three priorities. However, needs vary depending on the length of displacement, with recent IDPs prioritizing immediate, life-saving assistance (OCHA, 2018a).

vi. People with Disabilities

In June 2019, the UN Security Council unanimously adopted the first stand-alone resolution on the protection of persons with disabilities in armed conflict⁵. The latest statistics from the Arab region placed the number of persons with disabilities at the relatively low figure of 6.8% in Yemen (ESCWA, 2018). The most commonly reported disabilities in Yemen are related to mobility, followed by visual, hearing, cognition and communication disabilities. While the Yemeni population is predominantly young, persons aged 65 and above make up 37% of the population with disabilities in Yemen.

The Yemeni government's national disability strategy affirms its commitment to the rights of persons with disabilities. Prior to the conflict, Yemen had a well-targeted and large-scale national cash transfer (CT) program administered by the Social Welfare Fund (SWF) which provided 1.5 million households with quarterly cash benefits. The SWF targeted the poorest and most vulnerable households in the country through a combination of proxy means testing (PMT) and categorical targeting (for groups such as the disabled). The lack of support has been exacerbated by Yemen's territorial divisions. The weakening or relocation of barely functioning state institutions, coupled with economic collapse and widespread lawlessness, has meant that persons with disabilities have

⁵ UN Security Council resolution 2475 calls on states and parties to armed conflict to protect persons with disabilities in conflict situations and to ensure they have access to justice, basic services and unimpeded humanitarian assistance. For the first time in 10 years, in May 2019, the UN Secretary-General's report on the protection of civilians in armed conflict included the situation of persons with disabilities. It called for a "more comprehensive thematic approach" to ensure more effective protection for civilians with disabilities (UN Doc. S/2019/373, para. 49).

often not been able to access the support of the relevant governmental entities. According to humanitarian needs overview (OCHA, 2018a), disabled people, together with women and children are Female- elderly- and disabled-headed households are seriously affected.

vii. COVID-19 Situation

The first case of COVID-19 in Yemen was officially confirmed on the 10th of April 2020⁶. There are major concerns over the country's incapacity to deal with another outbreak (in addition to cholera) through its weak health institutions. The situations shall be monitored closely by RLDP PMU as per the ESMP in Annex 5.4.

B. Environment and Climate Context, Trends and Implications

i. Environmental assessment

Water. Yemen is one the world's most water scarce countries with no perennial rivers and where most of the water comes from rainfall in the mountainous areas, groundwater, seasonal spate water and springs. Agriculture accounts for around 93% of water use in Yemen (World Bank, 2015). The economic value of irrigation and domestic water is estimated to be approximately US\$ 13.9 billion per year. Between 2005 and 2017, the total production of renewable water resources has remained at 2.1 billion m³/year of which 1.1 billion m³ is from groundwater and 1 billion m³ from surface water. However, water consumption is about 3.6 billion m³ reflecting a groundwater depletion rate of 1.5 billion m³ (170%) per year. Higher water consumption has been driven by high population growth rates, inefficient water distribution systems and cultivation of water-hungry crops (e.g. Qat), as well as the aggravation of water scarcity as a result of erratic rainfall. Currently, Yemen has one of the lowest per capita water share in the world. Per capita water availability has dropped from 196 m³ per year in 1990 to only 87 m³ per year in 2010. Such severe scarcity in water has resulted in a disparity in water supply among urban and rural populations. Rural populations that have access to safe and affordable drinking water have fluctuated between 57% and 59% over the period 2000 to 2008 compared with 72% to 82% for urban populations over the same period (Environmental Protection Authority, 2018). In general, overall access to water declined from 62.2% in 2005 to 59.3% in 2017 as shown in Figure 2 below (Environmental Protection Authority, 2019).

⁶ Source: <https://www.savethechildren.net/news/first-case-covid-19-reported-authorities-yemen> (Last Accessed = 13/04/2020).

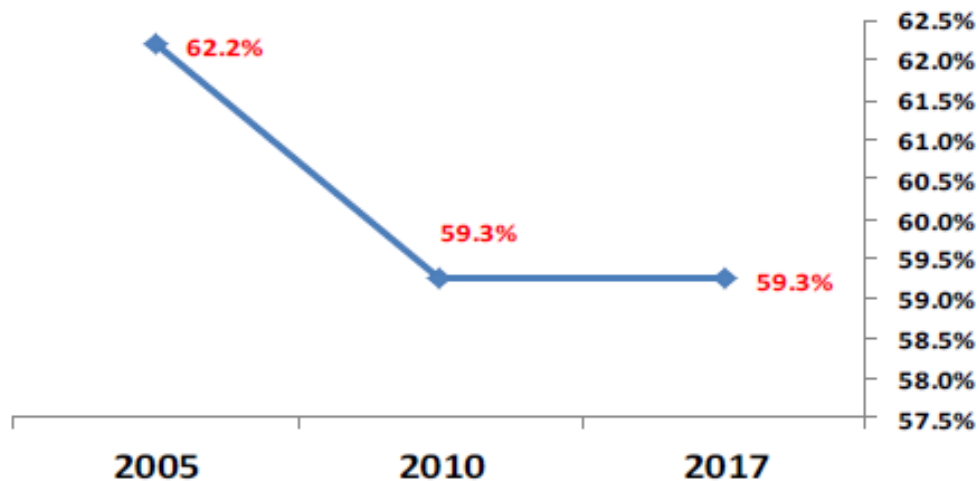


Figure 2 Trend of Percentage of Population with Access to Water in Yemen (Environmental Protection Authority, 2019)

Out of total country wastewater production, 35% is treated while the remaining 65% is discharged untreated into wadies, aquifers & coastal areas causing high damage to these ecosystems (Environmental Protection Authority, 2019). There are currently 23 wastewater treatment plants in Yemen distributed across its urban and rural areas. About 14 treatments plants, having a total capacity of 246,126 m³/d are operated utilizing stabilization pond technology. Another 8 plants, having a total capacity of 72,401 m³/d are operated using Imhoff tanks while only one plant uses activated sludge procedure (Environmental Protection Authority, 2018).

Dumping of raw and partially treated wastewater from agriculture, industry and municipalities in watercourses has caused outbreaks of diseases: cholera, bacterial dysentery, infectious hepatitis, salmonellosis, and typhoid. Yemen's policy on agricultural subsidies has resulted in fertilizers becoming affordable to farmers and being used inefficiently (Environmental Protection Authority, 2019). The use of Nitrogen fertilizers was more than doubled in 2013 compared to the year 2002 as shown in Figure 3 below.

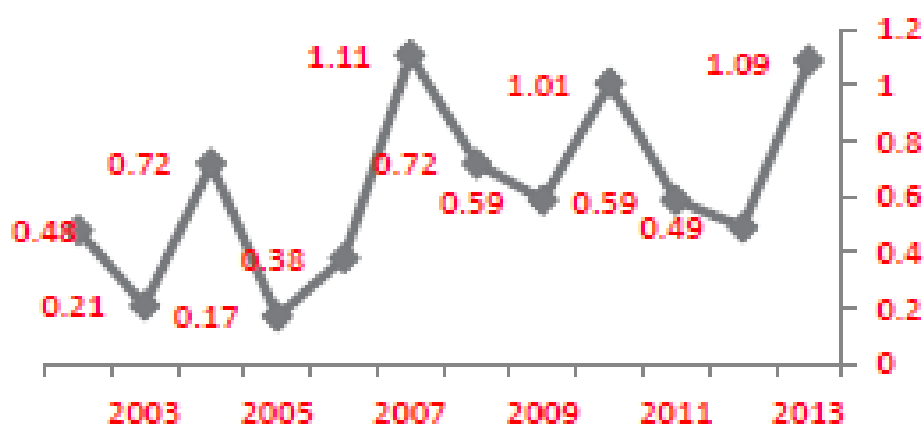


Figure 3 Trend of Nitrogen Fertilizers' Use in Yemen in Tonnes of Nutrient (Environmental Protection Authority, 2019)

Such intensive use of fertilizers and pesticides in the rural areas have contributed significantly through run-off to eutrophication resulting in freshwater pollution. Contamination of the underlying shallow aquifers with nitrates is also evident in many areas causing serious health threats. Other

pollution issues are caused by discharge of untreated wastewater to underground aquifer and dumping of solid and liquid medical wastes in the watercourses of Wadies. In addition, underground water in coastal areas are contaminated primarily by high salinity caused by sea-water intrusion. (Environmental Protection Authority, 2019).

As a result of conflict, 55% of the population in 2018 do not have access to improved water sources and people are increasingly resorting to unimproved water sources and lack adequate sanitation. Around 17.8 million people require support to meet their basic Water, Sanitation and Hygiene (WASH) needs, including 12.6 million who are in acute need. The distribution of severity of need for WASH services across Yemen is demonstrated by Figure 4 below. This increases the risk of diarrhoeal disease, which in turn leads to deteriorating nutritional status and, in some cases, greater risk of death. Although trucked or bottled water may offer relatively safer water sources, prices have risen considerably reaching up to 45% in some areas (OCHA, 2018a). As a result of water contamination, Yemen is suffering from a strong Cholera outbreak since 2016 with 696,537 suspected cases and 913 associated deaths (WHO, 2019).

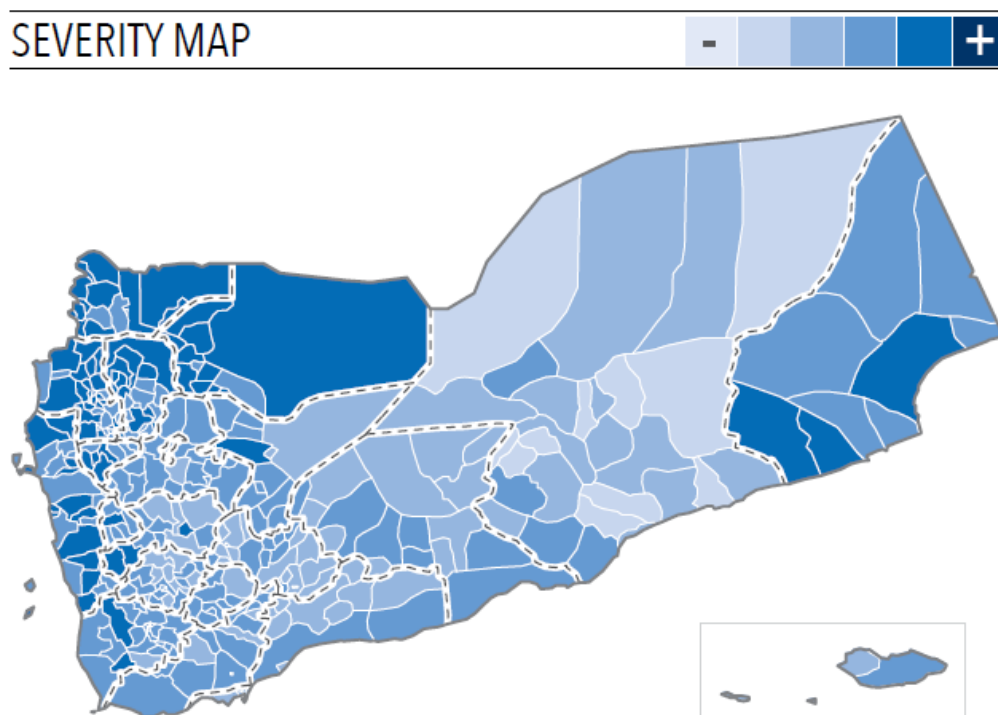


Figure 4 Severity Map for WASH Needs in Yemen in 2018 (OCHA, 2018a)

Land. Only 3.9% of the country's total land area of 527,970 km² is arable land, and most of the rest is desert, forest and woodland, rangeland, or urban (Environmental Protection Authority, 2018). Table 2 below shows the exact distribution of land categories.

Table 2 Ecosystem Cover in Yemen in 2012 (Environmental Protection Authority, 2018)

Categories	Area (1,000 ha)	Share of total land area (%)
Rangelands	6,199	11.7%
Forest & woodland	2,652	5.0%
Desert	41,842	79.3%
Arable land	2,081	3.9%
Urban	23	0.04%
Total Land Mass	52,797	100.0%

Yemen's rangelands provide an important environmental service namely the provision of forage for herds and flocks, a cheap source of livestock feed, fuel wood as a source of energy for the rural poor, as well as a variety of medicinal plants. Rangelands also support economic production processes through wildlife habitats, pollinators, soil erosion prevention, soil maintenance, carbon sequestration and numerous watershed properties. The total value of goods and services produced by Yemen rangelands has been estimated at US\$12.2 billion per year. Around 80.3% of this bulk is associated with fodder production for livestock. Yemen's rangelands produce 2.2 million tons of fodder per year and supports about 9.1 million sheep, 8.9 million goats, 0.4 million camels and 1.6 million cattle (Environmental Protection Authority, 2018).

Yemen's forest and woodland resources deliver a number of ecosystem services including fuel wood, fodder, medicinal plants, honey production, carbon sequestration, soil erosion prevention, biodiversity conservation, and watershed protection. These services have been valued at US\$ 260.8 billion per year. However, forest area and woodlands are being progressively depleted primarily to meet household energy needs in rural areas. Annual wood removal for to meet household cooking needs in rural areas has increased from 302,000 m³ in 2000 to 435,000 m³ in 2010 leading to land degradation, desertification and increased loss of carbon stocks (Environmental Protection Authority, 2018).

Arable land plays a fundamental role in achieving food security, diversifying the economic platform, creating job opportunities and reducing poverty in rural areas. Around 33% of the work force depends on it for its livelihood while 11.4% of GDP is directly attributed to it (Environmental Protection Authority, 2018). Agricultural land management has been deteriorating in the last few years. There has been a drop of crop production coupled by slight decrease of cropland from 1,550,000 ha in 2012 to 1,546,000 ha in 2016. However, crop production has been declining at a fast rate between 2012 and 2015 as shown in Figure 5 below. In 2017, total cereal production was 40% below the previous year's harvest and the five-year average. Further, the total cereal production showed a 43% decline between 2016 and 2017 implying reduction of land available for food production associated with the depletion of the water resources. Moreover, agricultural production has undergone dramatic changes due to the expansion of Qat plantations at the expense of other crops. In addition, unsustainable land practices has caused detrimental impact on soil quality as there has been an increased use of chemicals fertilizer over the period of 2002 to 2013 (Environmental Protection Authority, 2019). Due to conflict, there has been a widespread abandonment of land due to displacement which has also negatively affected agricultural

production. In 2016, all groundwater-related agriculture in the heavily agricultural Tihama region was suspended and cultivated areas fell to 39% of pre-war levels and yields were reduced to 42% pre-war levels (UNDP, 2019a).

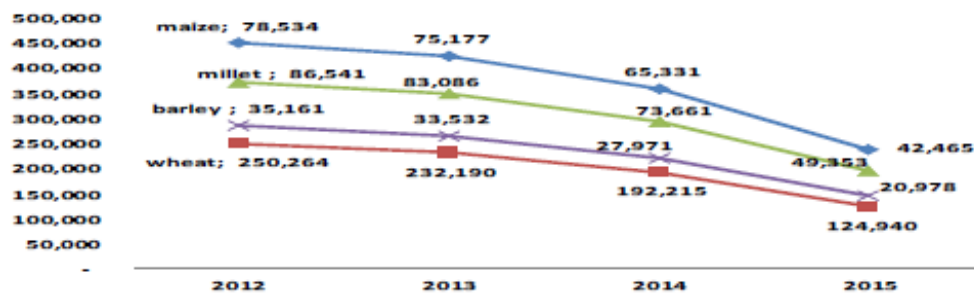


Figure 5 Trend of Crop Production in Tonnes between 2012 and 2015 (Environmental Protection Authority, 2019)

Biodiversity. Yemen terrestrial land hosts a variety of ecosystems and habitats, including mountainous forest, woodlands shrubs, rangelands, arable land, urban systems, inland aquatic systems & dry sandy deserts. As per classification of land use, the largest portion of Yemen terrestrial land is dominated by desert representing 52.4% of the total land area with limited use potential. Together with forest and woodlands, rangelands comprise almost 44.5% of the land area, with the remaining 3% being arable land supporting rich crop diversity. As shown in Figure 6 below, biodiversity in Yemen is threatened by urban encroachment, damaging fisheries, climate change, desertification, spread of invasive alien species, ecosystem pollution, unfavourable tourism, and unsustainable agriculture (Environmental Protection Authority, 2019).

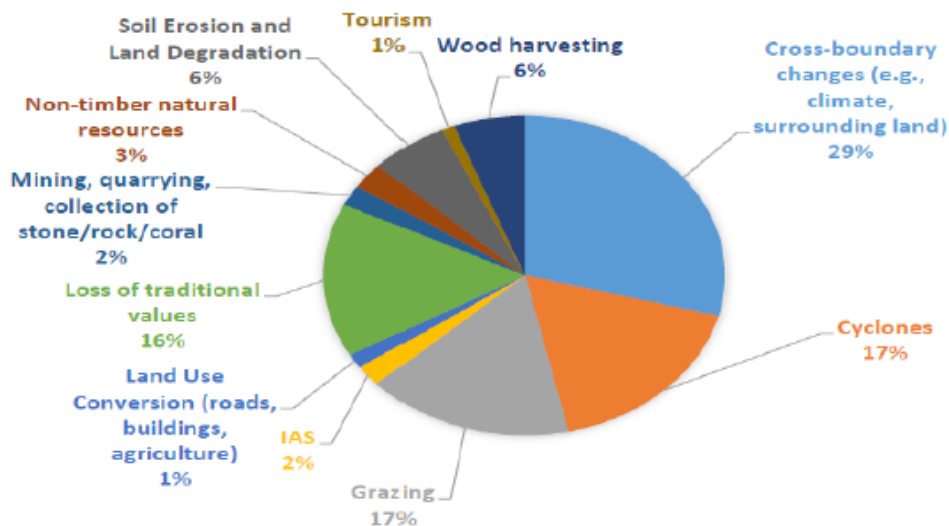


Figure 6 Threats on Biodiversity in Yemen (Environmental Protection Authority, 2019)

Figure 7 below shows the distribution of current and protected areas in Yemen.

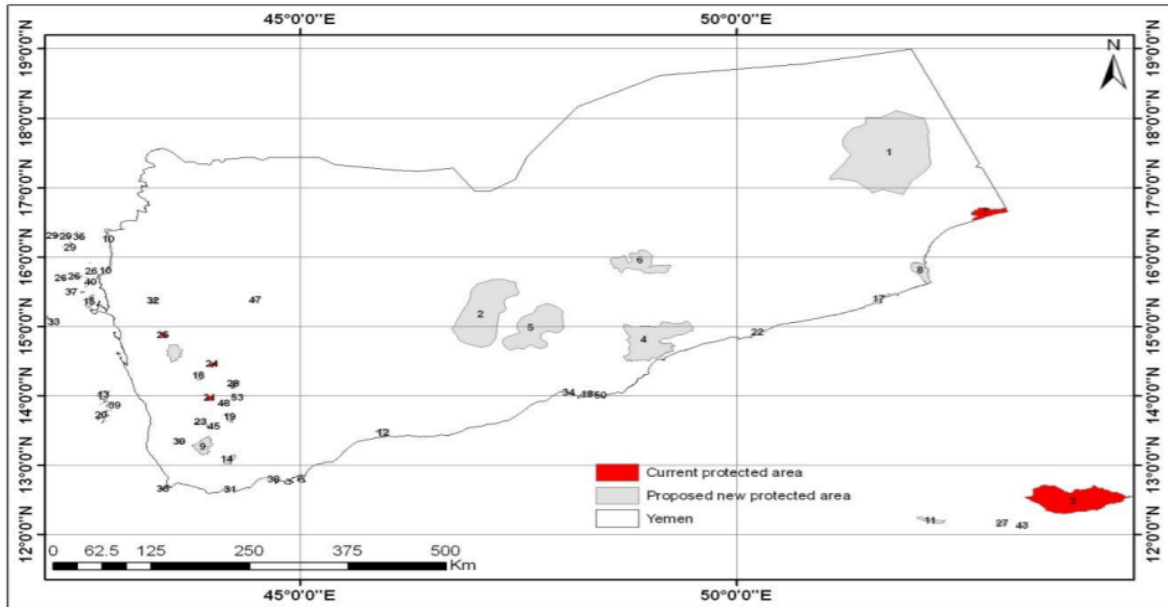


Figure 7 Current and Proposed Protected Areas in Yemen (Environment Protection Authority, 2014)

In recent decades, human activity has transformed the landscape and overexploited available biological resources resulting in the deterioration of many habitats, a major reduction in plant and animal species and the extinction of endemic, rare and endangered species. Urban encroachment in Yemen is evolving at high rates driven by population growth, increased migration to urban areas and poor land use planning. This has caused loss in biodiversity as well as resources such as farms, forests, indigenous flora and fauna, wetlands, and coastal habitats. In addition, inappropriate agricultural practices in the forms of excessive use of agro-chemicals, pesticides, insecticides and fertilizers associated with dumping of solid and liquid medical wastes and untreated wastewater into agricultural land has had detrimental impacts on soil, water, plants, animals and human health. The country's vegetation cover is being drastically reduced by rapid degradation of the environment which is a direct result of desertification and droughts. Agricultural production has undergone dramatic changes due to the expansion of Qat plantations at the expense of other crops. Yields and quality of crops such as wheat, lentil and millet are deteriorating as a result of introducing homogenous high yielding varieties. The inability to control introduction of invasive plants, seeds, microorganisms and animals has caused the degradation, decline and extinction of some native and/or endemic species (Environmental Protection Authority, 2019).

Moreover, climate change will have major impacts on Yemen's cultivated, marine and aquatic ecosystems. Biodiversity in Yemen will be highly vulnerable to frequent occurrence of drought, flood rains, temperature fluctuation, and changes in precipitation patterns leading to degradation of agricultural lands, desertification, reduced vegetation and subsequent instability of food production levels. Sea Level Rise will lead to the erosion of sandy shores, inundation of the low land, destruction of coastal critical habitats and saltwater intrusion to both surface and ground water. Finally, tourism was a rapidly growing industry before the conflict causing disturbance of the habitats, particularly the salt marshes, lagoons, wetlands and mangroves. Visitors' activities have exerted extensive direct pressures on biodiversity in the form of trampling, hunting, plant collection and waste disposal (Environmental Protection Authority, 2019).

Fisheries. According to Yemen's Ministry of Fish Wealth, fishing was the main occupation of about 83,157 active artisanal fishermen in 2012 directly supporting about 475,000 members of their families. It is widely understood that relatively high numbers of people are engaged in different aspects of fish processing and marketing. Fish processing plants spread along the Yemen Red Sea and Gulf of Aden coastal zones and employ a large number of people- including women- in canning and other activities. Total artisanal and industrial fish catch in 2012 was about 231,000 tonnes. Around 99% of this quantity was associated with artisanal fishing (Environmental Protection Authority, 2018). Table 3 summarizes some aspects of the artisanal fishing sector for 2012 and Figure 8 illustrates the distribution of artisanal fish catch across the ten coastal governorates.

Table 3 Artisanal Fishing Statistics for Coastal Governorates in 2012 (Environmental Protection Authority, 2018)

Governorate	Number of societies	Number of fishermen	Number of boats
Abyan	7	5,489	1,420
Taiz	12	3,928	1,146
Hajjah	5	1,950	430
Al Hudaidah	34	35,318	7,112
Hadramout	20	17,959	5,700
Shabwah	12	1,551	818
Aden	8	4,048	2,132
Lahjjj	4	2,272	522
Al-Maharah	16	6,568	2,902
Socotra island	11	4,074	1,400
Total	129	83,157	23,582

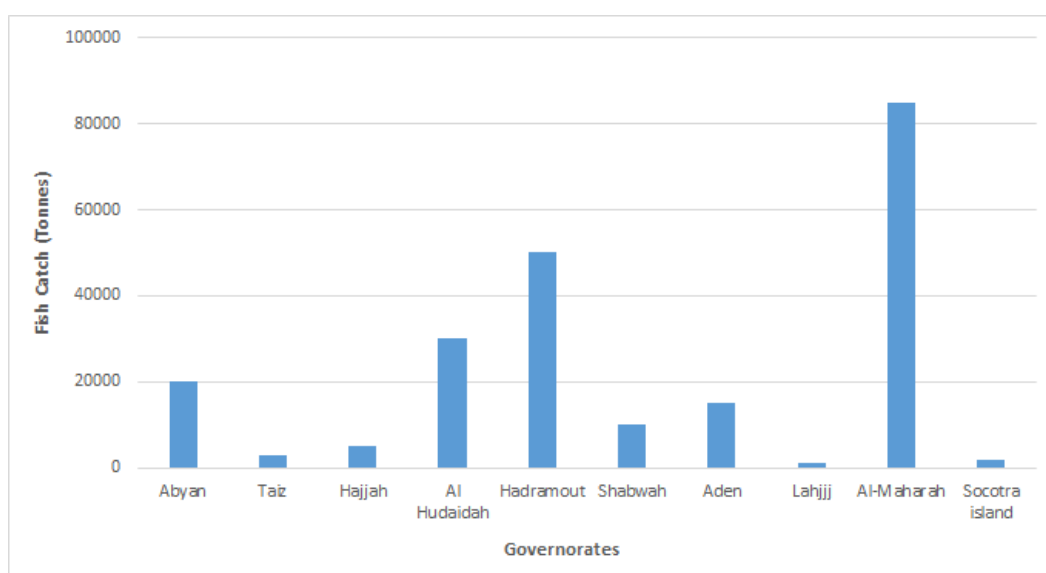


Figure 8 Spatial Distribution of Artisanal Fish Catch in 2012 (Environmental Protection Authority, 2018)

However, the fishery sector in Yemen is facing a number of challenges. Overfishing is one of the main issues contributing to the stress on marine resources. Other anthropogenic pressures such as

pollution, climate change and shipping put further stress on marine biodiversity and ecosystems (Environmental Protection Authority, 2019). Figure 9 shows that the cumulative human impacts on marine ecosystems⁷ has been increasing for Yemen and reached 3.31 in 2013. The score has changed at a mean annual rate of 3.35% over the period 2008-2013.

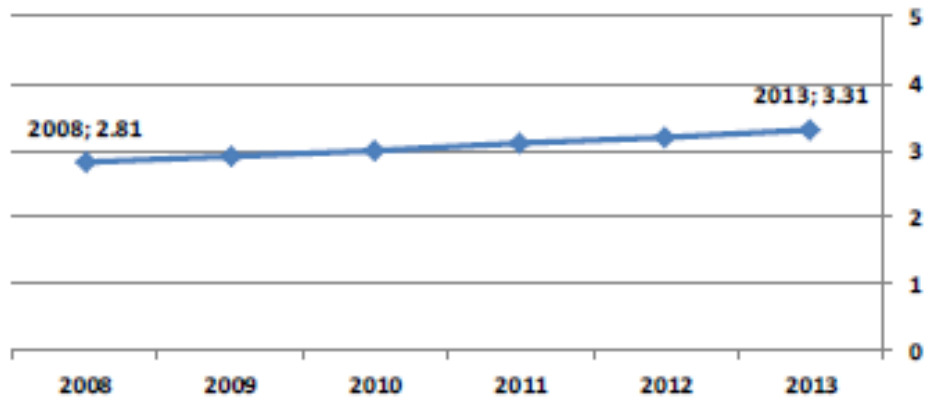


Figure 89 Cumulative Human Impacts on Marine Ecosystems in Yemen between 2008 and 2013 (Environmental Protection Authority, 2019)

Waste. Yemen suffers from a lack of capacity for solid waste management. Municipal Solid Waste (MSW) data in Figure 10 below shows increased trends of dumping from 1,105,000 tons in 2003 to 1,520,000 tons in 2014 with no significant parallel increase in solid waste recycling. Actually, the MSW collected in 2014 represent 40% of generated waste, 60% of the generated wastes have remained uncollected and disposed into open environment with anticipated severe health impact to people and ecosystems (Environmental Protection Authority, 2019).

⁷ Cumulative impact assessments model, or predict, the overall impact from a suite of stressors based on the unique and cumulative vulnerability of biodiversity to anthropogenic stressors such as pollution, climate change and fishing. An increase in the cumulative impact score indicates that a stressor or suite of stressors is having an increased impact on biodiversity. As cumulative impact scores approach zero, biodiversity is decreasingly threatened by human activities (<https://www.bipindicators.net/indicators/cumulative-human-impacts-on-marine-ecosystems>).

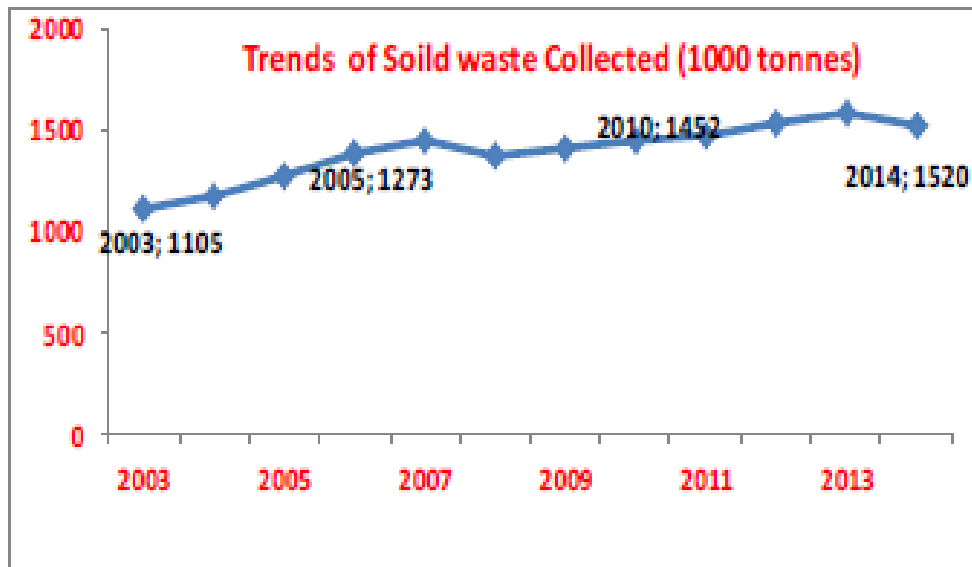


Figure 10 Trends of Solid Waste Collected in Yemen (Environmental Protection Authority, 2019)

On the other hand, wastewater generation data shows modest increase of wastewater treatment capacity from 132 MCM/year in 2010 to 135 MCM/year in 2015. Out of 2010 production, only 35% were treated while the remaining untreated wastewater discharged to underground aquifer, arable land, marine and in the watercourses of Wadies causing progressive increase contamination of these ecosystems. This has led to the reduction in ecosystems productivity and hence the delivery of their services. The continuing discharge of untreated MSW & wastewater leads to the gradual loss of agricultural land with the subsequent reduction of crop production combined with the extinction of livestock and biodiversity species (Environmental Protection Authority, 2019).

ii. Climate trends and impacts

Climate Change Trends

Temperature

The analysis of historical data shows that climate change has already increased temperatures in Yemen. The average mean temperature has increased in Yemen between the years 1901 and 2017 at an average rate of $0.0045^{\circ}\text{C}/\text{year}$. The rate of increase for the maximum temperature has been slightly greater than the rate of increase in the minimum temperature. In terms of monthly temperature, there has been an increase for every month of the year. The highest increase occurred in November by almost 0.005°C followed by April and December with a slightly smaller increase. The lowest increase occurred in August.

Future projections show a continuation of the historical trend. With reference to the 1986-2005 baseline period, there will be a rise in temperature for every month of the year. The increase in temperature is also likely to increase as we move towards the end of the century. While different scenarios show different results, there is consistency regarding predicting that the greatest increase is mainly in winter while the lowest increase is in summer. The lowest increase of 1.8°C is expected

in August by mid-century under RCP 4.5 and the highest increase of 4.33°C is expected in December by the end of the century.

Precipitation

Most of Yemen receives between 0 and 199 mm of annual rainfall. However, the West of Yemen is relatively wet with some areas in the South West reaching up to 800 mm per year. On the other hand, the historical analysis shows an overall decline in precipitation in Yemen between 1981 and 2018. The trend shows a decrease of 0.16% which means an average decline of 1.6 mm every decade. Monthly rainfall data shows that although there has been a decline for 7 months in the year, precipitation remained at the same level for June and November and increased in May and October. The biggest increase occurred in August.

Future projections show wide variation in results for the different scenarios and models. However, the main prediction is that there will be an increase in rainfall variability with an uneven distribution of precipitation change across the country. The West of Yemen- that is the wetter side of the country- is more likely to receive less rainfall while the East is more likely to receive more rainfall as we move towards the end of the century.

For the ensemble model, RCP 4.5 shows an increase in annual precipitation for all the periods until the end of the century. The increase in annual precipitation compared to the period 1986 to 2005 ranges from +6.81 mm to +40.57 mm with the highest being between 2040 and 2059. By mid-century, the central and eastern part of Yemen will witness the highest increase in rainfall whereas the West will suffer from a decline except for its coastal areas. The East of Yemen is where the highest increase in annual precipitation is likely to occur while the whole West will suffer from a decline by the end of the century. Monthly change in precipitation ranges from -0.94 mm to +3.8 mm with the biggest increase occurring in August and the biggest decline occurring in April by mid-century.

Under RCP 8.5, annual precipitation is expected to increase for all the periods except between 2040 and 2059 where a decline in precipitation is predicted. The change in annual precipitation compared to the period 1986 to 2005 then ranges from -7.88 mm to 51.32 mm where the highest change coming between 2080 and 2099. By mid-century, most of Yemen will suffer a decrease in rainfall except for some areas towards the East of Yemen and the southern coasts where precipitation will increase. On the other hand, the whole South of Yemen as well as the western coasts will witness significant increase in precipitation in addition to slighter increases in some areas in the Central East and North West. Monthly change in precipitation ranges from -2.15 mm to +17.83 mm with the biggest increase occurring in October and the biggest decline occurring in April by the end of the century. The Third National Communication to the UNFCCC uses a different model that suggests that the high emissions scenario would cause the highest increase by mid-century where the bigger change would occur in summer and the slightest change would occur in winter.

Extreme Events

Regarding extreme events, historical data shows that there has been a significant increase in extreme weather events in over the past three decades. Flooding has been the most dominant natural hazard since the 1990s. Since 1993, Yemen has been hit by 24 flood events that have mostly affected the West and South West of Yemen. The frequency of flood events have been increasing lately with three

flooding events occurring in 2019. The likelihood of drought events has also increased significantly in Yemen since the late 1990s. The West and North East of Yemen has been the most affected with drought events. Since 2015, four cyclone events has hit Yemen. Cyclones Chapala, Megh, Mekunu and Luban hit Yemen in years 2015 and 2018. The southern coast, eastern midland and Socotra Island have been largely affected with storms and flooding that left a few casualties, caused displacements and damaged infrastructure.

Future projections show a continuation of the historical trends. Yemen will likely suffer from more frequent and intense extreme events due to climate change. The West and South of Yemen are likely to become the most vulnerable to flooding with the mid-west being the most vulnerable area. Drought is expected to be more frequent and the West of Yemen is the region that is most prone in addition to parts in the south-eastern region. The likelihood of severe drought increases as we move towards the end of the century and as the emissions increase. The vulnerability of the different areas become different as the time period and emissions scenario change. However, Saadah, Taaiz, Aden and Al-Hudaydah remain interchangeably the most vulnerable governorates. Cyclones and storm surges will occur more often and with higher intensity. The combination of sea level rise and cyclonic activity will increase storm surges that will have a destructive impact on infrastructure and livelihoods in coastal areas. Yemen is among the top 10 countries in the developing world in terms of the risk of intensification of storm surges and Aden is ranked 5th among cities in the MENA region where people will be most vulnerable to sea level rise and storm surges.

Sea Level Rise

Sea levels in Yemen have been rising at a rate between 1.5 and 3 mm per year. There is a significant spatial distribution difference in Sea Level Rise trends ranging from 1.57 mm/year in the eastern landward portion of the marine area to about 2.23 mm/year in the western seaward areas.

Sea levels are expected to continue rising across coastal areas in Yemen. A rise of 0.5m is expected to inundate 440 hectares in Al Mukalla coastal zone in Hadhramaut governorate. A rise of 0.33m will inundate 5.7% of Aden governorate while a rise of 0.6m will inundate 6% of Aden governorate.

Annex 5.2 shows detailed information on climate change trends.

Climate Change Impacts

Yemen already suffers from a number of environmental challenges including severe water scarcity, historical pattern of natural hazards and the economic reliance on climate-dependant sectors such as agriculture and coastal activities. These challenges are further exacerbated by the ongoing conflict, poverty, inequality, malnutrition and lack of institutional capacities to respond. These aspects combined hinder Yemen's adaptive capacity to current and predicted climate change impacts especially in rural areas.

Vulnerability of the Water Sector to Climate Change

Climate change is one of the main threats to the water sector in Yemen. In general, climate change will increase water scarcity and negatively affect water quality (Environmental Protection Authority, 2015). While precipitation will increase for some areas in Yemen, it will decrease over other areas. The increased variability in rainfall will make it more difficult to predict and come up with coping strategies in rural areas. An increase in the concentration of rain- with less rainy days and an increase of rain amount each rainy day- might lead to higher levels of runoff, lower groundwater recharge and lower levels of evapotranspiration. Normally, reduced evapotranspiration means lower plant growth and lower yields (World Bank, 2010).

Climate change will also have an impact on groundwater depletion that is a very significant source of water in Yemen. The increase in water demand due to higher temperatures, decreased rainfall in some months of the year or drought events will lead to higher extraction levels from groundwater resources that might be unsustainable. For example, in the Wadi Zabid region, the aquifer will steadily deplete in the coming decades. The rate of groundwater depletion exceeds 350 million cubic meters per year across all climatic scenarios. Table 4 below shows the different scenarios against the rate of groundwater depletion. In the worst case, the aquifer in the Wadi Zabid region will be depleted within the next 41 years while under an optimistic future climate scenario in which mean rainfall increases, the aquifer is projected to be depleted within the next 51 years (Environmental Protection Authority, 2018).

Table 4 Impact of Climate Change on Future Groundwater Storage in Wadi Zabid Region (Environmental Protection Authority, 2015)

Climate Scenario	Fossil groundwater storage (BCM)		Rate of groundwater depletion (MCM/year)	Full depletion (years)
	2008	2033		
Future baseline climate	27	17.9	364	49
Future wet climate	27	18.1	356	51
Future dry climate	27	16.7	412	41

Vulnerability of the Agricultural Sector to Climate Change

The agricultural sector in Yemen will be further exposed to increased temperature, changing rainfall patterns and increased incidents of extreme weather events. The predicted increase in temperature will decrease the duration between sowing and harvesting and thus will have adverse impact on productivity. Rainfall variability in terms of the timing and amount of rainfall, delays in onset and/or early end of rains and length of dry spells pose major risks for crop production. With climate change,

the early stages of the rainy season (March through May) are likely to exhibit greater variability which could adversely impact rainfed agricultural production leading to food insecurity and lower economic productivity (Environmental Protection Authority, 2018). Figures 11, 12 and 13 below shows the risk of soil erosion linked to rainfall (Wilby and Yu, 2013a). The potential increase in rainfall is increasing the soil erosion risk. Areas in the South and West of Yemen are more prone to soil erosion where an increase of rainfall by 40% can cause soil erosion of up more than 12 tonnes/ha. The increase in frequency of drought is also expected to negatively affect agriculture in Yemen. An increase in projected temperatures and a decrease in seasonal precipitation during the rainy season will lead to an increase in drought events that will hardly hit the agricultural sector and the livelihoods in rural areas (Environmental Protection Authority, 2018).

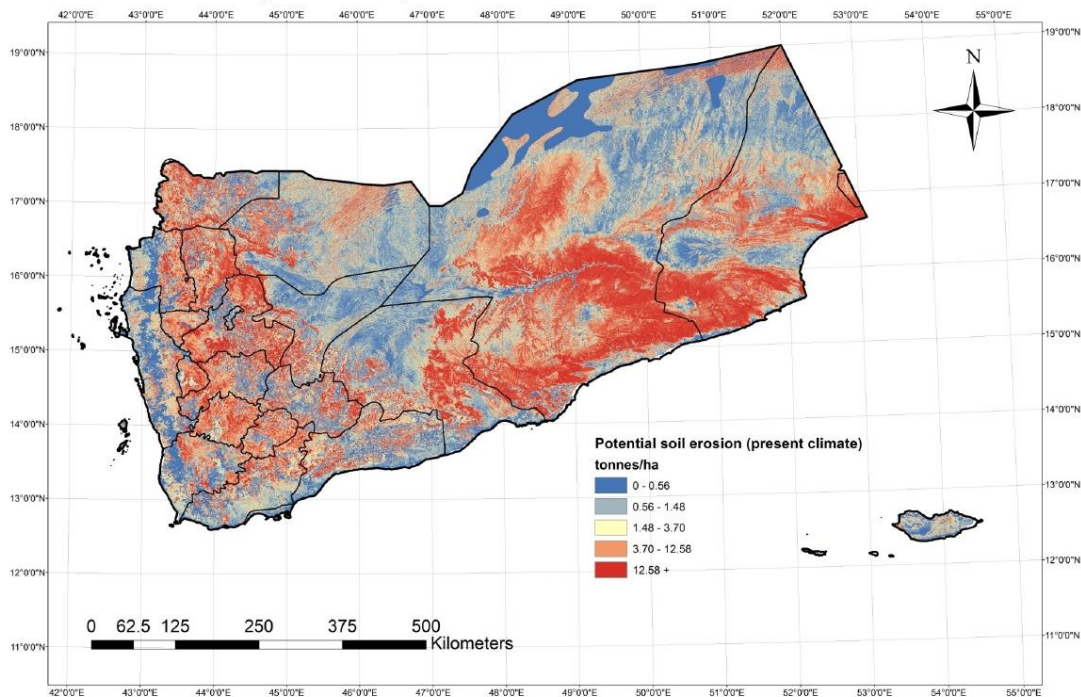


Figure 11 Potential Soil Erosion in Yemen at Present Climate (Wilby and Yu, 2013a)

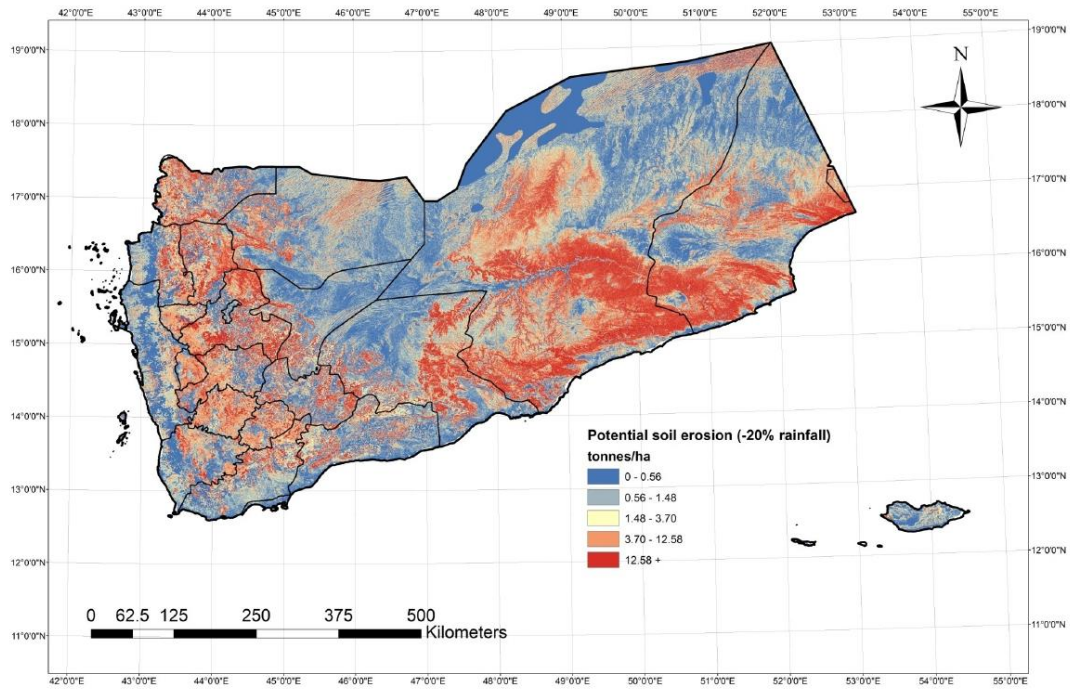


Figure 12 Potential Soil Erosion in Yemen at -20% Rainfall (Wilby and Yu, 2013a)

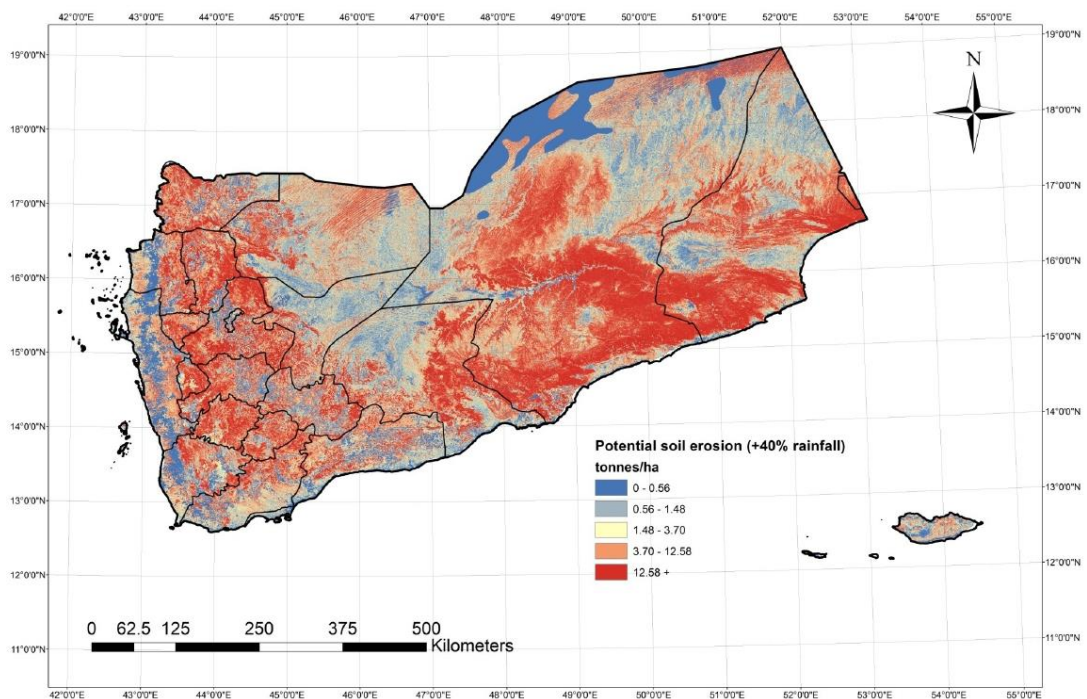


Figure 13 Potential Soil Erosion in Yemen at +40% Rainfall (Wilby and Yu, 2013a)

It is predicted that climate change will have a negative socio-economic impact on those working the agriculture sector. While climate change might increase food prices thus raising the agricultural GDP, real household incomes and food security will decline (Breisinger et al., 2011). Rural nonfarm households will be the hardest hit as they tend to be net food consumers with high food budget shares, but farm households also experience real income losses given that many of them are net buyers of food (Breisinger et al., 2011).

Potential Impact on Yemen's main crops

Climate change is expected to have a great impact on crop production in Yemen. Three possible scenarios show different impacts for the 2030s, 2050s and 2080s and Table 5 below shows their impact on agricultural activity.

Table 5 Possible Impact on Agriculture in Yemen under Three Climate Scenarios (adapted from World Bank, 2010)

Scenario	Predictions	Impact on Agriculture
Mid	Gradual rise in temperatures, up 3.1 °C by 2080. Mild increase in rainfall until 2050, beyond which rainfall declines. Little change in runoff until the 2030s, followed by a large increase by the 2050s, then decline below current levels. A modest increase in recharge until about 2050, followed by a decline reaching about 12% by 2080. Little change in Evapotranspiration.	Under this scenario, conditions for agriculture show little change, although the rising temperatures and the increase in water availability from runoff and recharge up to mid-century may have a mildly favourable impact on yields. Thereafter, the higher temperatures and decline in water availability will have a negative impact.
Hot and Dry (Pessimistic Scenario)	Larger increase in temperatures, reaching 4.5 °C by 2080. Substantial drop in rainfall, down by 24% by 2080. A large drop in runoff, of one half or more. Recharge rates decline by more than a half by 2080. Evapotranspiration declines steadily as aridity increases.	The combination of higher temperatures with less rainfall, runoff and recharge will increase the aridity of growing conditions and have an increasingly negative impact on yields.
Warm and Wet (Optimistic Scenario)	Moderate rise in temperatures, up 1.6 °C by 2080. Rainfall up 25% by 2030, then tapering off. A doubling off runoff through most of the century, reducing somewhat in the second half. Recharge up by 50% by 2030, tapering off by 2080. Evapotranspiration well up,	The modest temperature rises accompanied by a significant increase in rainfall, runoff and recharge will have a favourable impact on yields, declining somewhat after 2030.

	although dropping back a little after 2030.	
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Increasing temperature then could assist crop production in some areas, particularly the cooler highland areas where increased precipitation, run off and recharge make water more available, and where the growing season may be extended. On the other hand, where temperatures are significantly higher and precipitation significantly lower, evapotranspiration would increase but runoff and recharge would reduce and the net effect of higher temperatures on production would be negative (World Bank, 2010).

Overall, there are significant differences in the responses of the different crops to the changes in climate. Qat is predicted to significantly increase under the three scenarios ranging between +51% and +77% while vegetables show negligible changes. Both crops benefit from the increase in temperature. Qat Legumes will decline under the three scenarios where the decline in yields ranges between -4% to -15%. Yields of fruit, sorghum and other cereals (e.g. wheat, barley, millet and maize)) will decline under the “Hot and Dry” scenario by -14%, -11% and -9% respectively. Their yields will, however, increase by + 8%, +15% and +13% under the “Wet and Warm” scenario. These crops benefit from the increase in rainfall and less increase in temperature.

Vulnerability of the Pasture, Livestock and Fisheries Sectors to Climate Change

The livestock sector in Yemen plays a critical role in food security especially in times of economic shocks and acts as an important source of income through exporting mainly to Saudi Arabia. Climate change is likely to have a major impact on the productivity of pasture and livestock patterns. If there is a combination of warming and drying as one scenario, there are risks of overgrazing for the most extensive grazing areas that will accelerate the trend towards desertification. If the carrying capacity of rangelands dwindles, there may be increasing pressure on irrigated fodder with a significant economic impact on the livestock market. Moreover, changing temperatures are likely to reduce livestock productivity by increasing disease burdens (World Bank, 2010). In addition, the expected increase in frequency of drought events especially in the western part of Yemen will also have a negative impact on rangelands and livestock production. Concerning fisheries, the rise in the sea level and deterioration of the coastal ecosystem and infrastructure as a result will lead to a poor fisheries sector (World Bank, 2010). The predicted increase in frequency and intensity of cyclones and storm activities will cause major losses to the fisheries sector. Some of the recent cyclone and storm incidents have already had caused the loss of fishing boats and halted fishing activities for some time.

iii. Climate change mitigation

Yemen’s total GHG emissions in 2010 were 34,136 Gg CO₂ equivalent that includes 8,247 Gg from the agriculture sector. CO₂ sequestration by the forestry and land use sector in 2010 amounted to 1,887 Gg. Hence, net GHG emissions were estimated at 32,249 Gg CO₂ equivalent. Agricultural practices are the second largest emitter of anthropogenic GHG emissions in Yemen accounting for

8,247 Gg of CO₂ equivalent and representing around 24% of national CO₂ equivalent emissions in 2010. Emissions from perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF₆) in Yemen are negligible (Environmental Protection Authority, 2018). Table 6 below shows the emissions by gas from each sector.

Table 6 Total GHG Emissions in Yemen in 2010 (Gg) (Environmental Protection Authority, 2018)

GHG Sources & Sinks	CO ₂ -equiv	CO ₂	CH ₄	N ₂ O	NO _x	CO	NM VOC	SO ₂
1 Energy	22,038	20,543	66.75	0.30	102	514	102	4
2 Industrial Processes	1,798	1,798	0.00	0.00	0	0	183	1
3 Solvent & Other Product Use	0	0	0.00	0.00	0	0	0	0
4 Agriculture	8,247	0	184.00	14.14	1	18	0	0
5 Land-Use Change & Forestry	-1,887	-1,887	0.00	0.00	0	0	0	0
6 Waste	2,053	0	83.00	1.00	0	0	0	0
Total National Emissions	34,136	22,341	333.75	15.44	103	532	285	5
Net National Emissions	32,249	20,454	333.75	15.44	103	532	285	5

It is worth mentioning that the trend in total GHG emissions has increased by 91% between 1995 and 2010. Emissions have increased from 17,866 Gg CO₂ equivalent in 1995 to about 34,136 Gg CO₂ equivalent in 2010. Also over this period, CO₂ equivalent emissions from agriculture have increased by 71% (Environmental Protection Authority, 2018). Table 7 below shows the contribution of the different sources of emissions under the agriculture sector.

Table 7 GHG Emissions from Agricultural Activity in 2010 (Gg) (Environmental Protection Authority, 2018)

GHG Source Categories	CO ₂ -equiv	CO ₂	CH ₄	N ₂ O	NO _x	CO	NM VOC
All agriculture emissions	8,247		184.00	14.14	1	18	0
A Enteric Fermentation	3,675		175.00	0.00	0	0	0
B Manure Management	204		8.00	0.12	0	0	0
C Rice Cultivation	0		0.00	0.00	0	0	0
D Agricultural Soils	4,340		0.00	14.00	0	0	0
E Prescribed Burning of Savannas	0		0.00	0.00	0	0	0
F Field Burning of Agricultural Residues	29		1.00	0.03	1	18	0

The 1,887 Gg CO₂ equivalent sequestered through Land Use, Land Use Change and Forestry (LULUCF) is roughly 6% of Yemen's overall anthropogenic GHG emissions. Table 8 shows the sequestration contribution of the different activities under the LULUCF sector (Environmental Protection Authority, 2018).

Table 8 GHG Emissions from LULUCF Activity in 2010 (Gg) (Environmental Protection Authority, 2018)

GHG Source Categories	CO ₂ -equiv	CO ₂	CH ₄	N ₂ O	NO _x	CO
All LULUCF emissions	-1,887	-1,887	0	0	0	0
A Changes in Forest & Other Woody Biomass Stocks	-11,743	-11,743	0	0	0	0
B Forest and Grassland Conversion	0	0	0	0	0	0
C Abandonment of Managed Lands	0	0	0	0	0	0
D CO ₂ Emissions and Removals from Soil	9,856	9,856	0	0	0	0
E Other	0	0	0	0	0	0

Yemen's Intended Nationally Determined Contribution (INDC) sets a 1% reduction in GHG emissions by 2030 compared to a business as usual (BAU) scenario as an unconditional target for mitigation.

Another 13% is a conditional target that can be achieved with significant international support (Environmental Protection Authority, 2015). Figure 14 below shows the GHG emissions under the different scenarios until 2030.

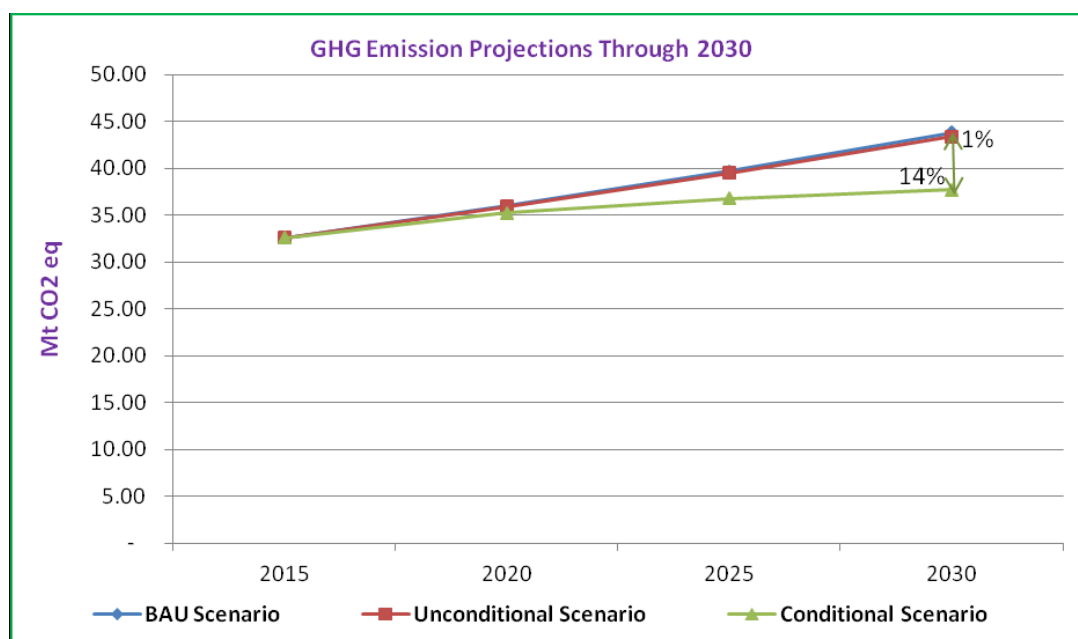


Figure 14 Mitigation Scenarios between 2015 and 2030 (Environmental Protection Authority, 2015)

Mitigation measures under the agriculture and water sectors outlined in the INDC are the introduction of solar photovoltaic (PV) water pumping systems for irrigation; proper land management to reduce methane from soil; methane captures from wastewater treatment plants; and encouraging and expanding renewable energy-based water desalination (Environmental Protection Authority, 2015).

C. Targeting Profiles

Target groups and outreach: The project will be implemented in 5 Governorates and reaching out 26,031 Households and 174,400 beneficiaries⁸. Given the different type of interventions across component, the likelihood and percentage of participation of women and youth varies accordingly between Component 2 and 3. For Household targeted activities under Component 2: Climate resilience community infrastructures, the share of women and youth beneficiaries is calculated at households' level based on the population proportion: 51% women and 18% youth in the targeted areas. For individual targeted activities under component 3: Protection of agriculture livelihood, direct targeted interventions for these target groups will consider 64% women and 53% youth (Annex 5.5).

Target groups: The project will target poor and food-insecure households engaged in agriculture (crop, livestock, mixed farming) as the main target group. The project will give priority to the poorest and most disadvantaged socio-economic categories like women, women headed household and youth led households as well as considering inclusion of people affected by the conflict, specifically IDPs (focus on women and youth IDPs). The presence of youth and IDPs is mostly

⁸ Household average is 6.7 members based on UNDESA (2020) data.

considered for direct targeted interventions under Component 3 (specifically 3.3 on nutrition and literacy and 3.3 for value addition).

Poor and Food Insecure Households. The project will target smallholder households below poverty line (2 \$ per day) engaged in agriculture production as main source of livelihood (crop, livestock, mix farming). In the target area (5 governorates) of the agriculture households, 48% undertake livestock farming, 46% undertake mixed farming and only 7% of the households are engaged in just crop farming. This shows the importance of agriculture to livelihoods and the key role of livestock in the farming system.

Producers can be farm owners but more often are sharecroppers and tenants (being landless or near landless). Producers experience significant loss, shortages of agricultural inputs (seeds, fertilizers, fuel to power irrigation pumps, etc.) or are unable to afford them due to soaring prices. (FAO, WFP and UNICEF, 2017). Smallholder farmers engaged in crop production access an average of 0.5 to 1.5 – 2 ha of land, while for livestock activities average animals' ownership is 3-5 small ruminants or 1 to 2 cows. Main issues faced in the livestock sector are: bad feeding practices, animals' health and disease (FAO, WFP and UNICEF, 2017). Households in this category experience food consumption gaps which are reflected by high or above-usual acute and chronic malnutrition and are marginally able to meet minimum food needs (OCHA, 2018a).

Priority for the poorest and most disadvantaged households: Households ranking among the poorest are those composed of high number of members/dependents (more than 9) with limited productive capacity, unable to fulfil households' basic needs (FAO, WFP and UNICEF, 2017) and those headed by women. According to the WB study Poverty Notes, the incidence of poverty for households who had less than four members was 23.7. This increased to 55.4 if the household had more than ten or more members (World Bank, 2017). Similarly, female-headed households are generally more at risk of food insecurity and malnutrition, as their coping capacities in times of food shortage are significantly more limited than households headed by men. Even without any shocks they are likely to experience high levels of food insecurity and large consumption gaps than men headed households (FAO, WFP and UNICEF, 2017). They are also often unable to ensure adequate nutrition to household members, especially infants and children below 5 years. Women of child bearing age, particularly Pregnant and Lactating Women (PLW), have limited or no access to reproductive health services. In general women's access to assistance and other services is reduced as a result of their high levels of illiteracy, posing an obstacle to accessing and understanding relevant information. The project will place strong attention on women education (literacy, life skills, nutrition) in addition to economic opportunities.

Youth (15-24): Youth rank among the poorest. They are often landless, wage labourers, unemployed or unpaid family labourers. In general, the youth unemployment rate in Yemen for age group 15-24 is 34.8 (with male below 30% and female exceeding 50%). Youth in the country are less likely to enjoy work in the tertiary sectors (and are more likely to be in low productivity agricultural employment), are less likely to be in wage employment and are less likely to be in formal sector employment. In Yemen 82 per cent have less than primary education and two-thirds have no education (ILO, 2016).

The project will consider that 18% of them will be beneficiaries of Component 2 activities for Climate resilience community infrastructures and a 53% for Component 3 protection of agriculture

livelihood. A further disaggregation shows the following expected participation of youth: 80% for literacy, 40% nutrition education, 40% for FFS; 40% for value addition (livelihood package and matching grants). It is expected that the number of youth participants consider young men and young women on an equal basis.

Internally Displaced People (IDPs): They rank among the poorest and most vulnerable. In the targeted governorates, overall, the presence of IDPs is about 1 M individuals. IDPs in the host communities can engage in agriculture related activities such as small livestock or work as occasional agriculture labours. They are considered the most vulnerable and food insecure (OCHA, 2018a). Food security assessments have confirmed that IDP households are facing the most extreme hunger levels. During displacement, the majority of IDPs turn to a number of food-related coping strategies and they were found to be much more severe and more frequently used, compared to those that households not displaced turn to in order to cope. The share of IDP households suffering from poor food consumption has increased by 35% in 2016 if compared to 2014 data (FAO, WFP and UNICEF, 2017). About half of IDPs are female, including 27% who are below age 18.

The project will consider inclusion of 10 % of IDPs for specific activities directed to the most vulnerable (women and youth) under component 3, more specifically: food and nutrition security (sub-component 3.2) and Livelihood Resilience and Value Addition (sub-component 3.4).

People with Disabilities (PWD): As in the majority of societies, negative attitudes and stereotyped perceptions of persons with disabilities (PWD) in Yemen lead to intersectional discrimination in the enjoyment of their right to equality with other members of society. According to UN data (OHCHR, 2015) There are an estimated three million people with disabilities living in Yemen who are facing serious protection concerns and increasing difficulties in meeting their basic needs. The most commonly reported disabilities in Yemen are related to mobility, followed by visual, hearing, cognition and communication disabilities (Handicap International, 2018). The Yemeni government's national disability strategy affirms its commitment to the rights of persons with disabilities.⁹ Its Social Welfare Fund and Handicapped Welfare and Rehabilitation Fund still exist. However, the ongoing armed conflict has affected implementation¹⁰. Prior to the war, there were more than 300 organizations that provided services for persons with disabilities. There are now only 26, all of which have limited capacity and programmes due to lack of funding and operational viability (OHCHR, 2015).

The programme will have a special focus on vulnerable groups such as Persons with disabilities (PWD). In this regard, during diagnostic phase, IP will collaborate closely with institutions at local level (where existing) already engaged in work with such groups to ensure that selected beneficiaries can be mobilised and benefit from project activities. Special capacity building training will be provided to facilitators to be able to work with PWD and identification of activities for them as part of IGA and matching grants. The IP will take into account existing global training materials (i.e. ILO)¹¹

⁹ Ministry of Social Affairs and Labour, National Disability Strategy (2014-2018). This strategy outlines the vision, objectives and principles of a 'rights-based' approach to disability for Yemen. Its main objectives include raising awareness about persons with disabilities and undertaking a comprehensive legislative and policy review to bring laws and policies in line with the human rights model of disability enshrined in the CRPD, in consultation with organizations of persons with disabilities.

¹⁰ The Social Welfare Fund was created by Law No. 31 (1996). It is a government-funded social safety net for at-risk people in Yemen, including persons with disabilities. Articles 28 and 29 of the law establishing the fund state that financial support for persons with disabilities from low-income families who are seeking vocational training should be prioritized and that they should be considered for employment opportunities upon completion of the training, in line with Yemeni Labour Law, which stipulates that 5% of jobs be reserved for persons with disabilities. The Handicapped Welfare and Rehabilitation Fund was created by Law No. 2 (2002).

¹¹ Example of existing training materials: (i) Disability Equality Training for Facilitators (ILO 2013); (ii) Inclusion of people with disabilities in vocational training: a practical guide / International Labour Office, Gender, Equality and Diversity – Geneva: ILO, 2013; (iii) Rural skills training A generic manual on training for rural economic empowerment (TREE) section on PWD.

to be adapted to the local context and actions for inclusion of PWD will be aligned to national policies highlighting that financial support for persons with disabilities from low-income families who are seeking vocational training should be prioritized and that they should be considered for employment opportunities upon completion of the training.

3. Institutional Analysis

Government Institutions

Ministry of Agriculture and Irrigation (MAI)

The Ministry of Agriculture and Irrigation MAI is responsible for governance and policies of irrigation, crops, livestock, and forestry. In addition the MAI has four specialized subordinate agencies within its structure; the Agricultural Research and Extension Authority (AREA); the Tihama Development Authority (TDA); the Potato Seed Company (PSC); and the Cooperative & Agricultural Credit Bank (CAC Bank). The MAI has 23 branches across the country, one in each governorate with the exception of the governorate of Hadramaut which has two branches as a result of its vast geographic area and the size of its agricultural sector.

The MAI is currently comprised of two separate ministries, one under the internationally recognized government, based in the interim capital Aden and another under the *de facto* government in Sana'a. Currently, the MAI under the internationally recognized government controls 13 out of its 23 branches. These branches include Aden, Lahj, Al-Dhala, Abyan, Shabwa, Hadramaut Valley, Hadramaut Coast, Al Maharah, Socotra, Marib, and Al Jawf, As for Taiz and Al Hudaydah, the MAI under the internationally recognized government has established temporary branch offices in the areas under its control, while the TDA remains under the domain of the *de facto* government. As a result of the five year long conflict in the country, the MAI and its subordinate agencies have lost a significant part of their operational capacity on the ground. The lack of financial resources has forced both MAI's on both sides to stop paying their employees' salaries. Although the salaries situation is slightly better in the MAI under the internationally recognized government, most of the MAI's manpower, technical expertise, and institutional memory still remains in Sana'a under the *de facto* government. The financial restraints and the fact that the manpower is unevenly split between the two opposing governments resulted in a substantial reduction in the MAI's overall operational capability.

Ministry of Water and Environment (MWE)

The Ministry of Water and Environment (MWE) was created in May 2003 following the issuance of Republican Decree No. (105) for the year 2003. The creation of the MWE reflected the Yemeni government's desire to organize the institutional situation necessary to face the growing water and environmental problems in the country. The MWE mandate entails providing clean drinking water for urban and rural residents, treatment of wastewater, management of water resources, and planning their exploitation in light of the water law. Furthermore, in regards to the environment, the MWE is responsible for combating environmental degradation represented by the depletion and

contamination of basic natural resources, such as plants, air, soil and water and to take appropriate measures to protect and conserve these resources.

Three specialized authorities and two corporations were created under the MWE; the National Water Resources Authority (NWRA); the Environmental Protection Authority (EPA) - where the GEF operational focal point resides; General Authority for Rural Water (GARW); General Corporation for Water and Sewerage; and the General Corporation for Water and Sanitation. The MWE, along with its subordinate agencies, has 23 branches around the country covering each governorate. 13 of these branches are currently under the control of the internationally recognized government and the rest remain under the rule of the *de facto* government in Sana'a. The branches that are under the internationally recognized government include Aden, Lahj, Al-Dhala, Abyan, Shabwa, Hadramaut Valley, Hadramaut Coast, Al Maharah, Socotra, Marib, Al Jawf, and temporary offices in Al Hudaydah and Taiz in the areas under its control.

The operational capacity of the MWE has been significantly compromised in both sides, the internationally recognized government and the *de facto* government in Sana'a. This is due to the fact that the current conflict has resulted in a lack of financial resources which hindered the ability of the ministry to pay salaries to its employees. On the internationally recognized government's side the salary situation is slightly better, but nonetheless remains disruptive. Moreover, the MWE's scarce financial resources within the internationally recognized government has limited its ability to move technical staff and middle management out of Sana'a to Aden. Only the ministry's upper management and very few technical staff are currently operating under the domain of the internationally recognized government which makes its operational capacity even lower. Conversely, the technical expertise, the majority of the manpower, and the institutional memory is available under the *de facto* government in Sana'a, but the lack of institutional leadership and financial resources makes its operational capacity almost equally as low.

Ministry of Fish Wealth (MFW)

The Ministry of Fish Wealth (MFW) mandate entails laying down appropriate controls and standards to regulate artisan, coastal, and industrial fishing to ensure the promotion and development of artisans and coastal fishing activities, in a way which would gradually replace foreign and industrial fishing and build a core for the establishment of a distinctive national fleet. It is also responsible for the activation and strengthening of the role of marine control and surveillance to safeguard fish wealth, combat smuggling and prohibit informal and illegal fishing in coordination with the concerned authorities.

The entire fisheries sector's operations are governed by MFW with its central office now located in Aden and supported by 9 branch offices in the 9 coastal governorates of Aden, Lahj, Abyan, Shabwa, Hadramaut, Al Maharah, Socotra, and Taiz while Al Hudaydah branch remains under the control of the *de facto* government .

The MFW has five subordinate authorities including the General Fisheries Authority of the Gulf of Aden which covers Aden, Lahj, and Abyan; the General Fisheries Authority of the Arab Sea which covers Shabwa, Hadramaut, and Socotra; the General Fisheries Authority of Al Maharah covering only Al Maharah; the General Fisheries Authority of the Red Sea which covers Taiz and Al Hudaydah; and the Marine Science Biological and Research Authority (MSBRA). It also has four specialized

agencies; the General Corporation for Fish Marketing Services (GCFMS); the Coastal Fisheries Corporation (CFC); the Aquaculture Research Centre (ARC); and the Fish quality control laboratories.

Unlike most other ministries, the MFW under the internationally recognized government controls all of its subordinate authorities with the exception of one. The General Fisheries Authority of the Red Sea is the only part of the MFW that is currently controlled by the *de facto* government in Sana'a. The MFW under the internationally recognized government has retained most of the ministry's original staff due to the fact that the majority of the staff were originally based in the governorates currently under the control of the internationally recognized government. Nonetheless, the MFW is facing the same financial difficulties that most Yemeni line ministries are facing which in turn reduced its operational capacity significantly.

Ministry of Planning and International Cooperation (MOPIC)

The Ministry of Planning and International Cooperation (MOPIC) is responsible for identifying the country's visions, general objectives, strategies and plans for economic and social development. It is also in charge of coordinating with the concerned authorities in determining the sectoral programs and the necessary investments. The MOPIC also represents the government in negotiating with the external development partners to conclude loans, grants and technical assistance agreements. MOPIC is also the legal borrower of loans coming from IFIs such as IFAD and the World Bank.

Under the internationally recognized government, MOPIC is still very much capable of performing its international cooperation function. This is due to the fact that under this government the Minister and his staff are still able to travel to meet and coordinate with the international community and the Ministry's authority is recognized as being legitimate. Nevertheless, like all other Ministries under the internationally recognized government, MOPIC still has a great deal of difficulty securing financial resources to regularly fulfil its financial obligations including paying its own staff.

Under the *de facto* government, MOPIC is more involved in the day-to-day work of all international donors including the UN. The reason being that all UN agencies and the majority of international donors still have their main offices in Sana'a which puts most of their day-to-day activities under the jurisdiction of the *de facto* government. That being said, MOPIC under the *de facto* government recently dismantled its entire International Cooperation sector and replaced it with a new ad hoc committee responsible mainly for humanitarian aid. The majority of employees in the International Cooperation sector were told to stay at home and only a selected few were put on this new committee. This is expected to further complicate and hinder the future operations of all UN agencies and international donors in the country. Finally, in terms of financial resources, MOPIC under this government is also unable to pay the salaries of its staff.

Ministry of Finance (MOF)

The Ministry of Finance MOF plans, prepares and manages the government budget and public debt. This is carried out by preparing legislation, planning revenues and expenditures, managing and supervising the budgetary spending process and preparing a framework for economic policy and development. MOF analyses and designs tax policies, customs duties and tariff policies, and other types of public income. It also analyses and guides the public expenditure system and develop policies on domestic and international finance.

MOF has seven sectors in its structure the Budget Sector; the External Financial Relations Sector; the Government Regulation Sector; the Planning, Statistics, and Follow-Up Sector; the Economic Units Sector; the Financial and Economic Affairs Sector; and the Revenue Sector. It also has six subordinate specialized institutions including the Central Bank of Yemen (CBY); the Tax Authority; the Customs Authority; the Duties Authority (Islamic Duties); the Public Finance Modernization Project; and the Financial Institute.

MOF under the internationally recognized government is currently operating at minimal capacity. The fact that the government's current budget is being almost completely provided by Saudi Arabia indicates that MOF has, low to none, financial resources. The CBY under the internationally recognized government is also struggling as explained in the next section. The Tax, Customs, and Duties authorities are the three main authorities under MOF that are still functioning and providing some revenue. MOF financial situation under the *de facto* government is even worse, taking into consideration that no known foreign financial support is being received. However, the Tax, Customs, and Duties authorities seem to be working overtime and the *de facto* government providing much higher revenues. Nonetheless, these generated revenues are all redirected to support the war efforts while government employees remain with no salaries. Finally, as a result of the fragmentation of the Tax and Customs authorities, import businesses operating under the domain of the *de facto* government are now subject to double taxation. This is due to the fact that all imported goods come from the Aden port since Hudaydah port is no longer allowed to receive vessels except for oil and gas. As a result business pay approximately 17% tax and customs at the Aden port, in addition to another 30% at the entry points controlled by the *de facto* government.

The Central Bank of Yemen (CBY)

The Central Bank of Yemen (CBY) is the leading authority responsible for conducting monetary policy, management of the exchange rate, issuing the local currency, management of the country's forging reserves, protection of depositors (through banking supervision, lender of last resort and crisis resolution) and the continuity of core payment system functions (clearing and settlement; liquidity management; oversight).

Yemen's Central Bank's foreign reserves stood at roughly \$5.2 billion prior to the conflict, but have now declined to negligible amounts. The Central Bank can no longer fully support imports of critical goods or the country's exchange rate. In September 2016 the internationally recognized government decided to move the CBY to its interim capital Aden. This decision basically resulted in splitting the bank into two separate rival entities. The rivalry between the two entities resulted in the fragmentation of the monetary policy which is increasingly undermining the domestic currency stability. This led to an accelerating collapse of the Yemeni rial-based currency system and drove a migration toward the use of foreign currencies – primarily Saudi riyals and US dollars – for financial transactions inside the country.

From the internationally recognized government's side the bank's relocation to Aden kept the institution's international recognition, allowing it to, among other things, to print currency and access international financial markets. Meanwhile, the central bank under the *de facto* government maintained its purview over the country's largest consumer markets and financial centres, although unable to access the international financial market because of a disabled SWIFT system. The institutional memory completely remained under the *de facto* government, with the central bank of

Aden having absolutely no information about the government's or the country's financial standing prior to its creation date in 2016.

The battle between the central banks entered a dangerous new phase on December 18, 2019, when the *de facto* government banned newly-printed currency bills issued by its Aden rival. The *de facto* government gave residents under its domain a one-month window to trade in the newly printed bills for either old ones, issued pre-September 2016, or a new electronic currency that it is recently trying to implement. In reaction to the ban, the internationally recognized government suspended public salary and pension payments to recipients in areas under the *de facto* government control.

The market reaction to the banknote ban created a flourishing black market for currency trading, currency smuggling across frontlines, and the emergence of an increasingly divergent exchange rates around the country. As the new banknote flooded back to the internationally recognized government's territories, the oversupply resulted in an increase in the exchange rate reaching up to YR668 per USD1 compared to YR599 per USD1 in the territories of the *de facto* government.

The central banks on both sides of the aisle are essentially collapsing very slowly, but steadily. If this rivalry continues for much longer the operational capacity of both banks will be next to none.

Ministry of Social Affairs and Labor (MOSAL)

The Ministry of Social Affairs and Labour (MOSAL) is responsible for the poverty reduction, social protection and all issues concerning labour and employment. MOSAL's mandate combines two parts, a social affairs part and a labour part. The social affairs part includes the Social Welfare and the Social Development sectors who are responsible for the poverty reduction, social protection and special groups. The labour part includes the Manpower sector and a Labour Relations sector who are responsible for all issues concerning labour and employment.

MOSAL has four specialized subordinate agencies the Social Welfare Fund (SWF); the Disabled Welfare Fund (DWF); the National Program for Productive Families; and the Social Studies and Research Center. There two more specialized agencies that are indirectly related to MOSAL, the Social Fund for Development (SFD) and the Supreme Council for Motherhood and Childhood. The SFD is financially independent and does not fall directly under MOSAL, but the MOSAL Minister is the CEO and Deputy Chairman of its board. MOSAL is represented by a regional social affairs and labour office in each of the 22 governorates of Yemen. 13 of these offices are under the control of the internationally recognized government while the rest remain under the control of *de facto* government. Like most other Yemeni line ministries, MOSAL under both governments is struggling to meet its financial obligations including payment of salaries.

One of the most essential agencies of MOSAL was the SWF which basically collapsed in 2015 at the beginning of the conflict, leaving approximately 8 to 9 million people without social protection support. The ongoing interruption of MOSAL's staff salary payments prevented international donors from continuing to support the financial transfers through the SWF. However, in May 2017 the World Bank and UNICEF launched the Yemen Emergency Crisis Response Project. The cash transfer project is supported by a US\$200 million grant from the International Development Association (IDA)

in support of Yemen. The project is implemented by UNICEF and targets Yemen's most vulnerable families by using the existing beneficiary list from Yemen's SWF cash transfer program¹².

The Ministry of Youth and Sport

The Ministry Of Youth and Sport is responsible for youth affairs. The ministry's activities include youth hostels, youth centres, a youth employment project, youth welfare fund, Scouts and Girl Guides association and the Youth Advisory Committee. Yemen's National Dialogue Conference which took place in response to youth protest in 2011, concluded with the establishment of a Supreme Council for Youth, which will consider youth in public policies, and "institute clear policies and mechanisms for youth participation and inclusion in public policy making."

Third Party Executing Agencies

Food and Agricultural Organization of the United Nations

The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. Its goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide¹³.

The FAO Country Representation in Yemen has been operational for 40 years. Since the beginning of operations in the country, FAO has provided support to farmers, herders and fishers and has supported the improvement of agricultural production and productivity. Today, FAO is also working with the Yemeni authorities to support sustainable restoration and diversification of agricultural livelihoods. FAO assistance to Yemen focuses on five strategic priorities: Policy development, strategic planning, and strengthening agricultural information systems; Improved efficiency of the agro-food sector and enhanced agricultural and fisheries production and productivity, food safety and food and nutrition security; Development, conservation and sustainable management, and efficient utilization of natural, agricultural and marine resources; Value addition, agro-processing marketing and trade, and promoting private sector role of these spheres; Sustainable livelihoods and enhanced food and nutrition security for vulnerable rural communities, and improved disaster risk reduction¹⁴.

For the past five years since the beginning of the Yemeni conflict, FAO's assistance and operations in Yemen grew substantially. Its development assistance increased by more than 7 fold in terms of allocated financial support which is currently above USD100 million¹⁵. Currently it has 18 ongoing projects in Yemen basically covering all 22 governorates¹⁶; however, it is also acting as a third party implementing agencies for a number of development agencies which brings the total to more than 20 active projects. In terms of operational capacity, FAO increased its staff in the country more than 8 fold reaching over 100 employees compared to around 15 employees before the conflict. FAO has

¹² World Bank, Building Resilience and Protecting Vulnerable Yemenis Through Cash Transfers, 21 March 2018, Link: <https://www.worldbank.org/en/news/feature/2018/03/21/building-resilience-and-protecting-vulnerable-yemenis-through-cash-transfers>

¹³ FAO, About FAO, 2020, Link: <http://www.fao.org/about/en/>

¹⁴ FAO, Yemen and FAO, October 2019, Link: <http://www.fao.org/3/a-az581e.pdf>

¹⁵ FAO, Yemen (FAO Projects in Yemen), 2020, Link: <http://www.fao.org/countryprofiles/index/en/?iso3=YEM>

¹⁶ FAO, Yemen (FAO Projects in Yemen), 2020, Link: <http://www.fao.org/countryprofiles/index/en/?iso3=YEM>

offices in every UN hub in the country including Sana'a, Aden, Al Hudaydah, Sa'ada, Ibb, and Al Mukalla (Hadramaut).

FAO Yemen has been selected as the main third party executing agency for the RLDP programme.

The Social Fund for Development (SFD)

The Social Fund for Development (SFD) is an autonomous Yemeni agency established in 1997. Its board of Directors include a number of Ministers and is chaired by the Prime Minister. It was originally supported by the World Bank to help mitigate the impact of structural adjustment and it has now evolved into a highly effective and efficient organization focused on poverty reduction and community development. It is essentially an independently funded quasi-governmental institution that works across Yemen with local communities to identify and respond to their development priorities.

The SFD is funded by a large number of donors including, but not limited to, World Bank/IDA; European Union (EU); United Nations Development Program (UNDP); United Kingdom (DFID); German Development Bank (KfW); The Netherlands; Arab Fund for Economic and Social Development; Islamic Development Bank; USAID; and Prince Claus Trust Fund¹⁷. The SFD's main intervention areas include Education, Cultural Heritage, Water, Agriculture, Training & Organizational Support, Health, Small and Microenterprises Development, Environment, Special Needs Groups, Integrated Interventions, Rural Roads, and Cash for Work.

The SFD has 9 offices across Yemen with the main office remaining in Sana'a and branch offices in Aden, Mukalla (Hadramaut), Amran, Hajjah, Hudaydah, Dhamar, Taiz, and Ibb. The SFD is currently capable of reaching all 22 governorates and covering 321 out of the 333 districts. The SFD currently has four ongoing projects that are funded by various donors. These projects are the Community and Local Development Programme; Small and Micro Enterprises Development Programme; Capacity Building Programme; and Labor Intensive Works Programme¹⁸. It is also the FAO's main local implementation partner in the World Bank's Smallholder Agricultural Production Restoration and Enhancement Project¹⁹.

The SFD is a well-established organization that has a great deal of experience in working with international donors, including IFAD. It has a very good track record with most international donors in terms of its implementation and reporting capabilities. However, its disbursement rates seem to have gone down significantly from approximately USD220 million at the beginning of the conflict to around USD150 million today. Currently the width of its activities has slightly regressed to mainly focus on micro financing activities such as cash for work and small & micro enterprise development. Its main office still remains in Sana'a under the *de facto* government rule; however, the internationally recognized government has been able to appoint a Deputy CEO in Aden who is reporting directly to it and is coordinating with Sana'a head office. It also worth mentioning that the

¹⁷ Social Fund for Development, Donors, 2020 Link: <https://www.sfd-yemen.org/content/1/26>

¹⁸ Social Fund for Development, Programs, 2020 Link: <https://www.sfd-yemen.org/#>

¹⁹ Yemen Smallholder Agricultural Production Restoration and Enhancement Project. Report No: PAD2319

internationally recognized government is seriously considering moving the whole SFD head office to Aden, but this effort has not materialized until now.

For the RLDP programme SFD has been selected as the secondary third party executing agency under the supervision of FAO.

Financial Institutions

Cooperative & Agricultural Credit Bank (CAC Bank)

Cooperative & Agricultural Credit Bank (CAC Bank) was established in 1982 as a result of the merger of the Cooperative Agricultural Credit Bank that was established in 1975 and the Bank of National Cooperation for Development that was established in 1979. Accordingly, its core function and responsibility was financing the agriculture and fishery sectors. CAC Bank semi-successfully offered financial and banking services to the agriculture, fishery and livestock sector since its establishment until the end of 2003.

In 2004, CAC Bank shifted drastically from its core mandate and adopted a comprehensive banking business model that added new retrofitted services that essentially transformed it into a commercial bank. This deviation from its core function as an agricultural bank is evident in its official mission statement that has absolutely no mention of agriculture or fishery.

However, since the beginning of the conflict the fuel prices skyrocketed and the oil supply chain was frequently disrupted in Yemen. This increase in price and disruption in supply forced most farmers to switch from diesel water pumps to solar water pumps. CAC Bank saw a profit opportunity in this switch, so it developed a tailored financial product for financing solar pumps at 8% interest rate.

CAC Bank currently has 75 branches across all Yemeni governorates which is a slight reduction from its former 85 branches before the conflict. Its main office still remains in Sana'a putting the entire institution and its resources under the management of the *de facto* government. CAC Bank owns 27% of the Marib Poultry Company and is currently the main poultry-feed importer in the country. Overall, agriculture and fishery services represents a very small percentage of the bank's business reach approximately 20% during its best years.

Al-Amal Bank (AMB)

Al-Amal Microfinance Bank (AMB) is the first Microfinance bank in Yemen. It was established under the Yemeni Law (23) of 2002, and is regulated and supervised by the Central Bank of Yemen. AMB seeks to reduce poverty and unemployment in Yemen by providing a range of financial services, including credit, savings, and insurance, to Yemen's unbanked population. The Bank has 18 branches throughout the country, spread over nine governorates. As of June 2019, AMB had served over 98,173 clients and disbursed over 129,806 loans. Women constitute over 60 per cent of the Bank's borrowers²⁰.

²⁰ Al Amal Bank, Overview, 28 June 2019, Link: <https://alamalbank.com/en/about-us/overview/>

In 2009, AMB and Silatech established the Youth Loan Fund, with an initial capital of USD2 million, to distribute micro loans and business development services to young Yemenis aged between 18 and 30. As the first youth-focused loan programme in Yemen, the Youth Loan Fund was developed to support youth through the transition from micro enterprise to small business, with a strong emphasis on long-term sustainability and job creation. Typically, loan terms last between six and twenty-four months, with loans ranging from US\$50 to US\$1,000 per applicant.

AMB offers a wide range of financial products and services to its clients; in addition to non-financial service such as the Young Entrepreneur Training and Al-Amal Entrepreneurship Club (AEC), which is concerned with monitoring young entrepreneurs and offering them advisory service indirectly through workshops and consultative meetings. AMB also offers agriculture specific loans ranging from YR100,000 (approximately USD150) to YR20 million (approximately USD30,000) with an interest rate between 14% and 18% depending mainly on the project type and the provided collateral. These loans typically have a grace period of 3 months and a payback period up to 24 months. AMB's long experience and success in Yemen's microfinancing sector, indicates that it could be considered as a potential partner for a rural finance project component.

Implementing Partners (IPs)

United Nations system organizations use various terms and definitions of IPs depending on their business models and type of intervention. However, since FAO has been selected as the third party implementing agency for RLDP, its definition of IPs will be considered. According to FAO's definition, IPs are entities responsible to the executing partner for the quality, timeliness and effectiveness of the services that it provides and the activities it carries out as part of the programme/project implementation, as well as for the use of funds provided to it for the procurement and delivery of the programme/project inputs and their conversion into outputs²¹.

The current implementation model for most UN and international development agencies in Yemen, including FAO, is heavily dependent on IPs. This is due to the fact that the sporadic security and political situation in the country makes it very difficult for any single organization to reach all targeted areas for a given project. Accordingly, most international development organization operating in Yemen have to use different IPs to implement the different components of a given project. This section identifies and assesses some of the types of potential IPs that might be engaged in the implementation of RLDP at the district and village levels.

Agricultural Institutions

Agricultural Cooperatives

Most of the Agricultural Cooperatives in Yemen are multipurpose units offering assistance to their members in obtaining short term credit for labor in cash, agricultural products in kind (such as seeds and fertilizers), and marketing services. There are very few specialized cooperatives that focus on areas such as cotton, dates, and apiculture. Prior to the ongoing conflict, agricultural cooperatives received a number of benefits including custom and duty exemptions for importing machineries and agricultural inputs; financial support from MIA for micro financing; and trainings and institutional

²¹ FAO, Review of the management of implementing partners in United Nations system organizations (JIU/REP/2013/4), June 2016, Link: <http://www.fao.org/3/a-mq270e.pdf>

development. Unfortunately, all agricultural cooperatives under both governments are no longer receiving such benefits. According to the MAI, out of a total of 420 agricultural cooperatives across the country only 219 remain functional. In the project targeted governorates the number of functional agricultural cooperatives currently stands at 15 in Lahj, 9 in Al-Dhala, 31 Al Hudaydah, 23 in Taiz, and 23 in Dhamar. The capabilities of these functioning cooperatives can vary drastically from one area to the other; for example, in Al-Dhala many of the remaining cooperatives are still strong and fully functional while in other areas they are operating at a very minimal capacity.

Water Users Associations (WUAs)

The Yemeni Water Law #33 issued in 2002 and updated in 2006 in its article #10 states the right of water users and beneficiaries to create water user associations (WUAs), basin committees (BCs), and or basin/sub-basin water federations (WFs) for the purpose of ensuring the local communities participation in the water resources regulation and or the operation of the water management schemes. In essence, the water law widely encourages the various water public authorities to cooperate with, and support and involve the various local entities including the WUAs.

The water executive by-law issued in 2010 in its article #9 stated the main principles of management of the local water organizations including the WUAs. In article #15 it is stated that the WUAs and WFs have to commit to the water resources management plan/s and the other effective water related legislations, policies and strategies. The core intents of these legislative principles highly assure the importance of having an integrated participatory approach, united vision and institutional formation, and holistic involvement and cooperation when facilitating and setting-up spirited and viable WUAs²².

Currently, the number of functioning WUAs is unclear, but FAO has successfully restored and improved 36 WUAs in the Sana'a basin. FAO is currently working in Abyan and Hadramaut to restore and enhance WUAs across the two governorates. Through the accumulated learning from the Sana'a basin experience, FAO's restoration process of WUAs at different governorates should not take more than 3 months from the day it begins. FAO's enhancement to the operations and management of some of these WUAs has enabled them to evolve to CDAs that provide their communities with services that go beyond water resource management.

Non-Governmental Organizations (NGOs)

Yemen Women Union (YWU)

Yemen Women Union (YWU) is an independent voluntary non-governmental organization established since the 1960s. It has a membership of 1,400,000 members and is affiliated with various branches and centers of its activities which benefits from 300 to 500 women annually. The Union has 23 major branches in different governorates and 165 women's activity centers in different districts. Through its mission and general objectives, the Union seeks to empower women and support their capacities to contribute effectively to sustainable development, eliminate all forms of discrimination against them and promote equal rights in accordance with their expertise and competences²³.

²² FAO, Towards Community-Led Facilitation and Spirited & Viable WUAs, 2016, Confidential

²³ Yemen Women Union, About YWU, 2020, Link: <http://yemenwu.org/en/about/1>

The YWU currently has 3 active projects that are funded by UNFPA, FAO, and the Yemen Humanitarian Fund. Funded by the Yemen Humanitarian Fund, the “Life-Saving Protection Services for the Most Vulnerable People” project aims to provide basic protection services to 17,925 beneficiaries of the most vulnerable people in the governorate of Taiz. The “My Safety Our Future” project is funded by UNFPA and its objective is to establish comprehensive, specialized GBV services and support structures in the governorate of Sana’a. Finally, the “Smallholder agricultural production” which is funded by FAO aims to support small agricultural production in the governorates of Abyan, Taiz, and Al Hudaydah.

The YWU long experience in the country qualifies it as a viable partner in Yemen. Its wide reach which extends to the district and village levels gives it a noticeable comparative advantage. The fact that it has experience dealing with international and UN donors indicates that it has the required qualifications, systems, and reporting capabilities.

CARE International

CARE has been continuously active in Yemen since 1993 contributing to addressing poverty and promoting social justice through both emergency relief efforts and development projects. Currently, CARE in Yemen is operational in 11 governorates delivering programs through direct implementation and in partnership with local and international organizations, providing emergency and recovery assistance. These interventions contribute to strengthening communities’ resilience to cope and recover from the effect of the current humanitarian crisis²⁴. CARE is currently working on five focus areas:

Women and Youth Economic Empowerment: Supporting women’s economic empowerment through loans, equipment and technical advice and training so they can set up small businesses; Empowering young people with education and vocational training to offer them opportunities; Water and Sanitation Hygiene (WASH): Rehabilitating water sources, building toilets, providing hygiene kits and working with communities on hygiene promotion to prevent the spread of waterborne diseases like cholera; Food security and livelihoods: Distributing food, vouchers and cash to families so that they can buy essential supplies for their families; as well as providing agricultural training, tools & seeds to farmers in rural communities; and Reproductive health: Working in reproductive health to train and equip midwives, rehabilitate maternity wards and provide home delivery kits²⁵

As an international organization that has a long standing experience in Yemen, CARE can be considered as a potential partner in a number of areas, especially, in Education based on a positive past experience shared by World Bank and FAO.

National Non-Governmental Organizations (NGOs)

National Non-Governmental Organizations (NGOs) tend to be based on sectoral definitions, as well as focus primarily on humanitarian activities. The legal basis for the National NGO establishment and operation has been framed in Yemen and they exist in very large numbers. According to the MOSAL, more than 13,000 NGOs are registered on its system, but only 400 are active. For the majority of

²⁴ CARE International, Yemen, 2020, Link: <https://www.care-international.org/where-we-work/yemen>

²⁵ CARE International, Yemen Factsheet, February 2020, Link: <https://www.care-international.org/files/files/CARE%20Yemen%20factsheet%20Feb%202020.pdf>

these active National NGOs, their actual presence and operations on the ground is very limited and they have limited exposure and cooperation with international NGOs. The main challenges facing National NGOs include lack of financial support as well as the lack of professional local staff that have expertise in the areas of NGO work. Out of the 400 active National NGOs only 39 were qualified by the Food Security and Agricultural Cluster (FSAC) as potential IPs in the country. The level of activity focus of the identified 39 National NGOs varies across the board. Some having very specific focus such as youth, education, women, and humanitarian relief while the majority have development as their broad focus area.

Third Party Monitoring (TPM)

Taking into consideration the ever changing and sporadic security situation in Yemen, it should be expected that at certain points in time direct IFAD supervision missions will not be possible. For this same reason many UN and international development agencies in the country often opt to use TPM supervision to minimize the security risks of their own staff. To this end, two main TPM institutions operating in the country were assessed as potential candidates for supervision partners.

Apex Consulting

Apex Consulting was founded in 1997 by a group of professionals with broad expertise across multiple disciplines. Today, Apex Consulting has offices in the United States, Yemen, Jordan, and Egypt. In Yemen, Apex has a large team of 40 professionals and offers a wide range of different services for both public and private institutions. For the public sector Apex services include public administrative reform; revenue reform; trade and competitiveness and private sector development; research and evaluation; programme management; capacity building; and third party monitoring²⁶. Its client list in Yemen includes World Bank, UNDP, UNICEF, IMO, ILO, and GIZ.

In terms of its TPM capabilities in Yemen, Apex has provided TPM for the UNDP's "Yemen Emergency Crisis Response Project" (YECRP) in which basically most of the supervision and monitoring was outsourced to Apex by UNDP²⁷. Apex has also provided TPM services to the Office of U.S. Foreign Disaster Assistance (OFDA) for its humanitarian activities in Yemen²⁸. Finally, Apex is currently providing TPM services to the World Bank for its "Yemen Smallholder Agricultural Productivity Restoration and Enhancement Project" which is being jointly implement by FAO and SFD.

Moore Stephens Yemen

Moore Stephens Yemen officially started operating in 2014 and it is a franchise of Moore Stephens in London which was the original firm, within the Moore Global Network, established in 1907. Moore Stephens Yemen has over 35 professional staff and it offers a number of services including audit, tax, advisory and consultancy, IT consultancy, and human resources training²⁹. Moore Stephens Yemen

²⁶ Apex Consulting, Our Services, 2017, Link: <http://www.apexconsulting-me.com/our-services/>

²⁷ Apex Consulting, PROGRAM MONITORING FOR YEMEN EMERGENCY CRISIS RESPONSE PROJECT (YECRP), 27 May 2019, Link: <http://www.apexconsulting-me.com/portfolio-item/program-monitoring-yemen-emergency-crisis-response-project-yecrp/>

²⁸ Apex Consulting, Third Party Monitoring of OFDA Humanitarian Activities in Yemen, 10 December 2014, Link: <http://www.apexconsulting-me.com/portfolio-item/tpm-ofdahay/>

²⁹ Moore Stephens Yemen, Services, 2020, Link: <http://www.moorestephens-ye.com/services.html>

started its TPM services in 2018 by becoming a TPM provider to a World Bank financed project for emergency crises response in Yemen. Today it continues to provide TPM services to a number of UN agencies including UNDP, UNICEF, and UNOPS³⁰.

Technical and Research Institutions

IFAD has worked in the past in partnership with a number of technical and research institutions. It collaborated with the International Food Policy Research Institute (IFPRI), the International Centre for Agricultural Research in the Dry Areas (ICARDA), and the Arab Centre for the Studies of Arid Zones and Dry Lands (ACSAD). These centers have provided capacity building assistance to national research institutions and carried out research on enhancing agricultural productivity and food security, climate change, natural resources management, value chains and markets.

International Food Policy Research Institute (IFPRI)

The International Food Policy Research Institute (IFPRI) provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries. Established in 1975, IFPRI currently has more than 600 employees working in over 50 countries. It is a research center of CGIAR, a worldwide partnership engaged in agricultural research for development. IFPRI's Strategy Refresh 2018–2020 builds on the strong base of work developed under the Institute's 2013–2018 strategy and focuses on five strategic research areas; Fostering Climate-Resilient and Sustainable Food Supply; Promoting Healthy Diets and Nutrition for All; Building Inclusive and Efficient Markets, Trade Systems, and Food Industry; Transforming Agricultural and Rural Economies; Strengthening Institutions and Governance. Each of the five strategic research areas considers gender within all research questions and throughout the research process. IFPRI's regional and country programs play a critical role in responding to demand for food policy research and in delivering holistic support for country-led development³¹.

Under an IFAD grant, IFPRI is in the final stages of developing The Agriculture Investment Data Analyzer (AIDA). The AIDA project aims to influence the design and prioritization of policies and investments to enable rural people to overcome poverty and food insecurity in targeted NENA countries.

Specifically, the AIDA objectives are:

To identify workable solutions and design options for how policies and projects can be prioritized, scaled up and leveraged for achieving the SDGs, including youth employment;

To promote and mainstream AIDA and the identified priorities so that they become public goods and integral parts in governments' and partners' strategies and investment programs; and

To build capacity among local partners in the use of AIDA to systematically assess impacts and prioritize policies and rural investment portfolios.

³⁰ Moor Middle East, Yemen Success Story, 16 June 2018, Link: <https://www.moore-me.com/news/june-2018/yemen-success-story>

³¹ IFPRI, About IFPRI, 2020, Link: <https://www.ifpri.org/about>

Expected outcomes of the program are:

A set of guidelines and tools for evaluating and designing large-scale rural investment projects;

Adoption of guidelines and tools at least by the governments of Egypt, Jordan, Yemen and Tunisia as well as international partners; and

3. Use of AIDA, by development partners and target communities, to evaluate investment options.

The current target countries of AIDA include Egypt, Jordan, Tunisia, and Yemen. The design evaluation and impact analysis functions of the AIDA project are expected to add significant value to RLDP final design.

Arab Centre for Studies in Arid Zones and Dry Lands (ACSAD)

The Arab Centre for Studies in Arid Zones and Dry Lands (ACSAD) was established in 1968 within the framework of the specialized organizations of the League of Arab States. ACSAD aims to coordinate national efforts to develop scientific agricultural research in the arid and semi-arid areas and exchange information that would support increasing agricultural production in these areas. ACSAD's work is supervised by a General Assembly that consists of the member Arab Ministers of Agriculture as well as an elected Executive Council that includes seven representatives of seven Arab countries.

ACSAD has a number of technical and specialized departments: land and water uses, water resources, animal wealth, plant resources, economy and planning and financial and administrative Affairs. It conducts its research and studies at its research stations in Syria and other research centers in Arab countries. It also works on disseminating the research and study results through its cooperation with the Arab agricultural research centers and regional and international organizations, as well as through the scientific conferences and training courses that it organizes at its established training centers. ACSAD conducts extensive tests and new techniques in pilot fields and verifies their applicability and implements pilot developmental projects based on the research and study results. It also provides technical consultation and assistance for Arab countries³².

International Centre for Agricultural Research in the Dry Areas (ICARDA)

The International Centre for Agricultural Research in the Dry Areas (ICARDA) is an international organization that conducts research and implements research-for-development programs in several countries across the world's dry areas. It aims at providing innovative, science-based solutions for communities across the non-tropical dry areas of the developing countries. ICARDA works in collaboration with research institutions, NGOs, governments and the private sector. It has three main research programs: biodiversity and crop improvement; resilient agricultural livelihood systems; and water, land and ecosystems. The research and development agenda implemented by these three programs focuses on five main strategic areas, which are as follows: conservation and development of genetic resources; adaptation to climate change; strengthening resilience; promotion of value chains and policies; and enhancement of water and land productivity³³.

³² ACSAD, About the Center, 2020, Link: <https://acsad.org/?p=3995&lang=en>

³³ ICARDA. <https://www.icarda.org>.

4. Environmental and Social Category

In addition to the challenges imposed by the ongoing conflict, Yemen suffers from a number of severe environmental challenges mainly water scarcity, land degradation and lack of capacity for waste management. The country also suffers from high number of people with malnutrition, high rate of youth unemployment and persistent gender disparities. The project plans to invest in climate resilient infrastructure such as rainwater harvesting domestic and irrigation schemes including spate irrigation, small protective works and rehabilitation of small dams; soil and water conservation measures such as terrace rehabilitation and climate proofing of community access roads. The project will not invest in any water harvesting structures or small dams with reservoirs exceeding 3 million m³; large-scale irrigation schemes of more than 100 ha; or rural roads above 10 km long or any farmer with more than 10 per cent of his/her private land being affected. The project also plans to invest in a range of measures that will build the resilience of vulnerable households to climate risks through introduction of climate adaptive practices, technologies and inputs (described in detail in Project Implementation Manual (PIM)), and plans to enhance food and nutrition security by enhancing awareness about good nutrition practices, support to establish kitchen gardens, livelihood support packages and support for post-harvest activities. Furthermore, given the conflict situation in Yemen, the project will avoid activities that may induce population movements and/or that require enforcement of management rules through community policing (e.g. enclosures for pastoral development, watering points, etc.) as such actions, while potentially technically justified, may increase the risk of competition for access to resources that may lead to civil disruption. Hence, the RLDP is classified as a **Moderate Risk: Category B** project based on IFAD's SECAP guidelines and the responses to the "Guiding questions for environment and social screening". An Environmental and Social Management Plan is detailed in Annex 5.4.

5. Climate Risk Category

Yemen is vulnerable to climate change impacts due to the predicted rise in temperature, increase in rainfall variability and increase in the frequency of extreme weather events. The country will likely suffer from increased water scarcity, sea level rise and increase in the frequency of drought, floods and cyclones. RLDP interventions are specifically intended to mitigate the vulnerability of target populations and resources to climate induced hazard such as floods and droughts. The project is expected to increase the adaptive capacity of communities in the target areas. In the selection of the project area, those village units which were particularly vulnerable to climate risks such as floods, landslides, soil erosion were selected. Hence, the proposed project is classified as of **High Climate Risk** according to IFAD's SECAP guidelines and the responses to the "Guiding questions for climate risk screening" (Annex 5.6). A detailed climate risk analysis is included in Annex 5.2.

6. Recommendations for Project Design and Implementation

The above-articulated assessment of trends and impacts show that the programme target areas face major challenges with respect to poverty, malnutrition, food insecurity, social inclusion and environment and climate change. Hence, RLDP shall mainstream gender, youth and nutrition

considerations as well as environmental sustainability and climate resilience across its two main components. It is then highly recommended that the following measures are taken into consideration during the formulation of the Project Design Report and the Project Implementation Manual.

Environment and Climate Recommendations

Component 1: Community Mobilization & Strengthening

In order to ensure the sustainability of the infrastructure component, investing in capacity building and development of maintenance and operation strategies is vital. Building the capacities of Water Users Associations (WUAs) to operate, manage and maintain infrastructure could be one option. Training of trainers in Community Development Associations (CDAs) and local Non-Governmental Organisations (NGOs) could also be another option to guarantee building the capacities of youth in the community on the longer term. The trainings could also build capacities towards the development of skills of farmers linked to the operation and maintenance of climate-resilient irrigation systems as well as renewable energy equipment. RLDP can assist the communities to develop operation and maintenance strategies for the interventions for which they could develop a monitoring framework.

Component 2: Climate Resilient Community Infrastructure

RLDP is taking a community-driven design approach when it comes to climate resilient agricultural investments. The targeted communities will agree on agricultural and infrastructure investments according to their own priorities. According to the environment and climate assessment, the following are the adaptation measures that the PMU should discuss with communities for prioritization:

- Rehabilitating terraces as a soil conservation measure especially in areas that are exposed to high risk of soil erosion in the West of Yemen (see 2.B.i.).
- Establishing or rehabilitating rainwater harvesting systems at the household level for domestic water use and at the farm level for supplementary irrigation purposes. The South West of Yemen will likely remain the area most suitable for rainwater harvesting under various climate scenarios. Figure 15, 16 and 17 below show the suitability of different areas in Yemen to water harvesting through terraces.

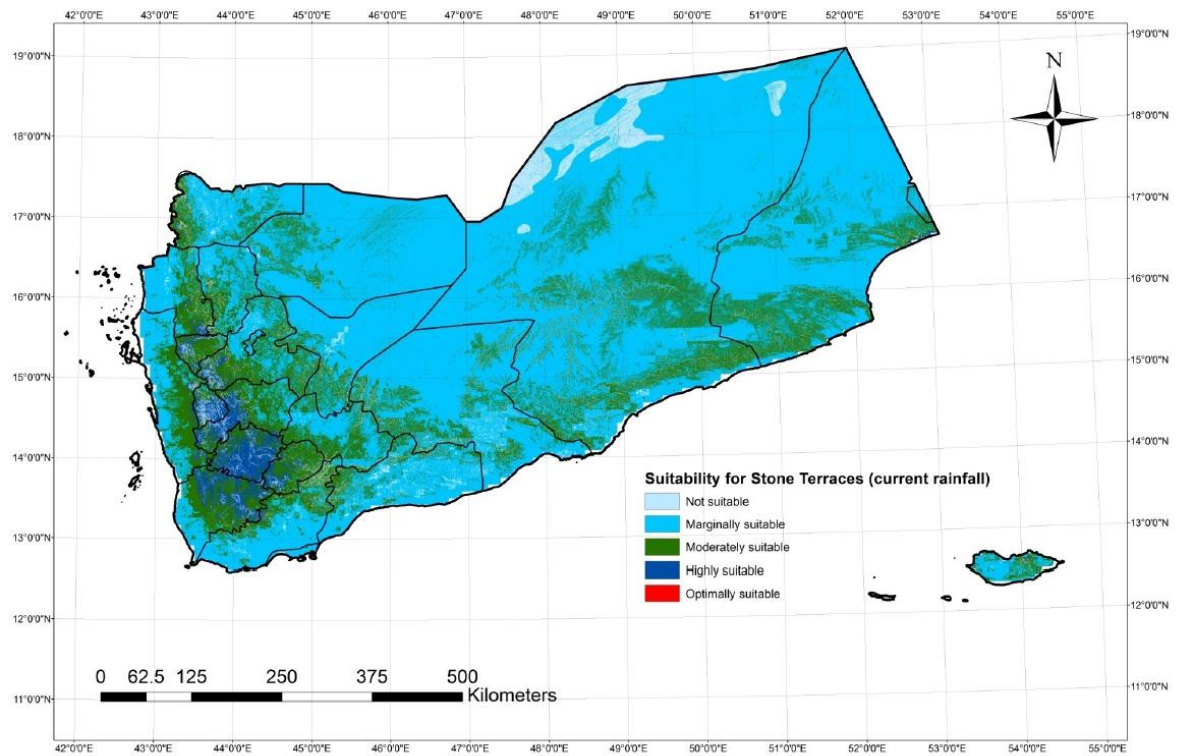


Figure 15 Suitability for Water Harvesting through Stone Terraces at Current Rainfall (Wilby, R. and Yu, D., 2013b)

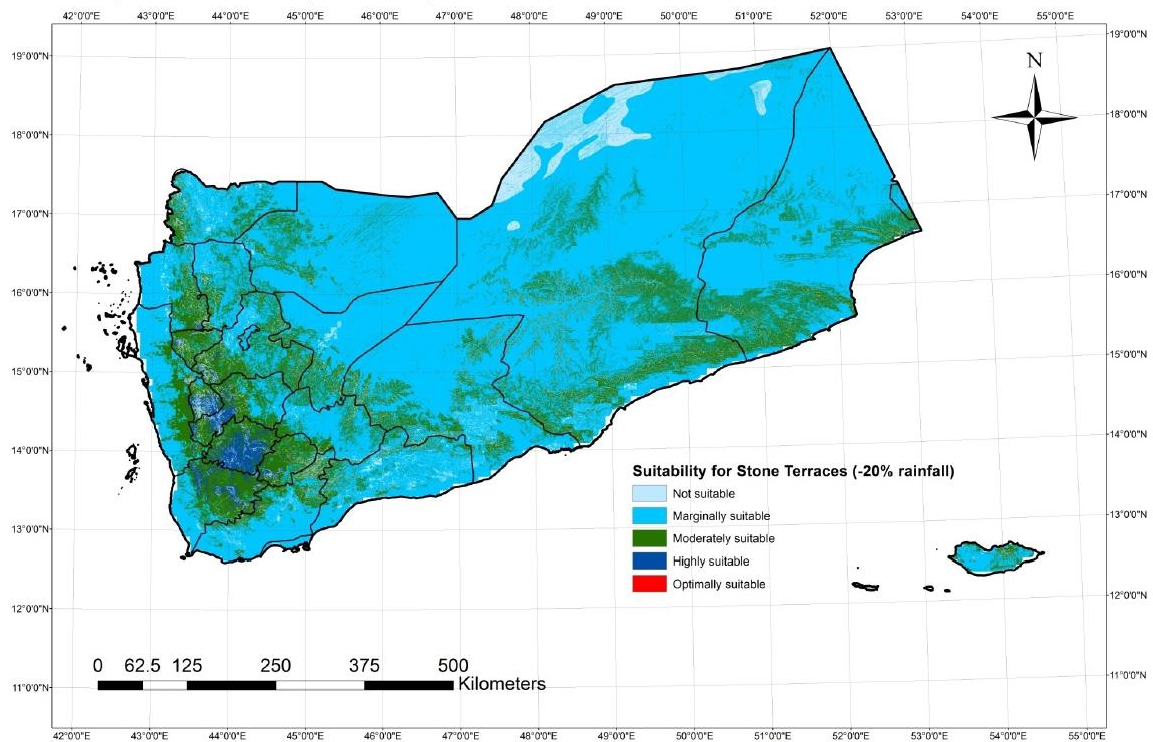


Figure 16 Suitability for Water Harvesting through Stone Terraces at -20% Rainfall (Wilby, R. and Yu, D., 2013b)

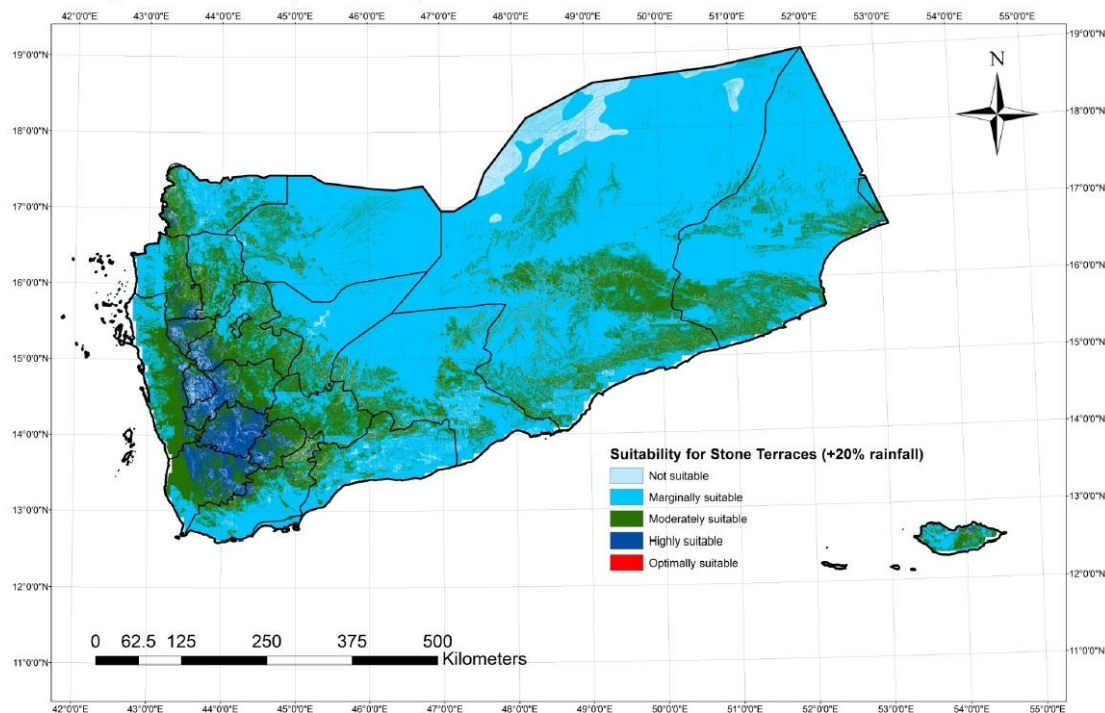


Figure 17 Suitability for Water Harvesting through Stone Terraces at +20% Rainfall (Wilby, R. and Yu, D., 2013b)

- Establishing or rehabilitating floodwater harvesting small dams (of less than 15 metre high wall, 500 metre long crest, and/or with a reservoir less than 3 million m³) in areas where flooding is expected to become more frequent. These are areas mainly in the Mid-West of Yemen (see annex 5.2).
- Developing small scale on-farm efficient irrigation systems (for not more than 100 hectares per scheme) possibly using solar pumps.
- Installing small rooftop and on-farm rainwater harvesting systems for domestic water supply and supplementary irrigation.
- Rehabilitating and climate proofing of community access roads (of not more than 10 km long or with any farmer with more than 10% of his private land taken).
- Establishing small wastewater treatment plants for supplementary irrigation purposes strictly following national law and FAO's guidelines for wastewater use in irrigation.
- Installing small grey water recycling equipment at mosques and other community buildings.

The SECAP and ESMP should apply to any interventions chosen by communities and the PMU should ensure full compliance during implementation. As detailed in the ESMP, water quality assessment should be done prior to all the infrastructure interventions. RLDP should not support any interventions that would put more pressure on groundwater resources in light of the country's severe water scarcity. However, in case groundwater based water schemes were agreed by the communities, geological surveys have to be done by the project prior to executing the interventions to decide on the extraction rate.

Component 3: Protection of Agricultural Livelihoods

Investing in increasing the resilience of rural populations in the target areas in Yemen is crucial in helping vulnerable communities cope with climate change risks as well as the impact of conflict. The

programme should build the capacities of farmers to adapt to climate change through mainstreaming climate resilience practices in the curricula of Farmer Field Schools (FFSs). The curricula should include guidance to farmers on adaptive crop patterns, crop rotation, crops with low water demand, soil tilling practices and efficient irrigation techniques. These practices should also be demonstrated on field plots with field days organised for farmers to enhance their learning experience.

RLDP should promote heat-resistant and drought-resistant varieties of the main crops being cultivated in all the target. Areas that are most vulnerable to future drought events are mostly in the West of Yemen (see annex 5.2).

Kitchen gardens are designed to enhance the nutrition practices of families and they would be more resilient to climate-induced water scarcity by relying on recycled grey water. Trainings should then focus on raising awareness and building capacities of women and youth on recycling grey water at household levels.

Technical vocational trainings as well as entrepreneurial trainings that focus on youth and women would allow households to diversify their livelihoods and so become less vulnerable to climate change impacts. The curricula should also include training for potential micro-enterprises that work to enhance solid waste management, provide climate-resilient agriculture extension and reduce post-harvest losses.

Component 4: Project Management, M&E and Knowledge Management

As detailed in Annex 5.3, Yemen's most updated policy framework for climate action lies in the Third National Communication to the UNFCCC (2018) and the Intended Nationally Determined Contribution (INDC, 2015). The two documents provide a set of adaptation and mitigation measures as priorities for each sector in the country. However, since countries are requested to update their Nationally Determined Contributions (NDCs) by the Paris Climate Agreement and given the dynamic situation of Yemen, RLDP can explore supporting the Environmental Protection Authority (EPA) in this regard. IFAD and the executing partner- FAO- are both part of the NDC Partnership which is mandated to support countries develop and implement their NDCs. Through NDC-focused capacity building, RLDP would ensure strong presence of the agriculture and water sector's adaptation measures as well as potential mitigation co-benefit in the NDC. These capacity building activities will eventually benefit the EPA in developing the National Adaptation Plan (NAP) regarding two of its most vulnerable sectors namely the agriculture and water sectors. Coordination with other UN agencies (e.g. UNDP) will be crucial to ensure complementarity with other ongoing efforts and benefit from synergies where possible.

Climate Finance Opportunities

There is already \$10 million available from GEF-5 LDCF for Yemen tied to IFAD where the baseline proposal only needs to be updated and re-submitted to the GEF. The team is advised to not make major changes compared to the original proposal while at the same time respond to the priority needs that emerged as a result of the dynamic conflict situation in Yemen as discussed in the above section.

The mission also found that FAO- the third party executing entity for RLDP- has submitted a proposal under the GEF-7 LDCF for Yemen. The team is advised to where possible ensure complementarity

between RLDP's activities and FAO's proposed project to ensure synergy of the impacts and increase in the number of beneficiaries.

Yemen's country allocation at the Adaptation Fund is still fully available and the Environmental Protection Authority is ready to grant an endorsement letter to IFAD. Although this would add another \$10 million to RLDP as co-financing, it would add far more complexity to the project in terms of design, implementation and reporting requirements.

Nutrition Recommendations

Component 2: Climate Resilient Community Infrastructure

This water infrastructure project component plays a key role in contributing to improved nutrition outcomes through: water supply quality and quantity; and hygiene promotion

Water supply and quality: it is anticipated that the component will provide safe and reliable water supplies to target households. Proven water treatment methods such as solar, boiling, safe storage in clean covered containers shall be emphasised in order to ensure that it is safe for use.

Furthermore, consumption of clean and safe water will prevent water borne diseases like cholera, diarrhoea that are rampant in Yemen. Not to mention, improvement of water supply infrastructure plays a role in reducing the distance households (and especially women) have to cover in order to access water. This in turn provides more time for them to rest and care for themselves and family members (especially children). This should directly have an impact on health status of women and children, which directly contributes to good nutritional status.

Hygiene Promotion: It is anticipated that simple nutrition and hygiene messages will be passed to all the different project groups, including the water users associations and other beneficiaries of this component. Messages on consumption of safe water, education on hand washing in critical times including when handling food should also be passed to the participants. This would play a key role in improving individual and household hygiene and practices. This has a direct impact on health of regarding COVID-19 prevention as well as reducing water-borne diseases (including cholera in adults, diarrhoea in children). This directly contributes to improved health and good nutritional status.

Component 3: Protection of Agricultural Livelihoods

This component is focusing on agricultural production through farmer field schools; through nutrition kitchen gardens and small livestock; through nutrition education; through gender/women's empowerment and increased incomes. These pathways shall be used to contribute to nutrition outcomes.

Agricultural production through Farmer field schools: The extension methodology will be used to support agricultural production for selected households. This will include crop production, livestock keeping, apiculture, as well as training and capacity building.

This component shall increase household food security by addressing the different pillars of food security: accessibility, availability, utilisation and stability. It is anticipated that the crop production will promote diversification, so that there are diverse nutritious foods available for household consumption and for markets. This will also increase food access for the household. This will have a

direct impact on the nutritional intake for the target households, and therefore improve nutrition outcomes for women, children and the other household members too. Moreover, households will be able to sell some food items, thus increasing their incomes. This will facilitate them to purchase other foods that they may not be producing, purchase essential non-food items and attend to healthcare needs. This component will be reinforced with nutrition education training (that will be part of the FFS modules). The farmer field school members should receive basic nutrition training, along other agronomic trainings. This combination of nutrition training and agricultural practice is expected to contribute to nutrition improvement.

Targeting Recommendations

Geographical targeting and project intervention areas: The governorates selected are representative of the various farming environments in Yemen, have high levels of rural poverty: Taizz 41%; Al Hudaydah, 58.1%; Dhamar, 31.1%, Lahj 69.1% Al Dhala 59.8% (World Bank, 2017) and the most food insecure governorates in the country (IPC classification in Table 15 in annex 5.5). Available data from different sources show: (i) number of people according to IPC levels (from 1 minimal to 5 Catastrophe)³⁴; (ii) number of households engaged in agriculture (FAO, WFP and UNICEF, 2017), (iii) poverty percentage (World Bank 2017, calculations based on Household Budget Survey-2014) as well as (iv) presence of IDPs and Returnees, representing the most vulnerable (OCHA, 2018a). See annex 5.5 for tables.

Governorates characteristics: The five Governorates comprise a total of 85 districts. They are also classified based on IPC classification and out of the total number, 24 districts are in a critical situation (IPC 3) while the remaining 61 are in emergency phase (IPC-4). The total number of population registered in IPC Phase-3 (3,309,500) and IPC phase-4 (3,760,500) together make 70% of the total population in the targeted governorates (Table 15 in annex 5.5). Furthermore, the targeted Governorates hosts a total of 1,063,614 IDPs (Table 17 in annex 5.5) which is about one third of the total IDP population at national level (3.34 million). Total number of agriculture households is 903,721 (Table 16 in annex 5.5) of which women headed HHs account for 12.2% (Table 18 in annex 5.5). The share of households falling into the two lowest wealth quintiles, based on overall household expenditures, correspond to more than 40% (FAO, WFP and UNICEF, 2017) (Figure 49 in annex 5.5). Furthermore, population data (OCHA, 2018a) show that women are 51% and youth (15-24 age) 18% of total population. In terms of demographics, further disaggregation shows that population below 15 is 46% while adult population (between 25-64) is 34% and old people (65+) is only 3%.

District Targeting: The project will operate in 20 districts across the 5 Governorates. Within each governorate, a number of 4 districts have been pre-selected at design stage. The design team in collaboration with FAO has undertaken a ranking exercise based on Food security (IPC classification) malnutrition level (Global Acute Malnutrition-GAM), and climate vulnerability (including, erosion,

³⁴ **IPC Phase 1 Minimal:** Households are able to meet essential food and non-food needs without engaging in atypical and unsustainable strategies to access food and income. **Phase 2 Stressed:** Households have minimally adequate food consumption but are unable to afford some essential non-food expenditures without engaging in stress-coping strategies. **Phase 3 Crisis:** Households either: Have food consumption gaps which are reflected by high or above-usual acute malnutrition; Are marginally able to meet minimum food needs but only by depleting essential livelihood assets or through crisis-coping strategies. **Phase 4 Emergency:** Households either: Have large food consumption gaps which are reflected in very high acute malnutrition and excess mortality; Are able to mitigate large food consumption gaps but only by employing emergency livelihood strategies and asset liquidation. **Phase 5 Catastrophe:** Households have an extreme lack of food and/or other basic needs even after full employment of coping strategies. Starvation, death, destitution and extremely critical acute malnutrition levels are evident.

landslide and flash flooding risks as well as other climatic variables) crossed checked with other aspects such as accessibility and security. The ranking exercise undertaken at design stage (April 2020) show priority districts were highest level of GAM value and highest climate vulnerability match as well as accessibility. The list of 34 ranked districts and the list of 20 pre-identified districts are attached as an annex to the PIM. A quick analysis of the protected areas in Yemen (<http://www.parks.it/world/YE/Eindex.html>) vis-à-vis Figure 7 shows that there is only one district (Qa'atabah) on the short list and two districts (Bura and Az-Zuhrah) on the long list that have protected areas. In case these districts are selected as final target districts, no interventions will be carried out in the protected areas in line with project's categorization.

Accessibility: This will be a continuous monitoring process. If and when a targeted district proves to be inaccessible due to insecurity/ limited access or other major factors which are assessed prior to starting implementation, the district will be replaced with the next priority district to allow for timely implementation. Districts with the highest level of food insecurity (IPC) and malnutrition (GAM) and Climate risks (as above) are to be considered priority in the replacement and IP will conduct a rapid assessment at the beginning of the intervention (year 1). The ranking districts table is attached to the PIM for ease of reference.

Targeting approach for Village Units: As per district targeting: Food security, malnutrition and climate vulnerability will be the main driving principles to identify the targeted villages (or village Units). This will be done during year 1 of implementation. A Village Unit (VU) is averagely composed of 3 to 5 settlements, each having an average of 75 to 100 households (i.e. approximately 600 inhabitants per settlement). As above the selection of VU will consider accessibility, security and proximity.

Targeting and Social Inclusion: The project will apply a strong social inclusion strategy to ensure that the poorest families and disadvantages socio-economic groups such as female headed households (FHH) IDPs, disabled, and youth will be included and benefit from project services. According to OCHA (2018a), food insecurity is most severe among IDPs, and marginalized groups and landless wage labourers. Female-elderly-and disabled-headed households are seriously affected. All these population groups have virtually exhausted their coping strategies and have limited social support. As part of the criteria for beneficiaries' selection, the categories mentioned above will be given priority for specific livelihood activities, for example: (i) women head of households, (ii) families with disabled members (iii) youth-led households; (iv) families hosting IDPs; (v) IDPs households. Specific set of activities will be tailored to suit their needs and livelihoods. Criteria for their priority are outlined in an annex to the PIM on the basis of the different project services. The criteria build on long standing experience of FAO in similar interventions.

Targeting Approach: The programme will be implemented applying a combination of self-targeting and direct targeting approach: Most of the interventions will be of interest for all target groups. Furthermore, specific activities are directed to specific disadvantaged categories. The robustness of the target strategy relies on a diagnostic process to be conducted at the beginning of the operations (described in Component 1: Community mobilisation and engagement). Community development planning and identification of development priorities and sub-projects will be of interest for all community members and all will be engaged to participate. Using community driven development (CDD) approach, a strong social inclusion strategy, clear selection criteria and diagnostic process with key steps for community engagement, the operation will ensure that all views are captured.

Specific needs of some vulnerable and extremely vulnerable socio-economic categories: women, female head of households (FHH), pregnant and lactating women (PLW), malnourish child, IDPs will also be considered through specific interventions: livelihood packages as well as literacy, life skills and nutrition education (sub-component 3.2 and 3.3.). The project will also include quotas for participation of women, youth and IDPs, depending on their livelihoods and likelihood of participation. Women will be 64% of the total programme beneficiaries and Youth 54% of target beneficiaries for Component 3. Furthermore, within the above categories, it is also expected that a minimum of 10 to 15% will be from IDPs households in the host community. Women should account for 30% leaders in grassroots institutions at community level (i.e. WUAs and other grassroots institutions operating under RLDP).

Direct targeting: The poorest households (more than 9 members) and within these, women-headed households, young women and men and households with under-nourished children, with specific attention for pregnant and lactating mothers (PLM) will be targeted directly by the project to be the first recipients of the Livelihood Resilience and Value Addition (sub-component 3.2. and 3.4).

This includes a direct targeting for 4,000 women for nutrition (100% basis) ensuring that 40% will be young women, in both cases from the below categories: (i) households headed by women, (ii) households headed by youth, (iii) households with pregnant and lactating women and (iv) households with malnourished children under 5 years of age or children undergoing treatment or being released from nutrition feeding centres.

A total of 6,000 women and youth will also have the opportunity to participate in literacy, life-skills and leadership trainings (70% women and 80% youth).

To contribute to generate employment and economic opportunities for young people and women, it is expected that they will join Farmers Field Schools (FFs) as following: (i) 2.400 women and 2.400 young men and young women in FFs (livestock, poultry, beekeeping) corresponding to 40% women and 40% youth.

Furthermore, under livelihood resilience and value addition (sub-component 3.4) it is expected that livelihood packages will benefit 675 women 600 youth and (45% and 40% respectively) and matching grants for processing and marketing activities to 225women and 200 youth (45% and 40% respectively).

Gender and Youth Mainstreaming Recommendations

Empowering measures: In addition to developing technical skills in (i) small livestock /poultry production or post-harvesting as well as (ii) climate resilient irrigation technologies and practices, the project will support women beneficiaries to develop (iii) other life skills, especially in household nutrition, basic literacy and numeracy, leadership. Gender awareness trainings will contribute fostering more equitable gender roles and relations at household and group levels. The activities (sub-component 3.3) will include adult literacy sessions, nutrition sessions and input support to help enhance nutritional status. While this component is designed primarily for women, it is expected that young women and men will both be included in these literacy classes to acquire empowerment skills. Furthermore, through the leadership training, the project expects at least 30% women in leadership position in the institutions/committees formed under RLDP.

Approach for gender mainstreaming. To contribute to tackle constraints faced by rural women, the project will adopt an inclusive approach to ensure that women and men equally benefit from project's interventions. The targeting and social inclusion strategy will rely on a strong community engagement (Diagnostic process as explained in an annex to the PIM) to be undertaken at the beginning of the project and support identification of the target groups and all socio-economic categories identified. The IP will follow selection criteria provided as an annex to the PIM and ensure that the project's approach to gender mainstreaming will achieve the following objectives which align to IFAD gender policy:

- **Ensure that women and men have equal access to capacity building, training and productive assets.** With this objective, the project will target 50% women as overall direct beneficiaries. Average of women participation in trainings promoted by the project goes from 40% to 50%. Furthermore, specific services and trainings will target women on a 70% or 100% basis (i.e. literacy and nutrition).
- **Increase women's voice in decision-making at the household and community level.** As part of literacy and life skills, leadership training will also be included. Women will be trained to form groups and their leadership and negotiation skills will be strengthened to enable them to make informed decisions during the community planning process. It is expected that women in representative position (committees) will be 30%. Gender-awareness trainings, including both women and men, will be carried out at both household and community levels, including village leaders.
- **Increase women's access to skills and knowledge:** Women will be 70 % beneficiaries for the trainings in literacy, life skills and nutrition (including young women). Furthermore, women will be 40% beneficiaries of FFS where they will be able to acquire practical knowledge for livelihood improvement through FFs and climate resilience. Women will be 50% beneficiaries of training package under Component 2 as for example: climate resilient irrigation technologies, Improved soil and water conservation practices, water management.
- **Develop skills to improve the well-being of women and other family members:** with this purpose, nutrition education will be provided at both household and groups level. The training will include training in nutrition, kitchen gardening, dietary knowledge and promotion of hygiene as a response to COVID-19, cholera and other diseases. Specific attention will be given to PLW and young women, including also women from IDPs (10%).
- **Train project staff and extension service providers on gender-related issues.** It will be ensured that training modules include specific sections related to gender sensitive topics, including GBV. The IP will produce/adapt and oversee the training modules and curricula that will be delivered to targeted communities/ households and the work of Community Facilitators and Gender Focal Points as per their Tors. ToRs for the Social and Environmental Safeguard expert includes points related to gender sensitivity and ensure that gender issues are all captured and minimize (ToRs are attached to the PIM).
- **Gender Strategy:** The overall objective of the Gender strategy will be to ensure that women and men are equally involved in decision-making and in sharing the benefit of project's

interventions and that gender will be mainstreamed throughout all project activities. The strategy will have to include the following items:

- (i) Specific objectives, related to project's components;
- (ii) Specific activities foreseen to reach the objectives and expected outcomes/ outputs;
- (iii) Methodological approach;
- (iv) Knowledge management: the strategy should explain how the knowledge and experience acquired in mainstreaming gender-related issues in on-going projects will be capitalized;

Preventing Gender Based Violence (GBV) in the agricultural sector: the project will contribute to reducing any harmful act based on gender through: (i) sensitization on the importance of addressing GBV, application of IFAD's no tolerance for Sexual Harassment (SH) /Sexual Exploitation and Abuse (SEA) for project staff and project's activities and operations; (ii) map out and partner with GBV prevention and response actors in project adjoining communities; (iii) have GBV risks adequately reflected in all safeguards instruments, contracts with suppliers and and other third parties to be funded with IFAD funds.

Youth Mainstreaming: Youth will be consulted, selected by facilitators at the beginning of the project then organized in groups on the basis of their interests and different degrees of participation in the programme; i.e. as existing farmers' producers or new entrants; skilled or unskilled, thus being organized accordingly and receiving targeted interventions and trainings on the basis of their aspirations and interest in engaging in agricultural activities: as producers (FFs-subcomponent 2.1) or in the post harvest /adding value sector (subcomponent 2.3) . Furthermore, young women will be targeted by specific interventions such as literacy, life skills and nutrition (subcomponent 2.2).

Preventing Child Labour in agriculture: the project will contribute to reducing any risk of child labour through: (i) Awareness on legislation and training to project staff and ensuring compliance with regulations (ii) sensitization on the importance of addressing child labour issues within the community, (iii) have Child labour related risks adequately reflected in all safeguards instruments, contracts with suppliers and and other third parties to be funded with IFAD funds.

Community Engagement (Diagnostic Process): The first task of the implementing partner (FAO/SFD) will be to conduct an exploratory visit with the Community Development Association (CDA) and village elders, inform them about the project activities and fix a date for a meeting with community members to inform them about the project activities and seek community concurrence about the relevance of the planned activities and ascertain their interest in participating in the different activities. Separate interaction with special groups, such as women and youth (including from IDPs) will also take place. The gender focal points and reflect facilitators will be directly responsible to facilitate separate consultation with those groups and their consequent mobilisation within the proposed activities. The IP together with village elders will also ensure that the identification of beneficiaries is based on the selection criteria that is communicated during the first dialogue of the diagnostic process.

7. Further Studies Needed

RLDP should conduct water quality assessment studies at baseline in target areas before the execution of any interventions. The fact that 65% of the country's wastewater goes untreated has caused a spread of disease in many parts of Yemen. According to the WHO (2019), Yemen is suffering from a cholera outbreak since 2006 with 696,537 suspected cases and 913 associated deaths. Cholera is a waterborne disease that can also be transmitted through contaminated food. Currently, there is a data gap in Yemen concerning the quality of water used for irrigation. Hence, water quality assessments in target areas are a prerequisite to any interventions especially infrastructure to ensure water and food safety. Due to the dynamic nature of conflict, water quality assessments might have to be periodical if armed conflict and damage to infrastructure occur at any given target area. The PMU and implementing entities should keep close contact with UNICEF that is heading the WASH cluster in Yemen.

Simultaneously, soil quality assessments would be highly recommended especially in areas prone to soil erosion and degradation. Consultations also raised the concern over the increased soil pollution due to incompliant industrial practices in some areas where the impact might reach agricultural areas.

RLDP is also advised to conduct periodical studies- in consultation with UNHCR- regarding the movement of IDPs into and out of the programme's target areas. Due to conflict, the numbers of IDPs residing in different areas might change with significant impact on the programme's targeting and monitoring strategies. Currently, Yemen has 3.34 million IDPs with Taiz and Al Hudaydah among the top five destinations (OCHA, 2018a).

8. Monitoring and Evaluation

Project Monitoring and Evaluation (M&E) will be the responsibility of the implementing agency and led by the M&E officer who will work closely with other executing entities. The M&E system should produce, organize and disseminate the information needed for the strategic management of RLDP, document the results and lessons learned and respond to the information needs of IFAD, the two governments and the GEF on the activities, immediate outcomes and impact of the programme. The GEF coordinator will be responsible for monitoring IFAD's environment and climate indicators as well as the indicators in the logical framework of the GEF project document. He/she shall ensure timely drafting of GEF's Project Implementation Reports (PIRs) for IFAD's review before submission to the GEF.

Day to day monitoring of implementation progress will be the responsibility of the project team, based on the project's Annual Work Plan and its indicators. During the first months of the project, the project team will complete and fine-tune baseline data for each indicator, and will define and fine-tune performance. Specific targets for the first year of implementation, progress indicators and their means of verification will be developed at the Start up Workshop. IFAD supervision and Implementation Support missions shall rate RLDP's effectiveness and provide recommendations to enhance the programme's performance.

M&E officer as well as the GEF coordinator shall monitor compliance to the Social and Environmental Category and the Climate Risk Category and report any issues regarding compliance

to IFAD's procedures. The implementing entity should ensure full implementation of the Environmental and Social Management Plan (ESMP) as detailed in Annex 5.4 and embedded in the Project Implementation Manual (PIM). It should also monitor the implementation of the Grievance and Redress Mechanism as detailed in Annex 5.4 and report any complaints to IFAD immediately. In addition, a review of this SECAP note shall be done to identify any emerging social, environmental or climate issues in the project target areas. Due to the dynamic nature of Yemen, the process of SECAP review should be done on annual basis and any major changes should be immediately reported.

Nutrition Monitoring will be undertaken regularly as the project is being implemented as part of the whole project baseline, mid and end term monitoring strategies. The Knowledge, Attitudes and Practice (KAP) nutrition tool will be used as the outcome nutrition indicator for the proposed nutrition activities. The survey questionnaire or the guideline for focus group discussions will need to be context-specific and hence locally developed/adapted. Based on the planned nutrition activities and topics to be covered in this program the questionnaire or guide will be used to collect very basic information from the target groups for key aspects like diversification in local production, infant and young child feeding practices, water and hygiene practises.

To measure the nutrition changes (i.e. the success of an intervention in bringing about positive change in KAP), information regarding KAP will be gathered through a baseline survey/study before the start of the interventions. This will also be done periodically in order to monitor the impact and adapt the approach as necessary before the end of the project. An end-line study will be scheduled at the end of the project to measure the total changes brought about by the intervention. The baseline, follow-ups and end-line surveys/studies need to be conducted within the same beneficiary population. An example of KAP questionnaire that can be used in data collection is found here: <http://www.fao.org/3/i3545e/i3545e00.htm>.

The M&E system will give strong emphasis to monitoring of targeting performance. All implementing Partners (IP) will be required to provide disaggregated data on women and youth participation, in relation to overall project targets, including further disaggregation by IDPs/Host community. The M&E system will collect and analyse information about project outreach, effectiveness of the targeting strategy and specific benefits for women and youth. This requires strong coordination and collaboration between the M&E responsible person and the Gender and Social Development experts/Focal Points at all levels. Impact will be assessed on the basis of methodologically gender sensitive baseline, mid-term and completion surveys which will use key indicators to measure women's empowerment.

Environment and Climate Related Indicators

Outcome level indicator: Percentage of persons/households reporting adoption of environmentally sustainable and climate resilient technologies and practices³⁵.

Output level indicator: Number of groups supported to sustainably manage natural resources and climate-related risks³⁶.

³⁵ IFAD Core Indicator

³⁶ IFAD Core Indicator

Output level indicator: Number of hectares of land brought under climate-resilient management³⁷.

Social Inclusion Related Indicators

Gender Indicators

Outreach disaggregated by gender.

Proposed Indicators shall consider: (i) number of women members in FFS, (ii) number of women in leadership position (iii) number of women accessing matching grants and livelihood packages. Disaggregation by IDPs/host community.

Youth Indicators

Outreach disaggregated by age.

Proposed indicators shall consider: (i) Youth members of FFS and (ii) number of youth accessing matching grants and livelihood packages. Disaggregation by IDPs/host community.

Nutrition Indicators

Outcome level indicator: Percentage of women reporting improved quality of their diets³⁸.

Outcome level indicator: Percentage of the targeted people (women, youth) who have improved knowledge, attitudes and practises (KAP) regarding food, feeding and hygiene.

Output level indicator: Number of persons/households provided with targeted support to improve their nutrition³⁹.

³⁷ IFAD Core Indicator

³⁸ IFAD Core Indicator

³⁹ IFAD Core Indicator

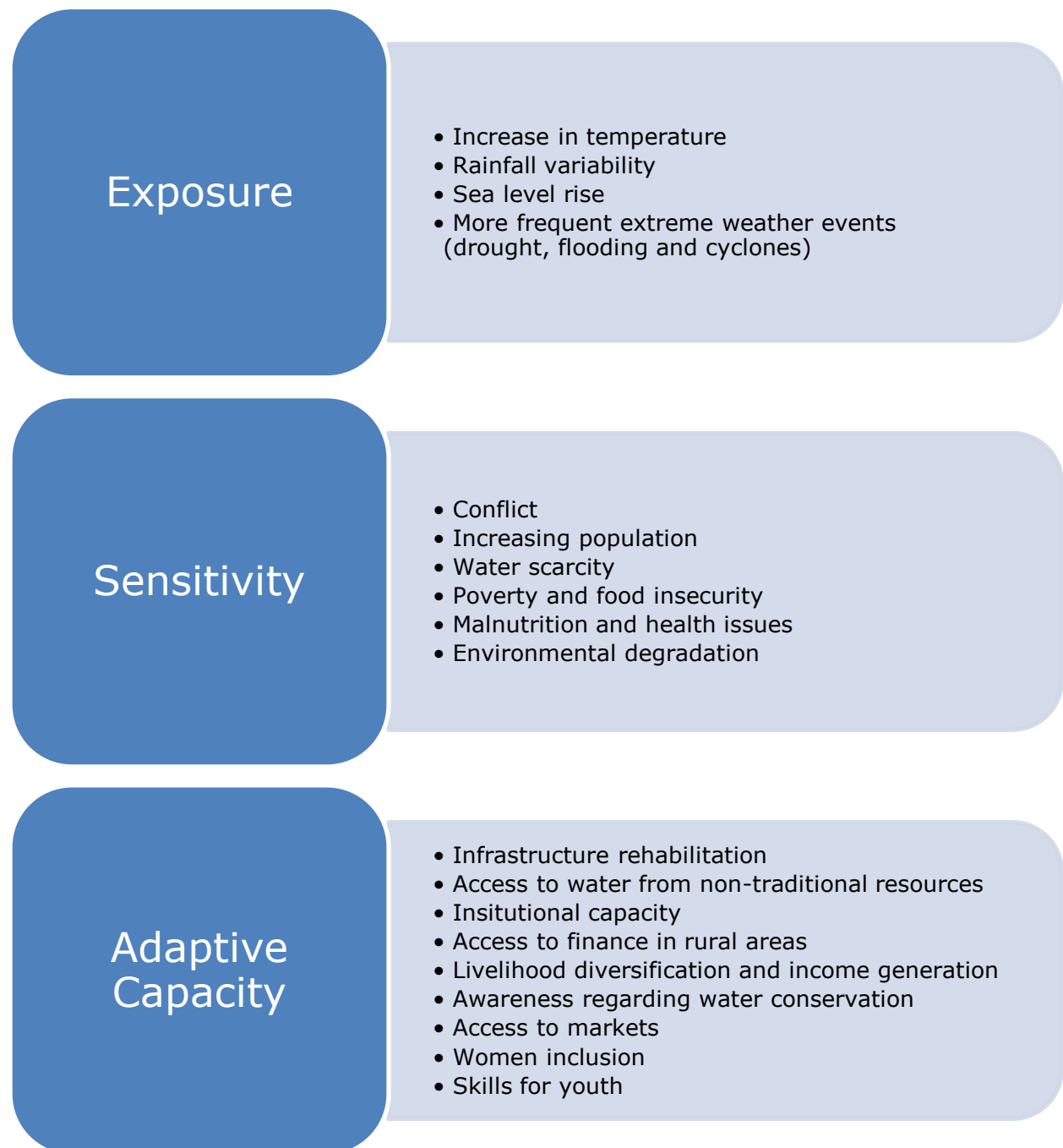
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Annex 5.1: Climate Vulnerability Assessment Framework

Vulnerability = Exposure + Sensitivity – Adaptive Capacity



Annex 5.2: Climate Risk Analysis

A. Historical Data Analysis⁴⁰

Historical Temperature Data Analysis

Figure 18 shows the average mean temperature in Yemen between the years 1901 and 2017. The trend shows an increase of 0.45%. This is equivalent to an average rate of increase of 0.0045°C/year.

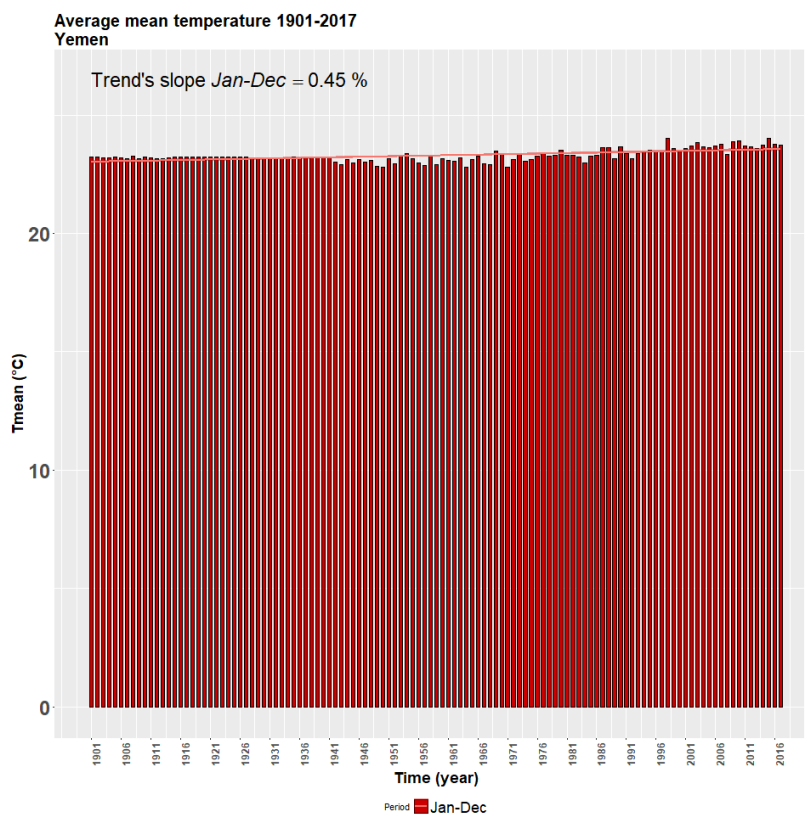


Figure 18 Average Mean Temperature in Yemen (1901-2017)

Figure 19 shows the average maximum and minimum temperatures in Yemen between the years 1901 and 2017. The trend shows an increase of 0.68% in maximum temperature. This is equivalent to an average rate of increase of 0.0068°C/year. However, the average rate of increase for the average minimum temperature is lower with a trend of 0.45%. This is equivalent to an average rate of increase of 0.0045°C/year.

⁴⁰ The following rainfall analysis has been carried out for the whole of Yemen since RLDP interventions take a nationwide approach. The analysis used the CoMon tool, World Bank's Climate Change Knowledge Portal and other data sources. The CoMon tool uses CHIRPS/Climate Hazards Group-USGS data

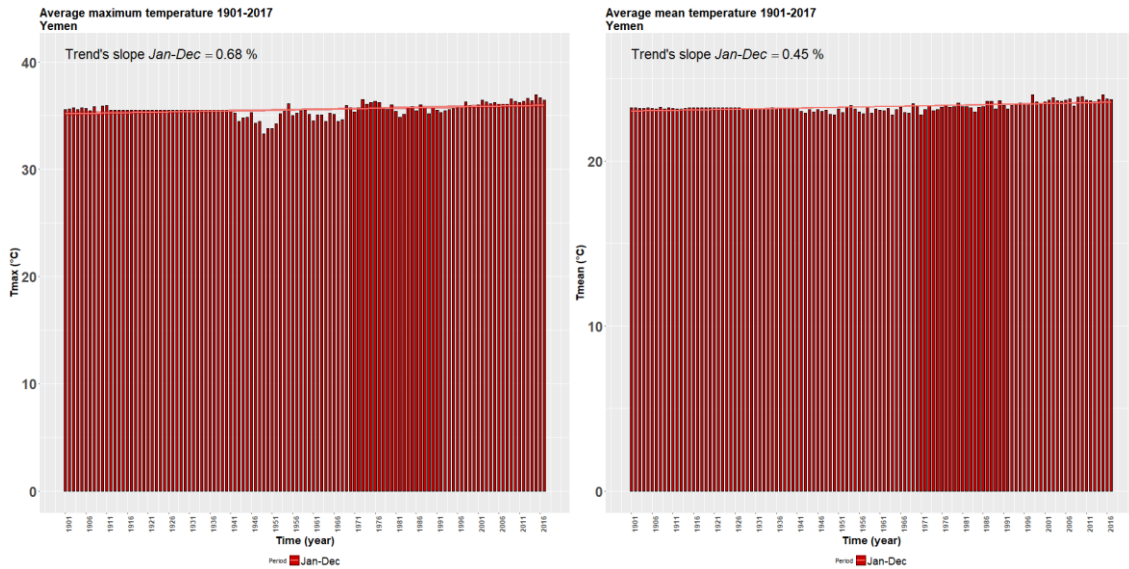


Figure 19 Average Maximum and Minimum Temperature in Yemen (1901-2017)

Figure 20 shows the monthly average mean temperature in Yemen between the years 1901 and 2017. The trend shows an increase for every month of the year. The trend shows that the highest increase occurred in November by almost 0.005°C followed by April and December with a slightly smaller increase. The lowest increase occurred in August.

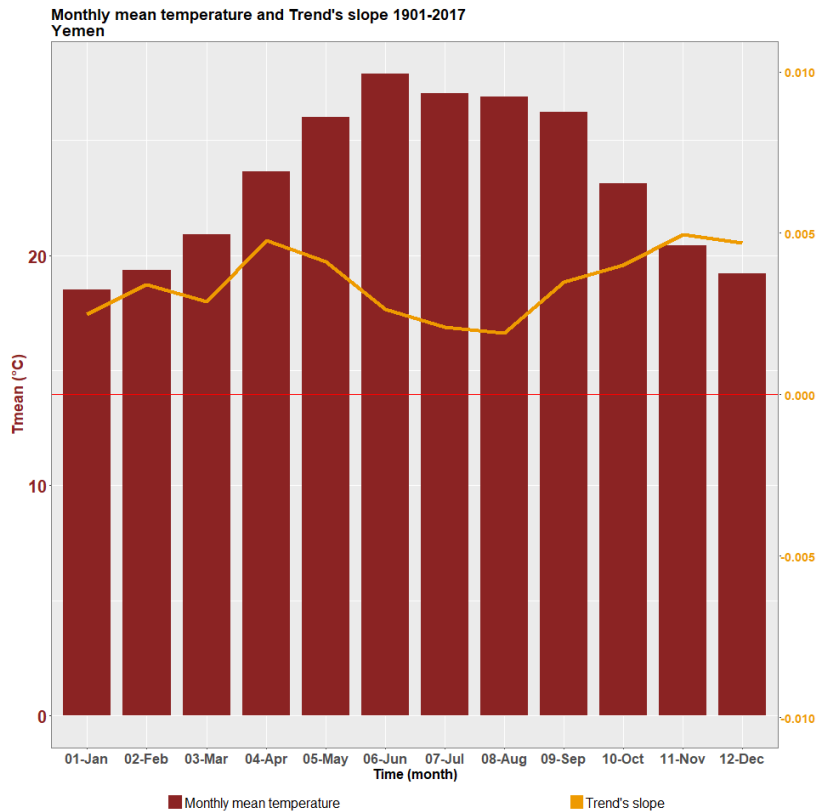


Figure 20 Monthly Mean Temperature and Trend's Slope in Yemen (1901-2017)

Historical Rainfall Data Analysis

Figure 21 below shows the mean annual rainfall distribution for Yemen between 1998 and 2006. While most of the country falls between 0 and 199 mm, some areas in the South West of Yemen reach up to 800 mm per year.

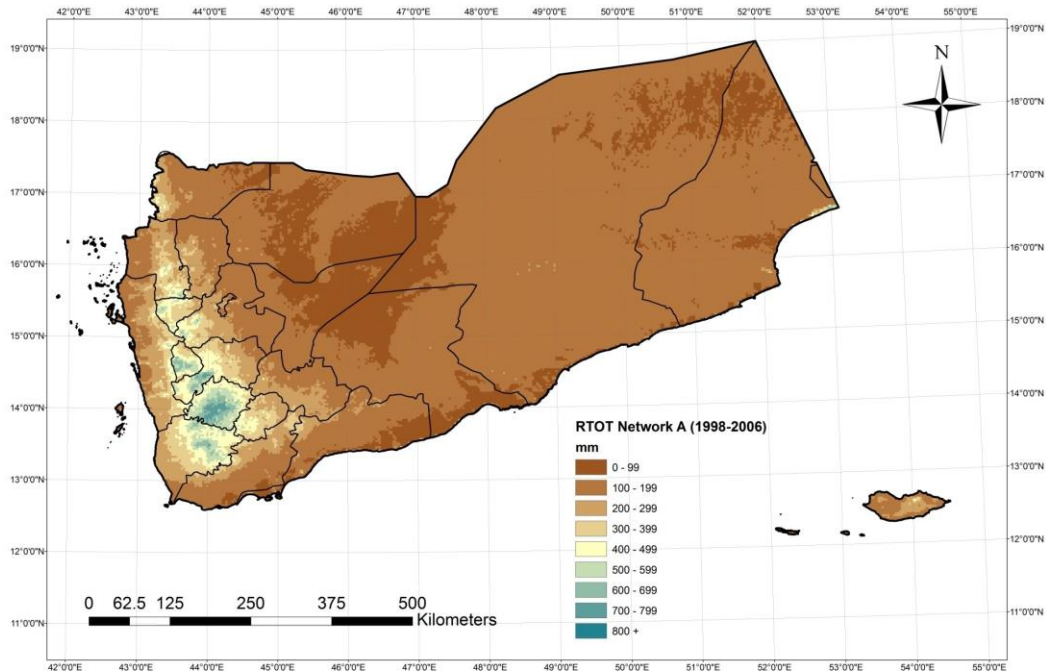


Figure 21 Mean Annual Rainfall over Yemen between 1998 and 2006 (Wilby and Yu, 2013a)

Figure 22 shows an overall decline in precipitation in Yemen between 1981 and 2018. The trend shows a decrease of 0.16% which means an average decline of 1.6 mm every decade.

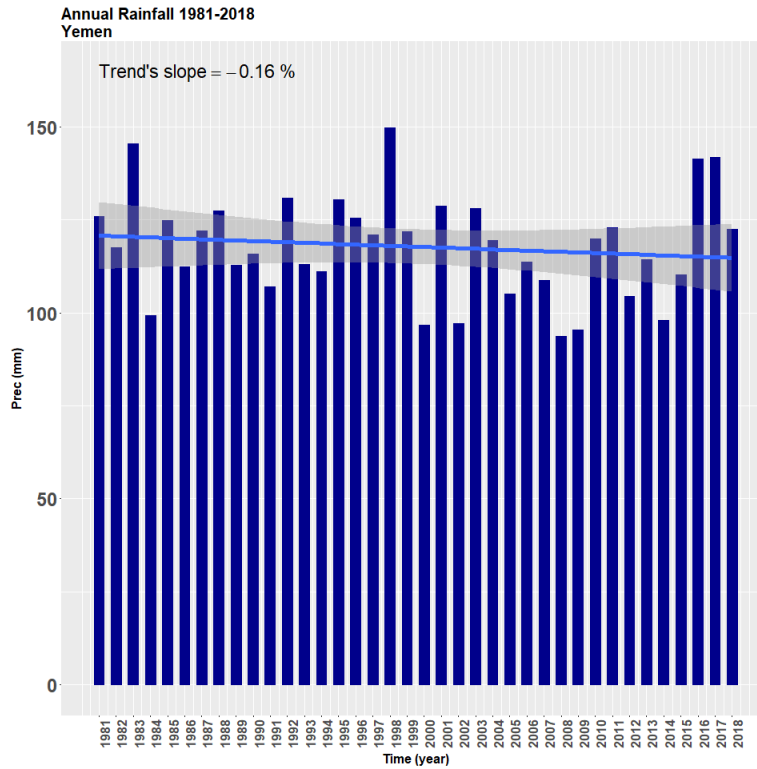


Figure 22 Annual Rainfall in Yemen (1981-2018)

Figure 23 shows a trend decline in rainfall for January, February, March, April, July, September and December between 1981 and 2018. No change has occurred in June or November. Slight increase has occurred in May and October while a big increase occurred in August.

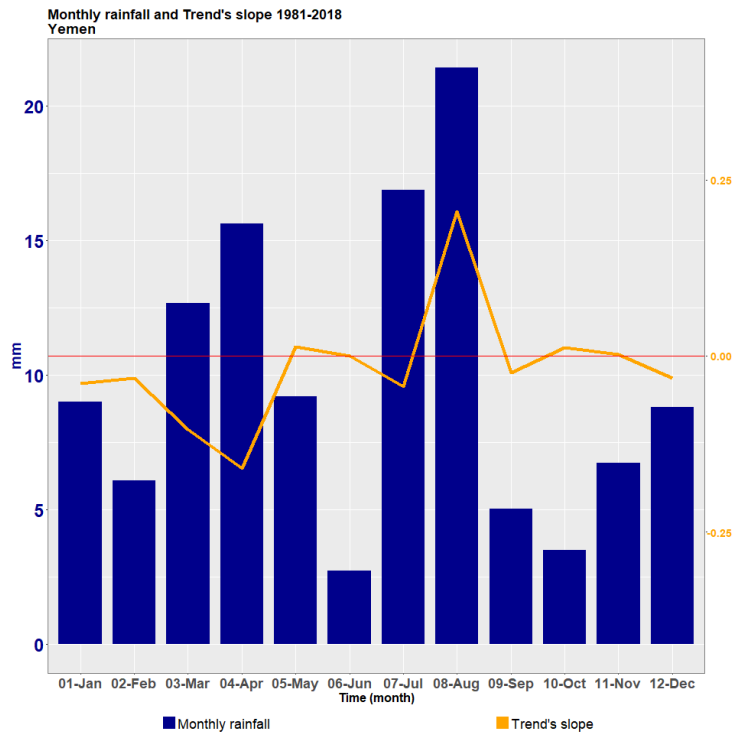
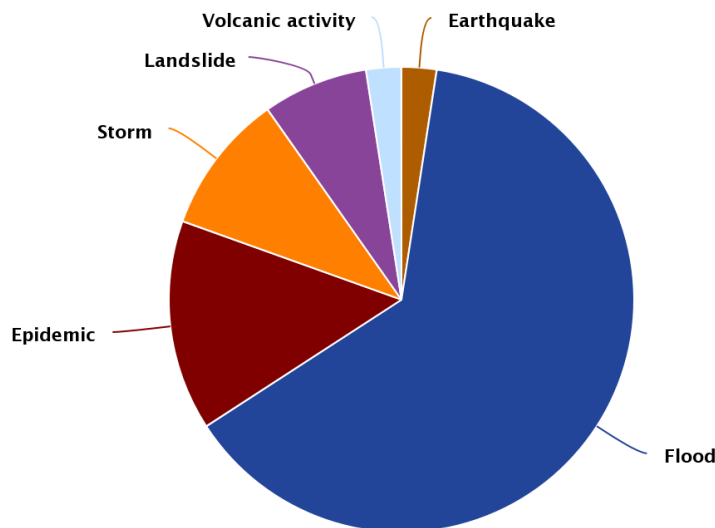


Figure 23 Monthly Rainfall and Trend's Slope in Yemen (1981-2018)

Historical Extreme Events Analysis

Yemen’s history of natural hazards since the 20th century has been dominated by Floods as shown in Figure 24 below. Floods represent 63.1% of average annual natural hazard occurrence between 1900 and 2018. Epidemics and storms represent 14.63% and 9.76% respectively. In terms of casualties, the same pattern follows as shown in Figure 25 below. Floods dominate among natural hazards with the highest numbers of people affected since 1990s followed by epidemics and storms.

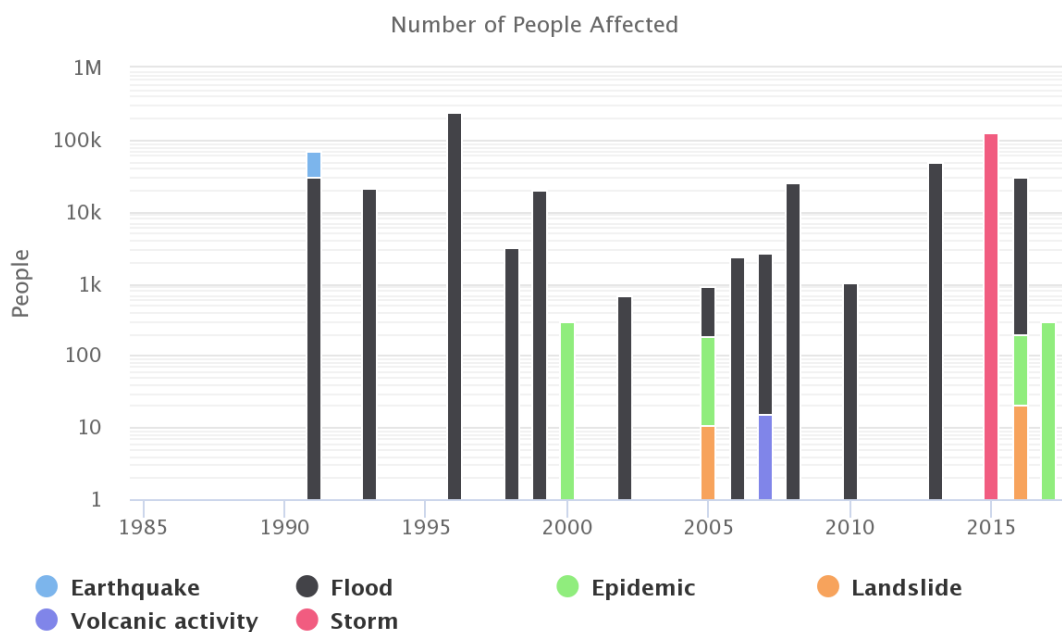
Average Annual Natural Hazard Occurrence for 1900–2018



Highcharts.com

Figure 24 Average Annual Natural Hazard Occurrence in Yemen between 1900 and 2018 (World Bank, 2020b)

Key Natural Hazard Statistics for 1985–2018



Highcharts.com

Figure 25 Number of People Affected by Natural Hazards in Yemen between 1985 and 2018 (World Bank, 2020b)

Flooding

Figure 26 and 27 show the annual maximum daily rainfall over Yemen with return periods⁴¹ of 1 year and 10 years respectively between 1998 and 2006. From the 1-year return map, only small areas in the West of Yemen have a maximum daily rainfall of more than 80 mm while most of the country is below 40mm. However, the 10-year map shows that daily rain of more than 50 mm/day can occur in the West, East and South of Yemen while some areas in the West can exceed 80 mm/day.

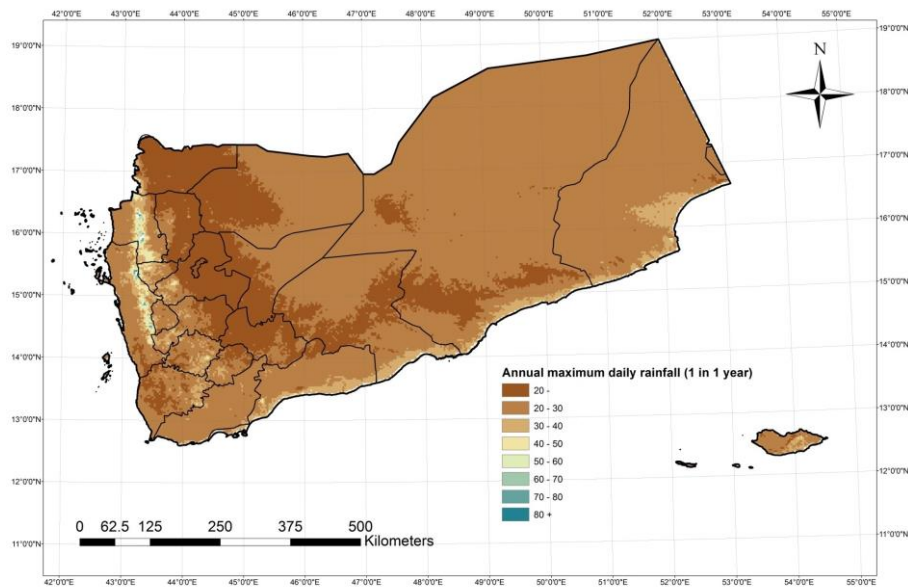


Figure 26 Estimated Annual Maximum Daily Rainfall Total (RMAX) with return periods of 1 year between 1998 and 2006 (Wilby and Yu, 2013b)

⁴¹ Return period of 1 year: Refers to the heaviest rainfall that occurs on average once per year.
Return period of 10 year: Refers to the heaviest rainfall that occurs on average once per ten years.

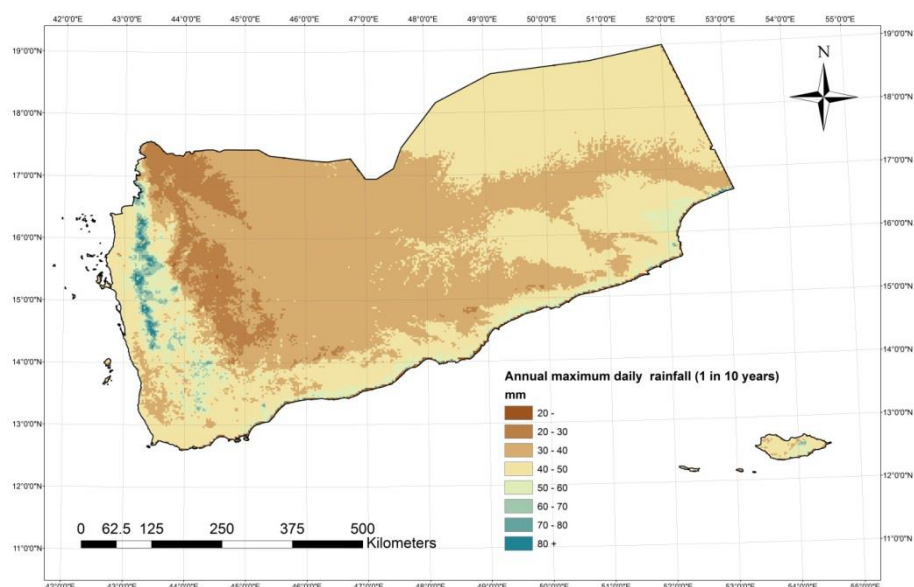


Figure 27 Estimated Annual Maximum Daily Rainfall Total (RMAX) with return periods of 10 year between 1998 and 2006 (Wilby and Yu, 2013b)

Yemen has a recent history of floods and flash floods that are top ranked globally in terms of number of people killed and number of people affected. Between 1993 and 2008, a total of 19 floods occurred in Yemen with significant impact on people and their livelihoods as illustrated in Table 9 below.

Table 9 Human Toll and Damages due to Floods and Flash Floods between 1993 and 2008 in Yemen (IFPRI, 2011)

Year	Month	Type	Duration (days)	Location	Killed	Affected	Damage (million US\$)
1993	February	Flood	5	Lahej, Abyan, Aden	31	21,500	1.5
1996	May	Flood	4	Taiz, Hodeida	7	5,000	10
	June	Flood	12	Shabwa, Mareb, Hadramout	338	238,210	1,200
1998	August	Flash flood	16	Shihab Valley, Red Sea Port	70	240	NA
	March	Flood	3	Tihama Valley, Hodeidah		3,000	NA
1999		Flood		Socotra archipelago		19,750	NA
2002	August	Flood	1	Hodeidah, Taiz, Hadramout	28		NA
	July	Flood	2	Raima	13	700	NA
	July	Flood	2	Salafiyah	10		NA
	April	Flood		Salafiyah, Hadramout	2		NA
2003	June	Flood	3	Haija, Taiz	15		NA
2005	August	Flash flood	1		12	721	NA
	April	Flash flood	3	Sanaa, Hodeidah	10		NA
2006	April	Flash flood	2	Dhamar, Hodeidah, Manakha	25	320	NA
	February	Flash flood	3	Dhamar, Maabar	5	2,000	NA
2007	August	Flood			50		NA
	Mach	Flash flood	3	Hadramout, Ibb	36	618	NA
	January	Flood	3	Raima, Dhamar	7	2,000	NA
2008	October	Flash flood	2	Hadramout, Al-Mahara	75	25,000	1,235

The October 2008 flash flood is considered among the worst flood in the recent history of Yemen with more than 75 people killed and 25,000 people affected. However, floods in the past decade have also had a devastating impact on Yemen. In August 2013, 37 people were killed and 23,566 people affected by flash floods across Yemen. The flooding affected 8 governorates namely Abyan, Shabwah, Taizz, Dhamar, Sana'a, Ibb, Hajja and Al Hudaydah (OCHA, 2013). In April 2016, 24 people were killed and 49,000 people were affected by flash floods across Yemen. The flooding affected 7 governorates namely Al Hudaydah, Amran, Hajjah, Sana'a, Al Mahwit, Aden and Marib (OCHA, 2016).

In 2019, Yemen has been hit by a series of flash floods that have had serious socio-economic impacts. In June 2019, more than 80,000 people were affected across 10 governorates namely Hajjah, Lahj, Aden, Abyan, Hadramaut, Taizz, Dhamar, Al Jawf, Ibb, Al Bayda and Raymah (OCHA, 2019b). Figure 28 shows the flooded areas. In August 2019, more than 2,619 families were affected by flash floods in Al Hudaydah governorate and Al Qanawis and Az Zaydiyah districts along (OCHA, 2019c). In September 2019, flash floods have hit 5 governorates namely Aden, Lahj, Abyan, Shabwah and Hadramaut governorates affecting 2,775 families (OCHA, 2019d).

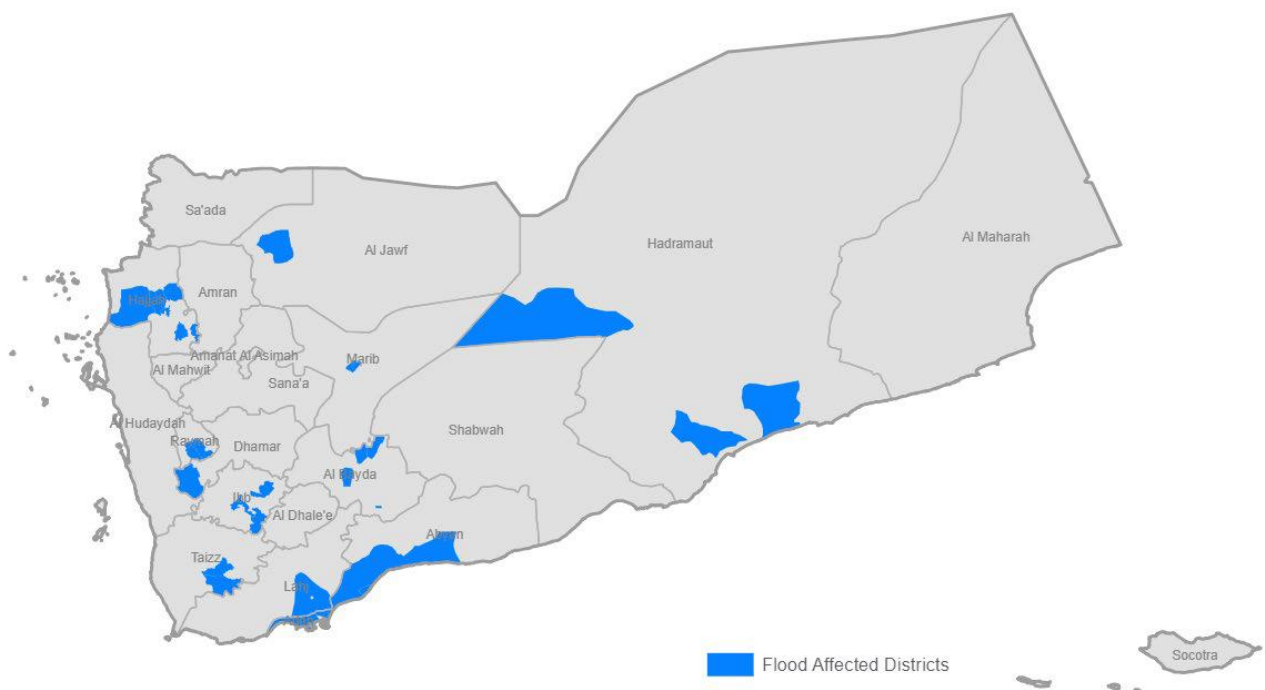


Figure 28 Areas Affected by June 2019 Flooding in Yemen (OCHA, 2019b)

The frequency and intensity of these floods are expected to increase due to the impacts of climate change as shown in section “B” below.

Drought

Figure 29 shows the change in events of drought in Yemen between 1981 and 2018 by the decrease in Standardized Precipitation Evapotranspiration Index⁴² (SPEI). Severe drought is likely once the SPEI drops below -2. The figure shows a gradual decline in SPEI as we go from 1988 to 2016. The West and the North East suffered the biggest declines (below -2) in 2009 and 2016 respectively.

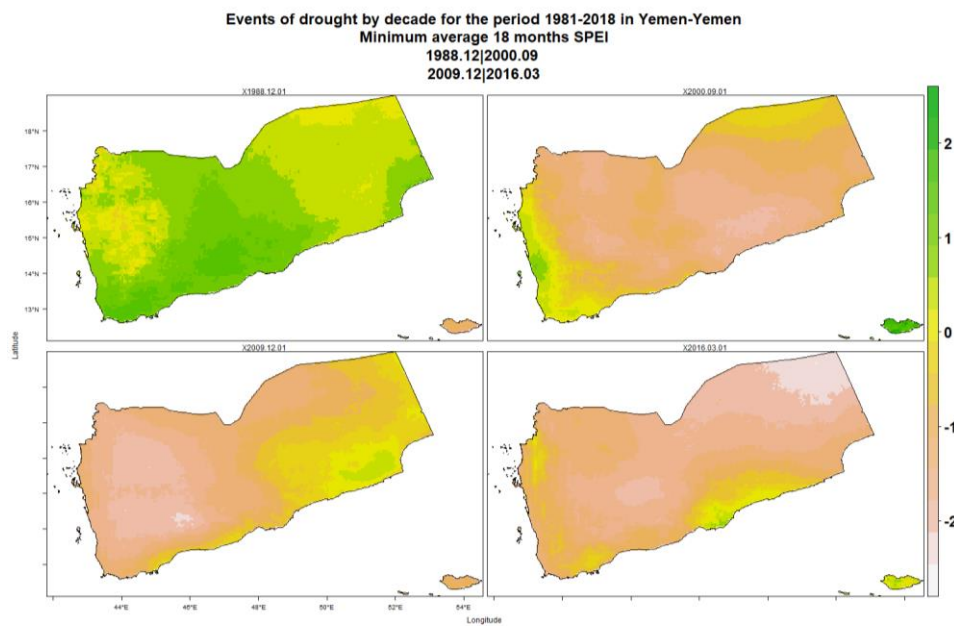


Figure 29 Events of Drought in Yemen between 1981 and 2018 by the Decrease in Standardized Precipitation Evapotranspiration Index (SPEI)

Figure 30 below shows a major trend decline in SPEI indicating higher chance of drought events lasting 4 months between 1981 and 2018. The frequency of negative SPEI for consecutive years has increased since late 1990s.

⁴² The Standardized Precipitation Evapotranspiration Index (SPEI) measures the changes in water balance using both precipitation input as well as evapotranspiration losses. Positive values indicate positive water balance (or wet) conditions and negative values indicate negative water balance (or dry) conditions. Severe drought is likely once the SPEI drops below -2. The 12-month integrated SPEI was used to compute the annual likelihood of a severe drought. Particularly in the subtropics there is a clear trend towards increasing likelihood of drought conditions, but the overall trend is positive in most places due to increasing temperatures and little precipitation variability (World Bank, 2020b).

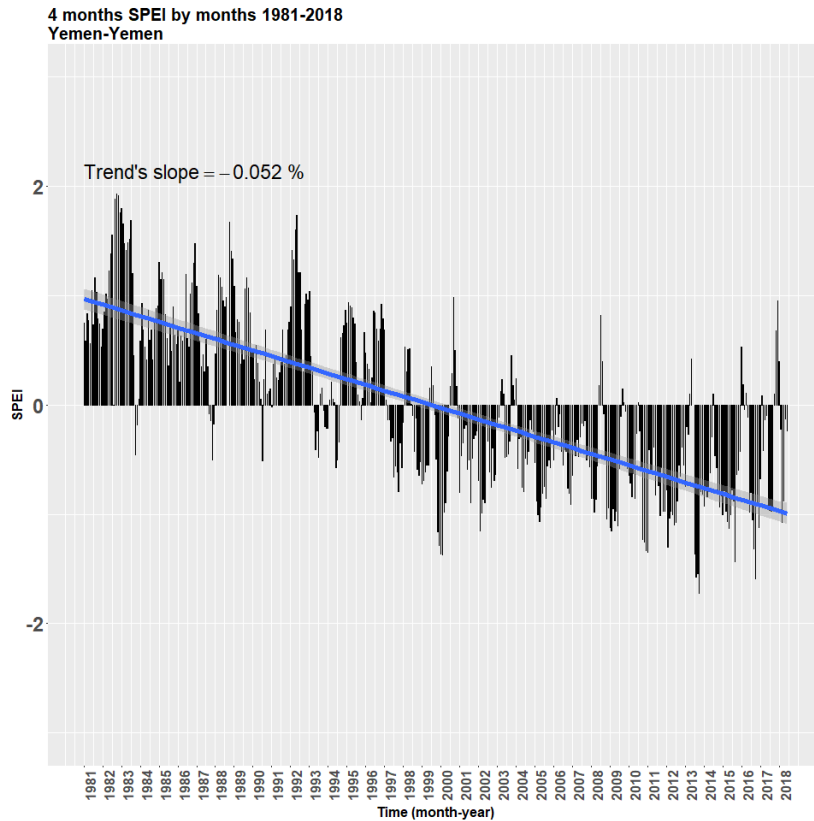


Figure 30 Four Months SPEI by Months between 1981 and 2018 in Yemen

Cyclones and Storms

In November 2015, Cyclone Chapala was the first known hurricane-strength storm to make landfall in Yemen since modern records began in 1940s. Cyclone Chapala made initial landfall striking Al Riyan, a region just east of Al Mukalla. The Cyclone reached a speed of 120 km/hour generating 10-meter high storm surges that inundated about 12% of the coastal area and caused extensive road damage. Hadramout, Al- Mahara, Shabwa governorates and Socotra Island were hardest hit and witnessed the displacement of over 36,000 people and a subsequent outbreak of dengue fever that left 7 people dead. The total distance travelled by Cyclone Chapala was 2,248 km. Cyclone Megh then followed it a few days later with a 55 km/hour speed and travelled a total distance of 2,307 km (Environmental Protection Authority, 2018).

In May 2018, Cyclone Mekunu flooded the island of Socotra and parts of Yemen’s eastern mainland and causing damage to roads. Around 120 fishing boats were lost causing significant impacts on livelihoods in the affected areas (OCHA, 2018b). In October 2018, Cyclone Luban mainly hit Al Maharah governorate displacing 2,203 families and killing 11 people (OCHA, 2018c).

Historical Sea Level Rise Analysis

Generally, sea levels in Yemen have been rising at a rate that is close to the global average. Data from the European Space Agency shows that sea level change for Yemen falls somewhere between +1.5 and +3 mm per year as shown in Figure 31 below.

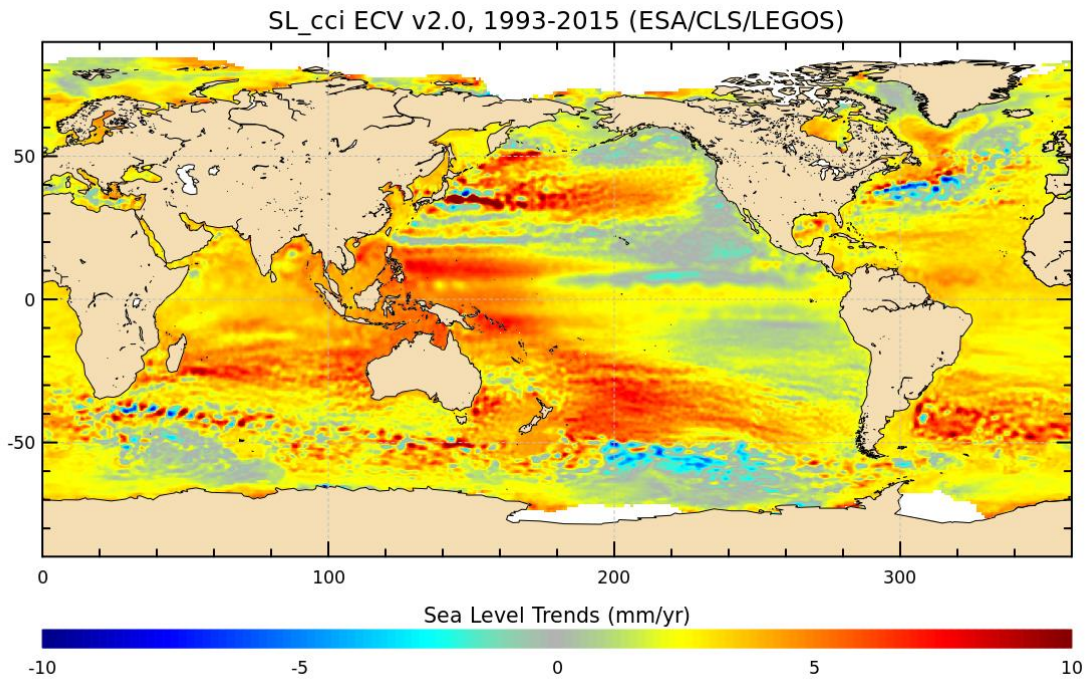


Figure 31 Regional Mean Sea Level trend between 1993 and 2015 (European Space Agency, 2017)

This coincides with national data on sea level rise for Al Mukalla area. Sea levels have been rising off the Al Mukalla Coastal Zone at an average rate of about 1.77 mm per year over the past 20 years, which is very close to the global average of 1.80 mm per year (Environmental Protection Authority, 2018). However, there is significant spatial distribution of Sea Level Rise trends ranging from 1.57 mm/year in the eastern landward portion of the marine area to about 2.23 mm/year in the western seaward areas as shown in Table 10 below.

Table 10 Sea Level Rise Trends in Al Mukalla Coastal Zone between 1992 and 2012 (Environmental Protection Authority, 2018)

Latitude	Longitude	SLR (mm/yr)
13.75	48.75	2.23
13.75	49.00	1.93
13.75	49.25	1.76
13.75	49.50	1.73
14.00	48.75	2.03
14.00	49.00	1.74
14.00	49.25	1.59
14.00	49.50	1.59
14.25	48.75	1.94
14.25	49.00	1.70
14.25	49.25	1.57
14.25	49.50	1.59
14.50	48.75	1.91
14.50	49.00	1.72
14.50	49.25	1.61
14.50	49.50	1.65
Average		1.77

B. Projections Data Analysis⁴³

Projected Temperature Analysis

Figures 32 and 33 show the projected change in monthly temperature for Yemen for the periods 2040-2059 and 2080-2099 compared to the 1986-2005 baseline under IPCC's RCP 4.5 and RCP 8.5 respectively. Under RCP 4.5 scenario, temperature is projected to increase for every month of the year with the highest median increase of 2.24°C occurring in May 2080-2099 and the lowest of 1.18°C occurring in August 2040-2059. The increase in temperature will be much higher under RCP 8.5 scenario with the highest median increase of 4.33°C occurring in December 2080-2099 and the lowest of 1.69°C occurring in August 2040-2059.

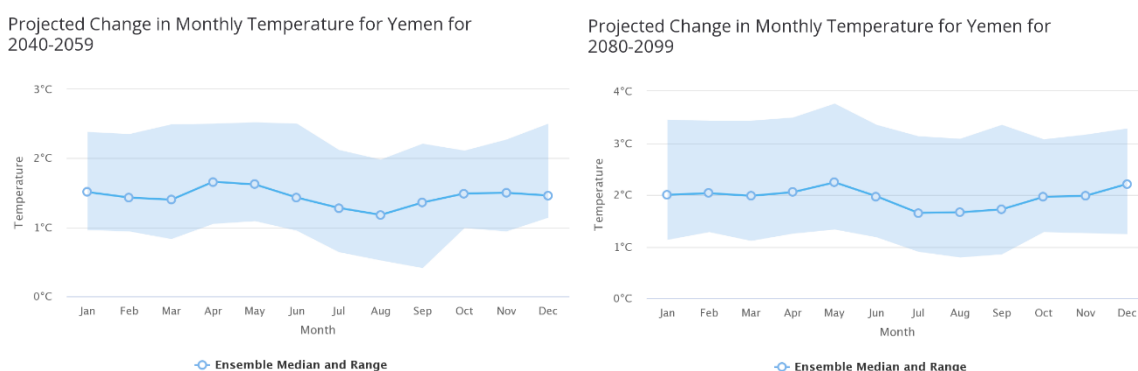


Figure 32 Projected Change in Monthly Temperature for Yemen for 2040-2059 and 2080-2099 under RCP 4.5 (World Bank, 2020b)

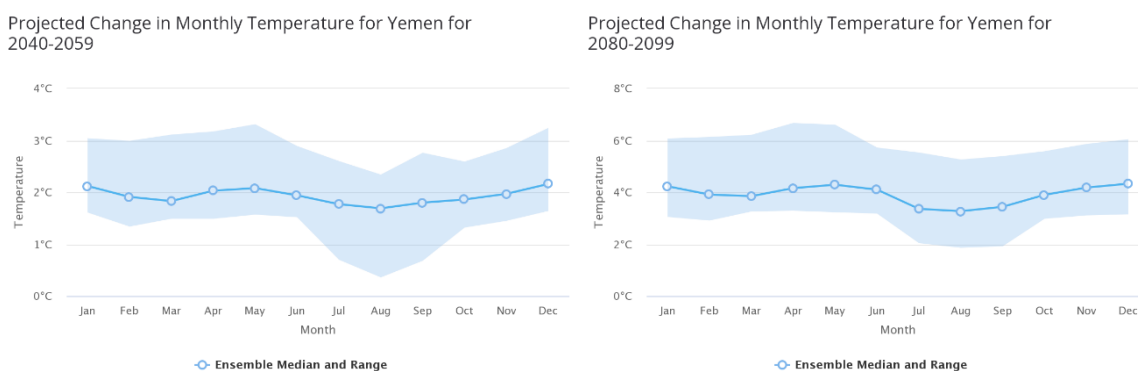


Figure 33 Projected Change in Monthly Temperature for Yemen for 2040-2059 and 2080-2099 under RCP 8.5 (World Bank, 2020b)

The projections of the Third National Communication to the UNFCCC coincide but differ slightly from the World Bank projections as it uses different scenarios and models. The main difference is that the highest rise in temperature using the Third National Communication modelling comes at the medium-emission scenario not the high-emission scenario. Across the entire country, annual mean

⁴³ The following data analysis has been carried out for the whole of Yemen since RLDP interventions take a nationwide approach. The analysis used data from the Third National Communication to the UNFCCC, the World Bank Climate Change Knowledge Portal and other data sources. Data derived from the World Bank's Climate Change Portal uses the "ensemble" model.

temperatures show the greatest rise under the A1B⁴⁴ scenario between 1.7 °C and 2.4°C by 2059 with an average increase of 2.0°C. From a seasonal perspective⁴⁵, the greatest change projected to occur during the winter months. For each of the emission scenarios, the largest seasonal temperature increases occur during the winter months and the smallest seasonal temperature increases occur during the summer months as shown in Figure 34 below.

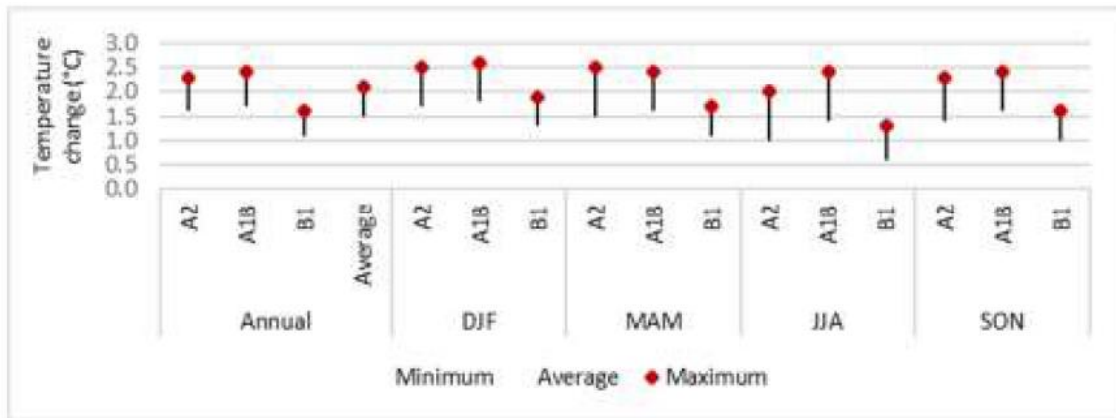


Figure 34 Projected Annual and Seasonal Change in Temperature for Yemen by 2050 (Environmental Protection Authority, 2018)

Projected Precipitation Analysis

This section provides an analysis of future precipitation projections compared to 1986-2005 under the IPCC's RCP 4.5 and RCP 8.5 scenarios. Data is derived from World Bank's Climate Change Portal using the "ensemble" model.

Figure 35 shows the projected change in annual rainfall range for the whole of Yemen under IPCC's RCP 4.5 and RCP 8.5. Under RCP 4.5 scenario compared to the period 1986-2005, the annual rainfall is expected to slightly increase with a median value of 6.81 mm for the period 2020-2039 while the median increase is 40.57mm for the period 2040-2059. The median increase again declines for the period 2060-2079 reaching 11.21 mm and then increases back again to 21.1 mm for the period 2080-2099. The trend is different under RCP8.5 scenario where there will be an increase in rainfall for the periods 2020-2039, 2060-2079 and 2080-2099 by a median value of 30.04 mm, 23.21 mm and 51.32 mm respectively. However, there will only be a median decrease of 7.88 mm for the period 2040-2059.

⁴⁴ A1B = medium emission scenario, A2 = high emission scenario and B1 = low emission scenario.

⁴⁵ Winter season is December, January, and February (DJF), spring season is March, April and May (MAM); summer season is June, July and August (JJA); and autumn season is September, October and November (SON).

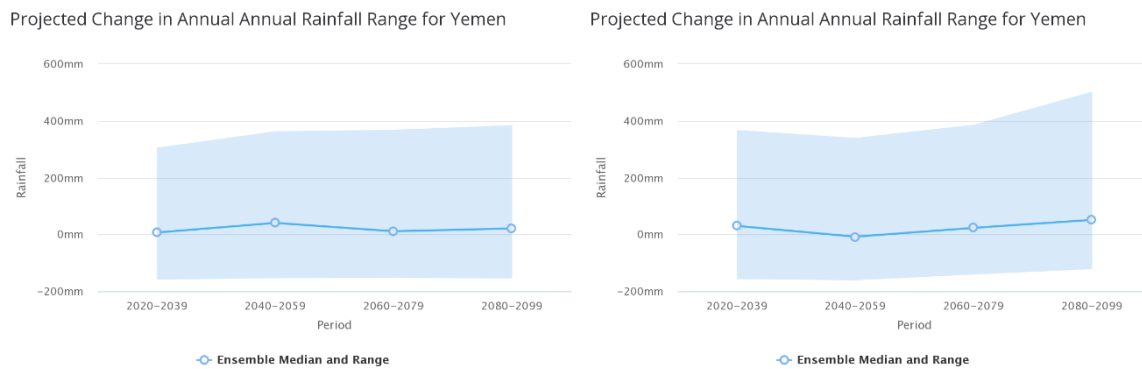


Figure 35 Projected Change in Annual Rainfall for Yemen under RCP 4.5 (left) and RCP 8.5 (right) (World Bank, 2020b)

Generally, precipitation is going to increase under RCP 4.5 over the East of Yemen while it will decline over the West as we move towards the end of the century as shown in Figure 36. The greatest increases in rainfall for the period 2040-2059 are likely to occur in the central and southern eastern areas of Yemen in addition to western coasts. While for 2080-2099, the greatest increase is in the southern central and eastern areas in Yemen in addition to areas in the North West.

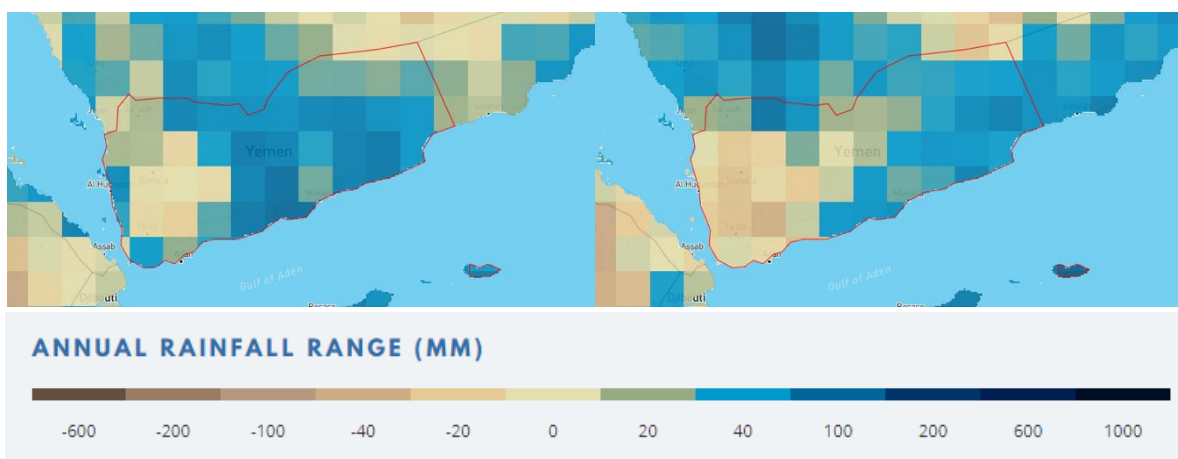


Figure 36 Maps for the Projected Change in Annual Rainfall for Yemen under RCP 4.5 for the Periods 2040-2059 (left) and 2080-2099 (right) (World Bank, 2020b)

As mentioned above, annual rainfall range for Yemen is expected to decrease for the period 2040-2059 under RCP 8.5. However, there will be areas towards the East of Yemen and the southern coasts where precipitation will increase as shown in Figure 37. On the other hand, annual rainfall range will increase for the period 2080-2099. The whole South of Yemen as well as the western coasts will witness significant increase in precipitation in addition to slighter increases in some areas in the Central East and North West.

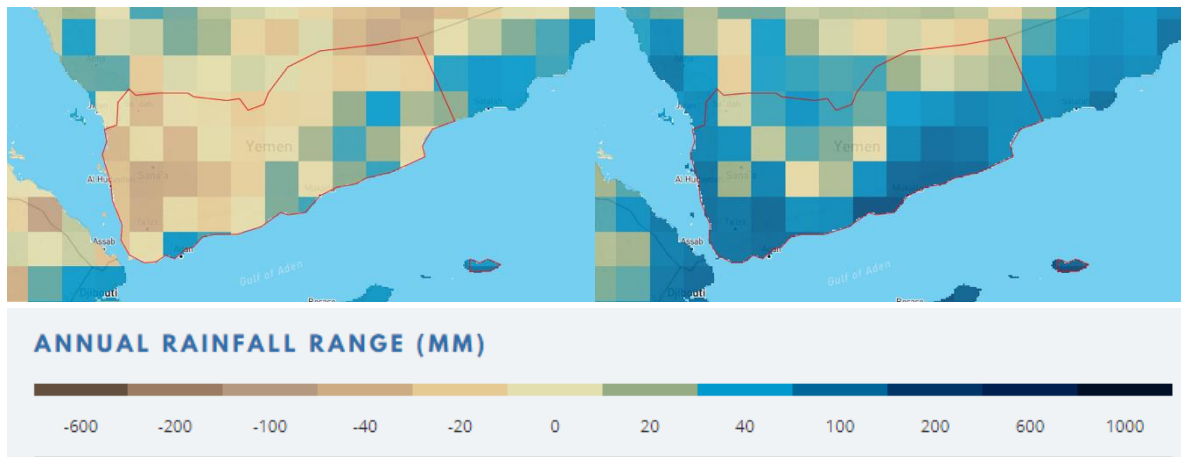


Figure 37 Maps for the Projected Change in Annual Rainfall for Yemen under RCP 8.5 for the Periods 2040-2059 (left) and 2080-2099 (right) (World Bank, 2020b)

Monthly Precipitation

Figure 38 shows the projected change in monthly precipitation for Yemen for the periods 2040-2059 and 2080-2099 compared to 1986-2005 under IPCC's RCP 4.5. For the period 2020-2039, precipitation will increase during 9 months of the year and decrease only during January and April with no change in February. The highest median decline would occur in April with -0.94 mm and the highest median increase would be in August with +3.8 mm. For the period 2080-2099, precipitation increases for 7 months of the year and decreases in February, March, April, May and July. The biggest median decrease will also occur in April with only -0.53 mm and the highest median increase is +2.91 mm in October.

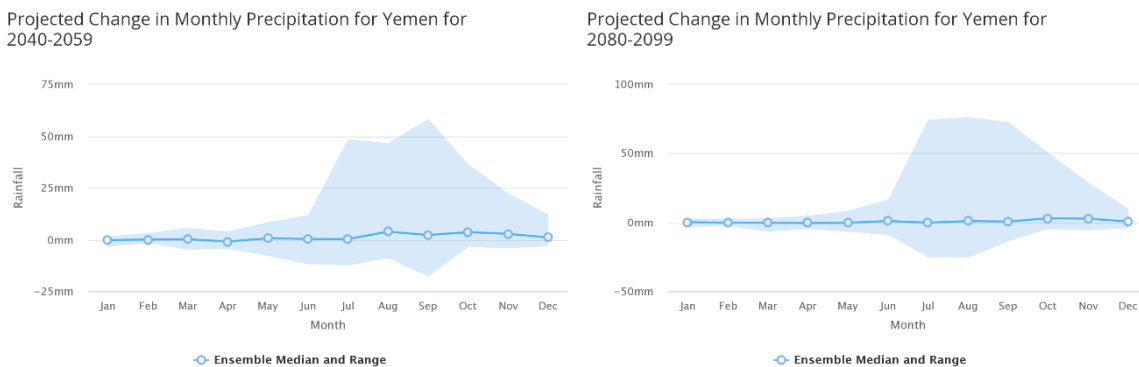


Figure 38 Projected Change in Monthly Precipitation for Yemen for 2040-2059 and 2080-2099 under RCP 4.5 (World Bank, 2020b)

Figure 39 shows the projected change in monthly precipitation for Yemen for the periods 2040-2059 and 2080-2099 compared to 1986-2005 under IPCC's RCP 8.5. For the period 2020-2039, precipitation will decline for the first 6 months of the year and increase for the other 6 months. The biggest median decline will occur during March with -0.46 mm and the biggest median increase would occur in October with +4.59 mm. The period 2080-2099 shows a different trend with a decline in precipitation during only February and April and an increase for the other months of the year. The biggest median decrease occurs in April with -2.15 mm and two major median increases in September and October with +17.58 and 17.83 mm respectively.

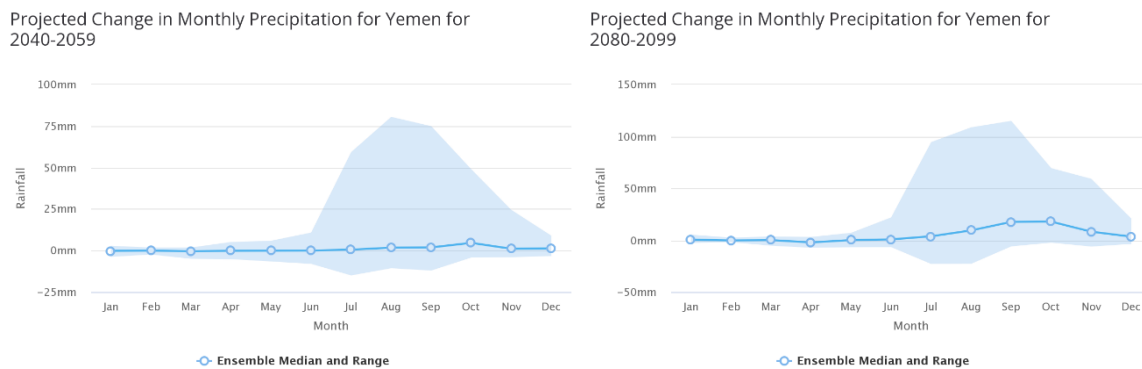


Figure 39 Projected Change in Monthly Precipitation for Yemen for 2040-2059 and 2080-2099 under RCP 8.5 (World Bank, 2020b)

The projections of the Third National Communication to the UNFCCC differ from the World Bank projections as it uses different scenarios and models. Across the entire country, annual mean precipitation change shows the greatest rise under the A2⁴⁶ scenario of between 21 mm/year and 306 mm/year by the 2050s with an average annual increase of 129 mm/year (Environmental Protection Authority, 2018). This is different from the World Bank projections since the period 2040-2059 is expected to show a decline under RCP 8.5. Seasonal mean rainfall shows both increases and decreases by 2050. For each of the emission scenarios, the largest seasonal rainfall change occurs during the summer months ranging between a decline of 14 to 47 mm/season and an increase of 131 to 179 mm/season across all emission scenarios. The smallest seasonal rainfall change occurs during the winter months, ranging between a decline of 1 mm/year and an increase of 27 to 45 mm/season across all emission scenarios (Environmental Protection Authority, 2018). This is again different from World Bank projections that show the largest change during SON not summer under RCP 8.5. Figure 40 below shows the precipitation projections according to the Third National Communication to the UNFCCC.

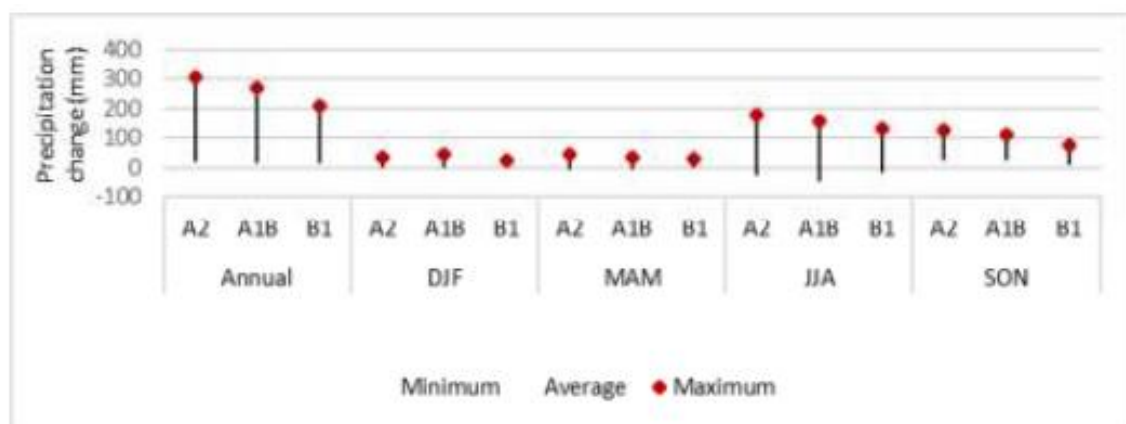


Figure 40 Projected Annual and Seasonal Change in Precipitation for Yemen by 2050 (Environmental Protection Authority, 2018)

⁴⁶ A2 = high emission scenario, A1B = medium emission scenario and B1 = low emission scenario.

Projected Extreme Events

Climate change is expected to increase the frequency and intensity of extreme events in Yemen.

Flooding

Figure 41 below shows the areas in Yemen that are most vulnerable to flooding according to WHO's analysis⁴⁷. The West and South of Yemen are both vulnerable with the Mid-West being the most vulnerable.

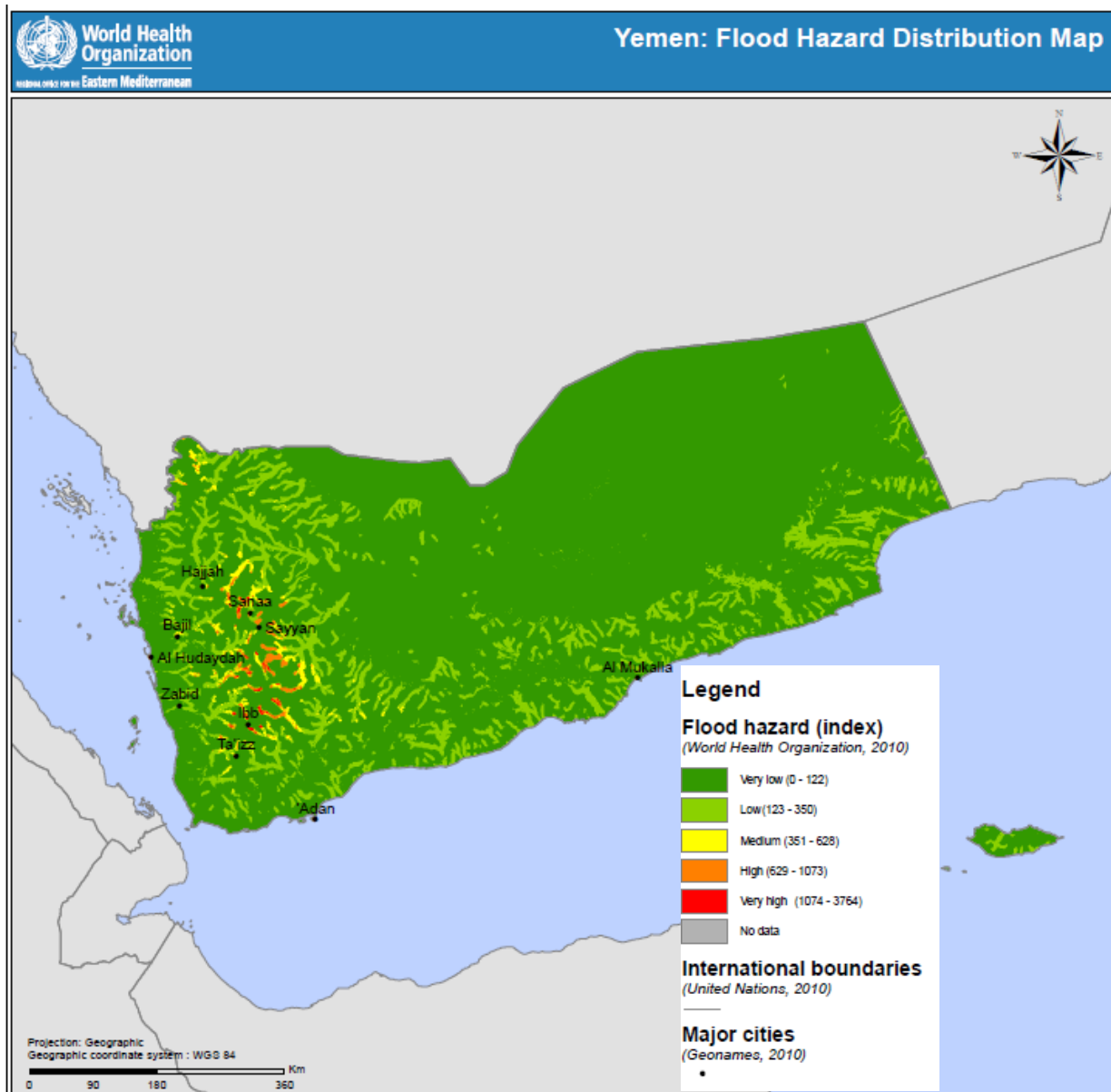


Figure 41 Flood Hazard Distribution Map for Yemen (WHO, 2010)

⁴⁷ WHO's vulnerability analysis used a statistical method that combines historical flood frequency and distribution of flood causal factors in order to predict areas with a probability of floods across a geographic area. This method allows for the calculation of a flood hazard index (FHI) based on the weighted scores of the causal factors and the historical flood distributions. The causal factors are land cover; elevation; soil type and soil texture; lithology; flow accumulation volume and distance; and precipitation.

Vulnerability mapping using World Bank’s data almost coincides with WHO’s analysis. Figure 42 below shows the areas that are most prone to flooding with the West and South of Yemen being the most vulnerable.

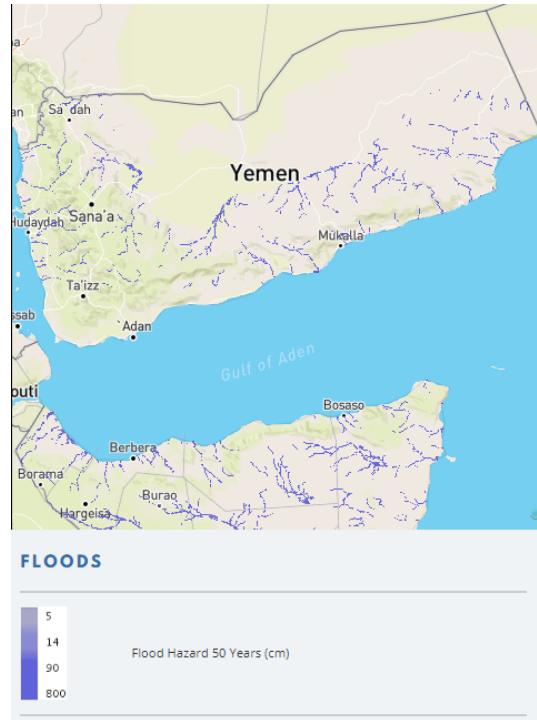


Figure 42 Yemen’s Vulnerable Areas to Flooding (World Bank, 2020b)

Drought

Figure 43 below shows the most vulnerable areas to recurrent drought in Yemen. The West of Yemen along with areas near the South East are the most prone to drought events.

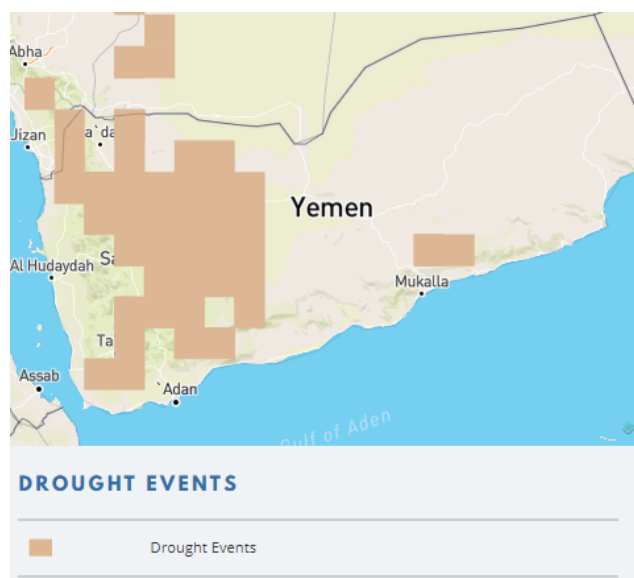


Figure 43 Most Vulnerable Areas to Drought Events in Yemen (World Bank, 2020b)

Figure 44 shows the projected change in the severe drought likelihood for the whole of Yemen under IPCC's RCP 4.5 and RCP 8.5 compared to 1986-2005. This is defined as the annual probability of experiencing at least severe drought conditions (Standardized Precipitation Evapotranspiration Index <-2)⁴⁸ and is measured on a scale from 0 to 1. Generally, there is an increase in the likelihood of severe drought for all the periods under both scenarios. Both scenarios follow the same pattern with the probability slightly higher for RCP 8.5 for all the periods. The least change in probability is +0.05 for the period 2020-2039 under RCP 4.5 while the highest change in probability is +0.23 for the period 2080-2099 under RCP 8.5.

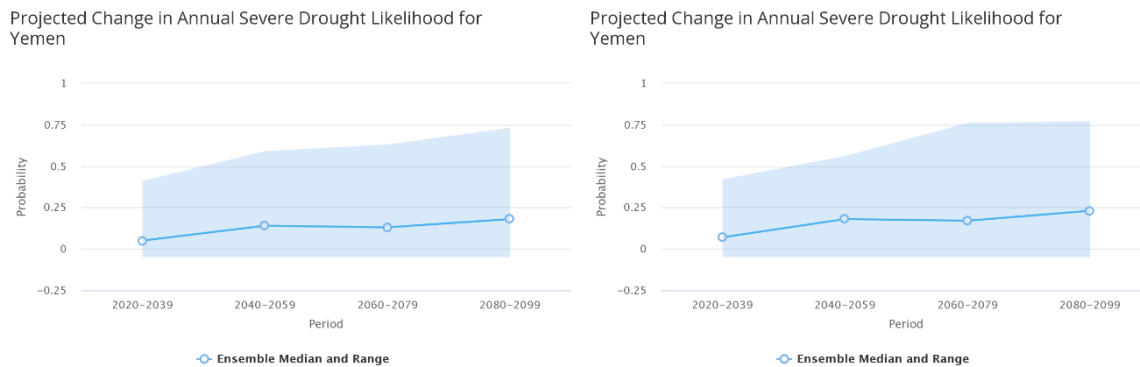


Figure 44 Projected Change in Annual Severe Drought Likelihood for Yemen under RCP 4.5 (left) and RCP 8.5 (right) (World Bank, 2020b)

Generally, the likelihood of severe drought is going to increase under RCP 4.5 and RCP 8.5 as we move from mid-century towards the end of the century. Under RCP 4.5 for the period 2040-2059, areas in the north-western region near Saadah; areas in the south-western region near Taaiz and Aden; and some areas in the south-eastern region are most prone to severe drought. For the period 2080-2099, areas in the mid-western region near Al-Hudaydah and areas in the mid-southern will become the most prone to severe drought as shown in Figure 45 below.

⁴⁸ The Standardized Precipitation Evapotranspiration Index (SPEI) measures the changes in water balance using both precipitation input as well as evapotranspiration losses. Positive values indicate positive water balance (or wet) conditions and negative values indicate negative water balance (or dry) conditions. Severe drought is likely once the SPEI drops below -2. The 12-month integrated SPEI was used to compute the annual likelihood of a severe drought. Particularly in the subtropics there is a clear trend towards increasing likelihood of drought conditions, but the overall trend is positive in most places due to increasing temperatures and little precipitation variability (World Bank, 2020b).

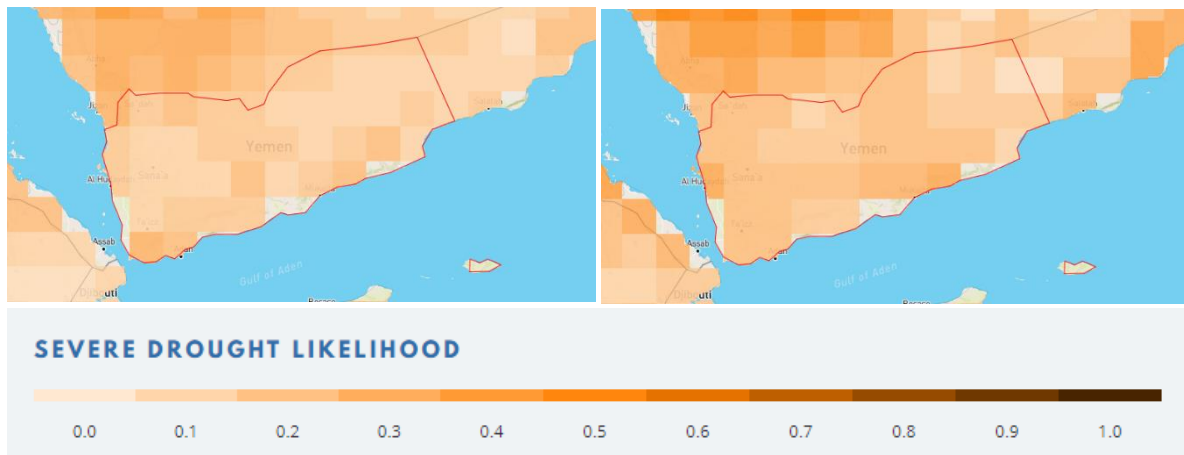


Figure 45 Maps for the Projected Change in Annual Severe Drought Likelihood for Yemen under RCP 4.5 for the Periods 2040-2059 (left) and 2080-2099 (right) (World Bank, 2020b)

Under RCP 8.5 for the period 2040-2059, areas in the north-western and mid-western regions near Saadah and Al-Hudaydah; areas in the south-western region near Taaiz and Aden; and some areas in the south-eastern region are most prone to severe drought. For the period 2080-2099, areas in the whole west of Yemen especially in the north near Saada will become the most prone to severe drought as shown in Figure 46 below.

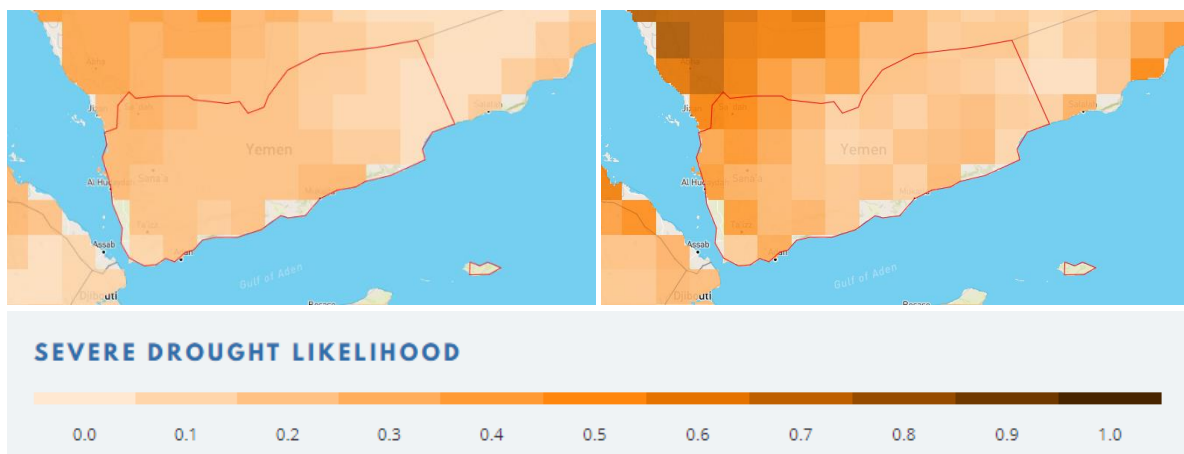


Figure 46 Maps for the Projected Change in Annual Severe Drought Likelihood for Yemen under RCP 8.5 for the Periods 2040-2059 (left) and 2080-2099 (right) (World Bank, 2020b)

Cyclones and Storms

It is predicted that cyclones and storm surges will occur more often and with higher intensity. The combination of sea level rise and cyclonic activity will increase storm surges that will have a destructive impact on infrastructure and livelihoods in coastal areas. Yemen is among the top 10 countries in the developing world in terms of the risk of intensification of storm surges. Table 11 below shows detailed rankings. In addition, Aden is ranked 5th among cities in the MENA region where people will be most vulnerable to sea level rise and storm surges (World Bank, 2009).

Table 11 Top 10 Countries at Risk with Intensification of Storm Surges⁴⁹ (World Bank, 2009)

Rank	Coastal Land Area	Coastal Population	Coastal GDP	Coastal Agricultural Land	Coastal Urban Areas	Coastal Wetlands
1	Kuwait (81.1)	Bahamas (73.0)	Bahamas (65.7)	Guyana (100.0)	Bahamas (94.1)	El Salvador (100.0)
2	Korea (61.7)	Kuwait (70.0)	Kuwait (65.3)	UAE (100.0)	Guyana (66.4)	Belize (100.0)
3	Namibia (60.2)	Djibouti (60.1)	Belize (61.1)	Nigeria (100.0)	Djibouti (60.4)	Kuwait (95.8)
4	Guinea (58.6)	UAE (60.0)	UAE (58.1)	Qatar (85.7)	UAE (60.2)	Taiwan, China (95.2)
5	El Salvador (55.3)	Belize (56.2)	Mozambique (55.0)	Korea (66.8)	Togo (59.8)	Namibia (81.6)
6	Chile (54.7)	Yemen (55.7)	Togo (54.5)	El Salvador (66.7)	Kuwait (56.4)	Korea (78.8)
7	Bahamas (54.7)	Togo (54.2)	Puerto Rico (52.7)	Ghana (66.7)	Yemen (55.4)	Qatar (75.0)
8	Puerto Rico (51.8)	Puerto Rico (53.8)	Morocco (52.6)	DPR Korea (58.3)	Mozambique (55.1)	Bahamas (71.4)
9	Yemen (50.2)	El Salvador (53.0)	Philippines (52.3)	Togo (50.0)	Tanzania (53.4)	Ecuador (67.3)
10	Oman (50.0)	Mozambique (51.7)	Yemen (52.0)	Equatorial Guinea (50.0)	Cote d'Ivoire (53.2)	Tunisia (63.5)

* Numbers in parentheses indicate percentage impact in “coastal zone”.

Projected Sea Level Rise

Sea level is expected to continue to rise along the coastal areas of Yemen. In Al Mukalla coastal zone in Hadhramaut governorate, a sea level rise of 0.5m in the waters of the Arabian Sea will exacerbate shoreline erosion rates and lead to corresponding land loss of about 440 hectares (Environmental Protection Authority, 2018).

In Aden, a sea level rise of 0.33m will lead to an inundation of an area of around 4300 hectares representing 5.7% of the total area of Aden Governorate. The inundated area would increase to about 4500 hectares representing 6% for a sea level rise of 0.6m. However, the projected inundation will be unevenly distributed across Aden Governorate coastal area. Khormaksar, Al Tawahi Bay, Abyan Beach, Aden lagoons and wetlands will be the most affected regions. About 3900 hectares will be inundated in the dense populated area of Khormaksar, Al Mansoor, and Al Mua'alla Districts for a sea level rise of 0.3m, while 435 hectares would be inundated for a sea level rise of 0.6m (Al Saafani et al., 2015). Figure 47 below shows the important sectors in the Governorate of Aden subject to inundation as a result of sea level rise.

⁴⁹ Numbers in parentheses indicate percentage impact in coastal zone.

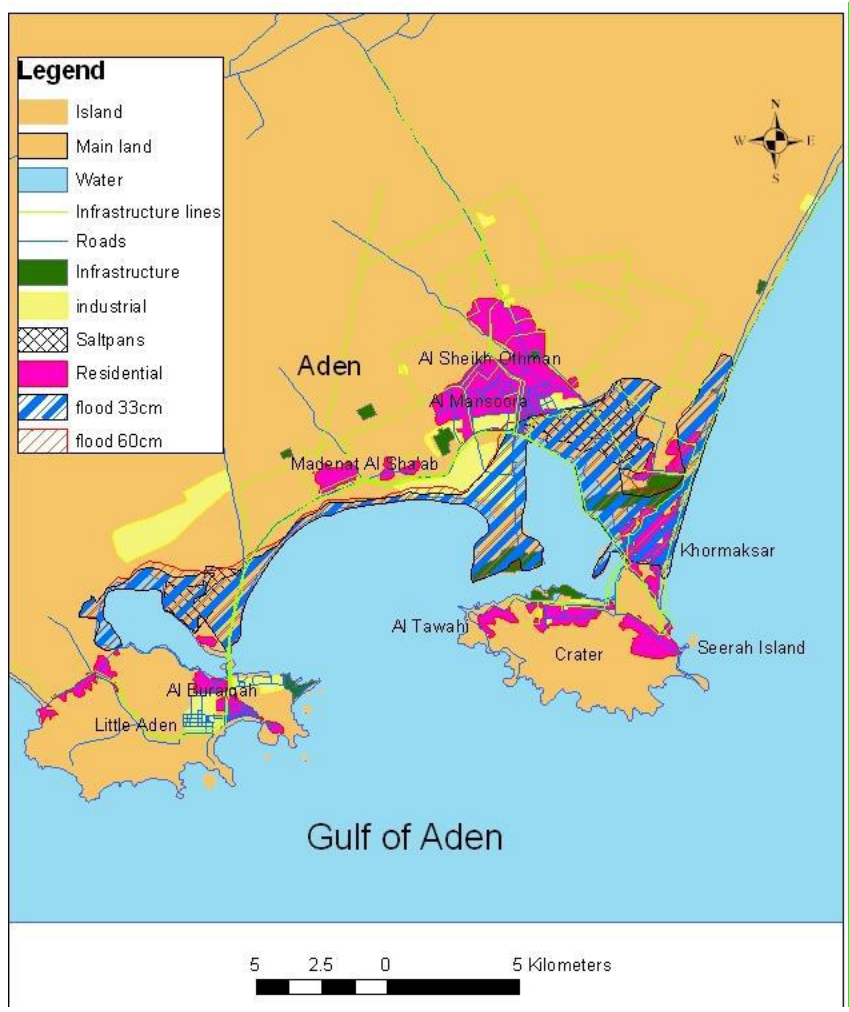


Figure 47 Important Sectors in the Governorate of Aden Subject to Inundation due to Sea Level Rise under 0.33m and 0.6m Scenarios (Al saafani et al., 2015)

C. Crop Analysis

Yemen has six agro-ecological zones as shown in Figure 48 below. The zones are Zone 1 is upper highlands; Zone 2 is lower highlands; Zone 3 Red Sea and Tihama Plain; Zone 4 is Arabian Sea coast; Zone 5 is Internal Plateau; and Zone 6 is desert.



Figure 48 Yemen's Agro-ecological Zones (Breisinger et al., 2011)

World Bank (2010) used three climate scenarios to assess the changes in yield namely "Mid", "Hot and Dry" and "Warm and Wet" shown in Table 12 below. The scenarios do not take into consideration groundwater levels or other non-climatic factors.

Table 12 Average Changes in Climate and Hydrological Factors for Different Climate Scenarios

Scenario	Year	Temp. rise	Rainfall	Runoff	Recharge	ET
<i>Baseline</i>	1990s					
<i>Mid</i>	2030s	1.6 oC	3%	4%	4%	2%
	2050s	2.0 oC	3%	30%	2%	2%
	2080s	3.1 oC	-3%	-22%	-12%	0%
<i>Hot & Dry</i>	2030s	2.0 oC	-13%	-55%	-31%	-6%
	2050s	2.6 oC	-13%	-32%	-32%	-6%
	2080s	4.5 oC	-24%	-78%	-55%	-11%
<i>Warm & Wet</i>	2030s	1.0 oC	25%	147%	54%	13%
	2050s	1.2 oC	20%	137%	41%	10%
	2080s	1.6 oC	13%	66%	27%	9%

In all three scenarios, the impact on crop production worsens over the three periods on average due to the fact that rainfall generally declines as we move towards the end of the century. Even the 'warm and wet' scenario would see an initial increase in production that would then fall during the

mid and later years of the century, although the outcome would still be positive in 2080 as rainfall is at its least increased (13%). The impact of temperature rise on crop production is positive for many crops in highland areas (Zone 1 and 2) but negative in lowland areas. Table 13 below shows the impact of the three scenarios on crop production in Yemen.

Table 13 Impact of Mid, Hot and Dry and Warm and Wet Scenarios on Crop Production in Yemen (World Bank, 2010)

	Mid			Hot and Dry			Warm and Wet		
	2030	2050	2080	2030	2050	2080	2030	2050	2080
Temperature (°C)	+1.6	+2.0	+3.1	+2.0	+2.6	+4.5	+1.0	+1.2	+1.6
Rainfall change	+3%	+3%	-3%	-13%	-13%	-24%	25%	20%	13%
Crop Production	1.0%	1.1%	-6.3%	-10.7%	-11.2%	-27.2%	14.1%	11.7%	6.5%

However, climate change will have distinct impact on different crops. Table 14 below shows the impact of climate change on Yemen’s most important crops under the three climate scenarios by the 2080s.

Table 14 Impact of Climate Change on Crops in Yemen by the 2080s (World Bank, 2010)

Crop	Mid	Hot & Dry	Warm & Wet
<i>Sorghum</i>	2%	-11%	15%
<i>Other cereals</i>	2%	-9%	13%
<i>Vegetables</i>	2%	1%	-2%
<i>Fruit</i>	-2%	-14%	8%
<i>Legumes</i>	-4%	-7%	-15%
<i>Qat</i>	71%	51%	77%
<i>Other</i>	-4%	-21%	14%

In general, Qat shows the highest changes in yield and vegetables show the least responsiveness. Both crops benefit from the increase in temperature. In fact, Qat is the only crop that shows positive change under the three scenarios. Apart from Qat, all crops show negligible changes under the “Mid” scenario. The “Hot and Dry” scenario will cause declines in all crops except for Qat and vegetables. Fruit, sorghum, other cereals (wheat, barley, millet and maize) and legumes will all decline. The “Warm and Wet” scenarios show a doubled decline for legumes and a slight decline for vegetables. However, sorghum and other cereals (wheat, barley, millet and maize) as well as fruit all show an increase in yield. These crops benefit from more rainfall and less increase in temperature.

Annex 5.3: Alignment with National Strategies

Intended Nationally Determined Contribution (2015).

Yemen's Intended Nationally Determined Contribution (INDC) document has been prepared in accordance with Lima call for climate action which drawn upon available national climate change reports and studies including the Second National Communication (SNC 2013), National Adaptation Programme of Action (NAPA 2009), and other thematic technical assessments. This document was drafted through a participatory process which involved key relevant stakeholders and technical agencies and consulted key national and sectorial documents including the National Strategy for Renewable Energy and Energy Efficiency and the National Water Sector Strategy and Investment Program (NWSSIP-2009). RLDP is well aligned with the INDC in terms of promotion and scale-up of rainwater harvesting to reduce climate induced water shortage; promoting agriculture drought management as well as sustainable crop and livestock management; implementing proper land resources management programs; and capacity building and awareness raising of communities.

Third National Communication to the UNFCCC (2018).

The Third National Communication under the United Nations Framework Convention on Climate Change (TNC) describes the national circumstances, the greenhouse gas inventory and climate change vulnerability context. It also provides adaptation policies to the future impacts of climate change on its vulnerable populations, economic sectors, and natural systems as well as mitigation measures to decrease greenhouse gas emissions. RLDP is well aligned with the TNC in terms of improving water irrigation efficiency and reducing water losses; alternative cropping schemes such as drought resistant crops, crop diversification and crop rotation patterns; soil conservation measures and protection from soil erosion; diversifying livelihoods and promoting opportunities for off-farm income; and building local capacities for farmers to deal with climate risks and use improved technologies in farming.

National Adaptation Programme of Action (2009)

Yemen's National Adaptation Programme of Action (NAPA) was developed in 2009. The NAPA identifies priority activities that respond to Yemen's urgent and immediate needs with regard to adaptation to climate change - those needs for which further delay could increase vulnerability or lead to increased costs at a later stage. RLDP is well aligned with the NAPA in terms of water conservation through irrigation saving techniques; raising awareness of communities on climate change adaptation; rainwater harvesting through various techniques including traditional methods; rehabilitation and maintenance of mountainous terraces; and promotion research on drought resistant, heat resistant and salinity tolerant crops.

Transitional Program for Stabilisation and Development (2012-2014).

The Transitional Program for Stabilisation and Development (TPSD) was formulated following the escalation of violence in the country during 2011 to set out priority interventions in the economic, social and environmental sectors. RLDP aligns with the TPSD in terms of encouraging water conservation in agriculture by using modern irrigation methods and water harvesting; substantial

investment in water conservation and the environmentally expanding of rural water supply; strengthening the role of women in managing water resources and protecting the environment; and enhancing food security.

National Food Security Strategy (2011).

The National Food Security Strategy (NFSS) was developed in 2011 in response to food, fuel and financial crises that affected the country's economy. It aimed at cutting food insecurity by one third by 2015, making 90% of the population food secure by 2020 and reduce child nutrition by 1 point per year. RLDP aligns with the NFSS in terms creating jobs and income-generating activities in rural areas; managing environmental impacts on water resources; promoting water-use efficiency; improving nutritional education covering dietary diversity and micronutrient malnutrition; and developing women's educational attainment, economic participation and health status.

National Water Sector Strategy and Investment Program (2005-2009).

Following reorganization of the water sector in 2003, the Ministry of Water and Environment then initiated a multi-stakeholder process of preparing a consolidated strategy, action plan and investment program for the water sector as a whole – the National Water Sector Strategy and Investment Program (NWSSIP). The NWSSIP addressed challenges in the four sub-sectors namely water resources management; urban water supply and sanitation; rural water supply and sanitation; irrigation; and environmental and social aspects of water management. RLDP aligns with the NWSSIP in terms of adopting a bottom up and community-led approach; enhancing domestic water supply in rural areas; increasing water-use efficiency by farmers; enhancing the role of communities in water resources management; integrating environmental aspects into community-led water resources management; and diversifying incomes of rural communities to eradicate poverty.

Social Fund for Development's Crisis Response Plan II (2018-2020).

Social Fund for Development (SFD) was established in 1997 as an implementing partner for international donors, government and beneficiaries to work with in responding to Yemen's chronic and emergency needs. SFD's response contains three programs namely social safety net, community and local development and small and micro enterprise (SME) development. RLDP is aligned with SFD's CRP II in terms of increasing income-generation and supporting livelihoods in rural areas; supporting SMEs and creating youth employment among rural communities; supporting community-based initiatives for self-help and building resilience; focusing on women empowerment and nutrition-oriented interventions; constructing rainwater harvesting facilities; introducing drought-resistant varieties as an adaptation to climate change; and supporting the livestock sector.

Annex 5.4: Environmental and Social Management Plan (ESMP)

Grievance and Redress Mechanism (GRM)

The programme will follow IFAD's Complaints Procedure which ensures that appropriate mechanisms are in place to allow individuals and communities to contact IFAD directly and file a complaint if they believe they are or might be adversely affected by an IFAD-funded project/programme not complying with IFAD's Social and Environmental Policies and mandatory aspects of SECAP. Environmental and Social Accountability will be assessed based on: (i) the ability of beneficiaries to voice complaints and provide feedback through well-established GRMs; (ii) dissemination of information about the resumption of the RLDP to the intended beneficiaries' relevant communities; (iii) independent verification through the third-party monitoring agency; and (iv) the FAO/SFD field monitoring activities.

IFAD's GRM shall be fully explained to stakeholders during the programme's start-up workshop and to beneficiaries during the programme's activities. The GRM will capitalise on established FAO Yemen and SFD practices and will provide multiple access points (telephone, complaints box, website, email, postal address) so that beneficiaries will know whom to contact with regard to their concerns. FAO will have their call centre with GRM operators equipped to receive complaints through a hotline. The number should be available on all project-related documents, billboards, leaflets and other communication material. The complainants should first bring the matter to the attention of the PMU which should consult FAO and SFD. Grievances shall be addressed at the field level by the project team which will be the first layer of redress mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violations of the Programme's SECAP or the Policy on Environmental and Social Safeguards of the Global Environment Facility (if co-financing from GEF is made available).

The main responsibility of addressing complaints lies with the PMU and the implementing agencies. If the PMU does not adequately respond, then the matter may be brought to the attention of IFAD. The issue may be brought straight to IFAD if the complainants feel they might be subject to retaliation if they went to the PMU directly.

All grievances received and action taken on them will be reported to the PMU, implementing agencies and IFAD. If GEF funding is made available, IFAD will ensure that all complaints received and actions taken to address them are included in the annual Project Implementation Reports (PIRs).

ESMP Matrix

Interventions	Environmental/Social Impacts	Recommended Mitigation/Enhancement measures	Public Consultation Activities	Responsible Institution in Implementation Phase	Means of Verification (Monitoring and reporting)	Frequency of Verification	Cost Estimate
All Interventions	All possible adverse environmental and social impacts as a result of the RLDP's activities.	(1) Apply strictly the Grievance Redress Mechanism (GRM) as per the SECAP. (2) Ensure dissemination of the GRM to local communities prior to starting project activities. (3) Maintain solid documentation for the received complaints during the operation of the project and track the level of responsiveness (provision of feedback).	Start-up workshop with all the stakeholders.	PMU	(1) Review of the number of complaints received. (2) Review of the number of complaints solved, the mechanisms used and the time it took to solve them.	Monthly	\$2,000 (M&E Budget)
All Interventions	Beneficiary Dissatisfaction and Discrimination	In addition to the FAO GRM call centre, create a qualitative assessment of the aspirations of women and men of various age groups, especially the most	Community focus groups at baseline.	PMU	(1) Collect and monitor disaggregated evaluation data. (2) Review number of complaints and negative data	Monthly	\$5,000 (M&E Budget)

		vulnerable (female head of households, youth- especially young girls), through focus group discussions, to solicit feedback on the challenges being faced by them, their views on solutions and coping mechanisms, as well as feedback on the training programs and how they can be improved during all project stage.			compared to positive feedback and time it took to resolve them		
All Interventions	<u>Social:</u> Women, Youth and other vulnerable categories are excluded from project benefits	During the diagnostic process, conduct strong public consultation at different levels on the programme objectives, eligibility criteria and selection process for specific activities directed to specific social categories, and available grievance redress mechanisms. This should be done in partnership with IPs, CDAs, and community leaders.	Start-up workshop with all the stakeholders.	PMU	Ensure logframe data is disaggregated by sex, age and vulnerable groups where relevant.	Monthly	No extra budget needed.

<p>All Interventions</p>	<p><u>Social:</u> Gender Issues and all forms of Gender-Based Violence, including Sexual Harassment (SH) and Sexual Exploitation and Abuse (SEA) due to the increasing mobilisation of women to participate in project activities</p>	<p>(1) Increase local CDAs engagement to work with local leaders and male household's members and promote campaign for sensitisation on gender equality and against gender biases and GBV. Community and Household level.</p> <p>(2) Conducting gender-sensitive and participatory consultations while finalizing and designing the various sub-project activities (Component 1). These have to include safe spaces/ women-only focus groups to encourage women's meaningful participation in consultations.</p> <p>(3) Create female only spaces for women to receive trainings and services.</p> <p>(4) Gender mainstreaming actions should be developed as part of a Gender Development</p>	<p>Start-up workshop with all the stakeholders.</p>	<p>PMU and IPs.</p>	<p>(1) Collect gender-disaggregated monitoring and evaluation data to track the extent to which women have been able to participate and benefit from project activities.</p> <p>(2) Cases of Sexual Harassment (SH) and Sexual Exploitation and Abuse (SEA) has to be dealt with in compliance with IFAD's Policy to Preventing and Responding to SH/SEA and reported directly to IFAD.</p>	<p>Annually</p>	<p>\$5,000 (M&E Budget)</p>
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		<p>Plan (GDP) prepared by the IPs engaged in the implementation.</p> <p>(5) Sensitize the IP as to the importance of addressing SEA/SH in the project, and the mechanisms that will be implemented.</p> <p>(6) As part of the project's stakeholder consultations, property inform those targeted by the project about SEA/SH risks and project activities to get their feedback on project design and safeguard issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women's organizations and groups working with children) and should occur at the start and throughout the implementation of the</p>					
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		<p>project.</p> <p>(7) specific procedures for SEA/SH, including confidential reporting with safe and ethical documenting of SEA/SH cases should be prepared.</p> <p>(8) Clearly define the SEA/SH requirements and expectations in the bid documents.</p> <p>(9) Evaluate the contractor's SEA/SH Accountability and confirm prior to finalizing the contract the contractor's ability to meet the project's SEA/SH prevention and response requirements.</p> <p>(10) Code of Conduct: The agreed CoC to address behavior which will be used on the project for the contractor's workers, including sub-contractors and suppliers are</p>					
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		<p>compliance with SH and SEA related regulations</p> <p>11) Undertake regular M&E of progress on SEA/SH prevention and response activities, including reassessment of risks as appropriate.</p>					
All Interventions	<p><u>Social:</u></p> <p>Child labour used in project's activities.</p>	<p>(1) Increase local CDAs engagement to work with local leaders and household's members and raise awareness on not using child labour.</p> <p>(2) Strictly apply GRM.</p> <p>(3) Sensitize the IP as to the importance of addressing child labor in the project, and the mechanisms that will be implemented.</p> <p>(4) As part of the project's stakeholder consultations, property inform those targeted by the project</p>	Start-up workshop with all the stakeholders.	PMU and IPs	<p>Review child labour complaints in compliance with GRM</p> <p>Review cases of complaints from workers.</p>	Annually	No extra budget needed.

		<p>about child labor risks and project activities to get their feedback on project design and safeguard issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women’s organizations and groups working with children) and should occur at the start and throughout the implementation of the project. .</p> <p>(5) Evaluate the contractor’s Accountability and confirm prior to finalizing the contract the contractor’s ability to meet the project’s child labor prevention and response requirements.</p> <p>(6) Code of Conduct: The agreed CoC to address behavior which will be used on the project for the</p>					
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		<p>contractor’s workers, including sub-contractors and suppliers are compliance with child labor related regulations</p> <p>(7) Undertake regular M&E of progress on child labor prevention and response activities, including reassessment of risks as appropriate.</p>					
All Interventions	<p><u>Social:</u></p> <p>Decent working conditions and labour standards are not respected (especially health and safety)</p>	<p>Integration of internationally recognized Occupation Health and Safety Management standards as part of the trainings. This include training on the proper use and maintenance of personal protective equipment; remedies for adverse impacts such as occupational injuries, and</p>	Start-up workshop with all stakeholders.	PMU and IPs	Review cases of complaints from workers.	Annually	No extra budget needed

		proper documentation and reporting of occupational incidents.					
All Interventions	Environmental: SECAP provisions not included in procurement processes	OPR is currently developing a Matrix that maps the 9 guiding principles of SECAP with procurement requirements. This matrix will be disseminated to FAO and SFD in order to develop the relevant bidding documents. The standard Bidding documents that are being developed by IFAD for works incorporates this matrix and they can be used by FAO and SFD if they agree to do so.	Start-up workshop with FAO and SFD.	FAO and SFD.	Review bidding documents.	Before every procurement.	No extra budget needed.
All Interventions	<u>Environmental:</u> The project's activities unintentionally aggravate public health concerns in the target areas including	(1) Public health awareness, proper waste management and hygiene issues mainstreamed in all capacity building activities of the project	Start-up workshop with all stakeholders.	PMU and IPs.	(1) Review reports of Capacity building workshops to ensure health issues were discussed.	Annually	\$4,000 (Component 2 studies budget)

	waterborne diseases and COVID-19	<p>especially FFS and nutrition trainings.</p> <p>(2) Water quality assessments carried out periodically in all target areas.</p> <p>(3) Ensuring that service providers follow national health and safety regulations at workplace.</p>			<p>(2) Review water quality assessment reports.</p> <p>(3) Review complaints by workers during execution.</p>		
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Component 2: Climate Resilient Community Infrastructure

Climate Resilient Infrastructure	<u>Environmental:</u> Negative environmental impact due to construction/rehabilitation work carried out by the project.	<p>(1) Carry out Environmental Impact Assessments (EIAs) for each infrastructure intervention.</p> <p>(2) Strictly apply GRM.</p>	Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).	PMU and IPs.	<p>(1) Review EIAs reports vis-a-vis national laws and regulations.</p> <p>(2) Review complaints by local communities.</p>	<p>(1) Before execution of every intervention.</p> <p>(2) Annually.</p>	\$5,000 (Component 2 studies budget)
	<u>Environmental:</u> Negative environmental impact on the Wadi areas due to construction of check dams	<p>(1) Carry out hydrological studies prior to intervening.</p> <p>(2) Strictly apply GRM.</p>	Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).	PMU and IPs.	<p>(1) Review hydrological studies.</p> <p>(2) Review complaints by local communities</p>	<p>(1) Before execution of every intervention.</p> <p>(2) Annually</p>	\$10,000 (Component 2 studies budget)

<p><u>Environmental:</u></p> <p>Unsustainable use of groundwater resources as a result of project activities.</p>	<p>(1) Conduct geological surveys prior to interventions involving groundwater to assess water availability.</p> <p>(2) Raise awareness of sustainable use of groundwater resources during capacity building activities related to infrastructure operation and maintenance.</p> <p>(3) Design and capacity of solar pumps on irrigation wells shall ensure that no unsustainable extraction of groundwater occurs</p>	<p>Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>(1) Review geological surveys conducted.</p> <p>(2) Review workshop reports for training activities done as on operation and maintenance of infrastructure.</p> <p>(3) Review design of solar pumps prior to their installation on irrigation wells</p>	<p>(1) Before the interventions involving groundwater use.</p> <p>(2) Annually.</p>	<p>\$15,000 (Component 2 studies budget)</p>
<p><u>Environmental:</u></p> <p>Failure of rainwater harvesting systems due to decline in rainfall in target areas.</p>	<p>Review SECAP's Climate Risk Analysis and climate vulnerability targeting criteria before selecting sites.</p>	<p>Start-up workshop and community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>Review selected sites for infrastructure vis-à-vis targeting strategy and SECAP.</p>	<p>Before selecting target areas for rainwater harvesting.</p>	<p>No extra budget needed.</p>

	<u>Environmental:</u> Community Action Plans (CAPs) come up with suggested interventions that will have detrimental environmental impact.	Apply SECAP and ESMP strictly to any potential interventions.	Start-up workshop and community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).	PMU and IPs.	Review CAPs against SECAP and ESMP.	Annually.	No extra budget needed.
	<u>Environmental and Social:</u> Conflict among local communities/farmers on access to resources due to limited target areas for interventions.	(1) Apply the project's targeting strategy. (2) Conflict-sensitive sectors of interventions should not be selected (e.g. any interventions relying on community policing) (3) Involve Water Users Associations and community leaders in focus groups.	Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).	PMU and IPs.	(1) Review selected sites for infrastructure vis-à-vis targeting strategy. (2) Review community consultations reports.	Before selecting target areas.	No extra budget needed.
Component 3: Protection of Agriculture Livelihoods							
Food and Nutrition Security	<u>Environmental:</u> Food safety concerns related to food-processing.	(1) Nutrition trainings should focus on food safety, water quality and hygiene related issues. (2) Strictly apply GRM.	Community dialogues as part of component 2.	PMU and IPs.	(1) Review nutrition trainings reports. (2) Review complaints related to food safety and	Annually.	No extra budget needed.

					waterborne diseases.		
	<p><u>Environmental:</u></p> <p>Water scarcity exacerbated by the development of kitchen gardens.</p>	<p>(1) Raise awareness of water scarcity issues and efficient water use during nutrition trainings.</p> <p>(2) Encourage use of harvested water or safe grey water for kitchen gardens during nutrition trainings.</p>	Community dialogues as part of component 2.	PMU and IPs.	Review nutrition trainings reports.	Annually.	No extra budget needed.
	<p><u>Social:</u></p> <p>IDPs and PWD (especially women and youth) excluded from activities.</p>	Apply targeting strategy for social inclusion and provide training and capacity building of IP to undertake a proper targeting and social inclusive strategy	Community dialogues as part of component 2.	PMU and IPs	<p>(1) Collect and monitor data on IDPs and PWD presence in project activities.</p> <p>(2) Deal with complaints and any emerging conflict issue in compliance with GRM.</p>	Annually	No extra budget needed.

Annex 5.5 IPC Classification, Farming Systems and Targeting Beneficiaries

Table 15 Integrated food security phase classification - IPC Phases (IPC, 2019)

Governorate	Population (2019)	Phase 1 Minimal	Phase 2 Stressed	Phase 3 Crisis	Phase 4 Emergency	Phase 5 Catastrophe
Taizz	3.065.034	266.500	554.000	903.500	1.293.000	44.500
Al Hudaydah	2.985.122	365.000	573.500	1.002.500	1.023.000	22.500
Dhamar	2.176.229	246.500	419.500	825.000	686.000	-
Lahj	1.058.219	109.500	188.000	344.000	414.500	2.000
Al Dhala	779.656	59.500	124.500	234.500	344.000	16.500
	10.064.26	1.047.000	1.859.500	3.309.500	3.760.500	85.500

Table 16 Farming Systems in the Project Area by Governorate (FAO, WFP and UNICEF, 2017)⁵⁰

Governorates	Agriculture HHs	Cropping only HHs	Livestock only HHs	Mixed farming	(%) of ag hhs of total hhs.	(%) of crop only hhs	(%) of livestock hhs	(%) of mixed farming hh
Al Dhala	63,700	4,204	16,817	42,679	76%	7%	26%	67%
Dhamar	171,100	23,270	24,638	123,192	66%	14%	14%	72%
Al Hudaydah	252,650	5,558	180,645	66,447	52%	2%	72%	26%
Lahej	99,768	4,889	67,742	27,137	68%	5%	68%	27%
Taiz ^{51b}	316,503	22,155	142,426	151,921	85%	7%	45%	48%
Total	903,721	60,076	432,268	411,376	67%	7%	48%	46%

⁵⁰ Taizz figures are estimated using governorate proportions as the UN survey did not cover Taizz.

Table 17 Number of IDPs and Returnees per Governorate in 2020 (OCHA, 2020)

Governorate	Returnees	IDPs
Taizz	148.326	411.750
Al Hudaydah	24.660	362.292
Dhamar	9.660	186.774
Lahj	79.470	69.492
Al Dhala	33.792	33.306
Total	295.908	1.063.614

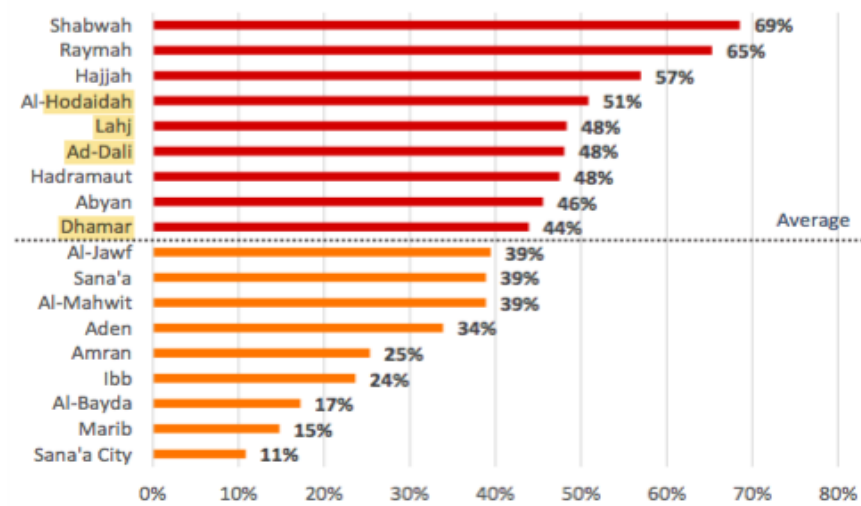


Figure 49 Percentage of Households in the Lowest Two Quintiles (FAO, WFP and UNICEF, 2017)

Table 18 Women-headed Households by Governorate (FAO, WFP and UNICEF, 2017)

Governorate	Women-headed HHs
Overall for Yemen	11.7%
Dhamar	8.9%
Lahj	7.8%
Al Dhale	14.7%
Al Hudayda	17.5%
Average	12.2 %

Table 19 RLDP Beneficiaries by Activity

Component 2: Climate Resilient Community Infrastructure	Total Households	Total (people)	Women	Youth	(%) women	(% youth)
2.1. Domestic water supply	3284	22,000	11.322	3960	51%	18%
2.2: Small-scale irrigation and flood-based livelihood systems	2284	15.300	7.803	2.754	51%	18%
2.3: Soil and water conservation	2463	16.500	8.415	2.970	51%	18%
Component 2 Total	8031	53.800	27.540	5582	51%	18%
Component 3 : Protection of Agriculture Livelihoods						
3.1. Capacity Building for Agriculture Production						
Farmer Field Schools	6000	40.200	2.400	2.400	40%	40%
3.2: Food and Nutrition Security						
Reflect Students	6000	40.200	4.200	4800	70%	80%
Nutrition Session Participants	4000	26.800	4.000	1600	100%	40%
3.3. Livelihood Resilience and Value Addition						
Livelihood Packages	1500	10.050	675	600	45%	40%
Matching grants	500	3.350	225	200	45%	40%
Component 3 Total	18,000	120,600	11.500	9.600	64%	53%
Project Total						
Targeted people	26,031	174.400				

Annex 5.6: Guiding Questions for Environmental, Social and Climate Risk Screening

Guiding questions for environment and social screening	Yes/no	Comments/explanation
Category A – the following may have significant and often irreversible or not readily remedied adverse environmental and/or social implications.		
Project location		
1. Would the project develop any wetlands? (Guidance statement 1)	No	
2. Would the project cause significant adverse impacts to habitats and/or ecosystems and their services (e.g. conversion of more than 50 hectares of natural forest, loss of habitat, erosion/other form of land degradation, fragmentation and hydrological changes)? (Guidance statements 1, 2 and 5)	No	
3. Does the proposed project target area include ecologically sensitive areas, ⁵² areas of global/national significance for biodiversity conservation, and/or biodiversity-rich areas and habitats depended on by endangered species? (Guidance statement 1)	No	
4. Is the project location subjected to major destruction as a result of geophysical hazards (tsunamis, landslides, earthquakes, volcanic eruptions)?	No	
Natural resources		
5. Would the project lead to unsustainable natural resource management practices (fisheries, forestry, livestock) and/or result in exceeding carrying capacity. For example, is the development happening in areas where little up-to-date information exists on sustainable yield/carrying capacity? (Guidance statements 4, 5 and 6)	No	

⁵² “Sensitive areas” include: protected areas (national parks, wildlife/nature reserves, biosphere reserves) and their buffer zones; areas of global significance for biodiversity conservation; habitats depended on by endangered species; natural forests; wetlands; coastal ecosystems, including coral reefs and mangrove swamps; small island ecosystems; areas most vulnerable to climate change and variability; lands highly susceptible to landslides, erosion and other forms of land degradation, areas that include physical cultural resources (of historical, religious, archaeological or other cultural significance), and areas with high social vulnerability.

6. Would the project develop large-scale ⁵³ aquaculture or mariculture projects, or where their development involves significant alteration of ecologically sensitive areas?	No	
7. Would the project result in significant use of agrochemicals which may lead to life-threatening illness and long-term public health and safety concerns? (Guidance statement 14)	No	
8. Does the project rely on water-based (groundwater and/or surface water) development where there is reason to believe that significant depletion and/or reduced flow has occurred from the effects of climate change or from overutilization? (Guidance statement 7)	No	
9. Does the project pose a risk of introducing potentially invasive species or genetically modified organisms which might alter genetic traits of indigenous species or have an adverse effect on local biodiversity? (Guidance statement 1)	No	
10. Does the project make use of wastewater (e.g. industrial, mining, sewage effluent)? (Guidance statement 7)	No	
Infrastructure development		
11. Does the project include the construction/ rehabilitation/upgrade of dam(s) and/or reservoir(s) meeting at least one of the following criteria? - more than 15 metre high wall; - more than 500 metre long crest; - more than 3 million m ³ reservoir capacity; or - incoming flood of more than 2,000 m ³ /s (Guidance statement 8)	No	
12. Does the project involve large-scale irrigation schemes rehabilitation and/or development (more than 100 hectares per scheme)? ⁵⁴ (Guidance statement 7)	No	

⁵³ The size threshold to trigger an Environmental and Social Impact Assessment (ESIA) may vary based on the country context and fragility of specific locations. Some countries have regulations on minimum size (usually ranging from a unit area of 10 to 50 hectares) and these will be adopted where they exist. However, where there are no standards, it is proposed to use 25 hectares as an aquaculture unit size to trigger an ESIA.

⁵⁴ The size threshold to trigger an Environmental and Social Impact Assessment (ESIA) may vary based on the country context and fragility of specific locations. Some countries have regulations determining size of irrigation development requiring a full ESIA and these will be adopted where they

13. Does the project include construction/rehabilitation/upgrade of roads that entail a total area being cleared above 10 km long, or any farmer with more than 10 per cent of his or her private land taken? (Guidance statement 10). Will the works entail temporary and/or permanent resident workers?	No	
14. Does the project include drainage or correction of natural waterbodies (e.g. river training)? (Guidance statement 7)	No	
15. Does the project involve significant extraction/diversion/containment of surface water, leaving the river flow below 20 per cent environmental flow plus downstream user requirements? (Guidance statement 7)	No	
Social		
16. Would the project result in economic displacement ⁵⁵ or physical resettlement of more than 20 people, or impacting more than 10 per cent of an individual household's assets? (Guidance statement 13)	No	
17. Would the project result in conversion and/or loss of physical cultural resources? (Guidance statement 9)	No	
18. Would the project generate significant social adverse risk/impacts to local communities (including disadvantaged and vulnerable groups, indigenous people, persons vulnerable to GBV and sexual exploitation and abuse and people with disabilities) or other project-affected parties? (Guidance statement 13)	No	
Other		
19. Does the project include the manufacture and transportation of hazardous and toxic materials which may affect the environment? (Guidance statement 2)	No	
20. Does the project include the construction of a large or medium-scale industrial plant?	No	
21. Does the project include the development of large-scale production	No	

exist. However, where there are no standards, it is proposed to use 100 hectares as an irrigation development unit size to trigger an ESIA.

⁵⁵ Economic displacement implies the loss of land, assets, access to assets, income sources, or means of livelihoods (guidance statement 13).

forestry? (Guidance statement 5)		
Rural finance		
22. Does the project support any of the above (Question 1 to Question 21) through the provision of a line of credit to financial service providers? (Guidance statement 12)	No	
Category B – the following may have some adverse environmental and/or social implications which can be readily remedied.		
Location		
23. Does the project involve agricultural intensification and/or expansion of cropping area in non-sensitive areas that may have adverse impacts on habitats, ecosystems and/or livelihoods? (Guidance statements 1, 2 and 12)	No	
Natural resource management		
24. Do the project activities include rangeland and livestock development? (Guidance statement 6)	Yes	
25. Does the project involve fisheries where there is information on stocks, fishing effort and sustainable yield? Is there any risk of overfishing, habitat damage and knowledge of fishing zones and seasons? (Guidance statement 4)	No	
26. Would the project activities include aquaculture and/or agriculture in newly introduced or intensively practiced areas? Do project activities include conversion of wetlands and clearing of coastal vegetation, change in hydrology or introduction of exotic species? (Guidance statement 4)	No	
27. Do the project activities include natural resource-based value chain development? (Guidance statements 1, 6 and 12)	Yes	
28. Do the project activities include watershed management or rehabilitation?	Yes	Integrated watershed management.
29. Does the project include large-scale soil and water conservation measures? (Guidance statements 1 and 5)	Yes	
Infrastructure		
30. Does the project include small-scale irrigation and drainage, and small and medium dam subprojects (capacity < 3	Yes	Only small dams.

million m ³)? (Guidance statements 7 and 8)		
31. Does the project include small and microenterprise development subprojects? (Guidance statements 12 and 13)	No	
32. Does the project include the development of agroprocessing facilities? (Guidance statements 2, 6 and 12)	Yes	
33. Would the construction or operation of the project cause an increase in traffic on rural roads? (Guidance statement 10)	No	
Social		
34. Would any of the project activities have minor adverse impacts on physical cultural resources? (Guidance statement 9)	No	
35. Would the project result in physical resettlement of 20 people or less, or impacting less than 10 per cent of an individual household's assets (Guidance statement 13)?	No	
36. Would the project result in short-term public health and safety concerns? (Guidance statement 14)	No	
37. Would the project require a migrant workforce or seasonal workers (for construction, planting and/or harvesting)? (Guidance statement 13)	No	
Rural finance		
38. Does the project support any of the above (Question 23 to Question 37) through the provision of a line of credit to financial service providers? (Guidance statement 12)	No	

Guiding questions for climate risk screening	Yes	No	Additional explanation of "yes" response*
1. Is the project area subject to extreme climatic events, such as flooding, drought, tropical storms or heat waves?	Yes		Drought will become more frequent as a result of climate change.
2. Do climate scenarios for the project area foresee changes in temperature, rainfall or extreme weather that will adversely affect the project		No	Increase in temperature, reduction in precipitation and increase in frequency of extreme weather events are all predicted. However, the project directly supports adaptation to these potential impacts.

impact, sustainability or cost over its lifetime?			
3. Would the project make investments in low-lying coastal areas/zones exposed to tropical storms?		No	
4. Would the project make investments in glacial areas and mountains zones?		No	
5. Would the project promote agricultural activity in marginal and/or highly degraded areas that have increased sensitivity to climatic events (such as on hillsides, deforested slopes or floodplains)?		No	
6. Is the project located in areas where rural development projects have experienced significant weather-related losses and damages in the past?		No	
7. Would the project develop/install infrastructure in areas with a track record of extreme weather events?		No	
8. Is the project target group entirely dependent on natural resources (such as seasonal crops, rainfed agricultural plots, migratory fish stocks) that have been affected by in the last decade by climate trends or specific climatic events?	Yes		
9. Would climate variability likely affect agricultural productivity (crops/livestock/fisheries), access to markets and/or the associated incidence of pests and diseases for the project target groups?	Yes		Increase in temperature, reduction in precipitation and increase in frequency of drought will cause a decline in agricultural productivity.

10. Would weather-related risks or climatic extremes likely adversely impact upon key stages of identified value chains in the project (from production to markets)?		No	
11. Is the project investing in climate-sensitive livelihoods that are diversified?		No	
12. Is the project investing in infrastructure that is exposed to infrequent extreme weather events?	Yes		Areas that would experience more frequent drought events but the climate risk classification remains moderate as explained in the Climate Risk Classification section.
13. Is the project investing in institutional development and capacity-building for rural institutions (such as farmer groups, cooperatives) in climatically heterogeneous areas?	Yes		The project will invest in capacity building for traditional or new water users' associations prior to investment in water resources.
14. Does the project have the potential to become more resilient through the adoption of green technologies at a reasonable cost?	Yes		Climate resilient activities will be recommended in the SECAP and integrated within the PDR and the PIM.
15. Does the project intervention have opportunities to strengthen indigenous climate risk management capabilities?		No	
16. Does the project have opportunities to integrate climate resilience aspects through policy dialogue to improve agricultural sector strategies and policies?	Yes		Should be further explored during project design.
17. Does the project have potential to integrate climate resilience measures without extensive additional costs (e.g. improved building codes, capacity-building, or including climate risk issues in policy processes)?	Yes		Should be further explored during project design.

18. Based on the information available would the project benefit from a more thorough accounting of GHG emission?		No	
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Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 6: First Annual Work Plan and Budget (AWPB)

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Annex 6: First Annual Work Plan and Budget

Yemen			
Rural Livelihood Development Project			
Table 1. Community Mobilization & Engagement			
Detailed Costs			
	Unit	Quantity	Amount (USD)
I. Investment Costs			
Implementing Partner for Mobilization and Logistical Support for all activities	Implementing partner	2	218,085

Yemen
Rural Livelihood Development Project
Table 2. Community Capacity Building

Detailed Costs

	Unit	Quantity	Amount (USD)
I. Investment Costs			
A. Training			
Water Engineer and Irrigation Engineer Trainer	Number	2	6,030
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	25	2,563
Training of WUAs by water engineer expert	Number	2	2,010
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	20	1,579
Training of farmers by water harvesting/irrigation engineers	Number	2	2,010
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	400	31,573
Training of community/HHs by water engineer in O&M	Number	1	1,005
Training consumable for participants (stationary, refresh, transport, fees..etc)	Number	20	1,640
Training program facilitators	Number	1	1,508
Total Investment Costs			49,917
II. Recurrent Costs			
Management fee for SFD	Lumpsum		4,918
Total Recurrent Costs			4,918
Total			54,836

Yemen
Rural Livelihood Development Project
Table 3. Domestic Water Supply

Detailed Costs

	Unit	2021	Amount (USD)
I. Investment Costs			
Identification and preliminary studies	Study	1	24,120
Individual household water supply	Number	100	130,851
Communal multi-purpose rainwater harvesting	Number	1	158,288
Village groundwater-based water schemes	Number	2	242,708
Total Investment Costs			555,966
II. Recurrent Costs			
A. Management fees for SFD			
Fee on studies	Lumpsum		2,460
Fee on household water supply	Lumpsum		12,711
Fee on rainwater harvesting	Lumpsum		15,377
Fee on groundwater-based water scheme	Lumpsum		23,577
Total Recurrent Costs			54,125
Total			610,091

Yemen

Rural Livelihood Development Project

Table 4. Small-scale irrigation and flood-based livelihoods systems

Detailed Costs

	Quantity	2021	Amount (USD)
I. Investment Costs			
Identification and preliminary studies	Study	1	77,134
Rehabilitation and modernising irrigation systems /a	Number	9	261,174
Rehabilitation of flood-based agriculture systems	ha	100	280,697
Total Investment Costs			619,005
II. Recurrent Costs			
A. Management fees for SFD			
Fees on studies	Lumpsum		7,868
Fees on modern irrigation systems	Lumpsum		25,371
Fees on flood-based systems	Lumpsum		27,268
Total Recurrent Costs			60,507
Total			679,511

Yemen Rural Livelihood Development Project Table 5. Soil and Water conservation			
Detailed Costs			
	Quantity	2021	Amount (USD)
I. Investment Costs			
Identification and preliminary studies	Studies	1	7,538
Rehabilitation/construction of check dikes and gabions	ha	50	158,288
Terraces rehabilitation	ha	4	40,100
Climate smart village road rehabilitation	Km	4	253,260
Total Investment Costs			459,185
II. Recurrent Costs			
A. Management fees for SFD			
Fees on studies	Lumpsum		769
Fees on construction of check dikes and gabions	Lumpsum		15,377
Fees on terrace rehabilitation	Lumpsum		3,895
Fees on climate smart village roads	Lumpsum		24,602
Total Recurrent Costs			44,643
Total			503,828

Yemen
Rural Livelihood Development Project
Table 6. Capacity Building for Agriculture Production

Detailed Costs

	Unit	Quantity	Amount (USD)
I. Investment Costs			
Design modules for Climate Smart FFS (Crop, Livestock and apiculture) /a	no. of modules	6	28,341
Training Master Trainers for FFS /b	Master trainers	60	59,046
Conduct Climate Smart FFS (crops, livestock and apiary) /c	FFS	-	-
Inputs for FFS /d	Inputs	-	-
Climate Vulnerability Analysis	Study	1	8,040
Design modules for researcher capacity building	module	1	4,100
Training of trainers	master trainers	1	1,608
Researcher capacity building programme	Training	2	22,552
On-farm inputs	Lumpsum		-
Research paper for policy development	study	-	-
Total Investment Costs			123,687
II. Recurrent Costs			
Community Extension Agents	no. of agents	24	27,738
Transport and accomodation	Lumpsum		16,080
Total Recurrent Costs			43,818
Total			167,505

\a Twelve modules will be developed to cover the crops, livestock models apiary and nutrition sensitization and literacy courses for women

\b In each of the selected 20 districts, 3 Agriculture extension staff will be selected as FFS Facilitators

\c It is projected that each Facilitator will conduct one session per year with an average of 20 participants for five years

\d Key adaptive inputs will be provided such as drought resistant seed, technologies that are more efficient in water use with a value of USD 150vper participant which can be given to the group (USD 3000) or to individuals as USD 150 per grantee

Yemen
 Rural Livelihood Development Project
 Table 7. Food and Nutrition Security

Detailed Costs

	Unit	Quantity	Amount (USD)
I. Investment Costs			
Designing Reflect Module	module	1	24,824
Training of Reflect Teachers	trainees	1	4,920
Literacy training for women /a	Reflect teachers	48	167,296
Training Community Nutrition Facilitators /b	Trainees	80	22,962
Nutrition Sensitization Sessions for vulnerable HHs (kitchen gardens, nutrition, dairy, poultry) /c	Sessions	-	-
Inputs for Nutrition Sessions for vulnerable HHs /d	inputs	800	117,271
Total Investment Costs			337,274
II. Recurrent Costs			
Community Nutrition Facilitators	facilitators	-	-
Total Recurrent Costs			-
Total			337,274

\a Literacy classess will be organized for women and men that will weave into the curricula topics such as nutrition, child health, GBV, and life skills to empower the women participants. Each district will hire 2 instructors each and train women for one year

\b Four relevant staff from local Government offices and IPs will be selected from each Governoarte as Nutrition Facilitators

\c Nutrition sessions will be held exclusively for women with each NF conducting 2 session per year for five years

\d Key inputs will be provided which can help improve the nutrition status of the household with a value of USD 200 per participant

Yemen			
Rural Livelihood Development Project			
Table 8. Livelihood Resilience and Value Addition			
Detailed Costs			
	Unit	Quantity	Amount (USD)
I. Investment Costs			
Technical Assistance	TA	-	-
Livelihood support Packages /a	no. of packages	-	-
Matching grants for post harvest support	no. of grants	-	-
Total			-

Yemen

Rural Livelihood Development Project

Table 9. Project Management Unit

Detailed Costs

	Unit	Quantity	Amount (USD)
II. Recurrent Costs			
A. Personnel			
RLDP Project Manager	Person month	12	60,300
Agriculture Specialist	Person month	1	19,095
Livestock Specialist	Person month	1	15,075
International Nutrition Specialist	Person month	2	38,190
Project Nutrition Specialist	Person month	12	36,180
Procurement Specialist	Person month	6	18,090
Procurement Associate	Person month	6	9,045
Financial Management Specialist /a	Person month	4	12,060
Environment, Social and Climate Specialist	Person month	8	24,120
M&E Specialist	Person month	12	36,180
M&E Associates /b	Person month	20	10,050
Grievance Mechanism - Operators	Person month	2	2,010
Subtotal			280,395
B. Operating cost			
Travel cost	Person month		18,928
Operational and maintenance cost	Lumpsum		18,827
Allowance for hosting RLDP Committee meetings /c	Lumpsum		20,000
FAO management fee	Lumpsum		226,375
Dummy value to round up budget	Lumpsum		268
Subtotal			284,398
Total			564,793

Yemen
Rural Livelihood Development Project
Table 10. M&E and Knowledge Management

Detailed Costs

	Unit	Quantity	Amount (USD)
I. Investment Costs			
Startup workshop	Number	1	25,628
Baseline Study	Lumpsum	1	60,300
Impact Assessment	Lumpsum	-	-
Third Party Monitoring	Lumpsum		10,000
External Audit	Lumpsum	2	10,000
Knowledge management products	no. of studies	-	-
Climate Change awareness raising and production of leaflets and KM material	Lumpsum		-
KM Workshops	event	-	-
Studies	Number	-	-
GEF M&E for Mid-term review	Number	-	-
GEF M&E for terminal evaluation	Number	-	-
Total			105,928

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 7: Procurement Plan for first 18 months

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Procurement Plan RLDP – Yemen

Selection of Consulting Services

Procurement Plan - Consulting

Yemen

RLDP

Total Amount		
USD	LCU	
862,114.00	0.00	Plan
0.00	0.00	Actual

Approved by:

Prepared by:

Version	Basic Data										EOI Shortlist Procedure						Proposal Process				
AWP/Component Ref	No	Description*	Funding	Project Area	Plan vs. Actual	Shortlist (Yes/No)	Prior or Post Review	Procurement Method	Amount (USD)	Amount (LCU)	Plan vs. Actual	Submission of REOI	No Objection Date	REOI Launch Date	EOI Submission Deadline	Submission of Shortlist Report	No Objection Date	Submission of RFP/RCQ	No-objection Date	RFP/RCQ Launch Date	Proposal submission deadline
	C1	DT2 - Water Engineer and Irrigation Engineer Trainer	GEF		Plan Actual	Yes	Post Review	ICS	6,030.00 -	-	Plan Actual	1-Feb-21	N/A	3-Feb-21	24-Feb-21	10-Mar-21	N/A	14-Mar-21	N/A	16-Mar-21	6-Apr-21
	C2	DT2 - Training of WUAs by water engineer expert	GEF		Plan Actual	Yes	Post Review	ICS	4,040.00 -	-	Plan Actual	1-Feb-21	N/A	3-Feb-21	24-Feb-21	10-Mar-21	N/A	14-Mar-21	N/A	16-Mar-21	6-Apr-21
	C3	DT2 - Training of farmers by water harvesting/irrigation engineers - the first two years	GEF		Plan Actual	Yes	Post Review	ICS	4,040.00 -	-	Plan Actual	5-Feb-21	N/A	7-Feb-21	28-Feb-21	14-Mar-21	N/A	18-Mar-21	N/A	20-Mar-21	10-Apr-21
	C4	DT2 - Training of community/Hhs by water engineer in O&M	GEF		Plan Actual	Yes	Post Review	ICS	2,020.00 -	-	Plan Actual	10-Feb-21	N/A	12-Feb-21	5-Mar-21	19-Mar-21	N/A	23-Mar-21	N/A	25-Mar-21	15-Apr-21
	C5	DT2 - Training program facilitators (for the first 2 years)	GEF		Plan Actual	Yes	Post Review	ICS	3,031.00 -	-	Plan Actual	1-Feb-21	N/A	3-Feb-21	24-Feb-21	10-Mar-21	N/A	14-Mar-21	N/A	16-Mar-21	6-Apr-21
	C6	DT3 - Identification and preliminary studies - Domestic Water Supply	GEF		Plan Actual	Yes	Prior Review	QCBS	24,120.00 -	-	Plan Actual	15-Jan-21	22-Jan-21	24-Jan-21	14-Feb-21	28-Feb-21	7-Mar-21	11-Mar-21	18-Mar-21	20-Mar-21	4-May-21
	C7	DT4 - Identification and preliminary studies - small scale irrigation and flood-based livelihoods	GEF		Plan Actual	Yes	Post Review	QCBS	77,134.00 -	-	Plan Actual	20-Jan-21	N/A	22-Jan-21	12-Feb-21	26-Feb-21	N/A	2-Mar-21	N/A	4-Mar-21	18-Apr-21
	C8	DT5 - Identification and preliminary studies - Soil and Water conservation	GEF		Plan Actual	Yes	Post Review	CQS	7,538.00 -	-	Plan Actual	28-Jan-21	N/A	30-Jan-21	20-Feb-21	6-Mar-21	N/A	10-Mar-21	N/A	12-Mar-21	2-Apr-21
	C9	DT6 - Design modules for Climate Smart FFS (Crop, Livestock and apiculture)	GEF		Plan Actual	Yes	Post Review	QCBS	37,882.00 -	-	Plan Actual	5-Apr-21	N/A	7-Apr-21	28-Apr-21	12-May-21	N/A	16-May-21	N/A	18-May-21	2-Jul-21
	C10	DT6 - Training Master Trainers for FFS	GEF		Plan Actual	Yes	Post Review	ICS	59,046.00 -	-	Plan Actual	15-Apr-21	N/A	17-Apr-21	8-May-21	22-May-21	N/A	26-May-21	N/A	28-May-21	18-Jun-21
	C11	DT6 - Conduct Climate Smart FFS (crops, livestock and apily) - Multiple facilitators	GEF		Plan Actual	Yes	Post Review	ICS	169,280.00 -	-	Plan Actual	10-Jan-22	N/A	12-Jan-22	2-Feb-22	16-Feb-22	N/A	30-Feb-22	N/A	22-Feb-22	15-Mar-22
	C12	DT6 - Climate Vulnerability Analysis	GEF		Plan Actual	Yes	Post Review	CQS	8,040.00 -	-	Plan Actual	15-Jan-21	N/A	17-Jan-21	7-Feb-21	21-Feb-21	N/A	25-Feb-21	N/A	27-Feb-21	20-Mar-21
	C13	DT6 - Training of trainers	GEF		Plan Actual	Yes	Post Review	ICS	1,608.00 -	-	Plan Actual	Enter Date	N/A	1-Feb-21	22-Feb-21	8-Mar-21	N/A	12-Mar-21	N/A	14-Mar-21	4-Apr-21
	C14	DT7 - Designing Reflect Module	GEF		Plan Actual	Yes	Post Review	QCBS	24,824.00 -	-	Plan Actual	20-Jan-21	N/A	1-Feb-21	22-Feb-21	8-Mar-21	N/A	12-Mar-21	N/A	14-Mar-21	28-Apr-21
	C15	DT7 - Literacy Training for Women (Multiple selection for two years)	GEF		Plan Actual	Yes	Post Review	ICS	337,955.00 -	-	Plan Actual	25-Apr-21	N/A	27-Apr-21	18-May-21	1-Jun-21	N/A	5-Jun-21	N/A	7-Jun-21	28-Jun-21
	C16	DT10 - Baseline Study	IFAD		Plan Actual	Yes	Post Review	QCBS	60,300.00 -	-	Plan Actual	10-Jan-21	N/A	12-Jan-21	2-Feb-21	16-Feb-21	N/A	20-Feb-21	N/A	22-Feb-21	8-Apr-21
	C17	DT10 - External Auditor (Years 1 and 2)	IFAD		Plan Actual	Yes	Post Review	LCS	20,000.00 -	-	Plan Actual	1-Aug-21	N/A	3-Aug-21	24-Aug-21	7-Sep-21	N/A	11-Sep-21	N/A	13-Sep-21	28-Oct-21
	C18	DT10 - Study - M&E and Knowledge Management	IFAD		Plan Actual	Yes	Post Review	CQS	15,226.00 -	-	Plan Actual	15-Sep-21	N/A	17-Sep-21	8-Oct-21	22-Oct-21	N/A	26-Oct-21	N/A	28-Oct-21	18-Nov-21

Procurement of Goods

Version		1.0		Basic Data		Bidding Process				Bid Evaluation				Contract Award & Signature				
AWPB/Component Ref	Ns	Description	Funding	Submission of BD	No-objection Date	Bid Invitation Date	Bid Closing-Opening	Submission Tech Eval Rpt	No-objection Date	Submission Combined Eval Rpt*	No-objection Date	Plan vs. Actual	Issue of NOITA&Standstill	Date Contract Award	Date Contract Signature	Contract No.	Vendor Name/ID	Amount (USD)
	G1	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (Water) year 1	GEF	10-Jan-21	N/A	11-Jan-21	25-Jan-21	N/A	N/A	1-Feb-21	N/A	Plan	1-Feb-21	3-Feb-21	5-Feb-21			2,563.00
	G2	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (Water) Year 2	GEF	10-Jan-22	N/A	11-Jan-22	25-Jan-22	N/A	N/A	1-Feb-22	N/A	Plan	1-Feb-22	3-Feb-22	5-Feb-22			3,106.00
	G3	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (WUA for the first year)	GEF	15-Jan-21	N/A	15-Jan-21	29-Jan-21	N/A	N/A	5-Feb-21	N/A	Plan	5-Feb-21	7-Feb-21	9-Feb-21			1,579.00
	G4	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (WUA for the second year)	GEF	15-Jan-22	N/A	15-Jan-22	29-Jan-22	N/A	N/A	5-Feb-22	N/A	Plan	5-Feb-22	7-Feb-22	9-Feb-22			4,783.00
	G5	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (Training of farmers by water harvesting / irrigation engineers for the first year)	GEF	14-Jan-21	N/A	15-Jan-22	29-Jan-22	N/A	N/A	5-Feb-22	N/A	Plan	5-Feb-22	7-Feb-22	9-Feb-22			31,573.00
	G6	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (Training of farmers by water harvesting / irrigation engineers for the second year)	GEF	14-Jan-22	N/A	15-Jan-22	29-Jan-22	N/A	N/A	5-Feb-22	N/A	Plan	5-Feb-22	7-Feb-22	9-Feb-22			31,889.00
	G7	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (Training of community/HH by water engineer in O&M) for the first year	GEF	20-Jan-21	N/A	21-Jan-21	4-Feb-21	N/A	N/A	11-Feb-21	N/A	Plan	11-Feb-21	13-Feb-21	15-Feb-21			1,640.00
	G8	DT2 - Training consumable for participants (stationary, refresh, transport, fees...etc) (Training of community/HH by water engineer in O&M) for the second year	GEF	10-Jan-22	N/A	11-Jan-22	25-Jan-22	N/A	N/A	1-Feb-22	N/A	Plan	1-Feb-22	3-Feb-22	5-Feb-22			2,485.00
	G9	DT6 - Inputs for FFS	GEF	10-Jan-22	N/A	11-Jan-22	25-Jan-22	N/A	N/A	1-Feb-22	N/A	Plan	1-Feb-22	3-Feb-22	5-Feb-22			218,977.00
	G10	DT6- Design Module for researcher capacity building	GEF	12-Feb-21	N/A	13-Feb-21	27-Feb-21	N/A	N/A	6-Mar-21	N/A	Plan	6-Mar-21	8-Mar-21	10-Mar-21			4,100.00
	G11	DT6 - Researcher capacity building programme	GEF	1-Feb-21	N/A	2-Feb-21	16-Feb-21	N/A	N/A	23-Feb-21	N/A	Plan	23-Feb-21	25-Feb-21	27-Feb-21			22,552.00
	G12	DT6 - On-farm inputs	GEF	5-Feb-21	N/A	6-Feb-21	20-Feb-21	N/A	N/A	27-Feb-21	N/A	Plan	27-Feb-21	1-Mar-21	3-Mar-21			13,434.00

Version		Basic Data											Pre-Qualification						
AWPB/Component Ref	No	Description	Funding	Lot No/Description	Project Area	Plan vs. Actual	Pre or Post Qualification	Prior or Post Review	Procurement Method	Envelopes	Amount (USD)	Amount (LCU)	Plan vs. Actual	Submission of PreQual Docs	No Objection Date	PreQual Invitation Date	PreQual Closing Date	Submission of PreQual Report	No Objection Date
	G13	DT7 - Training of Reflect Teachers	GEF	Multiple		Plan	Post-Qual	Post Review	NS	1	4,800.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G14	DT7 - Training of Reflect Teachers	GEF	Multiple		Plan	Post-Qual	Post Review	NS	1	4,920.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G15	DT7 - Training Community Nutrition Facilitators - Year 1	IFAD	Multiple		Plan	Post-Qual	Post Review	NS	1	22,962.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G16	DT7 - Nutrition Sensitization Sessions for vulnerable HHs (kitchen gardens, nutrition, dairy, poultry) - Year 2	IFAD	Multiple		Plan	Post-Qual	Post Review	NS	1	73,510.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G17	DT7 - Inputs for Nutrition Sessions for vulnerable HHs - Year 1	IFAD	Multiple		Plan	Post-Qual	Post Review	NS	1	117,271.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G18	DT7 - Inputs for Nutrition Sessions for vulnerable HHs - Year 2	IFAD	Multiple		Plan	Post-Qual	Post Review	NS	1	118,444.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G19	DT10 - Startup Workshop	IFAD + GEF	1		Plan	Post-Qual	Post Review	NS	1	25,628.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G20	DT10 - Climate Change awareness raising and production of leaflets and KM material	GEF	1		Plan	Post-Qual	Post Review	NS	1	13,252.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				
	G21	DT10 - KM Workshops	IFAD	1		Plan	Post-Qual	Post Review	NS	1	10,354.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual									Actual				

Version		1.0		Basic Data	Bidding Process				Bid Evaluation				Plan vs. Actual	Contract Award & Signature						
AWPB/Component Ref	№	Description	Funding	Submission of BD	No-objection Date	Bid Invitation Date	Bid Closing-Opening	Submission Tech Eval Rpt	No-objection Date	Submission Combined Eval Rpt*	No-objection Date	Plan vs. Actual	Issue of NOIT&Standstill	Date Contract Award	Date Contract Signature	Contract No.	Vendor Name/ID	Amount (USD)	Amount (LCU)	
	G13	DT7 - Training of Reflect Teachers	GEF	15-Mar-21	N/A	16-Mar-21	30-Mar-21	N/A	N/A	6-Apr-21	N/A	Plan	6-Apr-21	8-Apr-21	10-Apr-21			4,800.00	-	
												Actual								
	G14	DT7 - Training of Reflect Teachers	GEF	10-Jan-22	N/A	11-Jan-22	25-Jan-22	N/A	N/A	1-Feb-22	N/A	Plan	1-Feb-22	3-Feb-22	5-Feb-22			4,920.00	-	
												Actual								
	G15	DT7 - Training Community Nutrition Facilitators - Year 1	IFAD	10-May-21	N/A	11-May-21	25-May-21	N/A	N/A	1-Jun-21	N/A	Plan	1-Jun-21	3-Jun-21	5-Jun-21			22,962.00	-	
												Actual								
	G16	DT7 - Nutrition Sensitization Sessions for vulnerable HHs (kitchen gardens, nutrition, dairy, poultry) - Year 2	IFAD	15-Dec-21	N/A	16-Dec-21	30-Dec-21	N/A	N/A	6-Jan-22	N/A	Plan	6-Jan-22	8-Jan-22	10-Jan-22			73,510.00	-	
												Actual								
	G17	DT7 - Inputs for Nutrition Sessions for vulnerable HHs - Year 1	IFAD	1-May-21	N/A	2-May-21	16-May-21	N/A	N/A	23-May-21	N/A	Plan	23-May-21	25-May-21	27-May-21			117,271.00	-	
												Actual								
	G18	DT7 - Inputs for Nutrition Sessions for vulnerable HHs - Year 2	IFAD	10-Feb-22	N/A	11-Feb-22	25-Feb-22	N/A	N/A	4-Mar-22	N/A	Plan	4-Mar-22	6-Mar-22	8-Mar-22			118,444.00	-	
												Actual								
	G19	DT10 - Startup Workshop	IFAD + GEF	2-Jan-21	N/A	3-Jan-21	17-Jan-21	N/A	N/A	24-Jan-21	N/A	Plan	24-Jan-21	26-Jan-21	28-Jan-21			25,628.00	-	
												Actual								
	G20	DT10 - Climate Change awareness raising and production of leaflets and KM material	GEF	25-Jan-22	N/A	26-Jan-22	9-Feb-22	N/A	N/A	16-Feb-22	N/A	Plan	16-Feb-22	18-Feb-22	20-Feb-22			13,252.00	-	
												Actual								
	G21	DT10 - KM Workshops	IFAD	25-Feb-22	N/A	26-Feb-22	12-Mar-22	N/A	N/A	19-Mar-22	N/A	Plan	19-Mar-22	21-Mar-22	23-Mar-22			10,354.00	-	
												Actual								

Procurement of Works

Procurement Plan - Goods

Yemen

RLDP

Total Amount	
USD	LCU
3,831,764.00	0.00
0.00	0.00
	Plan
	Actual

Version		Basic Data												Pre-Qualification					
AWPB/Component Ref	No	Description	Funding	Lot No/Description	Project Area	Plan vs. Actual	Pre- or Post Qualification	Prior or Post Review	Procurement Method	Envelopes	Amount (USD)	Amount (LCU)	Plan vs. Actual	Submission of PreQual Docs	No Objection Date	PreQual Invitation Date	PreQual Closing Date	Submission of PreQual Report	No Objection Date
	W1	DT3 - Individual household water supply (for the first year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	130,851.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W2	DT3 - Individual household water supply (for the second year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	264,319.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W3	DT3 - Communal multi-purpose rainwater harvesting (for the first year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	158,288.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W4	DT3 - Communal multi-purpose rainwater harvesting (for the second year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	319,741.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W5	DT3 - Village groundwater-based water schemes (for the first year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	242,708.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W6	DT3 - Village groundwater-based water schemes (for the second year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	367,702.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W7	DT4 - Rehabilitation and modernising irrigation systems (First year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	261,174.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W8	DT4 - Rehabilitation and modernising irrigation systems (Second year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	293,096.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W9	DT4 - Rehabilitation of flood based agriculture systems (First year)	IFAD + GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	280,697.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W10	DT4 - Rehabilitation of flood-based agriculture systems (Second year)	IFAD + GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	425,255.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W11	DT5 - Rehabilitation/construction of check dikes and gabions (First year)	IFAD + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	158,288.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W12	DT5 - Rehabilitation/construction of check dikes and gabions (Second year)	IFAD + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	255,793.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W13	DT5 - Terraces rehabilitation (First Year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NS	1	40,100.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W14	DT5 - Terraces rehabilitation (Second Year)	GEF + Beneficiaries	1		Plan	Post-Qual	Post Review	NS	1	60,751.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W15	DT5 - Climate smart village road rehabilitation (First year)	IFAD + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	253,260.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						
	W16	DT5 - Climate smart village road rehabilitation (Second year)	IFAD + Beneficiaries	1		Plan	Post-Qual	Post Review	NCB	1	319,741.00		Plan	N/A	N/A	N/A	N/A	N/A	N/A
						Actual					-	-	Actual						

Version		1.0		Basic Data		Bidding Process				Bid Evaluation				Contract Award & Signature					
AWP8/Component Ref	No	Description	Funding	Submission of BD	No-objection Date	Bid Invitation Date	Bid Closing-Opening	Submission Tech Eval Rpt	No-objection Date	Submission Combined Eval Rpt*	No-objection Date	Plan vs. Actual	Issue of NOIT&Standstill	Date Contract Award	Date Contract Signature	Contract No.	Vendor Name/ID	Amount (USD)	Amount (LCU)
	W1	DT3 - Individual household water supply (for the first years)	GEF + Beneficiaries	20-Feb-21	N/A	22-Feb-21	8-Apr-21	N/A	N/A	22-Apr-21	N/A	Plan	4-May-21	11-May-21	13-May-21			130,851.00	-
												Actual							
	W2	DT3 - Individual household water supply (for the second year)	GEF + Beneficiaries	20-Feb-22	N/A	1-Dec-21	15-Jan-22	N/A	N/A	29-Jan-22	N/A	Plan	10-Feb-22	17-Feb-22	19-Feb-22			264,319.00	-
												Actual							
	W3	DT3 - Communal multi-purpose rainwater harvesting (for the first year)	GEF + Beneficiaries	20-Feb-21	N/A	22-Feb-21	8-Apr-21	N/A	N/A	22-Apr-21	N/A	Plan	4-May-21	11-May-21	13-May-21			158,288.00	-
												Actual							
	W4	DT3 - Communal multi-purpose rainwater harvesting (for the second year)	GEF + Beneficiaries	20-Feb-22	N/A	22-Feb-22	8-Apr-22	N/A	N/A	22-Apr-22	N/A	Plan	4-May-22	11-May-22	13-May-22			319,741.00	-
												Actual							
	W5	DT3 - Village groundwater-based water schemes (for the first year)	GEF + Beneficiaries	15-Mar-21	N/A	17-Mar-21	1-May-21	N/A	N/A	15-May-21	N/A	Plan	27-May-21	3-Jun-21	5-Jun-21			242,708.00	-
												Actual							
	W6	DT3 - Village groundwater-based water schemes (for the second year)	GEF + Beneficiaries	20-11-2021	N/A			N/A	N/A		N/A	Plan						367,702.00	-
												Actual							
	W7	DT4 - Rehabilitation and modernising irrigation systems (First year)	GEF + Beneficiaries	1-Mar-21	N/A	3-Mar-21	17-Apr-21	N/A	N/A	1-May-21	N/A	Plan	13-May-21	20-May-21	22-May-21			261,174.00	-
												Actual							
	W8	DT4 - Rehabilitation and modernising irrigation systems (Second year)	GEF + Beneficiaries	20-Nov-21	N/A	22-Nov-21	6-Jan-22	N/A	N/A	20-Jan-22	N/A	Plan	1-Feb-22	8-Feb-22	10-Feb-22			293,096.00	-
												Actual							
	W9	DT4 - Rehabilitation of flood-based agriculture systems (First year)	IFAD + GEF + Beneficiaries	1-Mar-21	N/A	3-Mar-21	17-Apr-21	N/A	N/A	1-May-21	N/A	Plan	13-May-21	20-May-21	22-May-21			280,697.00	-
												Actual							
	W10	DT4 - Rehabilitation of flood-based agriculture systems (Second year)	IFAD + GEF + Beneficiaries	1-Nov-21	N/A	3-Nov-21	18-Dec-21	N/A	N/A	1-Jan-22	N/A	Plan	13-Jan-22	20-Jan-22	22-Jan-22			425,255.00	-
												Actual							
	W11	DTS - Rehabilitation/construction of check dikes and gabions (First year)	IFAD + Beneficiaries	30-Jan-21	N/A	1-Feb-21	18-Mar-21	N/A	N/A	1-Apr-21	N/A	Plan	13-Apr-21	20-Apr-21	22-Apr-21			158,288.00	-
												Actual							
	W12	DTS - Rehabilitation/construction of check dikes and gabions (Second year)	IFAD + Beneficiaries	20-Nov-21	N/A	22-Nov-21	6-Jan-22	N/A	N/A	20-Jan-22	N/A	Plan	1-Feb-22	8-Feb-22	10-Feb-22			255,793.00	-
												Actual							
	W13	DTS - Terraces rehabilitation (First Year)	GEF + Beneficiaries	20-3-2021	N/A			N/A	N/A		N/A	Plan						40,100.00	-
												Actual							
	W14	DTS - Terraces rehabilitation (Second Year)	GEF + Beneficiaries	5-Dec-21	N/A	6-Dec-21	20-Dec-21	N/A	N/A	27-Dec-21	N/A	Plan	27-Dec-21	29-Dec-21	31-Dec-21			60,751.00	-
												Actual							
	W15	DTS - Climate smart village road rehabilitation (First year)	IFAD + Beneficiaries	5-Feb-21	N/A	7-Feb-21	24-Mar-21	N/A	N/A	7-Apr-21	N/A	Plan	19-Apr-21	26-Apr-21	28-Apr-21			253,260.00	-
												Actual							
	W16	DTS - Climate smart village road rehabilitation (Second year)	IFAD + Beneficiaries	10-Nov-21	N/A	12-Nov-21	27-Dec-21	N/A	N/A	10-Jan-22	N/A	Plan	22-Jan-22	29-Jan-22	31-Jan-22			319,741.00	-
												Actual							

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 8: Project Implementation Manual (PIM)

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Yemen
Rural Livelihood Development Project (RLDP)
Project Implementation Manual



Investing in rural people

Yemen
Rural Livelihood Development Project (RLDP)
Project Implementation Manual

June 3, 2020

Table of Contents

1 INTRODUCTION.....	2
1.1 OVERVIEW.....	2
1.2 CONTEXT, JUSTIFICATION AND RATIONALE.....	2
1.3 SPECIAL ASPECTS RELATING TO IFAD'S CORPORATE MAINSTREAMING PRIORITIES.....	5
1.4 PROJECT DEVELOPMENT OBJECTIVE, OVERALL GOAL AND OUTREACH.....	6
2 TARGETING STRATEGY.....	7
2.1 GEOGRAPHICAL TARGETING AND PROJECT INTERVENTION AREA.....	7
2.2 TARGET GROUPS.....	9
2.3 TARGETING APPROACH.....	12
2.4 GENDER STRATEGY.....	14
2.5 COORDINATION AND MONITORING.....	15
3 PROJECT DESCRIPTION.....	16
3.1 PROJECT DURATION.....	16
3.2 THE COMPONENTS AND ACTIVITIES OF RLDP.....	16
3.3 COMPONENT 1 – COMMUNITY MOBILIZATION & STRENGTHENING.....	16
3.4 COMPONENT 2 – CLIMATE RESILIENT COMMUNITY INFRASTRUCTURE.....	20
3.5 COMPONENT 3: PROTECTION OF AGRICULTURE LIVELIHOODS.....	28
3.6 COMPONENT 4: PROJECT MANAGEMENT.....	43
4 INSTITUTIONAL FRAMEWORK AND PROJECT MANAGEMENT.....	44
4.1 ALIGNMENT AND OWNERSHIP.....	44
4.2 PROJECT IMPLEMENTATION ARRANGEMENTS.....	46
4.3 PARTNERSHIPS.....	49
4.4 PLANNING AND BUDGET DEVELOPMENT.....	52
4.5 FINANCIAL MANAGEMENT.....	52
4.6 PROCUREMENT PROCEDURES AND MANAGEMENT.....	54
4.7 MONITORING AND EVALUATION.....	55
4.8 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP).....	80

Annexes

ANNEX 1: DRAFT TERMS OF REFERENCE OF KEY PROJECT STAFF.....	97
ANNEX 2: DRAFT TERMS OF REFERENCE OF FACILITATORS, IPS AND SERVICE PROVIDERS.....	114
ANNEX 3: SOCIAL INCLUSION AND TARGETING.....	123
ANNEX 4: MONITORING & EVALUATION.....	142

1 Introduction

1.1 Overview

1. This draft Project Implementation Manual (PIM) provides guidelines for the implementation of the funded interventions under the Rural Livelihoods Development Project in Yemen. The PIM is an annex of the Project Design Report (PDR) and thus processes and procedures presented in this document are to be read in conjunction with the relevant sections of the main PDR. The PIM is a living document and will be refined and modified during implementation.
2. The processes presented here are a framework that is meant to assist the RLDP implementation staff including those from FAO and SFD in thinking through the processes for the different sub-components. It is proposed that at startup, the recruited staff be facilitated to review the activities and processes presented herein. The review would update, refine and firm up the selection criteria, implementation arrangements and modus operandi for the different components and sub-components. The value in undertaking such a review would be that through the process, the implementing staff would “own” the PIM. Such ownership would ensure that the staff would find it possible to follow the PIM during the implementation of activities. This process is all the more valuable given that the design team could not visit the project area due to the security situation and that the team mobility was further restricted given the pandemic created by the COVI-19 in March-April 2020.

1.2 Context, justification and rationale

3. Yemen is in the midst of a complex conflict that is causing massive physical damage, devastating the economy, weakening institutions, and generating an unprecedented humanitarian crisis. The country is entering its sixth year of conflict, and there are substantial security and political challenges on the ground. Immediate prospects for peace remain uncertain. The conflict has deep roots in the legacies of the past which have become enmeshed with tribal conflict, regional power politics, and the challenges faced in the political transition following the Arab Spring uprising. On September 2014, Houthis took over Sana’a forcing the President to flee the country. The members of the internationally recognised Government have been in and out of Aden since. In its efforts to end the war in Yemen, the United Nations has hosted several peace meetings between the Government of Yemen and the Houthi leaders, but fighting has not yet ceased. To make matters worse, there has also been infighting within those who oppose the Houthis. At the end of November 2019, Yemen's internationally recognised government and the UAE-backed separatists signed a power-sharing deal to halt the in-fighting. The corona pandemic has made things on the ground even more debilitating due to the social distancing measures which have been put in place, the flash floods which have hit the country in April 2020 and the recent announcement by the separatists' Southern Transitional Council broke a peace deal with the country's internationally recognized government and claimed it would “self-govern” the key southern port city and other southern provinces.
4. The conflict has taken a heavy toll on the people. The United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA) in its latest report issued at the end

of 2018¹ estimates that more than 20 million people across the country are food insecure, including nearly 10 million who are suffering from extreme levels of hunger. For the first time, the Integrated Food Security Phase Classification (IPC) has confirmed pockets of catastrophic hunger in some locations. A total of 17.8 million people lack access to safe water and sanitation, and 19.7 million people lack access to adequate healthcare. Poor sanitation and waterborne diseases, including cholera, left hundreds of thousands of people ill last year. In sum, needs have intensified across all sectors. Millions of Yemenis are hungrier, sicker and more vulnerable than a year ago, pushing an ever-greater number of people into reliance on humanitarian assistance.² The current COVID-19 pandemic has further added to the vulnerability of the people due to its impact on the economy, further disruption of supply lines and the humanitarian efforts in the country.

5. Even before the pandemic, the Yemeni economy was on the verge of collapse. The economy contracted by about 50 per cent since the conflict escalated in March 2015. Employment and income opportunities have significantly diminished. Exchange rate volatility – including unprecedented depreciation of the Yemeni Rial (YER) between August and October 2018 – further undermined households’ purchasing power. Basic services and the institutions that provide them are collapsing, placing enormous pressure on the humanitarian response. The fiscal deficit since the last quarter of 2016 has led to major gaps in the operational budgets of basic services and erratic salary payments – severely compromising peoples’ access to basic services. Only 51 per cent of health facilities are fully functional. More than a quarter of all children are out of school, and civil servants and pensioners in northern Yemen have not been paid salaries for years. Humanitarian partners have tried to fill some of these gaps to ensure continuity of essential services.³
6. Yemen’s 2019 Human Development Index is 0.463, which is below the average of 0.55 for countries in the low human development group and below the average of 0.703 for other Arab States. Yemen ranks last out of the 144 countries included in the 2018 World Economic Forum’s Global Gender Gap Index, and has been in this position for the last 10 years. The conflict is reported to have caused widespread disruption of economic activities, dramatically diminished employment and income opportunities in the private and public sector, particularly among the youth with an unemployment rate of over 50%, according to UNDP. Yemen’s GDP is estimated to have contracted by about 50% since 2014 and its Gross National Income is estimated to have fallen below USD 1000 per capita level.⁴ Oil and gas production and exports have come largely to a halt since 2015, running at about 10-15 percent of capacity.⁵ The war has also halted Yemen’s exports, pressured the currency’s exchange rate, accelerated inflation, severely limited food and fuel imports, and caused widespread damage to infrastructure. The rebel-held territory does not pay taxes or revenues to the internationally recognized government in Aden. The salaries of 1.2 million government employees are paid very irregularly, if at all ([Al-Monitor, 2020](#)). The private sector is suffering due to the insecurity and instability in the country.⁶

¹ OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

² OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

³ OCHA. 2019 Humanitarian Needs Overview; Yemen. December 2018

⁴ World Bank, The World Bank in Yemen: Overview, October 2019. Link: <https://www.worldbank.org/en/country/yemen/overview>

⁵ Yemen Economic Monitoring Brief. World Bank Group. Fall 2018.

⁶ The World Fact Book, Yemen, 2019. Link: https://www.cia.gov/library/publications/the-world-factbook/geos/print_ym.html

7. Fragility assessment: In 2019, Yemen took **the top position as most fragile state** in the Fragile States Index (FSI). Yemen rank as the fourth-most worsened country in the world over the past decade of the FSI, along with Libya, Syria, and Mali⁷. This is attributed mainly to the continued war and unrest since 2011, the highly fragmented political cultures (two governments in addition to the separatist in the south), weak public and private institutions, and high levels of negative foreign intervention, Yemen`s fragility cannot only be attributable to the ongoing civil unrest in the country. Long before the conflict, Yemen has been ranked one of the most fragile countries globally. The fragility was deeply rooted in the social and economic inequalities undermining the country`s progress in improving the democratic governance and the equal share of wealth. Widespread corruption and mismanaged state economy, favouring the political elite groups, are factors weakening the country`s ability to adapt and cope with internal and external shock.
8. As the conflict escalated dramatically by the fall of 2015, 45 per cent of Yemenis surveyed said they had lost their main source of income due to the conflict. Fuel prices rose by 200 percent in 2018 compared to pre-crisis prices, affecting agriculture, water supply, transport, electricity, health and sanitation services. Before the crisis, poverty affected almost half the population. It has worsened dramatically after the crisis affecting 71 to 78 percent of Yemenis in 2019. In terms of number, the UN estimated that 24.1 million people—80 percent of the population—were “at risk” of hunger and disease, of which roughly 14.3 million were in acute need of assistance. An estimated 17.8 million people were without safe water and sanitation, and 19.7 million without adequate healthcare. According to UNHCR, an estimated 4 million people in Yemen were internally displaced by the end of 2019.
9. The conflict in Yemen has had devastating effects on the rural population who face the challenges of high commodity prices and unemployment resulting in destitution and extreme poverty. Deterioration in income is forcing the affected population to sell their assets, which poses significant threats to the resilience of households. As a result of the crippling of crop and livestock production, more people are being pushed into hunger and the country has become heavily dependent on food imports at a great cost, further elevating the poverty and increasing the vulnerability to shocks. In the 2018 Global Hunger Index, Yemen ranks 117th out of 119 countries in the list.
10. Agriculture Sector, Conflict and Climate Change: Agriculture made up about 17.5% of the Yemen`s economy in 2017. The sector remains a key source of income for about 45% of the Yemen`s population in 2016, despite the fact that only 5% of the agricultural land is arable and agricultural productivity is low. The sector has been severely constrained by shortage of agriculture inputs such as seeds, fertilizer and fuel, damage to agricultural machinery, irrigation systems and storage facilities together with deterioration of water and electricity services, and breakdown of logistical and supply chains. The conflict has severely disrupted agricultural production and markets, transportation and distribution systems. While productivity has always been low, the situation has become even worse with the conflict. Approximately 85% of the farming households lack access to water and fuel for irrigation and the production rates decreased by 52% after the crisis. The shortage of animal fodder and veterinary services have led to a decline in livestock production, a main source of income for many rural families. Agriculture sector mainly depends

⁷ Found For Peace (FFP), 2019, Fragile States Index Annual Report 2019. Link: <https://fundforpeace.org/2019/04/10/fragile-states-index-2019/>

on very traditional methods and rain-streams, which make it vulnerable to extreme climate events such as drought and floods. The temperatures are reported to be increasing. With the current weak adaptive and institutional capacity as well as climate change associated impact including more frequent and prolonged droughts are expected to exacerbate livelihood vulnerability of the poor, leading to further environmental resource degradation⁸.

1.3 Special aspects relating to IFAD's corporate mainstreaming priorities

11. Yemen faces special challenges with respect to each of IFAD's corporate mainstreaming priorities namely gender, youth, nutrition, climate change and the environment. Furthermore, these interact with each other in ways which has made the country even more vulnerable as elaborated below. Women are systematically denied access to jobs, are under-represented in public office, and bear disproportionate responsibility for unpaid care-giving and domestic work. This, combined with illiteracy and economic issues has led women to continuously be deprived of their rights as citizens of Yemen. Yemeni women and girls have always experienced systematic discrimination and marginalization which has only become worse with the ensuing conflict. Women and children have naturally been disproportionately affected by the conflict in Yemen. In the context of conflict, gender inequalities are both greater and more visible. One-fifth of Yemeni households are headed by women younger than 18 years old, and women and children account for three-quarters of those who are displaced. Conflict is also correlated to a rise in gender-based violence, which was documented 36 per cent more in 2016 than it was just one year earlier ([UNDP, 2020](#)). And in times of economic hardship, girls are less likely to stay in school, more likely to marry early, and less likely to receive basic health services – including gynecological and obstetric care ([UNDP, 2020](#)). FAO reports that less than 1 percent of agricultural landholders in Yemen are female. However, women have a major role in agriculture, providing 60 percent of labour in crop farming, 90 percent in livestock rearing and 10 percent of wage labour.
12. Half of Yemen's people are under the age of 18 and over 20% of Yemen's population is aged between 15 and 24. According to IOM, estimates suggest that by 2025 the youth will have increased by 69%⁹ the second fastest growth rate in the Middle East and North Africa (MENA) region. The high level of illiteracy, youth unemployment and the prevalence of physical and psychological trauma will hinder the opportunities of today's youth to positively contribute to the future of Yemen. The youth rank among the poorest and are often landless, wage laborers, unpaid family labourer or unemployed. In general, the youth unemployment rate in Yemen for the age group 15-24 is 35% (with male below 30% and female exceeding 50%). In Yemen, 82% per cent of youth have less than primary education and two-thirds have no education (ILO, 2019). Education and ultimately employment are the main concerns for the youth in Yemen. The country cannot rebuild itself without the participation of youth, both economically and socially.

⁸ Centre for Governance and Peace-building-Yemen, in Collaboration with Centre for International Development Issues Nijmegen, The Netherlands. November 2017. Yemen between the Impact of the Climate Change and the Ongoing Saudi-Yemen War: A Real Tragedy.

⁹ IMO, 2017, Yemeni Youth Year 2017. Link: <https://www.iom.int/sites/default/files/country/docs/yemen/Yemeni-Youth-Year-2017.pdf>

13. The nutrition situation in Yemen is a matter of growing concern. Yemen has a long history of suffering from malnutrition. This situation has worsened with the deepening economic crisis, 1.8 to 2.8 million children are at risk of being pushed into acute food insecurity and many more children could fall into life-threatening severe acute malnutrition¹⁰. Rising food shortages have left an estimated 1.1 million pregnant women malnourished, and threaten the lives of 75,000 women who are likely to develop complications during childbirth, including risks of stunted growth of their newborns. According to the Global Nutrition Report, the national prevalence of under-five stunting is 46.4%, which is significantly greater than the developing country average of 25%. Yemen's under-five wasting prevalence of 16.4% is also greater than the developing country average of 8.9%¹¹. Furthermore, the most common diseases associated with acute malnutrition are respiratory infections. Pneumonia and diarrheal diseases which account for approximately 27% of the mortality of children under five in Yemen.¹² The dangers of compromised immunity of children is even more acute with the current COVID-19 pandemic which attacks the body's respiratory system.
14. Climate change trends and extreme weather events have further exacerbated the food security situation in the country and pose additional risks to livelihoods that rely mostly on agriculture. The analysis of historical data shows that climate change has already increased temperatures and led to change in precipitation level and increased the incidence of extreme weather events. Most of Yemen receives between 0 and 199 mm of annual rainfall. Historical analysis shows an overall decline in precipitation in Yemen between 1981 and 2018. The trend shows a decrease of 0.16% which means an average decline of 1.6 mm every decade. However, of greater concern is the increase in rainfall variability with an uneven distribution of precipitation across the country. These changes threaten the yields in the crop sector and also have an adverse impact on the carrying capacity of rangelands for and carrying capacity for livestock. The frequency of flood events have been increasing lately with three flooding events occurring in 2019. The likelihood of drought events has also increased significantly in Yemen since the late 1990s. Yemen will likely suffer from more frequent and intense extreme events due to climate change. A climate risk map has been developed for the Village Units in the selected Governorates which shows the high level of risk due to climate change, erosion, landslides and flash floods in the project area.

1.4 Project development objective, overall goal and outreach

15. **Project development objective.** The project development objective is to improve the food security and the poverty level of smallholder farmers through increasing agriculture production and promoting the efficient use of Natural Resources.
16. **Project overall goal and outreach.** The Project's overall goal is to contribute to rebuilding communities' resilience against the economic and environmental shocks and improve the livelihoods of poor, excluded and deprived people. The project Governorates have a total of 903,721 farming households.¹³ It is expected that the project will benefit 26,031 households or 174,400 people based on the estimate of

¹⁰ UNICEF, 2018, Yemen Nutrition. Link: <https://www.unicef.org/yemen/nutrition>

¹¹ Global Nutrition Report, 2018, Yemen Nutrition Profile. Link: <https://globalnutritionreport.org/resources/nutrition-profiles/asia/western-asia/yemen/>

¹² Yemen Nutrition Cluster GAM Rate classification December 2019

¹³ Emergency Food Security and Nutrition Assessment (EFSNA). Yemen. June 2017.

6.7 people in each household with an average of 51% women and 18% youth in each household.

2 Targeting strategy

2.1 Geographical targeting and project intervention area

17. **Governorates Targeting:** The governorates selected are representative of the various farming environments in Yemen, have high levels of rural poverty: Taizz 41%; Al Hudaydah, 58.1%; Dhamar, 31.1%, Lahj 69.1% Al Dhala 59.8%¹⁴ and the most food insecure governorates in the country¹⁵. Available data (see tables in annex 3) from different sources show: (i) number of people according to IPC levels (from 1 minimal to 5 Catastrophe)¹⁶; (ii) number of households engaged in agriculture (ESFNA, 2017), (iii) poverty percentage (WB 2017, calculations based on Household Budget Survey-2014) as well as (iv) presence of IDPs and Returnees, representing the most vulnerable (OCHA, 2019)¹⁷.
18. **Governorates characteristics:** The five Governorates comprise a total of 85 districts. They are also classified based on IPC classification and out of the total number, 24 districts are in a critical situation (IPC 3) while the remaining 61 are in emergency phase (IPC-4). The total number of population registered in IPC Phase-3 (3.309.500) and IPC phase-4 (3.760.500) together make 70% of the total population in the targeted governorates (Table1). Furthermore, the targeted Governorates hosts a total of 1,063,614 IDPs (table 3) which is about one third of the total IDP population at national level (3.34 Million). Total number of agriculture households is 903,721 (table 2) with women headed households being 12.2% (Table 6). The share of households falling into the two lowest wealth quintiles, based on overall household expenditures, correspond to more than 40% (table 4). Furthermore, population data (OCHA, 2019) show that women are 51% and youth (15-24) 18% of total population. In terms of demographics, further disaggregation shows that population below 15 is 46% while adult population (between 25-64) is 34% and old people (65+) is only 3%.
19. **District Targeting:** The project will operate in 20 districts across the 5 Governorates. Within each governorate, a number of 4 top-priority districts have been identified at design stage. The design team in collaboration with FAO has undertaken a ranking exercise based on Food security (IPC classification) malnutrition level (Global Acute Malnutrition-GAM), and climate vulnerability (including, erosion, landslide and flash flooding risks as well as other climatic variables) crossed checked with other aspects such as accessibility and security. The ranking exercise undertaken at design stage (April 2020) show 34 pre-selected districts were highest and higher level of GAM

¹⁴ World Bank, Yemen Poverty Notes, 2017.

¹⁵ See IPC classification, Table 1, Annex 3.

¹⁶ **IPC Phase 1 Minimal:** Households are able to meet essential food and non-food needs without engaging in atypical and unsustainable strategies to access food and income. **Phase 2 Stressed:** Households have minimally adequate food consumption but are unable to afford some essential non-food expenditures without engaging in stress-coping strategies. **Phase 3 Crisis:** Households either: Have food consumption gaps which are reflected by high or above-usual acute malnutrition; Are marginally able to meet minimum food needs but only by depleting essential livelihood assets or through crisis-coping strategies. **Phase 4 Emergency:** Households either: Have large food consumption gaps which are reflected in very high acute malnutrition and excess mortality; Are able to mitigate large food consumption gaps but only by employing emergency livelihood strategies and asset liquidation. **Phase 5 Catastrophe:** Households have an extreme lack of food and/or other basic needs even after full employment of coping strategies. Starvation, death, destitution and extremely critical acute malnutrition levels are evident.

¹⁷ Tables in Annex 3.

value and climate vulnerability match as well as accessibility and security. The list of the total 34 ranked districts has been further refined identifying the 20 top ranking districts (Annex 3). A quick analysis of the protected areas in Yemen (<http://www.parks.it/world/YE/Eindex.html>) vis-à-vis Figure 7 in the SECAP shows that there is only one district (Qa'atabah) on the short list and two districts (Bura and Az-Zuhrah) on the long list that have protected areas. In case these districts are selected as final target districts, no interventions will be carried out in the protected areas in line with project's categorization.

20. **Vulnerability Assessment:** in addition to the ranking exercise done at design stage, a detailed climate vulnerability assessment exists at Governorate level. Data and information (as shown in the attached) will help to guide the selection of RLDP target areas, especially for Component 2 activities.
21. IFAD undertook a detailed vulnerability assessment to help analyse climate hazards (flash-flooding and soil erosion and potential impacts on crop productivity and water harvesting), and guide project design/prioritization of target areas and implementation. The GIS-based modelling used four scenarios for mean annual precipitation and temperature that covered 90% of uncertainty in the climate model projections for Yemen by the 2050s. Through overlaying hazard maps with the VU selection criteria related to population and accessibility, a potential 627 vulnerable Village Units were identified as priority hotspots for one or all climate hazards - flash flooding, soil erosion, changes in cropping potential, and potential for water harvesting in stone terraces (see figures 5-9 in Annex 3).
22. Component 2 (Climate Resilient Community Infrastructure): Component 2 will rely on several layers of targeting and selection criteria. Initially the component will use priority districts identified in figure 1 and subsequently review the areas identified in IFADs climate vulnerability assessment maps (figures 5-9 in annex 3). These will be followed-up and verified during implementation. These maps will assist the projects' selection criteria namely: i) severity of water scarcity; ii) the environmental, social and technical requirements of particular intervention and its compliance with the SECAP and ESMP (e.g. availability of good rainfall, topographical features and surface runoff potential, no land conflicts, no over abstraction of resources) ; iii) potential to increase resilience to climate change and reduce environmental degradation, iv) deteriorated, abandoned and damaged water harvesting- based infrastructures; v) simplicity of technique and relevance to local knowledge and traditional practices; vi) Community experience with techniques and technologies for rainwater harvesting available in Yemen; vii) the identification of the intervention as a key priority by the community members.
23. **Accessibility and Security:** This will be a continuous monitoring process. If and when a targeted district proves to be inaccessible due to insecurity or other major factors (priori to start implementation of activities) the district will be replaced with the next priority district to allow for timely implementation. Districts with the highest level of food insecurity (IPC) and malnutrition (GAM) and Climate risks (as above) are to be considered priority and IP will conduct a rapid assessment at the beginning of the intervention.
24. Targeting approach for project-site-village level: As per district targeting: Food security, malnutrition and climate vulnerability (including detailed vulnerability assessment explained above) will be the main driving principles to identify the targeted villages (or village Units). A Village Unit (VU) is averagely composed of 3

to 5 settlements, each having an average of 75 to 100 households (i.e. approximately 600 inhabitants per settlement. Below the criteria to be applied.

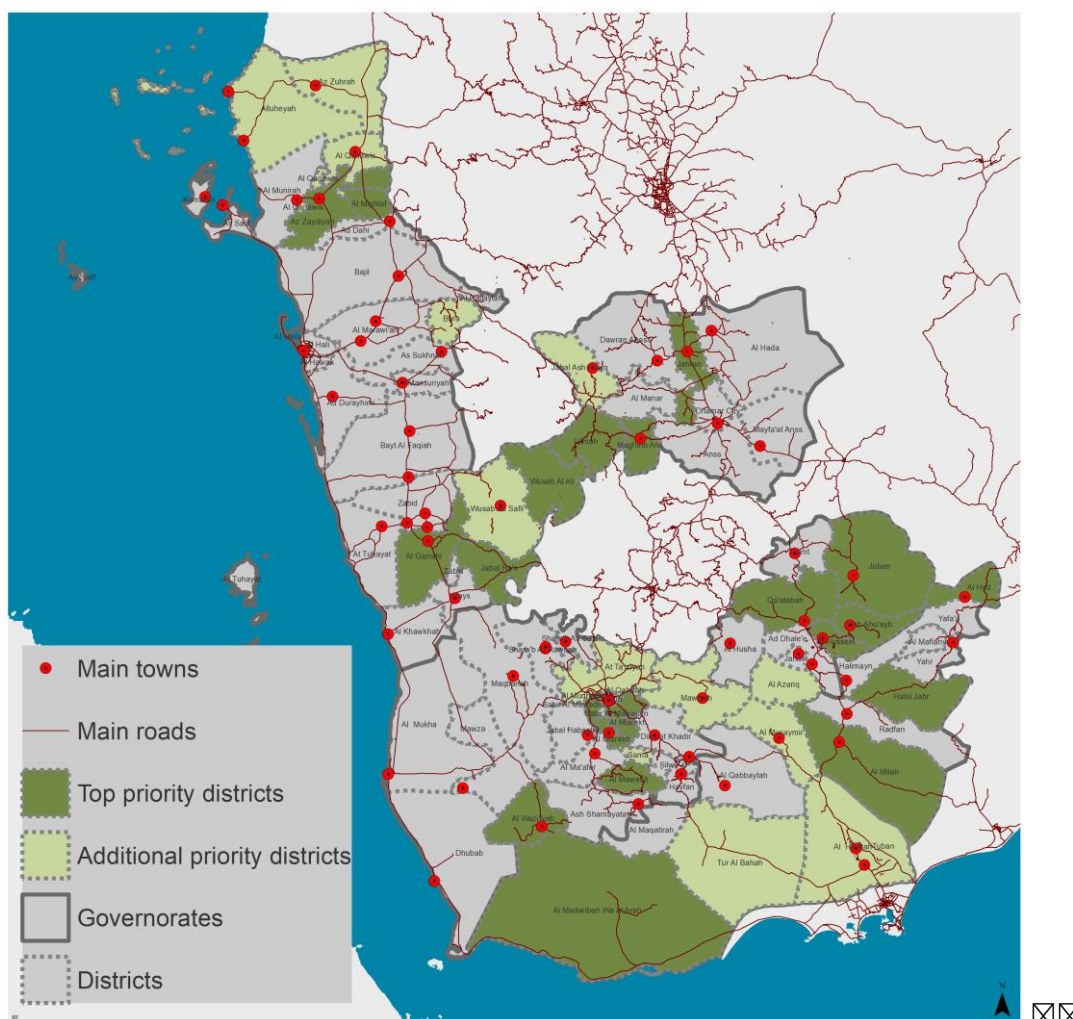
Malnutrition: Prevalence of poor households and higher malnutrition rates.

Climate vulnerability: (i) most vulnerable to soil erosion; (ii) most vulnerable to flood risks; and (iii), landslide risks among others.

Proximity: Preferably selected villages should be adjacent to facilitate the project implementation efficiency and effectiveness.

Accessibility: The target village/s should have regular access to the project staff and partners during implementation and monitoring of the project.

Figure 1: Targeted Districts



2.2 Target groups

25. **Target groups and outreach:** The project will be implemented in 5 Governorates and reaching out 26,031 Households and 174,400 beneficiaries, on average 6.7 members per HHs¹⁸. Given the different type of interventions across component, the likelihood and percentage of participation of women and youth varies accordingly between Component 2 and 3. For Household targeted activities under Component 2:

¹⁸ UNDESA, 2020.

Climate resilience community infrastructures, the share of women and youth beneficiaries is calculated at households' level based on the population proportion: 51% women and 18% youth in the targeted areas. For individual targeted activities under component 3: *Protection of agriculture livelihood*, direct targeted interventions for these target groups will consider 64% women and 53% youth. (Annex 3: beneficiaries by component and disaggregated by gender and age).

26. **Target groups:** The project will target poor and food-insecure households engaged in agriculture (crop, livestock, mixed farming) as the main target group. The project will give priority to the poorest and most disadvantaged socio-economic categories like women, women headed household and youth led households, as well as considering inclusion of people affected by the conflict, specifically IDPs (focus on women and youth IDPs). The presence of youth and IDPs is mostly considered for direct targeted interventions under Component 3 (specifically 3.3 on nutrition and literacy and 3.4 for value addition).
27. **Poor and Food Insecure Households:** The project will target smallholder households below poverty line (USD2 per day) engaged in agriculture production as main source of livelihood (crop, livestock, mix farming). In the target area, the agriculture households, 48% undertake livestock farming, 46% undertake mixed farming and only 7% of the households are engaged in just crop farming. This shows the importance of agriculture to livelihoods and the key role of livestock in the farming system.
28. Producers can be land owners but more often are sharecroppers and tenants (being landless or near landless). Producers experience significant loss, shortages of agricultural inputs (seeds, fertilizers, fuel to power irrigation pumps, etc.) or are unable to afford them due to soaring prices. (ESFNA, 2017). Smallholder farmers engaged in crop production access an average of 0.5 to 1.5 – 2 ha of land, while for livestock activities average animals' ownership is 3-5 small ruminants or 1 to 2 cows. Main issues faced in the livestock sector are: bad feeding practices, animals' health and disease (ESFNA, 2017). Households in this category experience food consumption gaps which are reflected by high or above-usual acute and chronic malnutrition and are marginally able to meet minimum food needs (OCHA, 2019).
29. **Priority for the poorest and most disadvantaged households:** Households ranking among the poorest are those composed of high number of members/dependents (more than 9) with limited productive capacity, unable to fulfil households' basic needs (ESFNA, 2017) and those headed by women, being 12.2% in the targeted Governorates.
30. According to the WB study *Poverty Notes* The incidence of poverty for households who had less than four members was 23.7. This increased to 55.4 if the household had more than ten or more members (WB, 2017). Similarly, female-headed households are generally more at risk of food insecurity and malnutrition, as their coping capacities in times of food shortage are significantly more limited than households headed by men. Even without any shocks they are likely to experience high levels of food insecurity and large consumption gaps than men headed households (ESFNA, 2017). They are also often unable to ensure adequate nutrition to household members, especially infants and children below 5 years. Women of child bearing age, particularly Pregnant and Lactating Women (PLW), have limited or no access to reproductive health services.

31. In general women's access to assistance and other services is reduced as a result of their high levels of illiteracy, posing an obstacle to accessing and understanding relevant information. The project will place strong attention on women education (literacy, life skills, nutrition) in addition to economic opportunities.
32. **Youth (15-24):** Youth rank among the poorest. They are often landless, wage laborers, unemployed or unpaid family labourers. In general, the youth unemployment rate in Yemen for age group 15-24 is 34.8 (with male below 30% and female exceeding 50%). Youth in the country are less likely to enjoy work in the tertiary sectors (and are more likely to be in low productivity agricultural employment), are less likely to be in wage employment and are less likely to be in formal sector employment. In Yemen 82 per cent have less than primary education and two-thirds have no education (ILO, 2016).
33. The project will consider that 18% of them will be beneficiaries of Component 2 activities for Climate resilience community infrastructures and a 53% for Component 3 protection of agriculture livelihood. A further disaggregation shows the following expected participation if youth: 80% for literacy, 40% nutrition education, 40% for FFs; 40% for value addition (livelihood package and matching grants). It is expected that the number of youth participants consider young men and young women on an equal basis.
34. **Internally Displaced People (IDPs):** They rank among the poorest and most vulnerable. IDPs in the host communities can engaged in agriculture related activities such as small livestock or work as occasional agriculture labours. They are considered the most vulnerable and food insecure (OCHA, 2019). Food security assessments have confirmed that IDP households are facing the most extreme hunger levels. During displacement, the majority of IDPs turn to a number of food-related coping strategies and they were found to be much more severe and more frequently used, compared to those that households not displaced turn to in order to cope. The share of IDP households suffering from poor food consumption has increased by 35% in 2016 if compared to 2014 data (ESFNA, 2017). About half of IDPs are female, including 27 per cent who are below age 18.
35. The project will consider inclusion of 10 IDPs for specific activities directed to the most vulnerable (women and youth) under component 3, more specifically: food and nutrition security (sub-component 3.3) and Livelihood Resilience and Value Addition (sub-component 3.4).
36. **Targeting and Social Inclusion:** The project will apply a strong social inclusion strategy to ensure that the poorest families and disadvantages socio-economic groups such as female headed households (FHH) IDPs, disabled, and youth will be included and benefit from project services.
37. According to the OCHA Humanitarian Overview (2019) food insecurity is most severe among IDPs, and marginalized groups and landless wage labourers. Female-elderly and disabled-headed households are seriously affected. All these population groups have virtually exhausted their coping strategies and have limited social support.
38. As part of the criteria for beneficiaries' selection, the categories mentioned above will be given priority for specific livelihood activities, for example: (i) women head of households, (ii) families with disabled members (iii) youth-led households; (iv) families hosting IDPs; (v) IDPs households. Specific set of activities will be tailored to suit their needs and livelihoods.

39. Criteria for their priority are outlined in Annex 3 of the PIM on the basis of the different project services. The criteria build on long standing experience of FAO in similar interventions.

2.3 Targeting approach

40. **Targeting Approach:** The project will be implemented applying a combination of self-targeting and direct targeting approach: Most of the interventions will be of interest for all target groups. Furthermore, specific activities are directed to specific disadvantaged categories. The robustness of the target strategy relies on a diagnostic process to be conducted at the beginning of the operations (described in Component 1: Community mobilisation and engagement). Community development planning and identification of development priorities and sub-projects will be of interest for all community members and all will be engaged to participate. Using community driven development (CDD) approach, a strong social inclusion strategy, clear selection criteria (Annex 3) and diagnostic process with key steps for community engagement (Annex 3), the operation will ensure that all views are captured.
41. Specific needs of some vulnerable and extremely vulnerable socio-economic categories: women, female head of households (FHH), pregnant and lactating women (PLW), malnourish child, IDPs will also be considered through specific interventions: livelihood packages as well as literacy, life skills and nutrition education (sub-component 3.2 and 3.3.). The project will also include quotas for participation of women, youth and IDPs, depending on their livelihoods and likelihood of participation. Women will be 64% of the total project beneficiaries and Youth 54% of target beneficiaries for Component 3. Furthermore, within the above categories, it is also expected that a minimum of 10 % will be from IDPs households in the host community. Women should account for 30% leaders in grassroots institutions at community level (i.e. WUAs and other grassroots institutions operating under RLDP).
42. **Direct targeting:** The poorest households (more than 9 members) and within these, women-headed households, young women and men and households with under-nourished children, with specific attention for pregnant and lactating mothers (PLM) will be targeted directly by the project to be the first recipients of the Livelihood Resilience and Value Addition (sub-component 3.2. and 3.4).
43. This includes a direct targeting for 4,000 women for nutrition (100% basis) ensuring that 40% will be young women, in both cases from the below categories: (i) households headed by women, (ii) households headed by youth, (iii) households with pregnant and lactating women and (iv) households with malnourished children under 5 years of age or children undergoing treatment or being released from nutrition feeding centers.
44. A total of 6,000 women and youth will also have the opportunity to participate in literacy, life-skills and leadership trainings (70% women and 80% youth).
45. To contribute to generate employment and economic opportunities for young people and women, it is expected that they will join Farmers Field Schools (FFs) as following: (i) 2.400 women and 2.400 young men and young women in FFs (livestock, poultry, beekeeping) corresponding to 40% women and 40% youth.
46. Furthermore, under livelihood resilience and value addition (sub-component 3.4) it is expected that livelihood packages will benefit 675 women 600 youth and (45%

and 40% respectively) and matching grants for processing and marketing activities to 225 women and 200 youth (45% and 40% respectively).

47. **Empowering measures:** In addition to developing technical skills in (i) small livestock /poultry production or post-harvesting as well as (ii) climate resilient irrigation technologies and practices, the project will support women beneficiaries to develop (iii) other life skills, especially in household nutrition, basic literacy and numeracy, leadership. Gender awareness trainings will contribute fostering more equitable gender roles and relations at household and group levels. The activities (sub-component 3.3) will include adult literacy sessions, nutrition sessions and input support to help enhance nutritional status. While this component is designed primarily for women, it is expected that young women and men will both be included in these literacy classes to acquire empowerment skills. Furthermore, through the leadership training, the project expects at least 30% women in leadership position in the institutions/committees formed under RLDP.
48. **Approach for gender mainstreaming.** To contribute to tackle constraints faced by rural women, the project will adopt an inclusive approach to ensure that women and men equally benefit from project's interventions. The targeting and social inclusion strategy will rely on a strong community engagement (Diagnostic process as explained in annex 3 to the PIM) to be undertaken at the beginning of the project and support identification of the target groups and all socio-economic categories identified. The IP will follow selection criteria provided (annex 3 of PIM) and ensure that the project's approach to gender mainstreaming will achieve the following objectives which align to IFAD gender policy:
 - a) **Ensure that women and men have equal access to capacity building, training and productive assets.** Average of women participation in trainings promoted by the project goes from 40% to 50%. Furthermore, specific services and trainings will target women on a 70% or 100% basis (i.e. literacy and nutrition).
 - b) **Increase women's voice in decision-making at the household and community level.** As part of literacy and life skills, leadership training will also be included. Women will be trained to form groups and their leadership and negotiation skills will be strengthened to enable them to make informed decisions during the community planning process. It is expected that women in representative position (committees) will be 30%. Gender-awareness trainings, including both women and men, will be carried out at both household and community levels, including village leaders.
 - c) **Increase women's access to skills and knowledge:** Women will be 70 % beneficiaries for the trainings in literacy, life skills and nutrition (including young women). Furthermore, women will be 40% beneficiaries of FFS where they will be able to acquire practical knowledge for livelihood improvement through FFs and climate resilience. Women will be 50% beneficiaries of training package under Component 1 as for example: climate resilient irrigation technologies, Improved soil and water conservation practices, water management.
 - d) **Develop skills to improve the well-being of women and other family members:** with this purpose, nutrition education will be provided at both household and groups level. The training will include training in nutrition,

kitchen gardening, dietary knowledge. Specific attention will be given to PLW and young women, including also women from IDPs.

- e) **Train project staff and extension service providers on gender-related issues.** It will be ensured that training modules include specific sections related to gender sensitive topics, including GBV. The IP will produce/adapt and oversee the training modules and curricula that will be delivered to targeted communities/ households and the work of Community Facilitators and Gender Focal Points as per their Tors. ToRs for the Social and Environmental Safeguard expert includes points related to gender sensitivity and ensure that gender issues are all captured and minimize (see ToRs).

2.4 Gender strategy

49. **Gender Strategy:** The overall objective of the Gender strategy will be to ensure that women and men are equally involved in decision-making and in sharing the benefit of project's interventions and that gender will be mainstreamed throughout all project activities. The strategy will have to include the following items:
- i. Specific objectives, related to project's components;
 - ii. Specific activities foreseen to reach the objectives and expected outcomes/ outputs;
 - iii. Methodological approach;
 - iv. Knowledge management: the strategy should explain how the knowledge and experience acquired in mainstreaming gender-related issues in on-going projects will be capitalized;
50. **Operational Measures for social inclusion, gender and youth mainstreaming:** Implementing agencies (FAO and SFD) have a demonstrable commitment to gender and socially inclusive approaches, youth engagement and their capacity ensure that adequate knowledge of relevant gender and youth issues are properly addressed during implementation of activities. The implementing agencies will be responsible to mainstream gender and social inclusion related issues across all intervention and all components. Gender and social development related responsibilities will be distributed across relevant IPs staff (from Governorate to district and village level) (ToRs in annex 1) and also to the Social and Environmental Safeguard Specialist to ensure that the planned activities are in line with the project social inclusion strategy and expected outcomes.
51. The IPs will produce, at the beginning of the intervention, a clear social inclusion strategy and action plan, aligned with the gender, youth and social inclusion specific objectives of RLDP as outlined above and ensure that percentage of target groups participation is achieved. At village level, gender and social development focal points will be appointed within existing village Units or CDAs or other association created at community level, as appropriated. The IPs will make sure that gender focal points fulfil requirements to undertake related responsibilities and provide relevant trainings where necessary (areas of responsibilities and draft ToRs for IPs are outlined in Annex 1). Furthermore, the Social and Environmental Safeguard specialist will be in charge (among others) to monitoring correct implementation of the following actions taken by the project to prevent GBV, Child Labours and GRM:
- **Preventing gender based violence (GBV):** the project will contribute to reducing any harmful act based on gender through: (i) sensitization on the

importance of addressing GBV, application of IFAD's no tolerance for Sexual Harassment (SH) /Sexual Exploitation and Abuse (SEA) for project staff and project's activities and operations; (ii) have GBV risks adequately reflected in all safeguards instruments, contracts with suppliers and and other third parties to be funded with IFAD funds.

- **Preventing Child Labour in agriculture:** the project will contribute to reducing any risk of child labour through: (i) Awareness on legislation and training to project staff and ensuring compliance with regulations (ii) sensitization on the importance of addressing child labour issues within the community, (iii) have Child labour related risks adequately reflected in all safeguards instruments, contracts with suppliers and other third parties to be funded with IFAD funds.
 - **Grievance Redress Mechanism (GRM):** An adequate grievance redress mechanism (GRM) will be established to ensure beneficiaries may communicate their concerns due to subproject activities either with the relevant focal point at the local level or with FAO/SFD central level and it is required this mechanism be publicized at the local level and in the local language. The RLDP GRM will follow established FAO Yemen and SFD practices, and will provide multiple access points (telephone, complaints box, website, email, postal address) so that beneficiaries will know whom to contact with regard to their concerns. The RLDP manager will have the overall responsibility to address concerns brought to the attention of the focal point regarding any environmental and/or social impacts due to subproject activities. Complaints received by the implementing agency shall be recorded and documented in the subproject file and the subproject progress report including the number and type of complaints and the results of their resolution.
52. **Social Accountability:** Social accountability will be taken into consideration through: (i) the ability of beneficiaries to voice complaints and provide feedback through well-established GRMs; (ii) dissemination of information about the resumption of the RLDP to the intended beneficiaries' relevant communities; (iii) independent verification through the third-party monitoring agency; and (iv) the FAOs/SFD field monitoring activities.

2.5 Coordination and monitoring

53. **Project Monitoring:** The M&E system will give strong emphasis to monitoring of targeting performance. All implementers will be required to provide disaggregated data on women, youth and IDPs participation, in relation to overall project targets. The M&E system will collect and analyze information about project outreach, effectiveness of the targeting strategy and specific benefits for women, youth and IDPs. Impact will be assessed on the basis of methodologically gender sensitive baseline, mid-term and completion surveys which will use key indicators to measure women's and youth empowerment.
54. **Community Engagement (Diagnostic Process):** The first task of the implementing partners contracted by FAO for field level activities will be to conduct an exploratory visit in the selected villages and work with community members and associations including village elders, inform them about the project activities and fix a date for a meeting with a majority of the community members to inform them about the project activities and seek community concurrence about the relevance of the planned activities and ascertain their interest in participating in the different

activities. Separate interaction with special groups, such as women and youth (including from IDPs) will also take place. The gender focal points and reflect facilitators will be directly responsible to facilitate separate consultation with those groups and their consequent mobilisation within the proposed activities. The IP together with village elders will also ensure that the identification of beneficiaries is based on the selection criteria that is communicated during the first dialogue of the diagnostic process (see annex 3).

55. **Consultation Strategy and sub-project selection:** The project will be managed at the field level through the FAO hubs, SFD branch offices and local implementing partners. This ensures smooth flow of information between the community and the two main implementing partners FAO and SFD. A basic step in this regard will be the diagnostic process including community meetings. These consultations will identify key issues and determine how the concerns of all parties will be addressed. The concerns of local people, vulnerable and marginalized groups will be taken into account fully in subproject planning.

3 Project description

3.1 Project duration

56. The project will have a total implementation duration of 5 years.

3.2 The components and activities of RLDP

57. The RLDP project will have four inter-related components. The first component will target community mobilization and strengthening, the second will support climate resilient agriculture investments, the third will support agriculture based livelihood protection and improvements, and the fourth component will ensure project coordination and support the improvement of the institutional and policy environment. The structure by component, sub-component and activity is as follows:

3.3 Component 1 – Community Mobilization & Strengthening

Sub-component 1.1: Community Mobilization, Planning & Identification

58. This sub-component is designed to ensure that the project follows a community-based bottom-up approach to identify the investment options in close collaboration with the target group and that an open, transparent and participatory mechanism is in place to communicate with the targeted communities and identify the target households. The process outlined in this sub-component is designed to ensure proper communication with the beneficiaries about the objectives of the project and its implementation approach and activities. One of the first activities that will be undertaken by FAO and SFD will be the selection of target districts from the long-list of districts provided (Please see section on targeting). While a short list was developed during design this will be further reviewed during implementation as the situation is a dynamic one in terms of security in the country.
59. The process outlined here will ensure activities are transparently targeted, reduce the risk of elite capture and ensure that the investments selected for the specific village are relevant for the beneficiaries and that they are implemented in a manner which is appropriate and convenient for the participants in keeping with their other areas of responsibility. The design of the specific training activities in terms of the topics, timing, location and format will be discussed with beneficiaries for the Farmer

Field Schools, adult literacy, nutrition support and the livelihood packages, etc. Special attention will be paid to ensuring that gender roles and responsibilities and concerns of women are incorporated in the planning and implementation of the sub-component activities.

60. One or more Implementing Partners will be competitively selected within the first six months of the project and assigned specific districts in which they will oversee and implement the project activities in a unified manner together with the technical experts of FAO and use of community facilitators, Reflect teachers, nutrition Facilitators and lead resource persons from the community. As explained under the separate component activities, the IP will also be responsible for working with local communities for the identification of the infrastructure in close participation with local communities, identifying community members responsible for operating and maintaining infrastructure schemes and strengthening their capacity. The IPs will also be responsible for recruiting community extension agents for the FFS and, the Reflect teachers for the adult literacy classes and the Nutrition Facilitators for the Nutrition interventions.
61. The first task of the implementing partner will be to conduct an Exploratory visit with the targeted villages and assess the most appropriate community institution with which to liaise and coordinate the identification and implementation of project activities. This could be a Community Development Association (CDA), a Village Council, a Community Based Organization, Water User Association, etc. The selected community organization will be asked to facilitate an open village meeting so that a majority of the village households can be informed about the project activities. At the exploratory visit, a date and time will be fixed for a meeting with community members to inform them about the project activities.
62. The First Dialogue: At the first dialogue, a large majority of the community households will be informed about the about what the RLDP has to offer, its implementation approach and community concurrence will be sought about the relevance of the planned activities for them and their interest in participating in the different activities will be sought. In case, community members are interested and agree with the terms of partnership, the community members will designate specific lead resource persons for each of the sub-components to facilitate the coordination between the IP, technical staff and the community members. Once this is confirmed, a series of Second Dialogues will be held between the technical experts, implementing partners and the community lead or contact person to identify the activities and participants for component 2 and component 3. This will include domestic water supply schemes, small-scale irrigation schemes, flood protection works, roof top water harvesting or soil rehabilitation activities. The IPs will also identify the participants for the different sessions on FFS, adult literacy, nutrition and the livelihood support packages. The IP together with village elders will also ensure that the identification of beneficiaries is based on the selection criteria that is communicated during the first dialogue. This may entail several visits over a certain period of time and may involve different groups of people from the community working with different technical specialists from the IP, SFD and FAO.
63. Once the beneficiaries are identified, a Third Dialogue will be held to sign the terms of partnership between the IP and the participants and begin the implementation of the activities of the various sub-components for all components. The Implementing Partner will with the community agents agree on all schemes to be built and the method of contracting. The IP will also ensure that participants of the training

sessions agree on the time, location of the planned sessions. A community committee will be nominated to finalize all aspects of the identified infrastructure scheme to ensure that it is technically and socially feasible and is designed to meet the needs of the beneficiaries and designed and implemented in a participatory manner. The participants for the operation and management of the schemes and the contribution from participants and their role will also be discussed and agreed upon. No activities will be undertaken until the terms of partnership are agreed.

64. In terms of the activities under component 3, the community extension agent will coordinate all activities with regard to FFS, the Reflect Teacher will coordinate activities with regard to adult literacy classes and the community nutrition facilitators will coordinate all activities related to the nutrition mentoring and support. The IP will coordinate with the local facilitators and provide support for conducting the different sessions. The diagnostic process that is to be followed is highlighted in the section below;

Figure 1: The Diagnostic Process



65. A final and Fourth-Dialogue will be held at the completion of the activity to obtain beneficiary feedback and assessment. The M&E Unit will develop special tools for this purpose and ensure that the feedback obtained through the process is used to refine and incorporate lessons in subsequent sessions. More details on the diagnostic process and the series of dialogues to be held, the participants and their purpose and agreed course of action is outlined below.

Table 1: Details of the Community Dialogues

Diagnostic Process	Location	Participants	Purpose	Next Task
Exploratory Visit	Village Unit	CDA members and village elders including separate meeting with women leaders.	Inform them about RLDP components and investments. Fix a date for discussion with larger group of residents. Communicate selection criteria and targets for inclusion of women and youth.	Fix a date on which the IP and project staff can meet with the community members who qualify for participation in the project based on identified criteria.
First Dialogue: Introduction and Dissemination	Village Unit	At least 30% of the HHs from the Village Unit.	Inform the participants about component activities and ask them to select the most relevant for them including a lead person	The community identifies lead persons or contact persons for identifying farmers for FFS, participants for adult literacy, nutrition

		A separate session with women.	from the community to take responsibility for each sub-component	sessions and livelihood and grant packages.
Series of Second Dialogues: Technical Feasibility and Operational plans.	Households and technical specialists from IP, Extension Staff and FAO.	Lead persons and households interested in specific activities	To determine the participants for each sub-component, identify specific topics for FFS, timing, location and a plan for the year.	To agree on the Terms of partnership in the various activities and fix community responsibility.
Third Dialogue: Signing of the TOPs with participants and begin sub-component activities.	Agreed location of FFS, Adult-literacy venue or Nutrition session or recipient hh.	Participants and resource persons	Implementation of activities.	To participate in the plan as agreed.
Fourth and Final Dialogue: Beneficiary Feedback and Assessment	Village unit	CDA, participants and Lead persons	To assess project performance and obtain beneficiary feedback	To incorporate the findings in next round of implementation.

Sub-component 1.2: Community Capacity building

66. This sub-component provides technical assistance to train the implementing partners and beneficiaries of the infrastructure schemes. The outcome will be strengthened capacity of water and irrigation engineers, HHs, farmers, communities and WUAs (both men and women) including the VCCs and development associations. The expected output will be the training of 3309 beneficiaries (1686 men and 1623 women) in improved technical skills and knowledge to enhance the adaptive capacity of rural populations in operation and management of the water and irrigation schemes and soil and water conservation measures. The focus of the capacity building program will be on themes to capacitate both men and women at 51% and 49% ratio of selection from target Governorates. Table 3 below shows details of the training program.

Table 2: Training activities for the community infrastructure investment

Training activity	Trainers	No. of trainers	Target trainees	Number of beneficiaries		Total
				Men	Women	
ToT on O&M of domestic water & irrigation schemes & monitoring of performance	Local consultant	1	Water engineers	13	12	25
Introduction to more effective climate resilient irrigation technologies and operation and maintenance of solar powered pumps	Local consultant	1	Irrigation engineers	15	15	30
Establishing and empowerment of existing WUAs and strengthening their roles and functions	From Trained TOT Water Engineers	2	WUAs	50	50	100
Capacity building in technical & managerial aspects for WUAs by Water Eng.	From Trained TOT Water Engineers	2	WUAs	50	50	100

Improved soil and water conservation practices	From Trained TOT WH/Irrigation Engineers	5	Farmers	500	500	1000
Irrigation water management (modern water savings irrigation systems) and spate irrigation	TOT WH/Irrigation Engineers	4	Farmers	510	490	1000
Water supply services (procurement, O&M plan)	From Trained TOT Water Engineers	2	WUAs/HHs	26	24	50
Facilitation of training programs conduction	Facilitator	4	-	2	2	4
Total		21	-	1686	1623	3309

3.4 Component 2 – Climate Resilient Community Infrastructure

Rationale

67. Much of Yemen’s landmass consists of desert, arid and semi-arid hyper climate, with rainfall varies from less than 50 mm in the coastal zone, rising to 1500 mm in western highlands and dropping again to below 50 mm in the interior desert. Water scarcity threatens the livelihoods of population in the country. Urban dwellers and rural communities are both vulnerable. Water availability per capita has dropped from 196 m³ per year in 1990 to only 87 m³ per year in 2010; Yemen has one of the lowest rates of water availability per capita in the world at 2% of the world average. Water inequality is further accentuated by the rural - urban divide in Yemen.^{19,20} The Yemen the 14 Arab countries of the world’s 20 most water stressed countries (UNDP, 2013).
68. The national Central Statistics Organisation (CSO) shows that groundwater levels in Yemen are steadily declining as withdrawal rates greatly exceed the natural rate of recharge. Total annual renewable water resources are estimated at 2.1 billion m³ (1.1 billion m³ of groundwater and 1 billion m³ surface water) while water consumption is about 3.6 billion m³, resulting in a groundwater depletion rate of 1.5 billion m³ (170%) per year. This has led to a situation in which water resources are being vastly and critically depleted.
69. An estimated 19 million people lack adequate sanitation or safe water^{21,22} and fuel shortages experienced by local water corporations have caused the costs of commercial water trucking - the main source of water for many to skyrocket. Prior to the conflict there already were multiple challenges regarding the supply of clean water resources and provision of effective solid/water waste-management. Many communities were characterized by a lack of proper public infrastructure, contaminated water supplies and poor sanitation.²³ Following years of aerial bombing campaigns and ground fighting, Yemen’s water and sanitation infrastructure has faced widespread destruction. These conditions have led to the largest cholera outbreak in epidemiologically recorded history²⁴, with over 1.3 million suspected cases and over 2,600 associated deaths since the April 2017 outbreak.²⁵ Access to

¹⁹ Yemen (2018) Yemen Third National Communication to the Conference of Parties of the UNFCCC

²⁰ IFAD SECAP

²¹ Devarajan and Mottaghi (2017) World Bank MENA Economic Monitor, April The Economics of Post-Conflict Reconstruction in MENA (<https://elibrary.worldbank.org/doi/pdf/10.1596/26305>)

²² <https://www.unicef.org/yemen/water-sanitation-and-hygiene>

²³ Yemen (2018) Yemen Third National Communication to the Conference of Parties of the UNFCCC

²⁴ Fekri Dureab et al., "Yemen: Cholera Outbreak and the Ongoing Armed Conflict," *The Journal of Infection in Developing Countries* 12, no. 05 (May 31, 2018): 397–403, <https://doi.org/10.3855/jidc.10129>; Federspiel and Ali, "The Cholera Outbreak in Yemen.

²⁵ UNICEF (Nov,2018), Yemen Humanitarian Situation Report

safe and affordable drinking water in rural areas have fluctuated between 57% and 59% over the period 2000 to 2008 compared with 72% to 82% for urban populations.

70. The water scarcity in Yemen has created detrimental impact on agriculture, particularly the rain-fed farming, which constitutes the economic mainstay for 53% of rural population, and limits the agriculture production, which significantly deteriorates the food supplies and increases the prices of food products. With the conflict, the government has limited capacity to finance the rehabilitation of deteriorated rural infrastructure that often requires significant spending. Moreover, with the loss of capital and assets to most IDPs, returnees and settled population, even restoration, operation and management of small infrastructures normally carried out by households and communities is made difficult. This component is designed to enhance the resilience to water shortages and protect livelihoods of targeted rural communities in Yemen.

Component Description

71. The specific objective of the component is to improve multi-purpose water supply for the targeted communities, through development of water-related infrastructures. The investments will build on the experience from successful rainwater harvesting and small-scale spate improvement projects over the last fifteen years in Yemen. The component will consist of 3 sub-components; Sub-component 2.1: Domestic water supply; Sub-component 2.2 Small-scale irrigation and flood-based livelihood systems (spate diversion irrigation); and Sub-component 2.3: Soil and water conservation;
72. Support for the rehabilitation of small-scale irrigation schemes and flood-based livelihood systems (spate irrigation) will be through development of water sources that will include utilizing river flow and diversions, on-farm runoff flow, groundwater, and springs. Promotion of good water management practices to improve water use efficiency will be an integral part of the interventions.
73. The criteria for selection of appropriate schemes under the sub-components will be based on IFADs priority districts, the climate vulnerability assessment maps (figures 5-9 in annex 3) and follow-up and verification assessments will be based on: i) severity of water scarcity; ii) the environmental, social and technical requirements of particular intervention (e.g. availability of good rainfall, topographical features and surface runoff potential, no land conflicts, no over abstraction of resources; iii) potential to increase resilience to climate change and reduce environmental degradation, iv) deteriorated, abandon and damaged water harvesting- based infrastructures; v) simplicity of technique and relevance to local knowledge and traditional practices; vi) Community experience with techniques and technologies for rainwater harvesting or experience easily available in Yemen; vii) the identification of the intervention as a key priority by the community members.
74. The number of expected beneficiaries for each sub-component is listed in Table 1.

Table 1: Number of beneficiaries

	Total	Women	Youth	(%) women	(% youth)
2.1. Domestic water supply	22,000	11,322	3,960	51	18

2.2: Small-scale irrigation and flood-based livelihood systems	15,300	7,803	2,754	51	18
2.3: Soil and water conservation	16,500	8,415	2,970	51	18
Component Total	53,800	27,540	5,582	51	18

75. This component will be implemented by SFD, with its widespread country presence and experience in similar activities in other projects over many years of operation in Yemen. The interventions under this component will be determined by communities following a community mobilisation and planning process and consideration of the technical feasibility and development costs. The community mobilisation will be done for both Component 1 and 2 and will follow the same sequence, as indicated in Table 2.
76. Feasibility assessments: Following the prioritisation of multipurpose water supply as a need for the community during the planning sessions, the targeted households will be identified following the criteria set. The community mobilisers will inform the SFD technical units to undertake technical feasibility assessments, after which final selection will be undertaken by the community. Below is a list of potential interventions.

Table 2: Detailed of the community dialogues for climate resilient community infrastructure

Diagnostic Process	Location	Participants	Purpose	Next Task
Exploratory Visit	Village Unit	CDA members and village elders including separate meeting with women leaders.	Inform them about RLDP and fix a date for discussion with larger group of residents. Communicate selection criteria and targets for inclusion of women and youth.	Fix a date on which the project staff can meet with the community members who qualify for participation in the project based on criteria.
First Dialogue: Introduction and Dissemination	Village Unit, WUA	At least 30% of the HHs from the Village Unit. A separate session with women.	Inform the participants about component activities. Prioritise the most relevant for interventions for the community. Select a lead person from the community to take responsibility for each prioritised intervention.	Arrange for date of the technical feasibilities and beneficiary selection.
Series of Second Dialogues: Technical Feasibility and implementation plans.	Households, community leaders (CDA) and technical specialists from SFD.	Lead persons and households selected for specific activities. A separate session with women.	Assess technical feasibility, costs and cost effectiveness and finalise intervention selection. Determine the key stakeholders for each intervention. Identify beneficiary households for each selected intervention. Prepare implementation plan with activity timing, and location.	To agree on the Terms of partnership in the various activities and fix community responsibility.
Third Dialogue: Signing of the TOPs with participants and begin sub-component activities.	Agreed location of community interventions, and recipient household sites.	Participants, beneficiary households, contractors (if needed) and SFD resource persons.	Implementation of activities.	To participate in the plan as agreed.

Fourth and Final Dialogue: Beneficiary Feedback and Assessment	Village unit	CDA, participants and Lead persons	To assess project performance and obtain beneficiary feedback	To incorporate the findings in next round of implementation.
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Sub-component 2.1: Domestic water supply

77. The domestic water supply intervention will be designed to provide the households, communities, and Village Units (VUs) with sustainable improved water sources by restoring existing schemes or building new water facilities. Achieving sustainable household, community and village unit level water supply will be undertaken through water harvesting structures with cistern storages of not more than 500m³. The expected number of beneficiaries will be about 22,200 persons (of which 11,322 are women).
78. **The sub-component will support:** i) individual household investments with (rooftop rainwater harvesting including concrete tanks/underground cisterns); ii) community water schemes based on water harvesting cisterns, protected shallow wells/boreholes, and springs; and iii) rehabilitation of village unit (s) water supply projects. The design of the water supply systems will consider the number of beneficiaries and potential yield of the source. For this purpose, the project will recruit a short-term national water engineer consultant for identification and design of the water schemes in consultation with beneficiaries.
79. **Individual household water supply (Rooftop and open catchment cisterns):** The primary objective is to increase household water availability for domestic and gardening use for part of the dry season. This technology will be an option for areas receiving more than 200mm/year rainfall. Catchment areas will include rooftop and if not sufficient open selected catchment areas may be used. The location of the cistern shall be within a fetching time not exceeding 30 minutes roundtrip. Rooftop and open catchment water harvesting are adaptive measures to the impact of climate change on water scarcity.
80. **The selection of household for rooftop and/or open catchment water harvesting should meet the following criteria:** adequate average annual average rainfall (more than 200mm/yr.); ownership of catchment area and cistern location is secured. The cistern can be used for domestic use and gardening irrigation. Appropriate water treatment will be needed before using the collected water for drinking and other domestic uses. The requirements for water harvesting will be determined during design but may include covering existing mud roof with layer of concrete, improving open catchment, water collection pipes and cisterns.
81. **Communal multi-purpose water schemes:** Some villages develop containment structure for providing multi-purpose water for a community of about 150 households. Water storage capacity will consider multipurpose uses by the community (for human (30l/person/day), livestock (5-50litres/day/unit depending on the type of livestock), and a determined volume for small gardens. The cistern shall be closed to prevent algae growth and insects breeding. Typically, a cistern of about 150m³, for domestic and livestock uses. This storage will be adequate for about 20days of supply to 50 households. Installing small head solar pumps to abstract water, will be considered in the design to reduce the labour required in water abstraction, saving time and energy for, mostly, women and girls.

82. Existing village water supply projects based on shallow/boreholes and spring water delivery systems will also be rehabilitated. The village water supply projects are generally a complete water yard equipped with diesel or electric pumping units, elevated water tanks and water distribution network. Because of the on-going conflict most of these projects are either damaged, abandoned, or non-functioning due to lack of repair or fuel supply.
83. The Sana'a Centre for Strategic Studies observed that fuel shortages resulting from war-related blockades have caused major problems in access to water and could cause serious WASH access problems and cholera outbreaks. The solar powered pumps could replace fuel as a source of energy to pump water. The installation of solar energy units, particularly to replace diesel pumping, will be a key investment area. The water yard system has the potential of supplying a village with relatively larger population (150- 250 HHs) with improved quality water i.e. household water treatment is still needed before using water for drinking.
84. The sustainability of these water systems depends on 3 pillars, the water source, the non-revenue water and the management-consumers relationship. Water source shall be secured in terms of ownership and buffer zone protection. A system for controlling non-revenue water shall be incorporated in the intervention and the management shall be trained in controlling the non-revenue water and maintaining it at the minimum limit. The management-consumers relationship is vital to maintain enough revenues to cover the operation and maintenance expenses. Trust on the management shall be maintained through transparency in accounting and opening books to a consumers elected committee.

Sub-component 2.2: Small-scale irrigation Schemes and flood-based agriculture

85. The objective of this intervention is to increase agriculture production through the rehabilitation and improvement of small-scale community level water infrastructures for irrigation schemes and flood-based agriculture schemes. Communities will identify the specific schemes and type of small-scale irrigation schemes through a communities-based prioritisation process explained above. The expected output will be improved irrigation and flood-based agriculture for about 15,300 persons (of which 7,800 are women and 2,754 youth). Activities under this subcomponent may include the following:
 86. ***Rehabilitation and modernizing irrigation (full and supplementary) systems:*** Use of micro-catchment rainwater harvesting and improved irrigation technologies at the farm level, to support crop irrigation during dry spill periods will make crop production more reliable. The rainwater harvesting structures will include construction of farm ponds/water tanks for storing runoff water, but the capacity will depend on the size of the catchment area and available run-off.
 87. The water scarcity experienced in Yemen calls for a need to modernise existing small-scale irrigation systems to improve irrigation efficiencies. Emphasis is given to the introduction of water savings irrigation systems such as drip, bubbler, clay pot, sprinkler, and pipe conveyance systems. The selection of the system will be principally related to soil and crop types, water quantity and quality, topography, area of farmland and available capital. Drip irrigation will be suitable for narrow and row planted crops like vegetables, the bubbler, clay pot systems are appropriate for fruit trees and sprinkler system for both crops and fodder. These systems have irrigation efficiencies between 80 – 90% when managed properly. The selection and design of each irrigation system will be site specific. The irrigation engineer is

required to carry out the technical feasibility assessments, identify and design suitable system. Solar pumps will be considered as an option to provide power requirement for irrigation systems.

88. **Rehabilitation of flood-based agriculture systems (Spate irrigation):** This intervention considers improvement of spate irrigation to enhance rainfed crop production and increasing climate resilience of crops during droughts and variable rainfall seasons. Activities will include rehabilitation of civil infrastructures (hydraulic structure, canals, embankments, and levelling); for diverting floodwater to downstream farms. The most important factor for success of the spate irrigation is the amount of soil moisture retained in the soil profile depth; therefore, soil should be deep ploughed and well levelled to improve water distribution and irrigation efficiency as well.
89. The rehabilitation and improvement of existing irrigation shallow wells and boreholes will be undertaken in association with spate irrigation schemes to provide supplementary irrigation during poor flood times. No new drilling and installation of wells unless geophysical survey and water potential investigation is carried out to confirm safe groundwater abstraction rates level, in line with SECAP guidelines. Solar pumps will be considered as an option to provide power requirement for irrigation wells, as well as use of modern irrigation technologies to improve irrigation efficiency. The sizing of solar system will be based on hydraulic head and discharge of the pump and other accessories, which would be identified and installed by an electrical engineer. The design of the solar powered pumps facilities may include submersible pump with complete fittings, and solar panel panels with complete parts. Control panel and other equipment shall be installed in a room strong enough for protection.

Sub-component 2.3: Soil and water conservation measures

90. The objective of this intervention is to enhance the adaptive capacity of rural populations to climatic shocks through reducing soil erosion, water loss and land sliding. Considering the level of aridity and land degradation in the country impaired by extreme cycles of drought and floods that result in environment, social and economic costs more soil and water conservation measures will be required. This activity provides support to a) rehabilitation of terraces; b) erosion control structures (e.g. check dams, infiltration trenches, stone walls or bush planting along contour lines) and c) rehabilitation of village roads. These interventions are expected to benefit approximately 16,500 persons (of which 8415 will be women and 2,970 youth).
91. **Terrace rehabilitation:** Terrace cultivation is an ancient and traditional farming practices in the mountainous areas of Yemen. Yemen experience with terrace cultivation, shows that erratic and unpredictable rainfalls have been the main cause of the low yield and thus either poorly managed or abandonment and where subjected to deterioration. Most terraces are built with lined stones to strengthening their stability and very few are earthen embankments. The terraces are traditionally managed using simple cultivation means and tools, and limited use of inputs. Almost all terrace farms are under rain-fed conditions and lack irrigation. As a result, many terraces are not as productive as farms that have appropriate mechanization and irrigation. This intervention focuses on rehabilitation of existing terraces with an improved design, to improve their performance and water use efficiency in the light of climate change and water scarcity.

92. The terrace design improvement includes a combination of: i) earth embankments protected and strengthened by rock lining to improve stability and act as a natural water storage that will retain soil moisture; and ii) foothill and hillsides cut-off drains to provide extra surface runoff water into terrace plots; iii) where feasible, association with farm ponds to support supplementary irrigation to adapt to water scarcity. A farm pond (cistern) of 150 -200 m³ storage capacity will provide 20mm supplementary water during a dry spell for each fill. In case the cistern is located upslope of the terraced land, application of irrigation water will be via gravity-fed flow; otherwise small potable motorized pumping unit could be used. Depending on the rainfall and catchment water yield, filling of the cistern may be couple of times during the rainy season; it will increase the chances of securing a good crop harvest.
93. In mountainous areas, it may be feasible to collect runoff from hilly terrains and convey it to improved terrace cropping areas or in the valley bottom to increase soil moisture by constructing channels with stone riprap on the hillsides. This macro-catchment runoff water harvesting system could be spread directly on the adjacent farms or put in intermediate storage cisterns or water tanks to allow supplementary irrigation.
94. **Climate smart village road rehabilitation:** The objective of this intervention is to provide improved and reliable access to markets and services as well as incorporating water harvesting into road drainage structures (for livestock drinking water and irrigation ponds) or the design of road embankments as flood protection structures, where identified as a need by the communities. An integrated approach to support rehabilitation of selected rural roads will combine the following options of: i) climate resilient design and construction with improved surfaces and erosion protection works; ii) utilizing road surface as catchment areas to catch surface runoff for livestock drinking water and irrigation; and (iii) building community capacity in road management and maintenance.
95. There is evidence that road water harvesting in Yemen has been successfully introduced in several places. Recharge or storage using borrow pits, percolation systems such as deep trenches and percolation ponds meant to increase ground water recharge, side-drain drainage used for irrigation, sand mining pits, road-side earth ponds are some of the techniques already present in the country and other countries. Several techniques are available to optimize the use of roads for water harvesting, as outlined below:
- Water harvesting from cross drains and side drains
 - Water harvesting from road surfaces
 - Use of borrow pits and quarries for storage or recharge
 - Bridges and crossing for retaining groundwater, water spreading or river stabilization
 - Erosion protections from roads
 - Roads as flood control mechanisms
 - Roads body as retention dykes/dams or small retention ponds
96. Developing road water harvesting and cisterns for livestock drinking and agricultural use will have tremendous impact on livelihoods in rural communities and help address the water shortage problems. The community committee/village cooperative council (VCC) members and in collaboration with SFD engineers will play

an active role in assessing the deteriorated segments of the road to repair and maintenance and identify the technique (s) to utilize the road surface as a water harvesting means. The project will assist communities to form Village Unit Maintenance Groups (VUMG) under the supervision and monitoring of the WUAs or any Community Development Association.

97. **Rehabilitation/construction of Wadi check dikes and gabions:** The projected increase in the severity and frequency of extreme rainfall events and flash floods, exacerbated by degraded catchment areas, may increase the potential of erosion in mountain and foothills watersheds, aggravating soil loss, flash floods and degradation on wadi banks. Where excessive erosion is identified by the community as a threat, the project will provide support for damage prevention, where suitable and feasible, through some of the following options:
- Strengthen and cleaning structures for water diversion to prevent accumulation and blocking of natural drainage and excess water disposing
 - Installation of check dams upstream to reduce the speed of water, facilitate infiltration and collect sediments thus also enhancing agriculture potential.
 - Incorporating improved drainage and desilting/removal of silt and sand deposits within the wadi course.
 - Plant more trees for protection and biological stabilizing measures of wadi banks and provide stronger and more rigid structures.
98. Activities will be prioritized where treatment of affected and vulnerable flood-prone areas will have immediate impacts. GIS-based data maps on changing rainfall patterns and hydrological data analysis will be used where appropriate.
99. A national local consultant is required to identify areas require protection and select appropriate protection measures and design work. Gabion box structures are famous and well-practiced in Yemen and if professionally designed and installed significant protection have been achieved.
100. **Implementation arrangements:** This component will be financed by both IFAD and GEF through grant funds. GEF will support much of the civil works that relate to drinking water and agriculture water supply, technical assistance and consultant services and capacity building program. IFAD and GEF will the civil works envisaged in small-scale irrigation schemes and soil and water conservation measures. SFD will be the main implementing partner for this component. SFD will work with FAO to identify and screen eligible beneficiaries and interventions in each VU following the process outlined for community mobilization, planning and identification. Specific interventions in each VU will be identified through a community prioritization process undertaken during implementation and implemented under component. SFD, in consultation with beneficiary households and community-based organizations and with local consultants, will assess the feasibility of selected prioritized proposals.
101. The SFD branch office staff will implement the activities and the head office staff will monitor and follow up implementation. Aden branch office will cover Al-Dalae' and Lahj governorates; Taiz branch office will cover Taiz governorate; Al-Hodeidha branch office will cover Al-Hodeidaha Governorate; and Dhamar branch office will cover Dhamar Governorate. Three implementation procedures will be used as follows:

- a) Conditional cash grant: for rooftop cisterns, where the household owner implements work items under SFD's supervision and is paid for completed work items,
 - b) Community Contracting: for community water schemes where the location is not attractive to bidders due to remoteness or security. In this case the implementation is conducted by an elected community committee with the support and supervision of SFD.
102. It is expected that the HHs will oversee implementing HH-based activities such as rooftop and cisterns and other related activities. In addition to technical requirements, house roof top and courtyard viable for water harvesting and number of family persons are typical conditions for selection of a suitable house which would make investment worth. The HHs could contribute to cleaning and upgrading and enhancing the rooftop conditions. The selected beneficiaries are those poor resource women headed HHs, idle youth or people living with disabilities.
103. The community will be responsible for contracting small-medium water and irrigation schemes (water storing ponds construction, terraces, and check dams). In addition to these community ear-marked schemes, more projects could be selected through a community-based and participatory approach. For relatively large schemes will be implemented through commercial contracting (spate, wells/boreholes, solar pumps installation and village road rehabilitation). Field supervision and testing the performance and hand over of the completed schemes to the project coordinator is a responsibility of SFD as part of the management cost based on design and guideline established by the designated local consultants.

3.5 Component 3: Protection of Agriculture Livelihoods

Rationale

104. This sub-component is designed to enhance the resilience and protect the livelihoods of agriculture households in Yemen. The agricultural sector is critically important to overall economic performance, food security, nutrition and poverty alleviation in the country. It is the main livelihood for more than half (53%) of the Yemeni population and employs more than 50% of the workforce in the country directly or indirectly along agriculture value chains.²⁶ Agriculture is also critical for food security and nutrition as crop production in Yemen covers only around 25-30% of the country needs either from cereal and or from horticulture production, while the country imports around 90% of the wheat needs. Local livestock production covers more than 60% of the livestock product needs in the country with the poultry sector covering near 100% of the country needs for (EFSNA, 2017).²⁷ A high proportion of the households are still involved in agriculture. The table below shows that there were estimated to be around 903,721 agriculture households in the project area which is estimated to be 67% of the total households in the five selected Governorates. Of the agriculture households, 48% undertake livestock farming, 46% undertake mixed farming and only 7% of the households are engaged in just crop farming. This shows the importance of agriculture to livelihoods and the key role of livestock in the farming system.

²⁶ Emergency Food Security and Nutrition Assessment. Yemen. June 2017.

²⁷ Emergency Food Security and Nutrition Assessment. Yemen. June 2017.

Table 1: Farming Systems in the Project Area

Governorates	Agriculture HHS	Cropping only HHS	Livestock only HHS	Mixed farming	(%) of ag hhs of total hhs.	(%) of crop only hhs	(%) of livestock hhs	(%) of mixed farming hh
Al Dhala	63,700	4,204	16,817	42,679	76%	7%	26%	67%
Dhamar	171,100	23,270	24,638	123,192	66%	14%	14%	72%
Al Hudaydah	252,650	5,558	180,645	66,447	52%	2%	72%	26%
Lahej	99,768	4,889	67,742	27,137	68%	5%	68%	27%
Taiz ^b	316,503	22,155	142,426	151,921	85%	7%	45%	48%
Total	903,721	60,076	432,268	411,376	67%	7%	48%	46%

Source: Emergency Food Security and Nutrition Assessment. Yemen. June 2017. Taizz figures are estimated using governorate proportions as the UN survey did not cover Taizz.

105. The agriculture sector has suffered a huge setback due to the on-going conflict, destruction of physical and irrigation infrastructure, disruption of input and product markets, loss of income sources to support production and other challenges. Total cultivated area in 2016 reduced by 34% compared with 2014 estimates of the Ministry of Agriculture and Irrigation. There was reported to be an overall reduction of 40% in crop production with much higher decrease in some governorates in the project area such as Lahej (74%), Al-Dhala (67%) and Al-Hudaydah (64%). There was also reported to be a reduction in cereal production with high decreases in Dhamar (61.0%) and Al-Dhala (59.2%) in 2016 compared to 2014.²⁸ The latest COVID pandemic is putting an additional pressure on mobility, supply chains and markets and is likely to further increase vulnerability and food insecurity in the country.
106. Livestock represents one of the few options available for income generation and livelihood opportunities in Yemen. Raising livestock as a source of cash income is strongly associated with lowering incidence of poverty and considered an important and viable option for rural households to secure basic needs. More than 80 percent of farms participate in livestock production and it is an important source of income for vulnerable households. Women play a leading role in livestock production, especially backyard poultry production and small ruminants. Livestock production has also shown a reduction in the last few years as a result of the on-going conflict which led to lack of access to animal feed and poor disease control due to the collapse of the public disease control system and services. The livestock production in general and the number of small ruminants in particular has reduced by around 40% for

²⁸ Emergency Food Security and Nutrition Assessment. Yemen. June 2017

sheep and 42% for goats during 2016 compared to the pre-crisis period in 2014 according to MAI estimates.²⁹

107. Climate change is already endangering agricultural systems and livelihoods in Yemen. Farming communities are increasingly experiencing more frequent drought, erratic rainfall patterns and decreasing agricultural production for some types of subsistence crops³⁰. Yemen almost completely depends on imports to satisfy the market needs for planting seeds, especially for the vegetables sector. Limited seed production exists for few local vegetable varieties, cereals, forage crops, pulses and potatoes. It is estimated that the local varieties do not exceed 20% of the seed market.³¹ 90% of seeds are exchanged on the market, the vast majority of which are traditional unimproved climate-resilient varieties of local landraces. Climate-resilient seeds are available through the General Seed Multiplication Corporation (GSMC, however knowledge is limited as to which agro-ecological zones they are best suited for.³²

Component Description

108. This component is designed to protect agriculture households and restore their livelihoods which have been devastated by the on-going conflict and provide some modicum of food and nutrition security to vulnerable households. The component will consist of three sub-components; Subcomponent 3.1: Capacity Building for Agriculture Production; Sub-component 3.2: Food and Nutrition Security and Sub-Component 3.3: Livelihood Resilience and Value Addition. The number of beneficiaries from each sub-component is elaborated in Table 2 below. The component activities will be implemented in a gender and nutrition sensitive manner ensuring the inclusion of women and youth in all project activities. It is expected that the component will provide support to 18,000 vulnerable people directly targeting 64% women and 53% youth. The project will select community men and women from the selected districts, train them and provide them a source of employment by engaging them to deliver specific services to the target group as community extension facilitators, Reflect teachers and nutrition mentors. The capacity of existing agriculture extension staff will be enhanced in the implementation of the project and they will be deployed as FFS facilitators.

Table 2: Number of Beneficiaries

Component 3 : Protection of Agriculture Livelihoods	Total	Women	Youth	(%) women	(% youth)
3.1. Capacity Building for Agriculture Production					
Extension Agents	60				
Community Extension Agents	20	20	20	100%	100%
Farmer Field Schools	6,000	2,400	2,400	40%	40%
3.2: Food and Nutrition Security					
Reflect Teachers	40	40	32	100%	80%
Reflect Students	6,000	4,200	48,00	70%	80%
Nutrition Facilitators	40	40	32	100%	80%
Nutrition Session Participants	4,000	4,000	1,600	100%	40%
3.3. Livelihood Resilience and Value Addition					

²⁹ Emergency Food Security and Nutrition Assessment. Yemen. June 2017

³⁰ Yemen (June, 2018) Third National Communication to the COP of the UNFCCC

³¹ FAO (2019) Strengthening improved seeds production capabilities

³² Dr Mohamed Hassan Farea (FAO, Yemen, 2020) Phone Interview.

Technical Assistance ^a	1,500	600	600	40%	40%
Livelihood Packages	1,500	675	600	45%	40%
Matching grants	500	225	200	45%	40%
Target People	18,000	11,500	9,600	64%	53%
Community Agents	100	80	40	80%	40%
Extension Agents	60				
(%)					

a: Given that technical assistance will be given to the recipients of livelihood packages and matching grants they have not been counted twice.

109. This component will be implemented by FAO given its strong field presence and experience of working in Yemen over the last few years and especially its experience of successfully negotiating between the de facto and de jure Governments (SECAP Institutional Analysis). FAO's experience in a host of projects such as the Smallholder Agricultural Production Restoration and Enhancement Project (SAPREP) a grant-based Investment Project Financing with an operational life of three years financed through a grant of US\$ 36 million from the Global Agricultural and Food Security Program Trust Fund (GAFSP TF) will be used. FAO has also been implementing with other Rome based partners the Supporting Resilient Livelihoods and Food Security in Yemen Joint Programme/ERRY I and II. The second phase of the project is a 3 - year joint programme co-financed by EU and Sida. FAO's experience of work with Government Agriculture extension staff, Implementing Partners and field-based community workers will be capitalised upon. FAO's office in Sana'a will be overall responsible for the component with its hub offices in the project Governorates providing back-up support. The Terms of Reference of the technical Specialists and Community Extension Agents is given as Annex 2.

Sub-component 3.1: Capacity Building for Agriculture Production

Farmer Field Schools

110. This sub-component is designed to achieve the following outcome; strengthen the capacity of farmers (both men and women) for climate resilient and sustainable agriculture production through the adoption of environmentally sustainable and climate resilient technologies and practices by 4,800 people or 80% of those targeted. The expected output will be 6000 persons trained in improved crop and livestock production and in the management of climate-related risk. Of these, 2400 people trained will be women and 2400 will be young men and women. While the main modality of the training will be through FFS, where appropriate some of the practices will also be demonstrated through field visits, pilot demonstrations of adaptation practices and technologies, and the exposure to best practices on NRM and climate change adaptation from relevant experiences of other projects implemented in comparable context. The project will focus on a number of target value chains that have the most potential for growth and participation of smallholder farmers and that present good market potential. The key value chains will be decided in participation with the participating farmers and could include vegetable production, legumes, livestock, small ruminants and dairy. The project will also use the existing value chains studies for a better understanding of the constraints in the selected value chains.

111. Activities under this sub-component will include; (i) Capacity building of Government extension staff in improved farming, nutrition-sensitive and climate resilient crop and livestock production practices (FAO); (ii) identifying a lead farmer as the community extension agent to assist the FFS Facilitator (IP); (iii) Identification of participants and topics for FFS using a participatory methodology, logistical support and organization of the FFS (IP); (iv) inclusion of men and women through special efforts to ensure that the sessions are designed in a manner and choose topics that are of interest to women and youth; (v) designing of FFS modules with specialized TA on the selected topics together with specification of inputs required and the structure and number of sessions to be planned for each FFS (FAO); (vi) procurement of inputs required for FFS (FAO); (vii) conducting FFS over at least one crop cycle or around 10 sessions for livestock production (IP); (viii) regular supervision and field follow-ups to ensure quality of the sessions is maintained (FAO); (ix) monitoring and assessment of adoption rates and impact on productivity and production (FAO) and (x) regular reports and exit interviews to ensure beneficiary feedback and response (FAO).
112. Extension staff from the Ministry of Agriculture and Irrigation (MAI) are deployed at the Governorate and district level. These staff members are trained in crop and livestock production. However, due to the on-going conflict, the staff has been highly constrained with lack of financing for salaries and limited or no operational budgets. The split in the distribution of political power between a de-facto and de-jure Government has led to the fragmentation of the line departments and their reporting in some Governorates to the De-facto Government and to the De Jure Government in others. While the staff is in the field and some have good technical expertise, they have no operational budgets to undertake any field level activities and limited motivation due to the uncertain manner in which salaries are disbursed and the breakdown of the system of performance appraisal.
113. The FFS will be delivered by the Government Agriculture Extension Agents (AEA) who will be trained as FFS Facilitators by technical experts from FAO. The FFS Facilitators will be selected from the plant production and livestock extension specialists in the MAI deployed at the district level. The capacity of Extension Agents capacity in building farmer adaptation and resilience to climate change and increase production will be strengthened by updating their knowledge on available climate adaptation practices, improved technologies and agriculture inputs. It is expected that the capacity building plan for the district level AEA will enable them to sustainably conduct FFS at later stage to ensure subsequent follow up. Local knowledge will be used to incorporate adaptive species and varieties from the rich local bio-diverse environments. In addition, at the village level, lead farmers will be selected for assisting the FFS as community extension agents with field level activities and paid a small stipend to assist the IP in organizing the FFS.
114. It is expected that around 3 extensions agents will be selected from each of the 20 districts and provided with technical training and the most appropriate pedagogical methods for conducting FFS. Each Facilitator will conduct one FFS per season with an average participation of 20 participants per year. The FFS for women will be organized separately. In case there are any reservations about the male extension agents training women, the possibility for using the women Rural Development Officers and training them to conduct women FFS will be explored. Local women community extension agents will be trained to support the FFF Facilitator to organize women participants for the FFS. A small stipend will be paid to them.

115. The identification of farmers and implementation of the FFS will be undertaken by the IPs as outlined in the diagnostic process outlined above. The logistical arrangements and the venue for each will be determined in collaboration with the participating farmers. It is expected that each FFS will include around 20 farmers. The service providers will identify and organize 6,000 farmers for the FFS over the five year implementation period. Women are the mainstay of agriculture, accounting for more than 60% of crop labour and more than 90% of livestock labour. As such, separate sessions will be held for women farmers and at least 2400 women will be invited to participate in separate sessions for women. The duration, length and topics will be decided between the technical specialist of FAO, the extension agents of the Ministry of Agriculture and Irrigation (MAI) and the farmers.
116. The focus of the capacity building will be on both crops and livestock given that 48% of the households in the selected governorates are involved with livestock farming and 46% are involved with mixed farming systems involving both crops and livestock.³³ The main crops in the area are sorghum, millet, pulses, seasonal vegetables and the main type of livestock is poultry, small ruminants and cattle. Honey production in Yemen has been undertaken for a very long time with honey from the country reputed to be of high quality and highly prized. However, the selection of the topics for capacity building will be determined in close consultations with participating farmers including both men and women following the diagnostic process.
117. For men, the topics could include both crops and livestock including apiary. FAO will use its experience to promote nutrition sensitive and climate resilient technologies such as grow-bags, wicking beds, drought tolerant crops, diversification in production and water efficient practices from its experience in other arid environments. The use of climate resilient practices such as low cost-green-house technology, drip irrigation and other water efficient techniques will be demonstrated. For women, the focus is expected to be on small ruminants, poultry, kitchen gardening, etc. The timing of the sessions and the length and location for women will be agreed by the women participants to ensure that it enables them to balance their other household and child care responsibilities so as to impact household nutrition positively.
118. Special focus will be on organizing FFS for livestock for protecting livestock assets of poor households and ensuring their food and nutrition security through improving their capacity to increase small ruminants and poultry production through better husbandry and feeding practices, improved knowledge about animal health, feeding practices, improving animal nutrition through demonstration of appropriate technologies; provision and preparation and training on nutritional supplements particularly for poor small livestock owners; enhancing animal husbandry through provision of small equipment and tools and capacity building, including support to smallholder beekeepers for honey production and processing. The training will also emphasize on the need to prioritize family feeding, household animal source food preservation, even as they sell surplus food items. FAO will ensure the participation of potential service providers such as agricultural input suppliers, local private veterinary technicians and technical resource persons to the FFS sessions to enhance the contacts between farmers and the private sector.
119. The training will focus on enhancing agriculture productivity, seed multiplication, introduction of drought tolerant varieties, climate change adaptation and risk

³³ Emergency Food Security and Nutrition Assessment. Yemen. June 2017

management in farming and rangeland practices, introduction of water efficient practices and technologies, use of green-house technologies, livestock management and feed production, detection of animal disease symptoms and management, etc. The trainings will include land and water management to introduce more effective and climate resilient practices and technologies, more efficient irrigation techniques, introduction of climate adaptive practices, inputs and techniques and crop and livestock production practices to protect assets and increase productivity. Nutrition training will also be mainstreamed in the FFS trainings. An indicative list of topics is given below.

Table 3: Indicative Topics for FFS

FFS Main Topic	Priority Target	Main Objective	Main Climate Change Adaptation Benefit (CCAB)
Livestock production and feed management	small livestock producers	Enhance livestock productivity	Reduce in GHG emissions and adopt more adaptive practices.
Livestock disease detection and management	small livestock producers	Reduce livestock mortality and morbidity	Increase productivity, reduce numbers and reduce GHG emissions.
Livestock feeding and feed management.	small livestock producers	Enhance livestock productivity	Reduce in GHG emissions and adopt more adaptive practices.
Shift to drought tolerant sorghum varieties.	Rainfed sorghum producers.	Reduce water needs of plants and ensure higher resilience of crops to temperature and prolonged water deficit.	<p>Farmers will be able to cope with the increased evapotranspiration caused by increasing temperatures and water deficit. This will potentially allow for increased productivity per unit of water and more stable income for households.</p> <ul style="list-style-type: none"> • Improving soil water storage to maximize plant water • availability by maximizing infiltration of rainfall; • minimizing unproductive water losses (evaporation, deep percolation and surface run-off); • increasing soil water holding capacity; and maximizing root depth; • Application of conservation agriculture; • Use of supplemental irrigation from harvested rainwater in the critical stages of crop growth; • Modification of planting and harvesting dates <p>CCAB: Farmers will be able to cope with the increased evapotranspiration caused by increasing temperatures and water deficit. Farmers will be able to produce for more cycles, reduce the amount of inputs and water needed. This will allow for increased productivity per unit of water and more stable income for households.</p>
Water harvesting infrastructures (on farm contour bunds/gully plugs)	Rainfed crop producers (e.g. pulses and grains).	Increase water availability at the farm level and increase soil moisture at the roots level.	
Water harvesting infrastructures (on farm bunds)	Rainfed fruits producers	Increase water availability at the farm level and increase soil moisture.	
Conservation Agriculture (no/minimum tillage, crop rotation and restorative fallow practices)	Rainfed crop producers.	Increase soil moisture, reduce land erosion due to rain washing and enhance the soils physical properties.	
Adapting the crop calendar to changing temperature and rainfall patters: modification of planting and harvesting dates.	Rainfed crop producers (e.g. pulses and grains).	Reduce risks of water shortage and increase chances of water availability in the critical phases of growth of the plants.	
Protected and semi-protected cultivation' practices for home gardens and irrigated lands	All farmers with irrigation and households with home gardens.	Increase productivity per water unit and allow for higher production in limited space.	
Fertigation of crops	All farmers with irrigation and households		
Wicking beds	with home gardens	Increase productivity per water unit and allow for higher production in limited space, reduced risk of soil	

		contamination (chemical and biological).	
		of pesticides needed and reduce the risk of soil borne diseases.	
Agronomic and soil manipulation (seed priming, seedling age manipulation, increasing soil fertility, addition of organic matter, tillage and soil mulching, etc.).	All farmers with irrigation and households with home gardens	Increase productivity per water unit and allow for higher production in limited space, reduced risk of soil contamination (chemical and biological), reduce the level of pesticides needed and reduce the risk of soil borne diseases.	
Irrigation and cultivation with reclaimed water	All fodder producers	Shift from rainfed cereals to more appropriate fodder crops.	

Applied Research for Vulnerability Reduction

120. This sub-component will be supported by GEF and is designed to achieve the objective of improving research capacity and reducing climate vulnerability on farmer’s fields. This will be achieved by improving crop productivity in each agro-climatic zone through the testing of appropriate technologies, techniques and management practices aimed at improving climate change resilience and risk mitigation in each governorate based on their specific agro-ecological conditions and identified climate risks. This sub-component will also contribute towards improved government policy and will contribute towards the Nationally Determined Contributions (NDC) to the Paris Agreement to increase Yemen’s ability to adapt to the adverse impacts of climate change and foster climate resilience.
121. Building on the EU funded FAO project for strengthening improved seeds production capacities, 30 AREA researchers from the different agro-ecological zones will be given a 7-day training in two locations in the north and south of the project area. The training module will be supported by an initial climate vulnerability and research capacity assessment to be conducted by an international consultant that will also identify specific agro-ecological conditions and risks. The training will include the need for researchers to be farmer-focused, and how to test seed agro-climatic suitability, technologies and management practices that will enhance climate resilience and risk mitigation. Inter alia the training will also strengthen the research capacity in formulating research hypotheses, designing research methodologies and ability to write-up conclusions. Researchers will receive supporting guidance material that will complement their training course.
122. The research will last for 5 years and will be conducted on the FFS to enhance the focus on farmers needs and encourage the sharing of information. The programme will support research for the identification of rainfed crop alternatives at both the varietal and species level, by establishing and evaluating pilot demonstration plots of alternative crops established in the FFS. Priority research in crop improvement includes: i) identifying the response of existing improved and local varieties to differing agro-ecological and climatic stresses; ii) identifying new crop varieties tolerant to multiple stresses: drought, floods, heat, humidity, salinity, pests and diseases; ii) testing local and new crop species, resistant to harsh climatic conditions (especially drought and soil fertility), and with potential market or household benefit. Research trials could also include post-harvest loss management, testing alternative crops in qat production areas, development of non-conventional water resources for agricultural production, growing improved landraces under saline and re-used water,

improved farming practices for increased climate resilience, testing and genetic improvement of climate-change resilient/tolerant varieties. The programme support however, will remain flexible to incorporate additional relevant topics with focus on those which contribute to building climate resilience and adaptation.

123. Through the GEF-supported knowledge management activities, the Agriculture Research & Extension Authority (AREA) will also ensure knowledge sharing through the production of leaflets summarizing the findings and outcomes of the trials and the recommendations for its scaling up in all FFS on a yearly basis. At the end of the project an international consultant will be hired to produce a policy position paper based on the results of the 5 years' on-farm research. This paper will assess the RLDP research programme, draw conclusions and make policy recommendations that will complement the policy strengthening outputs produced by the FAO project for strengthening improved seeds production capacities. The paper will also be presented to the Environment Protection Agency (EPA) to raise awareness about the research being conducted and relevance towards the development of the NDCs

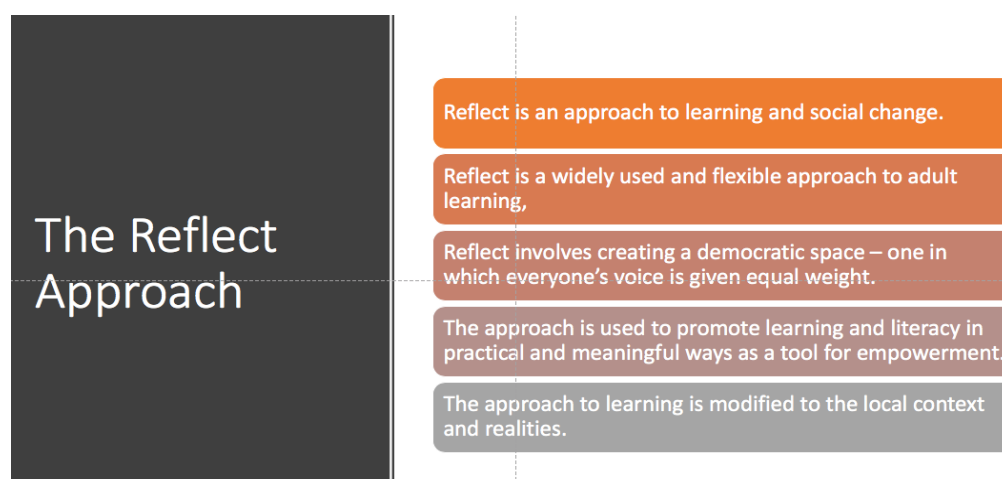
Sub-component 3.2: Food and Nutrition Security

Empowering Women and Youth through Adult Literacy

124. Gender-based discrimination is widespread in Yemen. There are strong patriarchal traditions and religious belief that have suppressed women in the country even long-before the conflict. Yemen has been deemed as the worst place for women, with a female literacy rate of 35 percent, a female to male income ratio of 30:100 and a global ranking of 134 in educational attainment for women. The rights of women in Yemen to education, marriage, health care are minimal, and they are denied many basic human rights ([Borgen Project-2013](#)). With the on-going conflict, there has been further deterioration of gender relations and the marginalization of women. There are reports of increasing marginalization of women as well as increasing gender-based violence (GBV) in the conflict, and fears that this will serve to further reinforce gender inequality in the country ([Care-Oxfam, 2016](#)).
125. This sub-component is designed with the objective to achieve some of the targets of Sustainable Target Goals (SDG) by assisting to eliminate gender disparities in education, providing opportunities to youth to achieve literacy and numeracy and ensuring that all learners acquire the knowledge and skills needed to promote sustainable development, gender equality, promotion of a culture of peace and non-violence (SDG 4) and women's full and effective participation and equal opportunities for leadership, giving women equal rights to economic resources, as well as access to ownership and control over productive resources (SDG 5). It is expected that the expected outcome will be 6,000 women and men will become more empowered as a result of their participation in the literacy sessions and the empowering vision and modules that will be especially designed for them. It is expected that the project will provide the literacy sessions for 6,000 people of whom 70% will be women and 80% will be youth. Each session will be for a nine-month period. The target group of this component will be women and men from the most vulnerable households and provide them targeted support to enhance their sense of self-worth, offer them protection and provide them support to enhance food and nutritional security for themselves and their families.
126. Literacy sessions will be used as an entry point to weave into the training, topics such as empowerment of women using gender action learning system (GALS) modules and techniques where appropriate. The literacy sessions will use the Reflect

approach which is designed to facilitate group learning for adults. In this approach, groups of adult learners, are convened to learn literacy, develop maps, calendars and matrices analysing different aspects of their own lives. These sessions will become the basis for a process of learning new words, gaining awareness of what causes underlying problems, and identifying action points and taking them forward. The sessions will also include topics such as nutrition, strategies for empowering women and protecting them from gender-based violence. Sessions on COVID-19 will be included to enhance awareness and safety measures against pandemics. This approach offers creative learning as a communicative means that gives them the strength for raising voices against the injustice and inequality that exists (Action Aid, 2000).

Figure 1: Reflect Approach



127. The literacy training will be complemented with training on gender issues and life skills, such as health and nutrition, preventative health and hygiene measures to explain the risks of infectious diseases and pandemics such as cholera corona viruses to limit the risk, confidence building, negotiation and leadership skills, and entrepreneurship training to support women’s self-employment. Natural Resource Management and awareness about climate risks and adaptation measures will be mainstreamed into the basic literacy courses. The impact of climate on vulnerable sectors such as water, agriculture, livestock and rangelands will be integrated into the literacy modules. While this component is designed primarily for women, it is expected that young women and men will both be included in these literacy classes to acquire empowerment skills.
128. One of the requirements in the selection of the IP identified in sub-component 1.1 will be experience in designing and implementing adult literacy courses using the Reflect methodology. The activities under this sub-component will include (i) adult literacy sessions with a range of sub-activities designed to support the sessions on adult literacy. The selected IP will be required to either have this experience directly or demonstrate that it has this expertise by having on its team a Reflect expert. The selected IP will be required to undertake the following tasks with respect to the literacy classes; (a) identification of 40 local teachers willing to serve in the project locations and signing of contracts with them as Community Reflect Facilitators (CRF); (b) development of a Reflect module for the young women and men in Yemen to

ensure the course designed is context specific and includes key topics; (c) training of 40 local teachers and training them to conduct literacy sessions using the Reflect approach; (d) Oversee the selection of the students for the classes to ensure the agreed criteria has been followed; (e) assist in developing the tools for monitoring student performance and reporting on it; (f) supervision of the Reflect teachers in the implementation of the literacy classes over the course of the project. (g) regular monitoring and feedback on course content, relevance and impact on participants. The terms of reference for the IP which will implement this component is attached at Annex 2 in PIM under component 1.1. The Terms of Reference of the Reflect Facilitators are given in Annex 2.

Enhancing Nutritional Security through Nutrition Sessions

129. The conflict in Yemen has led to an alarming deterioration in the food security and nutrition situation in the country leaving sixty percent of the population in food crisis or an emergency. One in three Yemeni households have poor food consumption reflecting a diet of extremely poor quality and quantity – mainly consisting of bread, sugar and oil. The Household Hunger Scale (HHS) has nearly tripled since 2014.³⁴ Those most affected by food insecurity include the rural population, the displaced, households headed by women or by illiterate household heads. Even before the conflict, Yemen had a long history of suffering from malnutrition. This situation has worsened with the deepening economic crisis. It is estimated that 1.8 to 2.8 million children are at risk of being pushed into acute food insecurity and many more children could fall into life-threatening severe acute malnutrition.³⁵ According to the Global Nutrition Report, the national prevalence of under-five stunting is 46.4%, which is significantly greater than the developing country average of 25% ([Global Nutrition Report, 2019](#)). Yemen's under-five wasting prevalence of 16.4% is also greater than the developing country average of 8.9. Furthermore, anemia in women (15-49 years) is at 69.6%.
130. According to the UN Nutrition cluster reports, between January to December 2019, there were 7.3 million persons in need of nutrition assistance. All the 5 governorates targeted by this project display Severe Acute Malnutrition (SAM), Moderate Acute Malnutrition (MAM) and Infant and Young Child Feeding (IYCF) programs running. Out of these 5 governorates, three (Lahej, Tiazz, and Al Hudaydah) have very high Global Acute Malnutrition (GAM) of 15% and above; while the remaining two- Al Dhala and Dhamar have high GAM rates of between 10-14.99%. The most common diseases associated with acute malnutrition are respiratory infections. Pneumonia and diarrheal diseases which account for approximately 27% of the mortality of children under five in Yemen.³⁶ The dangers of compromised immunity of children is even more acute with the current COVID-19 pandemic which attacks the body's respiratory system. Women in the project area appear not to have even the most basic understanding of how to protect their children given the fact that while it is generally known that there are lifelong benefits of exclusive breastfeeding including high immunity in children, reduced chances of stunting, good cognitive development among others, the rate of exclusive breastfeeding for the 0-5 months old children in

³⁴ Emergency Food Security and Nutrition Assessment. Yemen. June 2017

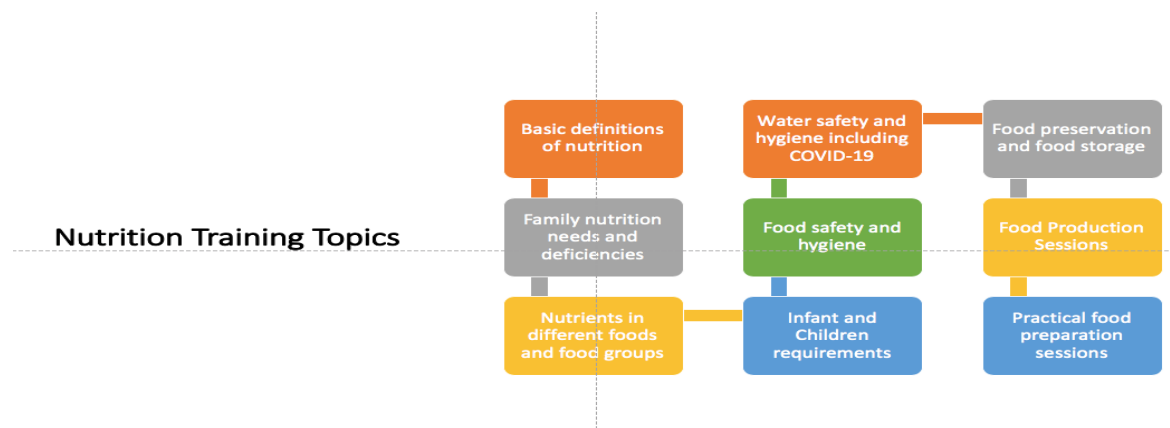
³⁵ Dureab, F. et al. An overview on Acute Malnutrition and Food Insecurity among Children during conflict in Yemen. 2019.

³⁶ Yemen Nutrition Cluster GAM Rate classification December 2019

Yemen is only 9.7%. This illustrates the heightened need to intervene in this area and protect the most vulnerable households in the target districts.

131. This sub-component outcome is improved quality of diets of at least 2400 vulnerable households or 60% of those mentored (1.2.8). The expected output is the provision of targeted support to 4000 households to improve their nutrition. The nutrition education sessions will be designed to enhance awareness about nutrition, change attitudes, behaviours and practises that would improve nutrition outcomes of target groups. The project will track the percentage of the targeted people who have improved knowledge, attitudes and practices of food, feeding, caring and hygiene. Sessions on COVID-19 will be included to enhance awareness and safety measures against pandemics. It is expected that at least 60% of the households targeted will have improved their knowledge, attitudes and practises (KAP) regarding food, feeding and hygiene. The nutrition activities will be implemented with 80 groups each year which will include 10 households per group. The first year will focus on the preparatory activities with field activities starting from year 2. Each year 800 households will participate in the group.
132. The main target of this intervention will be mothers and female head of the households. The criteria for selection of households will include the following; (i) Households that are food insecure and nutritionally vulnerable and have at least one child under the age of five years; (ii) Household with children under five years who are in nutrition therapeutic programs/ being released from feeding centres (iii) Households with a malnourished mother; (iv) Women-headed households and iv) vulnerable households with pregnant and lactating women. The selection of the households will be undertaken jointly with the community elders and key resource persons and the IP and the FAO Nutrition Specialist. During implementation, additional households who may have been left out in the initial selection may also be included by the Community Nutrition Facilitators based on the original criteria.
133. The nutrition training will focus on the day-to-day household activities that are a natural entry points for improving nutrition metrics of the household. Emphasis will be placed on the practical aspects of food preparation, food hygiene, infant feeding, water safety, food storage and preservation among other sessions. Furthermore, there will also be focus on sustainable household food security and how families can increase food availability, accessibility and sustenance even during dry seasons. For the nutrition facilitators, the key nutrition topics to be covered are similar to those of community level. Besides, facilitation skills, communication skills, gender sensitivity and inclusion, among others will be added in their training. There are already existing key nutrition messages for the different topics produced by several organisations and these will be adopted to the context. This will also be shared with the Agriculture and Food Security cluster and the Nutrition cluster before use. In developing the training, the nutrition specialists will consult some key resources including the following FAO Website ([FAO, 2020](#)), UNICEF website ([UNICEF, 2017](#)) (nutrition page) and the IFAD website ([IFAD, 2020](#)).

Figure 2: Nutrition Training Topics



134. The project will also provide support for improved family nutrition through providing inputs for; (a) Increasing production of vegetables through kitchen gardens; (b) Increased production and consumption of protein rich foods through provision of dairy goats, poultry, small ruminant production, etc; (c) Support for food processing and preservation through simple equipment like community solar driers, boilers, steamers, stoves, bottling and packaging equipment, sterilizers, air-tight containers, etc; (d) collaborate with the water infrastructure team, to provide portable water for household use and water for kitchen garden irrigation. The specific packages that will be provided will include the following;

- *Kitchen gardens*: The project will set up kitchen gardens for participating households. A small toolkit will be provided with training through an FFS Facilitator for production of nutrient rich vegetables. The kitchen gardens will be linked with the water infrastructure activities to ensure access to water for growing vegetables.
- *Poultry production*: Poultry package of layers will be provided to provide a source of eggs and meat. Where required technical support in poultry production will be provided through an FFS Facilitators from the MAI's livestock extension department.
- *Dairy production*: A dairy goat will be provided to the targeted households with training in animal feed making use of farm residue or those with access to rangelands. This will provide a source of milk to the vulnerable household;
- *Food processing*: Food processing equipment will be provided to some households with training in food processing and preparation to preserve and retain the nutrient content of the food and maintain its shelf life. This may include food processors, cookers, solar driers, steamers, etc.

135. One of the tasks of the selected IP identified in sub-component 2.1 would be the implementation of nutrition interventions with poor households. In order to strengthen the capacity of the IP, FAO will provide the technical assistance through its Nutrition expert in Sana'a and by placing a full-time national nutrition expert in the project area. These specialists will provide technical support and supervision in the implementation of the nutrition component. The field level activities will be implemented by an IP (Annex 2). The Nutrition Specialists will work closely with the IP in identifying the criteria and qualifications for field level Community Nutrition Facilitators (CNF) who would undertake the implementation of the work on the ground at the household level. FAO's International and national Nutrition Specialists would design a training module for the training of the CNF and the modules which

the CNF's will implement at the household level with logistical support from the IPs. The Nutrition Specialists will ensure that the activities and approach chosen are relevant and appropriate with the potential for impact on the nutritional status of the selected households. The Nutrition specialists would design a programme of support and awareness raising based on the local context and conduct field visits to periodically monitor the sessions it and train the IP in monitoring it on the ground. The Nutrition Specialists will also be required to identify appropriate monitoring indicators and design tools and train the Nutrition specialists in tracking nutritional status over time. The terms of reference of the nutrition specialists and the CNF are given in Annex 2.

Figure 3: Structure for implementation of RLDP Nutrition Activities



136. Each Community Nutrition Facilitator will track 20 households (2 groups) concurrently and visit them for at least a year regularly (possibly, each month) and thereafter check on them periodically (possibly quarterly). Special monitoring tools will be given to them to assess the baseline nutritional status of the household and any changes in it over time. A KAP Survey tool, which is one of IFADs core instruments will be used. The CNFs will be trained in holding regular and practical nutrition education sessions for the target groups. The facilitator will assist in

teaching the household about nutrition, about the nutritional value of local foods, techniques to preserve nutritional content of the food consumed, preparation of nutritious meals for the family members, infant feeding and care, food safety, water quality and importance of safe water consumption. Each group will be actively supported for the first six months, and thereafter, home visits and monitoring will continue in order to take note of the nutrition progress for the following six months, and periodical visits for the rest of the project period and any challenges faced. The Terms of reference of the Community Nutrition Facilitators are outlined in Annex 2.

137. The selected IP will be required to undertake the following tasks with respect to the nutrition sub-component; (a) identify and recruit 40 local women nutrition facilitators; (b) identify together with the NF and the community households that will be targeted under the sub-component; (c) prepare a work plan for the NF to implement ensuring that all required inputs and training materials are available at the venue; (iv) assist the NF develop a methodology to ensure that all participating households are aware of the plan and are present at the venue; (d) Use ICT4D to help the group communicate with each other and be informed of any changes; (e) assist in developing the tools for monitoring household behavior and reporting on any changes; (f) supervision of the NF in the implementation of the sessions (g) regular monitoring and feedback on course content, relevance and impact on participants. The terms of reference of the IP which will implement this component are attached at Annex 2.

Sub-Component 3.3: Livelihood Resilience and Value Addition

138. This sub-component is designed to help vulnerable households recover their livelihoods through providing them livelihood support packages and by helping them add value to their current production in order to make their livelihoods more resilient. The expected outcome will be increased production for 1200 households or 80% of those targeted (1.2.4). The specific outputs under this sub-component will include the (i) provision of technical assistance to 1500 households on determining the economic and technical feasibility of the proposed investment; (ii) livelihood packages to 1500 households and (iii) post-harvest processing and marketing support to 500 households. The sub-component will target 40% women and 40% youth under this sub-component. The project will provide livelihood packages to 675 women and matching grants for processing and marketing activities to 225 women and 600 youth in each category. The selection of households for these activities will be undertaken based on well-established criteria which has been established by FAO and elaborated in the targeting criteria for the current project. The criteria include vulnerability, sources and level of income, land and livestock ownership pattern, household dependency ratio, willingness and commitment to participate in the proposed activity, etc. FAO will further refine these criteria based on their well-established model of providing livelihood packages.
139. Eligible activities would include (i) Provision of agriculture livelihood support kits to restore crop production and generate income and (ii) Increasing value-added of key agricultural products through provision of equipment and inputs as well as technical and business training for improving processing, packaging and marketing, etc. An indicative list of packages that can be provided is given in the table below. This includes poultry, small-ruminants with animal feed, low cost-green-houses, bee-keeping, milk processing, post-harvest and marketing, etc. However, this is not an exhaustive list and other packages can be added based on beneficiary assessment

and technical feasibility of some of the other types of support that can assist them in strengthening their livelihoods.

Table 4: Indicative List of Packages

No.	Type of Package	Contents of the package	Estimated Cost (USD)
Package 1	Cash Plus	- 10 Layer chickens. - Poultry feed 90Kg.	145
Package 2	Kitchen Garden Kits with plastic materials	Seeds, tools, watering cans and pipes.	300
Package 3	Poultry Package	- 10 Layer chickens. - Poultry feed 90Kg. - Coop (1 cage, 1 drinker, 1 feeder, 1 egg-nest, 1 set of egg trays)	275
Package 4	Restocking Package	- 5 live animals (sheep/Goats). - 200 kg of animal feed concentrate. - 3 pcs of feed blocks (8kg each). - 2 pcs of mineral blocks (5kg each).	775
Package 5	Animal feed Package 1	- 200 kg of animal feed concentrate. - 2 pcs of mineral blocks (5kg each).	175
Package 6	Beehives Package	- 5 beehives. -Honey extractor. - 1 set of honey production kit (sugarcan, pollen, 1 set of jars, etc.	800
Package 7	Food processing package	Sterilizing equipment, bottles, weighing scale, preservation inputs, sealer, first time basic materials and inputs.	500
Package 8	Milk producers Package	- 2 Can 5L, 1 Can 10 L, 1 Can 20 L. - 1 Funnel with two filters.-1 Bucket 15L. 1 Iodine bottle 1L., 1 Squeeze bottle and 1 thermometer and 2 Towels.	200

140. This component will be implemented by FAO through its Agriculture and Rural Development Unit. The Unit has been providing support for livelihoods and grants for processing to vulnerable households. FAO will use Implementing Partners who will be responsible for identifying beneficiaries and screening them to receive support by assessing the technical and economic viability of their proposals and assisting the households in ensuring the success of their enterprises by providing them technical assistance. FAO's technical assistance in the field will also be used to help refine the technical and economic parameters that ensure success of the selected enterprises. FAO will be responsible for establishing local level procurement systems to ensure that recipient households are satisfied with the quality of the inputs receive. FO will be responsible for implementing and supervising the implementation of this sub-component. This sub-component will be implemented during the first three years.

3.6 Component 4: Project Management

141. This component will finance the incremental cost of project management and operations as well as the financial management, procurement, monitoring and evaluation of project activities. The overhead costs of FAO and the operational costs of SFD will be paid from the funds allocated under this component. The technical specialists will be procured using this allocation as well as undertaking all the surveys and reports required to meet the monitoring, evaluation and knowledge management aspects of the project. The training of front line implementers in highlighting and making IFAD's presence visible in Yemen with respect to all capacity building and infrastructure investments will be organized under this component.

4 Institutional framework and project management

4.1 Alignment and ownership

4.1.1 Alignment with national policy and strategic frameworks

Intended Nationally Determined Contribution (2015)

142. Yemen's Intended Nationally Determined Contribution (INDC) document has been prepared in accordance with Lima call for climate action which drawn upon available national climate change reports and studies including the Second National Communication (SNC 2013), National Adaptation Programme of Action (NAPA 2009), and other thematic technical assessments. This document was drafted through a participatory process which involved key relevant stakeholders and technical agencies and consulted key national and sectorial documents including the National Strategy for Renewable Energy and Energy Efficiency and the National Water Sector Strategy and Investment Program (NWSSIP-2009). RLDP is well aligned with the INDC in terms of promotion and scale-up of rainwater harvesting to reduce climate induced water shortage; promoting agriculture drought management as well as sustainable crop and livestock management; implementing proper land resources management programs; and capacity building and awareness raising of communities.

Third National Communication to the UNFCCC (2018)

143. The Third National Communication under the United Nations Framework Convention on Climate Change (TNC) describes the national circumstances, the greenhouse gas inventory and climate change vulnerability context. It also provides adaptation policies to the future impacts of climate change on its vulnerable populations, economic sectors, and natural systems as well as mitigation measures to decrease greenhouse gas emissions. RLDP is well aligned with the TNC in terms of improving water irrigation efficiency and reducing water losses; alternative cropping schemes such as drought resistant crops, crop diversification and crop rotation patterns; soil conservation measures and protection from soil erosion; diversifying livelihoods and promoting opportunities for off-farm income; and building local capacities for farmers to deal with climate risks and use improved technologies in farming.

National Adaptation Programme of Action (2009)

144. Yemen's National Adaptation Programme of Action (NAPA) was developed in 2009. The NAPA identifies priority activities that respond to Yemen's urgent and immediate needs with regard to adaptation to climate change - those needs for which further delay could increase vulnerability or lead to increased costs at a later stage. RLDP is well aligned with the NAPA in terms of water conservation through irrigation saving techniques; raising awareness of communities on climate change adaptation; rainwater harvesting through various techniques including traditional methods; rehabilitation and maintenance of mountainous terraces; and promotion research on drought resistant, heat resistant and salinity tolerant crops.

Transitional Program for Stabilisation and Development (2012-2014)

145. The Transitional Program for Stabilisation and Development (TPSD) was formulated following the escalation of violence in the country during 2011 to set out priority interventions in the economic, social and environmental sectors. RLDP aligns with the TPSD in terms of encouraging water conservation in agriculture by using modern irrigation methods and water harvesting; substantial investment in water

conservation and the environmentally expanding of rural water supply; strengthening the role of women in managing water resources and protecting the environment; and enhancing food security.

National Food Security Strategy (2011)

146. The National Food Security Strategy (NFSS) was developed in 2011 in response to food, fuel and financial crises that affected the country's economy. It aimed at cutting food insecurity by one third by 2015, making 90% of the population food secure by 2020 and reduce child nutrition by 1 point per year. RLDP aligns with the NFSS in terms creating jobs and income-generating activities in rural areas; managing environmental impacts on water resources; promoting water-use efficiency; improving nutritional education covering dietary diversity and micronutrient malnutrition; and developing women's educational attainment, economic participation and health status.

National Water Sector Strategy and Investment Program (2005-2009)

147. Following reorganization of the water sector in 2003, the Ministry of Water and Environment then initiated a multi-stakeholder process of preparing a consolidated strategy, action plan and investment program for the water sector as a whole – the National Water Sector Strategy and Investment Program (NWSSIP). The NWSSIP addressed challenges in the four sub-sectors namely water resources management; urban water supply and sanitation; rural water supply and sanitation; irrigation; and environmental and social aspects of water management. RLDP aligns with the NWSSIP in terms of adopting a bottom up and community-led approach; enhancing domestic water supply in rural areas; increasing water-use efficiency by farmers; enhancing the role of communities in water resources management; integrating environmental aspects into community-led water resources management; and diversifying incomes of rural communities to eradicate poverty.

Social Fund for Development's Crisis Response Plan II (2018-2020)

148. Social Fund for Development (SFD) was established in 1997 as an implementing partner for international donors, government and beneficiaries to work with in responding to Yemen's chronic and emergency needs. SFD's response contains three programs namely social safety net, community and local development and small and micro enterprise (SME) development. RLDP is aligned with SFD's CRP II in terms of increasing income-generation and supporting livelihoods in rural areas; supporting SMEs and creating youth employment among rural communities; supporting community-based initiatives for self-help and building resilience; focusing on women empowerment and nutrition-oriented interventions; constructing rainwater harvesting facilities; introducing drought-resistant varieties as an adaptation to climate change; and supporting the livestock sector.

4.1.2 Alignment to IFAD strategic objectives

149. In line with the CSN Strategic Objectives approved in 2019, the programme will contribute to IFAD's overall strategic goal at the corporate level to "reduce poverty and enhance food security through remunerative, sustainable and resilient livelihoods". It will also contribute to IFAD 11 commitment by supporting gender mainstreaming, youth mainstreaming, climate focused, and nutrition sensitive interventions.
150. The project is closely aligned with several SDG Goals such as reducing poverty and building the resilience of the poor and reducing their exposure to climate related

extreme events (SDG 1.2 and 1.5) and ending hunger, malnutrition, increasing agriculture productivity and opportunities for value addition (SDG 2.1, 2.2 and 2.3). This sub-component is designed with the objective to achieve some of the targets of Sustainable Target Goals (SDG) by assisting to eliminate gender disparities in education (SDG 4) and contribute to achieving women's full and effective participation and equal opportunities for leadership, giving women equal rights to economic resources, as well as access to ownership and control over productive resources (SDG 5). The project is aligned to strengthening the resilience and adaptive capacity to climate related hazards and build institutional capacity on climate change adaptation (SDG 13).

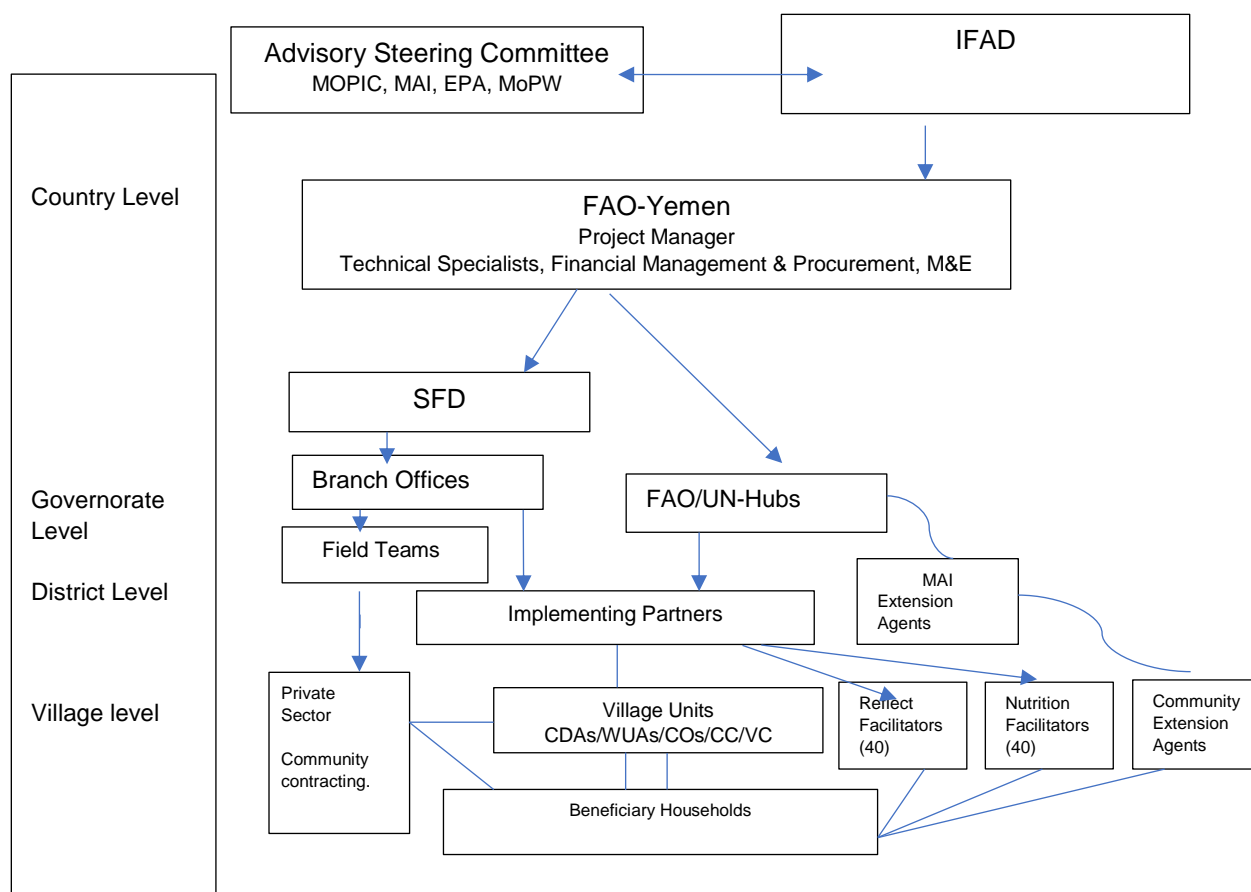
4.2 Project implementation arrangements

4.2.1 Overview

151. The implementation arrangements for the Project are based on a hybrid approach given the unusual political situation in the country. In the context of Yemen, IFAD will diverge from its normal implementation approach in which projects are implemented directly by Government. IFAD will execute a contract with FAO in two stages to enable it to accommodate the realities on the ground. The first contract will be for a period of three years and in case there is any change in the situation on the ground which enables IFAD to establish direct presence on the ground and enables the de Jure Government to implement the project directly, the normal IFAD design approach will be re-established to allow Government to assume a more direct role in implementation. In case, there is little progress on the ground, IFAD's contract will be extended for another two years until project completion. In any case, IFAD will keep internationally recognized Government involved in an advisory and facilitative capacity but will use implementing agencies on the ground who have proved their capacity to effectively negotiate between different political Governments in the country and implement projects effectively on the ground. The fact that the public administrative structure is in place at the field level regardless of the political control of the area at higher levels greatly supports this approach. The main implementing partners (FAO and SFD) and the local implementing NGOs all have experience and capacity to work on the ground regardless of the political reality of which Government controls a particular area.
152. The project governance, implementation and supervision arrangements were designed keeping in mind the fragile position of the Government, the dynamic and evolving security situation, the unusual situation of the Central Bank and lack of IFAD field presence. Thus, the standard project management structure had to be reconsidered as it was deemed not fit for purpose. The RLDP implementation arrangements took into account the need to select agencies with a strong performance orientation and country presence, ability to navigate competing authorities on the ground, demonstrated technical capacity for implementation, sound systems for financial management and procurement, clear lines of accountability and responsibility, encourage the use of Government line agencies to build capacity, capitalize on the presence of local implementing partners that can ensure community-mobilization and build the capacity of community based organizations for operation and maintenance. At the same time, it was important to keep the national Government involved and informed of project performance despite its tenuous position.

153. RLDP will be implemented by FAO through the application of the Financial Management Framework Agreement (FMFA). FAO will be the lead implementing agency and will be responsible for overall project performance. FAO will sign a subsidiary agreement with SFD for implementation of specific project components such as 1.1 and component 3. FAO will also engage local implementing partners for community mobilization and providing local logistical, implementation and follow up support. The terms of reference of the implementing partners are detailed at the end of the PIM.

Figure 1: Project Structure and Organogram



4.2.2 Advisory Steering Committee

154. An Advisory Steering Committee (ASC) will be formed at the country level which will be chaired by the Ministry of Planning and International Cooperation (MoPIC). Its members will include the Ministry of Agriculture and Irrigation, the Environmental Protection Council and the Ministry of Public Works. Other members can be seconded as and when required. IFAD will be a member of the ASC. The ASC will be kept informed of project performance through an annual meeting that will be organized on a remote basis. As key implementing agencies, FAO and SFD will be invited to present the project progress to the ASC on an annual basis, identify key challenges and future plans. The ASC's main task will be to facilitate implementation where possible and guide the implementing agencies and suggest potential linkages to enhance synergy and increase impact. The Third Party Monitoring agents recruited to undertake the annual supervision of the project will also be expected to share their report with the ASC and seek their guidance to improve performance. The Ministry of Planning and International Cooperation will attend the meetings of the ASC and provide overall guidance in the supervision, monitoring and evaluation of the project.
155. The FAO team in the office in Sana'a will be in charge of the day-to-day management of the project, including overall planning, implementation, procurement and financial management, safeguards, monitoring and reporting. The Project Team in Sana'a will comprise a full time dedicated Project Manager; Nutrition Specialist; Environment, Social and Climate Specialist; Procurement; M&E specialist; Finance Officer. A number of international and national specialists, including livestock, crop production, farmers field school, climate change resilience, water productivity, nutrition, adult literacy will be hired to provide support to project activities. At the regional level, implementation will be supported by the FAO regional hubs. The hub in Aden will coordinate activities in Lahj and partially in Taiz. The hub in Hodeidah will provide support for activities in Al-Hodeidah. The regional hub in Ibb will support implementation in part of Taiz not covered by Aden office. Project activities will be backstopped technically and operationally by the multidisciplinary team of experts at FAO Regional Office for the Near East and North Africa (RNE) in Cairo.
156. On the SFD side, the Water and Environment Unit in the central office in Sana'a will provide overall support while the branch offices will provide support and coordination for the project activities in Lahj and branch offices in Taiz, and Al-Hodeidah will provide support and coordination in their own governorates. Staff in the branch offices include branch manager, procurement officer, financial management (FM) officer, technical officer for the quality supervision, M&E, Information Technologies (IT) which are involved in the day-to-day activities. SFD has a system of retaining technical specialists on the ground and uses them for specific technical tasks such as infrastructure design, implementation, monitoring, training, etc. These specialists will be used by SFD when required.
157. FAO will take the lead in training local Agriculture Extension Agents for both crop and livestock production activities, organizing the FFS, sourcing production inputs for the FFS and livelihood packages (staple seeds, agricultural tools, startup packages for backyard poultry, small ruminants, apiculture and equipment for post-harvest and processing) to assist vulnerable households resume crop and livestock production. FAO will engage an Implementing agency for field level logistical support as well as through community extension agents (20).

158. The implementation of the Adult-Literacy sessions using the Reflect Approach will be outsourced to a qualified implementing partner who will be supported in the field by Reflect Teachers (40). FAO will recruit the Implementing Partner for the purpose and supervise and monitor their work through the Project Manager. The Nutrition sub-component will be implemented by FAO with the technical guidance and backstopping of the FAO Nutrition Specialist in Sana'a. FAO will also engage a full-time national nutrition expert to support implementation. At the village level the logistical support and follow-up will be undertaken through an Implementing Partner supported by Community Nutrition Facilitators (40) on the ground.
159. The research under the project will be conducted by the Agriculture Research Extension Authority (AREA) of the Ministry of Agriculture and Irrigation (MAI) and will be coordinated by the RLDP Environment, Social and Climate Specialist based at FAO. The Specialist will work closely with the FAO staff for the strengthening improved seeds production capacities project as well as with MAI / AREA. He / she will recruit an international consultant to conduct a strengths and weaknesses assessment of the AREA research capacity. Based on the results of the assessment a training programme will be designed and a trainer trained. The 30 researchers that will be trained in the RPLP 'Applied Research for Vulnerability Reduction' activity will be sourced from the research centers within the RLDP selected project districts and will be given allowances paid for by GEF for their transportation, accommodation and food requirements throughout the 7-day training programme.
160. The research will take place in the project's Farmer Field Schools nearest to the AREA research centers and the researchers will be provided allowances for transport, accommodation and food for 4-5 trips per season. The Specialist will oversee the training programme, monitor progress and the quality of the research being conducted. The Specialist will also ensure that research outputs in climate-adaptive techniques are being mainstreamed into the FFS training programmes and used in the GEF-funded knowledge management outputs. Upon completion the Specialist will recruit an international specialist to review the research outputs and produce a position paper to the MIA for future policy development in how to adapt agriculture to climate change based on the project findings.

4.3 Partnerships

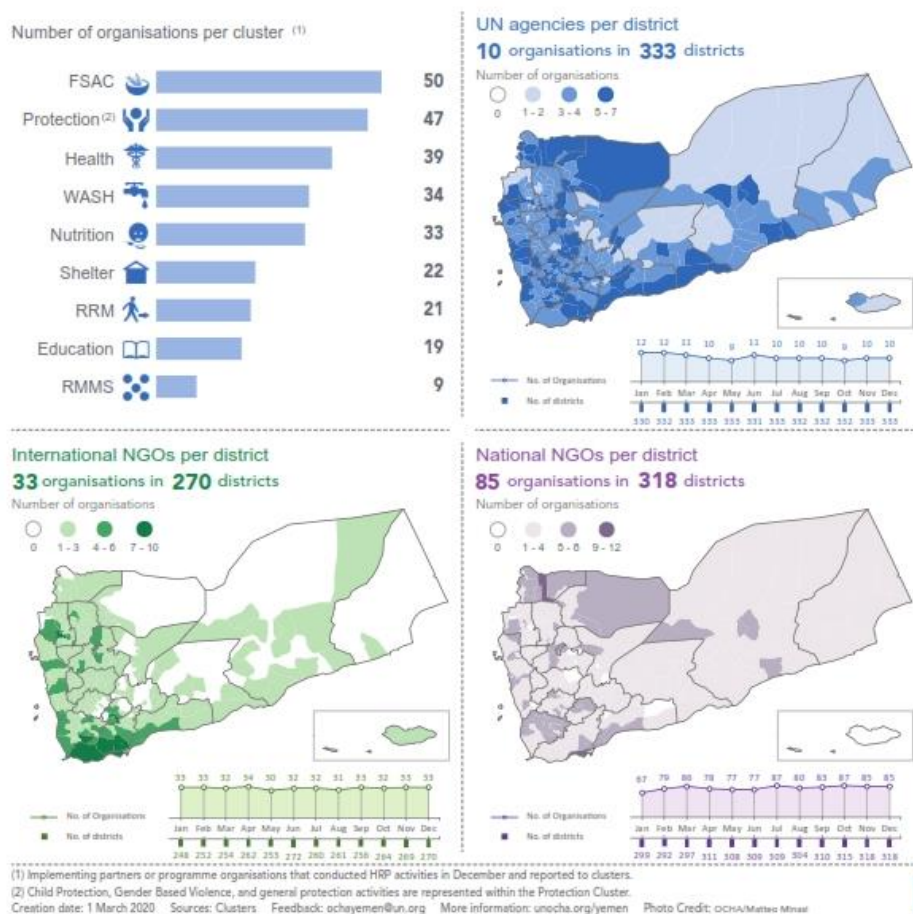
4.3.1 Strategic partnerships

161. **Synergies and partnership with other development partners and projects:** IFAD expects to work closely and collaborate with the humanitarian and development agencies, which have continued their support to Yemen despite the on-going conflict with positive results. IFAD will use the opportunity to abide by its commitment to forge strategic and complementary partnerships with the Rome-based agencies (RBAs). IFAD will work closely with FAO and WFP who have active presence in all the governorates in Yemen to build synergies and exchange learnings as well as to strategically plan for development activities in a way to complement the works by building on the strong nexus between humanitarian and development support, and focus on a well-structured graduation path from aid support to self-reliance. The project will be implemented by FAO as the lead implementing agency. The project will build on FAO's presence on the ground to increase crop and livestock production supported by the UN hubs at the governorate level. IFAD will also work closely with the World Bank in the areas of programming including knowledge management, and

policy advocacy on the wide range of issues to influence the government decision making to lead policy change towards sustainable rural development.

162. The potential for further partnership with other UN, international, and national NGOs in Yemen is very high. As presented in the below map provided by OCHA there are 10 UN agencies working in Yemen in all of the 333 districts, 33 international agencies working in 270 districts, and 85 national NGOs working in 318 districts. For the specific purposes of RLDP there are 50 organisations working in FSAC (Food Security and Agricultural Sector), 34 working in WASH (Water, sanitation and hygiene), 33 in Nutrition, and 19 in Education.

Figure 1: Organisations Monthly Presence 3W (December 2019)



Source: OCHA, Yemen: Organisations Monthly Presence 3W (December 2019). Link: <https://reliefweb.int/report/yemen/yemen-organisations-monthly-presence-3w-december-2019-enar>

4.3.2 Implementing partners and service providers

163. **Implementing partners (IPs):** United Nations system organizations use various terms and definitions of IPs depending on their business models and type of intervention. However, since FAO has been selected as the third party implementing agency for RLDP, its definition of IPs will be considered. According to FAO’s definition, IPs are entities responsible to the executing partner for the quality, timeliness and effectiveness of the services that it provides and the activities it carries out as part of the programme/project implementation, as well as for the use of funds provided to it for the procurement and delivery of the programme/project inputs and their conversion into outputs³⁷.
164. The current implementation model for most UN and international development agencies in Yemen, including FAO, is heavily dependent on IPs. This is due to the fact that the sporadic security and political situation in the country makes it very difficult for any single organization to reach all targeted areas for a given project. Accordingly, most international development organization operating in Yemen have to use different IPs to implement the different components of a given project. Such IPs include national and international NGOs, CDAs, WUAs, COs, CCs, and VCs.

³⁷ FAO, Review of the management of implementing partners in United Nations system organizations (JIU/REP/2013/4), June 2016, Link: <http://www.fao.org/3/a-mq270e.pdf>

165. **Service providers:** RLDP takes into consideration the ever changing and sporadic security situation in Yemen. It should be expected that at certain points in time direct IFAD supervision missions will not be possible. For this same reason many UN and international development agencies in the country often opt to use TMP supervision to minimize the security risks of their own staff. In line with this approach, RLDP field monitoring activities will be implemented by the TPM contractor based on the Technical Specifications (Annex 2) as agreed by IFAD and FAO.

4.4 Planning and Budget Development

166. **Logical Framework.** The format for the annual supervision reports includes an appendix for revision of the Logical Framework. The log frame format should be aligned with the ORMS. Proposals for revision (if needed) are prepared by the PMU (through its M&E specialist) and reviewed and processed by the annual Supervision Missions. The log frame will be updated constantly, discussed and adequately analysed with project staff especially components managers. The IFAD/TPM supervision missions is in charge of reviewing and validating progress and data reported in the log frame.
167. **Annual Work Plan and Budget (AWPB).** A consolidated Annual Work Plan and Budget (AWP&B) will be prepared by FAO the lead implementing agency. The AWP&B will incorporate the activities to be undertaken by SFD as well. The process for preparing the AWP&B will be initiated at the village units and consolidated into district level and Governorate level with FAO hubs, SFD branch offices and the Implementing Partners in the field outlining the agreed actions with the targeted communities. SFD and FAO will take responsibility for preparing the plans for the sub-components they are managing. The lessons from the field will be incorporated in subsequent stages of planning and implementation. The AWP&B will be submitted to IFAD for its No Objection at least 60 days prior to the start of the relevant implementation year.
168. **Procurement Plans.** An initial 18-month Procurement Plan will be prepared by both FAO and SFD using the template provided by IFAD. Each party will prepare the plan for its component(s) and FAO will have the responsibility of consolidating the plan before its submission to IFAD as part of a complete AWPB. The community participation activities will be included in the PP under a separate dedicated sheet. For the subsequent periods, 12-month procurement plans need to be prepared following the same arrangements.

4.5 Financial Management

169. The financial part of the Project Implementation Manual (PIM) provides guidelines for the financial management aspects of the IFAD and GEF funded interventions under the Rural Livelihoods Development Project in Yemen. The PIM is an annex of the Project Design Report (PDR) and thus processes and procedures presented in this document are to be read in conjunction with the relevant sections of the main PDR. The PIM is a living document and will be refined and modified during implementation.

4.5.1 Financial Responsibilities of Parties to the project

170. The parties to the project are the Government of Yemen, IFAD and GEF designated as funders, and FAO as lead implementing agency and supervisor, and they all bear specific responsibility in project execution. They will be held accountable for the achievement of project objectives within the framework of the law, prevailing

constraints, and limits of authority and by embracing the best principles of public expenditure management.

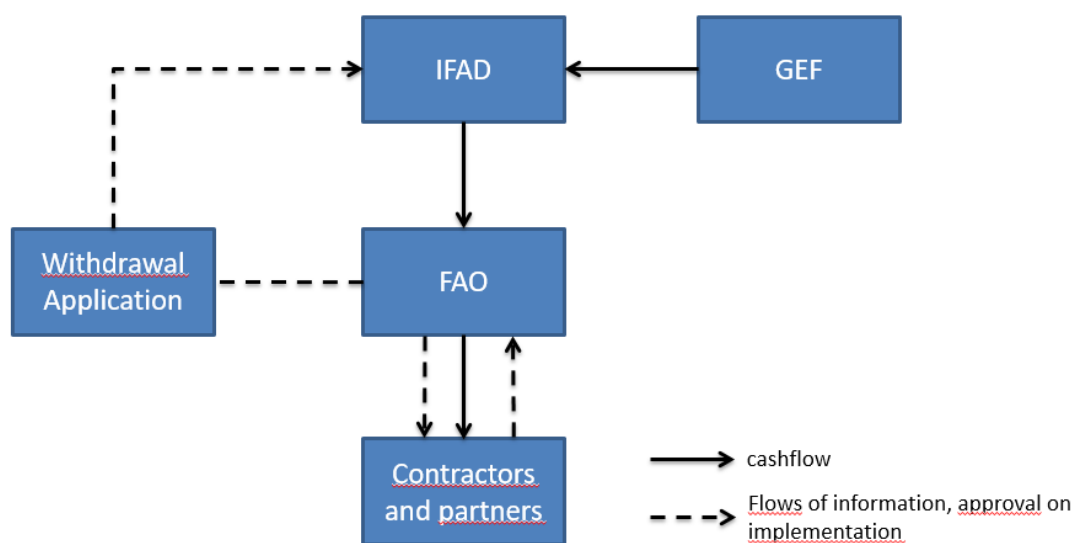
4.5.2 Financial management organization and staffing

171. RLDP will be implemented by FAO through the application of the Financial Agreement signed with IFAD. FAO will not establish a special unit for the implementation of the project but will use its existing staff to implement project activities. Indeed, RLDP will be implemented directly by staff and consultants of FAO Representation in Yemen, and through contracting with implementation partners. The staff will not be full time dedicated for the project, but they will be in charge of the implementation of other projects executed by FAO and working on the RLDP as part time staff. SFD will be the FAO main implementation partner, in particular for implementing the infrastructure part (component 2).
172. **Budgeting.** Before the end of each fiscal year, all the key staff at regional and central levels participate to the preparation process of the Annual Work Plan and Budget (AWPB) for the following year, including all its activities from the grants and government contribution and submit it to the Head of the Agriculture and Rural Development Unit in Sana'a at FAO for examination and approval, then submitted to IFAD for its No Objection no later than 60 days before the beginning of the relevant Project year.
173. **Accounting systems.** FAO will maintain a financial management system, including records and accounts, adequate to reflect the transactions related to the activities, in accordance with the requirements of the FAO financial regulations and rules and maintain separate accounts in their books to record the financial transactions of the project.
174. **Financial reporting.** SFD will prepare and submit to FAO, on quarterly basis, financial reports related to component 1 of the project. The reports include a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB, and the contributions in-kind. SFD will submit the quarterly report to FAO no later than 20 days after the end of each quarter.
175. FAO will prepare, on quarterly basis, interim unaudited financial reports (IFRs) for the whole project, in accordance with the format acceptable to IFAD, and template will be available within the Project Implementation Manual. The IFRs will be submitted to IFAD no later than 45 days after the end of each quarter. It is expected that the financial reports will provide information to management, financiers and related parties to facilitate decision-making processes. The IFRs should reflect all project activities, financing, and expenditures, including a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB and counterpart funds in cash or in the form of tax exemption. They should also include an estimation of the beneficiaries' contribution in kind and all other co-financing.

4.5.3 Disbursement procedures

176. Flow of funds and disbursement arrangements are designed to be simplified to ensure timely availability of funds to implement the proposed project. Disbursement to FAO shall be made on the basis of advance of funds method. The FAO is required to prepare and submit AWPB in accordance with the format and periodicity agreed with the IFAD. The grants proceeds will be transferred into the FAO bank account

based on withdrawal application submitted to IFAD. FAO Yemen Office has bank accounts in commercial bank in Yemen both in US dollars and Yemeni rial. The first advance will cover projected expenditures for the activities for the first six months of the AWPB. Subsequently, for each new advance, FAO will need to justify 75% of cumulated advance received, up to the project's achievement, reconciling against amounts previously withdrawn against the grants amounts. The funds related to the implementing of component 2 will be transferred to SFD by FAO on the basis of the progress of the execution of the activities implemented under the responsibility of SFD. Documentation of the expenditures listed above will be maintained, under FAO responsibility, and will be made available for review by IFAD/TPM supervision missions and by FAO auditors.



4.6 Procurement Procedures and Management

177. **Procurement:** The procurement of goods, works and services to be financed from the proceeds of IFAD's financing would be in accordance with the FAO Procurement procedures and guidelines. This implementation arrangement is done based on an assessment done by IFAD during the Design phase and a previous World Bank's assessment done based on their Project Procurement Strategy for Development (PPSD). During implementation. FAO shall observe the following specific principles: (a) procurement would be carried out in accordance with the Financing Agreement and any duly agreed amendments thereto; (b) it would be conducted within the project implementation period, except as provided in the financing agreement; (c) the cost of the procurement is not to exceed the availability of duly allocated funds as per financing agreement, and (d) the Revised IFAD Policy on Preventing Frauds and Corruption in its Activities and Operations are to be respected. FAO will assign SFD as a preselected Implementing Partner under the Project for the implementation of Component 2. SFD in its turn will apply FAO Procurement procedures and guidelines in the implementation of Component 2.
178. **Procurement Planning and AWPB:** An initial 18-month Procurement Plan will be prepared by both FAO and SFD using the template provided by IFAD. Each party will prepare the plan for its component(s) and FAO will have the responsibility of

consolidating the plan before its submission to IFAD as part of a complete AWPB. The community participation activities will be included in the PP under a separate dedicated sheet. For the subsequent periods, 12-month procurement plans need to be prepared following the same arrangements.

179. **Prior/Post Review:** No contract would be subject to prior review as long as FAO is applying their own rules and procedures as specified above. The Post review will be covered by the external Auditors in accordance with their TORs.
180. **Record Keeping:** The Recipient will provide reasonable space for electronic and in paper filing. The filing, from advertisement till payment invoices, including correspondence with contractors, suppliers and consultants, and submitted deliverables and reports, is to be chronological and well maintained up to three (3) years after the completion of the bid or contract. The procurement documents may be reviewed by IFAD in case needed.

4.7 Monitoring and Evaluation

4.7.1 Objectives of the M&E System:

181. What gets measured, gets done. The value proposal of the M&E system is based on insight generation to guide the decision making process for corrective actions during the implementation and to seize opportunities for optimal resource utilization. M&E system will not only help track the performance, and measure results, but it will also provide a powerful tool to motivate and encourage others through creating a learning environment.
182. The M&E system will be structured in a way to accomplish the following objectives:
- a) Enhance transparency and accountability to the beneficiaries, affected communities, and donor institutions;
 - b) Create a learning organization by relying on continuous feedback from the implementation;
 - c) Strengthen the decision making process, both at the tactical and strategic levels, by providing objective analysis of factual data;
 - d) Provide consistent and reliable data to improve the efficient use of resources and address sustainability issues;
 - e) Contribute to the project quality through the analysis of data on the targeting and social inclusion of the most vulnerable, gender equality and empowerment, resilience of communities and the fragility including climate change and food security;
183. M&E will be responsible to provide guidance to the overall project strategy based on the objective assessment of performance across a series of internationally recognized evaluation criteria.

Table 1: Strategic Guidance and Key Questions for M&E

Evaluation Categories	Guiding Questions
Relevance	Does the Project contribute meaningfully to the development objectives? Are the activities relevant with the priorities of the target groups? What should we do differently?
Effectiveness	Is the progress satisfactory compared to the Project targets? Are the completed project facilities, infrastructure, establishments functioning and in working condition? Are the farmers adapting new

	methods and technologies introduced by the project? What are the issues that prevent the achievement of desired results?
Efficiency	Are the resources being used in an optimum way? Why or why not? What could we do differently to improve implementation, maximize impact, and receive the best value for money?
Impact	To what extent is the Project contributing towards poverty reduction (and development objectives)? What needs to be revised to achieve long-term objectives?
Sustainability	Should project interventions, processes, and structures be maintained after project closure, and to what extent? What mechanisms should the Project develop to ensure ongoing success in the long term?

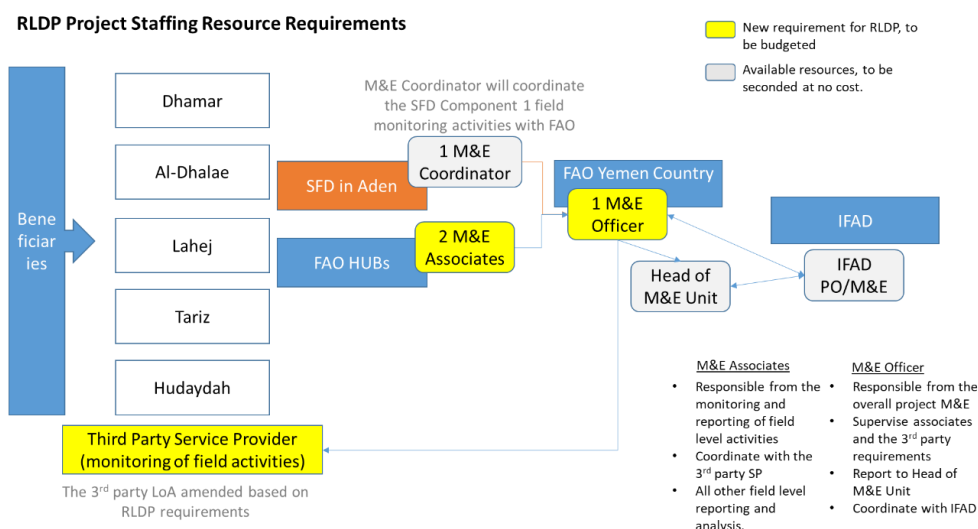
184. Implementing an M&E System in Fragile and Conflict situation is challenging, particularly in development contexts. M&E system will measure the impact of interventions by adapting to the changing dynamics in the field through continuous assessment of the situation. In addition, the monitoring system will assess how the Project contributes to reducing conflict and instability, whether the activities are conflict sensitive or not, and the progress towards improving the resilience and livelihoods of the target communities. The risk management indicators will be collected periodically, according to the Project Risk Management Framework, to ensure that the risk of harm is effectively mitigated.
185. Ongoing conflict and the fragility in the country may impose restrictions and interruptions on data collection and making it difficult to maintain a reliable and coherent approach to monitoring. The Project M&E system will build upon the existing FAO systems, which are already designed to encounter some of the foreseeable risks by relying on conflict sensitive M&E guidelines and frameworks, strong coordination with national and international institutions, and multiple data collection channels including a toll free hot line, grievance mechanism that allows two-way communication with beneficiaries, and Third Party Monitoring (TPM) in the field.

4.7.2 Organizational Structure of the Project M&E Unit:

186. The RLDP M&E Team will be structured under the M&E Unit led by the Head of M&E Department at FAO Yemen Country Office. One dedicated M&E Officer will be recruited on a full time basis through competitive selection (IFAD No Objection is required for this appointment). The M&E Officer will have the overall responsibility for managing the RLDP M&E system under the supervision of Head of M&E Department at FAO. The other responsibilities will include (i) the supervision of field M&E associates, (ii) overall coordination of M&E activities with IFAD CO, and (iii) the supervision of Third Party Monitoring (TPM) contractor for RLDP activities. *(ToR for the M&E Officer is provided in Annex 1)*
187. Two M&E associates will be seconded at FAO Field Hubs in Aden and Sanaá on a cost sharing basis. M&E Associates will report to the M&E Officer and will be responsible (i) to conduct field monitoring, analysis, and reporting, (ii) to coordinate TPM activities implemented in their respective project areas. *(ToR for the M&E Associate is provided in Annex 1)*
188. In addition, the M&E section of the Social Fund for Development will work closely with the FAO M&E Team and provide all required reports from its branch offices with reference to the progress on the activities being implemented by it. One person will be assigned as M&E Coordinator at SFD who will mobilize the SFD Field Officers to conduct field monitoring for the Component 2 activities as required.

189. The primary responsibility of the design and implementation of the Project M&E System will lie with FAO including the consolidation of all inputs, data, and reports received from SFD. Both institutions will work with each other and make every effort to inform the responsible unit in the other organization to maximize the benefits to both. Regular and structured meetings will be held to review progress and developments, and ensure a coordinated implementation.
190. At the time of design, FAO was in the process of contracting a Third Part Monitoring (TPM) supplier to carry out the field monitoring activities for the FAO Country Portfolio. Through professional outsourcing, FAO aims to achieve specialization, reduce workload and risk exposure, and improve security & access in conflict areas through hiring locals for data collection. In line with this approach, RLDP field monitoring activities will be implemented by the TPM contractor based on the Technical Specifications (Annex 2) as agreed by IFAD and FAO. The work schedules, payment authorizations, and the coordination of the Project activities related to the TPM arrangements will be managed by the Project M&E Officer. FAO will ensure that any delays or risks regarding the management of the contract will be communicated to IFAD. Any future amendment, including extension or cancellation of the contract, will be subject to IFAD approval.

Figure 1: RLDP M&E Staff Resources



4.7.3 M&E Data and Platform Requirements:

191. The details of data requirements and the methodology are provided in Annex 4. It is the responsibility of M&E officer to ensure that the data is collected within the agreed timeliness; data quality checks are performed as per the FAO internal procedures; and the data platform is established and maintained properly to handle data warehousing and reporting requirements. FAO will also ensure that the SFD data collection tools and database platform are in consistent with the overall Project data management requirements. For this purpose, SFD M&E coordinator will receive trainings and technical assistance during the start-up phase from FAO M&E Officer.
192. The data requirements can be summarized under five main categories as follows:
- Beneficiary Tracking:** Beneficiary registration information will be collected from the beneficiaries of grant programmes and activities that directly reaches to the individuals (i.e. FFS, extension services, demonstrations). This database will also include key indicators that need to be tracked during the course of the

implementation. Baseline values will be collected during the application process through mini surveys, which will be measured through Post Distribution Monitoring (if relevant) one year after the completion of that specific activity;

- b) Survey Data: The Project will conduct baseline, midterm, and impact household surveys, as well as quick ad-hoc surveys throughout the implementation. Each survey panel data will be captured in a robust data platform to avoid any loss of information.
- c) Physical Progress: The physical progress data will be updated against the AWPB targets quarterly along with the Log Frame output indicators;
- d) Complaints and Feedback: Both beneficiary and non-beneficiary (residing in target locations) complaints and feedback data will be captured through the FAO grievance mechanism;
- e) Fragility and Conflict: As per the agreed frameworks, including RLDP Risk Management Framework, indicators measuring the status of fragility and conflict at the national and regional level will be collected from various data sources (see Box 1);

Table 2: Data Categories and Platform

Category of Data	Responsible	Periodicity	Source	Data Platform
Beneficiary Registration	M&E Associates SFD Field Officers	During the Application Process	Application Files FFS Attendance Sheets	RLDP Registry System to be developed
Surveys	M&E Associates Third party contractors	Baseline Midterm Impact Assessment Annual Surveys (for tracking immediate results, and resilience)	Survey Questionnaire	SPSS or any other relevant panel data database platform
Physical Progress	M&E Officer M&E Associates SFD M&E Coordinator	Quarterly	Field Office Reports Contractors Implementing Partner Reports	FPMIS and/or FAO internal systems
Complaints and Feedback	M&E Officer Call Centre Operators	Quarterly	Call centres SMS Whatsapp Msg Email	FAO Grievance database
Fragility and Conflict	M&E Officer	Semi Annual	UN Reports National Stats	Ms Excel

193. Fragility and conflict indicators should be rigorously collected to inform the decision makers and the donor institutions about the changing trends according to the indicators presented in Box 1:

Box 1: Fragility and Conflict Indicators

The following indicators will be tracked by M&E Unit on a regular basis (semi-annually) and a dashboard that summarizes the analytical findings will be presented to IFAD.

- Food and agriculture input prices (FAO)
- Food security and consumption (FAO, WFP)
- Macro-economic environment (exchange rate, inflation, oil prices etc.)
- Conflict, security and threats (UNDSS reports)
- Human rights violations (OHCHR and HRW reports)
- IDP Influx (OCHA, UNHCR)
- Resilience indicators (RLDP M&E Surveys)
- Other risk management indicators

194. Resilience Indicators: IFAD would play an important role through the Rural Livelihood Development Project (RLDP) in building the resilience of the communities on the ground, leverage on the investments made through the past projects, and fill a gap between humanitarian aid and sustainable development. This promise will be measured by resilience indicators through Resilience Index and Measurement Analysis (RIMA) methodology of FAO. RIMA estimates household resilience to food insecurity with a quantitative approach combining latent variable models and regressions. The RIMA questionnaire comprises three components:
- a. Mandatory modules:**
 - i. Access to Basic Services (ABS); Assets (AST); Social Safety Nets (SSN); Adaptive Capacity (AC)
 - ii. Food security
 - iii. Shocks
 - b. Optional modules:**
 - i. Subjective resilience
 - ii. Conflict
 - c. Household demographic characteristics, to be collected by the enumerators
195. RIMA will be integrated into the baseline, mid-term, and completion surveys (Impact Assessment).
196. IFAD Core Indicators: The term “core indicators” (CIs) has been coined to identify the subset of new and improved output and outcome indicators to be used in project logframes and M&E systems of IFAD financed projects. CIs will be mandatory for RLDP based on the project’s main areas of thematic focus and intervention types. CIs provide a simplified snapshot of the key outputs and outcomes achieved as a result of IFAD-supported activities.
197. The following IFAD CIs will be mandatory to include in the baseline, mid-term, and impact assessment surveys by using the IFAD CI questionnaire and methodology. The Core Outcome Indicator Guidelines and the Questionnaire will be shared with FAO:

Core Outcome and Output Indicators Framework

Areas of Thematic Focus	SDG Target	Output Indicators			Legend	Outcome Indicators		Legend
		No	Title	No				
Outreach		1	<ul style="list-style-type: none"> Number of people receiving services promoted or supported by the programme (number of individuals who have directly received or used services promoted or supported by the project). <i>Disaggregation: (sex, youth, indigenous people)</i> 					
		1a	<ul style="list-style-type: none"> Corresponding number of households reached (corresponding number of HH reached). <i>Disaggregation: (HH headed by women)</i> 					
		1b	<ul style="list-style-type: none"> Estimated total number of HH members (persons in the HH supported by the project). <i>Number of HH (1.a) * Average no. of HH members</i> 					
SO1: Increase poor rural people's productive capacities								
Access to agricultural technologies and production services	1.4, 2.3 and 2.4	1.1.2	<ul style="list-style-type: none"> Number of hectares of farmland under water-related infrastructure constructed/rehabilitated (<i>current RIMS 1.1.5</i>) 		1.2.3	<ul style="list-style-type: none"> (Number) Percentage of persons/households reporting reduced water shortage vis-a-vis production needs (<i>Sub-component 2.2.: Small-scale irrigation Schemes</i>) 	C, S, Y, Lead, IND, SEC	
		1.1.3	<ul style="list-style-type: none"> Number of rural producers accessing production inputs and/or technological packages (<i>modified current RIMS indicators 1.2.6/1.2.7</i>) 	S, Y, IND	1.2.2	<ul style="list-style-type: none"> (Number) Percentage of persons/households reporting adoption of new/improved inputs, technologies or practices (<i>Sub-component 3.2: Capacity Building for Agriculture Production</i>) 	S, Y, Lead, IND, SEC	
		1.1.4	<ul style="list-style-type: none"> Number of persons trained in production practices and/or technologies (<i>modified current RIMS 1.2.2/1.2.3/1.2.4</i>) 	SIP, S, Y, IND, SEC	1.2.4	<ul style="list-style-type: none"> (Number) Percentage of persons/households reporting an increase in production (<i>Sub-component 3.2: Capacity Building for Agriculture Production</i>) 	S, Y, Lead, IND, SEC	
Nutrition	2.1 and 2.2	1.1.8	<ul style="list-style-type: none"> Number of persons/households provided with targeted support to improve their nutrition 	S, Lead, Y, IND	1.2.8	<ul style="list-style-type: none"> (Number) Percentage of women reporting improved quality of their diets (<i>Sub-component 3.3: Food and Nutrition Security</i>) 	Y, IND, LEAD	
SO2: Increase poor rural people's benefits from market participation								
Diversified rural enterprises and employment opportunities	8.2, 8.3 and 10.2	2.1.2	<ul style="list-style-type: none"> Number of persons trained in income-generating activities or business management (<i>merged current RIMS 1.5.1 1.5.3 and 1.4.1</i>) 	S, Y, IND	2.2.2	<ul style="list-style-type: none"> (Number) Percentage of supported rural enterprises reporting an increase in profit (<i>Sub-Component 3.4: Livelihood Resilience and Value Addition</i>) 	S, Y, IND, SIP, Lead, SEC	
SO3: Strengthen the environmental sustainability and climate resilience of poor rural people's economic activities								
Environmental sustainability	2.4, 5.4, 7.2, 13,	3.1.1	<ul style="list-style-type: none"> Number of groups supported to sustainably manage natural resources and climate-related risks (<i>modified current RIMS 1.6.11</i>) 	C, SIP, LEAD, IND	3.2.2	<ul style="list-style-type: none"> (Number) Percentage of persons/households reporting adoption of environmentally sustainable and climate resilient technologies and practices 	S, Y, Lead, IND	

Yemen

Rural Livelihood Development Project (RLDP)

and Climate change	13.1-13.3 and 15.1-15.3	3.1.3 3.1.4	<ul style="list-style-type: none"> Number of persons accessing technologies that sequester carbon or reduce greenhouse gas emissions (<i>modified current RIMS 1.1.18</i>) Number of hectares of land brought under climate-resilient management (<i>modified current RIMS 1.1.17</i>) 	C, S, Y, IND C	3.2.3	<p>(<i>Sub-component 3.1: Capacity Building for Agriculture Production</i>)</p> <ul style="list-style-type: none"> (Number) Percentage of persons/households reporting a significant reduction in the time spent for collecting water or fuel 	S, Y, Lead, IND
Policy (cross-cutting)		Policy 1	<ul style="list-style-type: none"> Number of policy-relevant knowledge products completed 		Policy 3	<ul style="list-style-type: none"> Number of existing/new laws, regulations, policies or strategies proposed to policy makers for approval, ratification or amendment 	

4.7.4 M&E Reporting Requirements:

198. **Annual Work Plan and Budget (AWPB):** An Annual Work Plan and Budget (AWP&B) will be prepared using a participatory approach together with a procurement plan by FAO. The AWP&B will incorporate the activities to be undertaken by both SFD and FAO. The process for preparing the AWP&B will be initiated at the district level with the Implementing Partners in the field outlining the agreed actions with the targeted communities. The plans made at the Village Units will be consolidated into district plans and organized by sub-component. SFD and FAO will take responsibility for preparing the plans for the sub-components they are managing and the Head of the Agriculture and Rural Development Unit at FAO will consolidate the plan and submit them for approval. The AWPB will be submitted to IFAD for its No Objection at least 60 days prior to the start of the relevant implementation year. Any deviation from the AWPB that may be needed during the implementation period will be further communicated to IFAD for review and it's No Objection.
199. **Field Level Planning:** In their respective responsibility areas, FAO Hubs and the SFD branch offices will start the AWPB planning process in advance with the communities in each district consistent with the Community Action Plans, which should include the investment needs of the target group. Each field unit is responsible to keep track of Investment Planning Forms that would include information on the location, name of activity, activity details, estimated cost of action, number of beneficiaries by age and gender breakdown, units (i.e. km/ha), quantities, and unit costs. Investment Planning Forms will be updated each year and will be submitted to the FAO CO. Appropriate guidance during participatory planning process will be provided by the trained facilitators.
200. **Central Level Planning:** Investment Planning Forms will be consolidated at the central level. The budget allocations will be prioritized based on fair distribution of funds across the target regions but also taking into account the feasibility of activities as well as investment decision criteria, i.e. relevance, scalability, wider outreach, value for money, and sustainability. Procurement Officer is responsible from preparing the procurement plan according to the AWPB.
201. It is the responsibility of the Project Manager to finalize the AWPB in coordination with the M&E Unit. The content of the AWPB is provided in the Table 3 below:

Table 3: AWPB Content

AWPB Sections	Description
Background about the Project	Provide a brief one pager to summarize the project key dates, financiers, objectives, and components.
Introduction to AWPB	Describe the AWPB planning process, key dates (i.e. Steering Committee approval), overall budget summary.
Management Assessment	Provide a brief section on the management assessment of the overall implementation progress and the strategic issues, and the main constraints and obstacles. Also provide a summary on the direction of the project towards achieving its development objectives.
Budget Summary	Provide overall budget requirements for the current implementation year, and include breakdown by components, financier, loan category, and location.
Component and Activities	This is the main AWPB Section that includes the details of activity schedule and budget allocations per component, sub component, and activities.

	For each activity, the following details would be provided in a table format: Activity name, unit cost, quantity, total cost, implementation location, beneficiary count by youth and gender, It will also include the cumulative and annual targets and the benchmark of achievements against the targets.
M&E and KM	Include the plan for the M&E and KM activities to be carried out in the current implementation year. The plan should provide an outline for the action name, description of action, action dates, responsible, location, and budget. (Template provided in Annex 4)
Appendices	<ol style="list-style-type: none"> 1. Consolidated budget table for all components/activities 2. Updated version of the Project log Frame 3. Detailed Statement of Expenditures, cumulative and current year. 4. Procurement Plan 5. Status of the Mission Recommendations 6. Complaints Statistics

202. **Progress Reports:** Every six months, FAO will submit a progress report including details on the cumulative expenditures, physical progress, outreach, the status of mission recommendations, and narratives describing the achievements, obstacles, and the revisions made to the original AWPB. The first progress report should be submitted in the month of June of that current implementation year, and the second progress report should be submitted with the AWPB including its Annexes.
203. The progress report will include sufficient discussions on the lessons learned and knowledge generated as well as key findings supported by M&E data. The analysis of grievance data should also be provided in the progress report. In addition, the implementation progress would be discussed with respect to thematic & mainstreaming areas such as gender, nutrition, climate change, fragility and resilience.
204. **Dashboard Reporting:** Dashboard reporting is an information management tool that visually tracks, analyses and displays key performance indicators (KPI), metrics and key data points to monitor the progress of implementation. FAO will monitor and report the set of KPIs on expenditures, outreach, and physical progress by selected data dimensions on a quarterly basis and will share with IFAD.

4.7.5 Monitoring of Feedback and Complaints:

205. The Project will have a complaints and feedback handling process that would be integrated into the FAO grievance mechanism as per FAO Standard Operating Procedures. Affected communities will have access points to register their complaints through toll-free hot line, SMS, WhatsApp Messenger, and e-mails. In addition, field officers will be trained on how to collect and report beneficiary complaints during field visits.
206. Contact information of the access channels (i.e. phone number) will be provided to the communities during the awareness campaigns and through outreach programmes by distributing visual materials (i.e. posters, brochures).
207. The complaints & feedback data will be recorded under the central grievance database of FAO. All complaints will be handled with care according to the SOPs and the status of these complaints will be summarized and reported to IFAD in the annexes of the Progress Reports.

208. Complaint Status Report (CSR) should summarize the statistics by (i) date of complaint, (ii) classification priority, (iii) type of complaint, (iii) status, (iv) age and gender (or blank for anonymous calls), (v) action taken, (vi) date the issue resolved.
209. M&E Officer will be responsible to make sure that the complaints & feedback data for the RLDP Project is captured in a proper database and he/she will prepare the CSR in the Progress Report.
210. FAO will inform IFAD immediately about Category C complaints (as classified in the FAO SOPs) that are sensitive in nature, such as Sexual Exploitation and Abuse (SEA). In such cases, IFAD and FAO will work closely to handle the responses in accordance with their own corporate guidelines.

4.7.6 Studies and Researches:

211. **Baseline Study:** Before the start of the implementation of project activities, the Project will conduct a baseline study, which will rely on both quantitative and qualitative data collection methods to capture the starting points of the target villages and the beneficiaries to provide benchmark against which future progress can be assessed and comparisons can be made. The Terms of Reference for the Baseline study will be prepared by the M&E Officer in agreement with IFAD.
212. Baseline study will provide detailed description of the status quo in the communities based on selected indicators, including Log Frame, and taking into account the key areas of interventions. It will provide snapshot for the rural poverty, agricultural production and productivity, climate and environment, gender inequality, nutrition, and other socioeconomic factors in the target areas. The table 4 provides essential points to consider during the design of a baseline study:

Table 4: Considerations for the Baseline Design

Topics	Explanation
Indicators	The baseline survey should adequately measure the baseline status for all output, outcome, and impact log frame indicators, and KPIs under the areas of interventions. In addition, the baseline questionnaire should include the relevant Core Outcome Indicator (COI) questions developed by IFAD. The COI will be measured according to the methodology provided in the COI guidelines.
Sampling	The size of the baseline survey will be determined based on the stratified random sampling methodology. The target population will be divided into separate clusters at the district and producers' level (i.e. livestock producers). Then, a probability sample will be drawn from each cluster. The confidence level for the sample size would be 95% and the confidence interval would be 4.
Panel Data	Survey data will be structured to allow measurements over time. The same respondents may be tracked by the project during the mid-term and completion, which would provide more consistent estimation of the population parameters.
Questionnaire Modules	The questionnaire will consist of at least the following chapters: (i) Demographics, (ii) Nutrition and Food Security, (iii) Poverty and Income Sources, (iv) Asset Ownership, (v) Shocks and Coping Strategies, (vi) Resilience and Fragility, (vii) Access to Public and Community Services, (viii) Access to Markets and Marketing, (ix) Financial Inclusion, (x) Agriculture and Farm Practices (i.e. land ownership and utilization, crop patterns, agriculture inputs, yields, herd size, farm labour, post-harvest and processing, machinery and equipment).

Supplementary Questionnaires on Income and Gender	A sub group from the sample population will be interviewed with two separate focused questionnaire on income and gender. The income module will be structured to capture the income, consumption, and borrowing/credit habits of the target population. Gender questionnaire will include questions about the role of women and empowerment issues as well as the potential areas of support.
Natural and Human Made Resources	The baseline study should include a specific mapping exercise of the natural resources available in the target locations. Natural features, ecological zones, and the manufactured infrastructure, such as irrigation channels, transportation networks, and administrative boundaries will be presented spatially with reference to coordinate system, which then to be combined with thematic areas.
Focus Group Discussions	The contractor, in consultation with FAO and SFD, will identify specific areas that require interactive discussions with the target group and develop the format for FGD sessions. FGD topics will include but not limited to the administration & capacity of Water User Associations, agriculture production systems, coping strategies in conflict, and livelihood vulnerability etc. FGD interviews will be summarized and presented in a structured report providing a clear picture of the status quo.
Database	Survey data will be captured in SPSS or Ms Excel data platform. All modules, sections, questions and answers will be structured with proper index system and a data dictionary will be prepared and submitted.
Final Deliverables	<ul style="list-style-type: none"> • Baseline survey report based on the analysis of collected data • Profile of the target group • Report on resource mapping, including all spatial database and GIS maps • FDG case reports and findings • Consolidated database and the data dictionary • All visual and audio materials collected during the study • Verification Workshop

213. After the delivery of the baseline study, FAO will consolidate and analyse the available information to reassess the ToC and project interventions, update the log frame and KPIs, and develop set of recommendations for IFAD to consider any revisions needed in the PDR. The assessment report of the baseline study should be submitted to IFAD no later than one month after the completion of the full baseline study.
214. **Mid Term Study:** The preparations for the mid-term study should start at least one year in advance of the Mid-Term Review Mission (MTR) and the results should be made available to the MTR Mission, which will be conducted by IFAD at the midyear of the Project implementation.
215. Ideally, the MT Surveys should leverage the materials used during the baseline survey to provide consistency and reduce the duplication of efforts. However, revisions will be made depending on the requirements that may have changed during the implementation.
216. Unlike the baseline, MT surveys will include a control group. The methodology will ensure the selection of control cases who are very similar in many ways to the individuals receiving the interventions, in terms of age, gender, education, and income sources. For this purpose, the Propensity Score Matching (PSM) will be used. This statistical technique will require to work with a large control size (at least the size of sample beneficiary group, and preferably x2 of the beneficiary sample) and

will have implications on the cost; however, it will provide consistent and unbiased estimates of the population parameters.

217. In addition, the M&E Team will be responsible to collect the farm budget and Economic and Financial Analysis (EFA) model parameters, as specified in the PDR EFA Annexes, in advance of the MTR Mission. The Project EFA models will be updated based on these inputs by the IFAD expert during the mission to provide an updated version of the estimated economic return of the interventions and the global return on investment.
218. MTR Mission will assess the overall budget status and recommend necessary adjustments for the remaining years of the implementation. To facilitate this process, M&E Team, together with Project Manager, Finance Officer, and SFD Officers, will prepare a projection budget and the revised log frame consistent with the projections, with suggestions of which activities to be dropped or to be newly added based on the emerging priorities during the implementation. The projection budget will be reviewed by the MTR Mission.

Figure 2: Mid Term Review Preparations



219. **Project Completion Study:** The preparations for the Project Completion study should start at least one year in advance of the Project Completion Mission (PCR) and the results should be made available to the PCR Mission, which will be conducted by IFAD before the Project closing date.
220. Impact Assessment Surveys (IAS) will be conducted by an independent third party contractor with a goal to measure the social and economic impacts of the Project. IAS will be consistent with the baseline to allow for comparison against the indicators before the Project implementation. M&E Team will prepare the technical specifications for the provision of IAS and submit to IFAD for approval.
221. In addition to the topics covered in the baseline survey, IAS will also include composite evaluation criteria for the Project based on an assessment of project

relevance, effectiveness, efficiency, rural poverty impact, innovation and scaling up, sustainability, gender equality and women’s empowerment. These criteria will be integrated into the IAS during the design based on the IFAD Evaluation Manual³⁸.

222. Collecting lessons learned from the Project implementation would be an essential part of the Completion Study. Lessons learned will be collected through structured and unstructured processes. The structured process will start by asking the key questions to capture experiences extracted from the Project that should be actively taken into account in future projects. The information collection process will be designed priori with the mix of quantitative and qualitative data collection methods, including audio-visual materials. Finally, verify and disseminate the lessons learned with the project stakeholders during the validation workshop.

Table 5: Lessons Learned Key Questions

Topic	Key Questions	Tools
Critical Assessment	Taking into account the conflict and fragility context, how could have IFAD designed and implemented the Project differently, i.e. component and activities, implementation modalities, partnership, institutional arrangements, and policy advocacy?	Project critiques collected in written forms and/or meetings from the main stakeholders.
Success and Failures	What are the unintended outcomes of the project, success and failures, innovative features, and the factors that lead to these outcomes?	Interviews with the main implementing partners & the beneficiaries, and the synthesis of analysis in a brief report.
Best Practices	What activities did the Project successfully implement that could be showcased and recommended for other similar projects?	Case analysis of ex-post assessment of the high value interventions.

223. The Project Completion Study will be disseminated through a validation workshop engaging a broad range of key stakeholders who had been involved previously in the consultation process in a discussion of the findings and lessons learned. The M&E Team will be responsible from compiling all Project data, audio-visual materials, and reports into an electronic platform for sharing and dissemination.

³⁸ <https://www.ifad.org/documents/38714182/39748829/manual.pdf>

Figure 3: Project Completion Preparations



4.7.7 Monitoring and Evaluation of Components

224. Besides the Log Frame Indicators, including the Core Outcome Indicators, the M&E system will also adequately monitor the performance of activities based on the requirements and frameworks discussed in this section.

Component 1: Community Mobilization and Strengthening

225. This sub-component provides technical assistant to train the implementing partners and beneficiaries of the infrastructures. The trainings will include operation and management of domestic water and irrigation schemes, empowerment and strengthening the roles and functions of WUAs, land and water management to introduce more effective and climate resilient practices and technologies, more efficient irrigation techniques to increase productivity.

Table 6: Monitoring of Capacity Building Activities

Outcome	Indicator	Means of Verification	Responsible	Frequency
WUAs are functional	Number and cost of O&M activities carried out by the WUAs	Interviews/Data form	Survey Contractor, and/or TPM	Mid-term, Completion
Women and Youth empowered	% of Women and youth in the organizations	Institution records	M&E Officer/Associates	Annual
	% of Women and youth in management role in the organizations	Institution records	M&E Officer/Associates	

Component 2: Climate Resilient Community Infrastructure

2.1. Domestic water supply

226. The monitoring of water supply activities will go beyond tracking progress, the focus will be given to measuring the changes in intended behaviour, and thus the accruing benefits in terms of well-being, to be achieved by the Project. The monitoring approach will involve a mix of individual, community, and institution level indicators. The following framework will set the minimum requirements; however, it will be further improved based on the Core Questions on Drinking Water and Sanitation for Household Surveys (published by WHO/UNICEF).

Table 7: Monitoring of Water Supply Activities

Outcome	Indicator	Means of Verification	Responsible	Frequency
Time for collecting water is reduced	Time and distance to water source at peak times (by female and youth headed HH)	Household surveys	Survey Contractor, and/or TPM	Baseline, Mid-term, Completion
Availability of clean water	Clean water will be available at least % of the time. (by female and youth headed HH)	Household Surveys	Survey Contractor, and/or TPM	Baseline, Mid-term, Completion
Improved health/hygiene behaviour among the communities	Set of indicators to be determined from WHO/UNICEF guidelines	Participatory community/FGDs	Community Facilitators, Field Officers	Baseline, Mid-term, Completion
Sustained water quality at the sources	Set of indicators on the status	Technical Measurements	Specialist(s), Field Surveys	Baseline, Mid-term, Completion
Sustained O&M practices	Number and cost of O&M activities carried out by the communities	Interviews/Data Forms	Survey Contractor, and/or TPM	Mid-term, Completion
Recognition of Water Supply in the policy and strategy	Number of reference to the Project water supply actions/results in the sector organizations.	Interviews	M&E Officer	Mid-term, Completion

2.2. Small-scale irrigation and flood-based livelihood systems

227. The Project will support the modernization of on and off farm irrigation infrastructure. The benefits of irrigation schemes will be measured in terms of water efficiency, cost savings, crop productivity, and environmental benefits. In addition, the activities of WUAs will be monitored to ensure that village or area based infrastructure rehabilitation works are administered adequately.

228. In the Mid-Term, the Project will utilize FAO-developed Rapid Appraisal Process (RAP) methodology to assess the gap in achieving efficiency, equity and sustainability in irrigation systems. The RAP approach primarily targets to identify and prioritize modernization improvements through the following key steps: i) assessment of current performance and evaluation of key indicators, ii) analysis of O&M procedures,

iii) identification of the bottlenecks and constraints in the system, and iv) identification of options for improvements in performance. The RAP is implemented as a diagnostic tool that provides identification of the problems within their underlying causes and constraints. While establishing a cause-effect relationship of the current undesired condition, the RAP represents a stocktaking exercise of what essential functions are missing to operate the irrigation scheme efficiently³⁹.

Table 8: Monitoring of Irrigation Activities

Outcome	Indicator	Means of Verification	Responsible	Frequency
Improved crop productivity attributable to the irrigation schemes	% of crop productivity increased (by female and youth headed HH)	Farm surveys	Survey Contractor, and/or TPM	Baseline, Mid-term, Completion
Increased on-farm Water efficiency	FAO RAP efficiency indicators	Technical Measurements	Specialist(s)	Mid-term, Completion
Cost of irrigation reduced	Cost savings in the annual farm budget as a result of water and energy savings	Household Surveys	Survey Contractor, and/or TPM	Baseline, Mid-term, Completion
WUAs are functional	Number and cost of O&M activities carried out by the WUAs	Interviews/Data form	Survey Contractor, and/or TPM	Mid-term, Completion

2.3. Soil and water conservation measures

229. This activity provides support to: a) terrace rehabilitation; b) village roads rehabilitation, and c) wadi bank protection. Where relevant, the following indicators will be incorporated in the baseline, mid-term, and impact assessment household questionnaire modules.

Table 9: Monitoring of Soil and Conservation Measures

Outcome	Indicator	Means of Verification	Responsible	Frequency
Increased in yields	% of production per unit of intervention area increased (by female and youth headed HH)	<ul style="list-style-type: none"> Farm surveys Field verifications 	Survey Contractor and/or TPM, Field specialists	Baseline, Mid-term, Completion
Increased Water availability	% of availability and quality of water increased for production (by female and youth headed HH)	<ul style="list-style-type: none"> Farm surveys Field verifications 	Survey Contractor and/or TPM, Field specialists	Baseline, Mid-term, Completion
Improved climate friendly methods and practices	Number of farmers adapt conservation farming practices	Adaption study	Agriculture Extension Staff (IP), M&E Specialist	Baseline, Mid-term, Completion

³⁹ Technical Assessment for OFIDO Project in Egypt, FAO RAP Annex

	(by female and youth headed HH)			
	Number of farmers adapt proper land use practices (by female and youth headed HH)	Adaption study	Agriculture Extension Staff (IP), M&E Specialist	Baseline, Mid-term, Completion
Access to markets	Economic/social benefits of roads (by female and youth headed HH)	• Farm surveys	Survey Contractor and/or TPM,	Mid-term, Completion

Component 3:

3.1 Capacity Building for Agriculture Production

230. FFS will be the main modality for farmer trainings. M&E system will measure the effectiveness of FFS in improving farmers' livelihoods. This will be achieved through regular reporting of program results allowing stakeholders to review and assess those results. Although there are no standards on how to monitor FFS programmes, best practices and lessons learned are available that will be utilized for the RLDP⁴⁰.
231. The approach will rely on beneficiaries' feedback and self-ratings to assess the benefits of the FFS sessions. Key indicators will be selected at baseline and will be measured annually or at the completion of each FFS. The indicators will be determined based on the objectives of FFS and will be discussed and agreed with the farmers to maintain a realistic approach.

Table 10: FFS Set of Indicators (exemplary)

Main Category	Outcome Indicator	Indicators	Source of Verification
Economic	Crop yield	Soil fertility Productivity Production Practices	Farmer estimates, field visits
	Area under crop	Profitability Marketing needs	Interview with farmers
	Product Quality	Price Potential	Farmer estimates
	Household Income	Increase in income New income opportunities	Farmer estimates
Environment	Input Used	Use of IPM Technology Cropping patterns	Interview with farmers, field visits
	Biodiversity	Land and water use Invasive species Use of chemicals	Farmer and Specialist Interviews
Human Social Capital	Group Development	Risk reduction Farmer-to-farmer extension Lower production cost through collective actions	Farmers, NGOs, Contractors
	Problem Solving	Empowerment Self-initiative	Farmers, field visits

**Developed based on the study: Müller, Irene & Guenat, Dominique & Fromm, Ingrid. (2010).*

232. The measurement of selected indicators will be collected through a questionnaire at the completion of each FFS. The measurement will include farmer ratings based on their self-assessment of the benefits of the introduced changes.

⁴⁰ Müller, Irene & Guenat, Dominique & Fromm, Ingrid. (2010). Impact monitoring and evaluation system for farmer field schools in Kyrgyzstan: How to optimize resource allocation for higher impact. Journal of Agricultural Extension and Rural Development. 2. 211-218.

Table 11: Rating of FFS Indicators (exemplary)

Main Category	Outcome Indicator	5=Very good	4=good	3=mode rate	2=weak	1=very weak
Economic	Crop yield - Tomatoe	> 45 t/ha	30-45 t/ha	20-30 t/ha	15-20 t/ha	< 15 t/ha
	Area under crop	> 100 =1 ha	50 - 100	20 - 50	2 - 20	< 2 (home consumption) or stopped producing
	Product Quality	Good size, no visible damage (rotting, holes or spots)	Fruit worm holes or rotting patches rarely found	<10% of fruits are damaged, patched or are undersized	10 - 30% of fruits are undersized or damaged (fruit worm, blossom-end rot, spots)	> 30% of yield is too small or heavy damaged to market
	Household Income	> 20% increase	10 - 20% increase	1 - 10% increase	Stagnating	Decreasing
Environment	Input Used	> 6 IPM techniques are used in the field	5 - 6 IPM techniques are used in the field	3 - 4 IPM techniques are used in the field	1 - 2 IPM techniques are used in the field	No IPM technique is used in the field
Human Social Capital	Group Development	Farmers form official or unofficial groups, cooperatives or network	Farmers marketing jointly their products or purchase of inputs	Farmers collaborate and exchange knowledge with members of the new group	Farmers collaborate mainly with members of their own family	Farmers work individually
	Problem Solving	Participates in participatory research or on farm trials	Sets-up own small experiment	Asks neighbour or friend for advice	Tries things only where there are little problems	Does nothing

**Developed based on the study: Müller, Irene & Guenat, Dominique & Fromm, Ingrid. (2010).*

- At the Mid-Term and Completion, the adoption rate of new technologies and methods introduced by the FFS will be measured by an adoption study. The design of the adoption study is a complex task and it involves surveys and the technical measurement of changes in the field by specialists. FAO will involve a specialist to design the FFS adoption surveys.

Table 12: Monitoring of FFS Activities

Reporting Timeline	Type of Report	Instrument Used	Responsibility
Start of FFS	Baseline report	FFS Baseline Questionnaire	Agriculture Extension Staff (IP)
End of completion of each FFS	Beneficiary Self Rating Report (both men and women) Participant Interview at FFS completion	FFS Assessment Questionnaire, Self-Rating Sheets (both men and women)	Agriculture Extension Staff (IP), M&E Specialist
Mid Term	Adoption study	FAO Geo-referenced tracking tool, questionnaire, field visits	Agriculture Extension Staff (IP), M&E Specialist
Year 5	Impact Assessment (integrate key adoption study methods)	IAS questionnaire, field visits	Third Party Independent Survey.

Table 13: Monitoring of Training Activities

Reporting Timeline	Type of Report	Instrument Used	Responsibility
Start of Year 3	Beneficiary Feedback	Feedback from students disaggregated by sex and age on course content.	IP
End of completion of each course	Student Interview at course completion	Feedback from students disaggregated by sex and age on course content.	IP and M&E Specialist
Year 3, 4 and 5	Student tracking tool at course completion	Impact of course on personal, social and economic aspects.	M&E Specialist
Year 5	Impact Assessment	Feedback from participants in the FFS (both men and women)	Third Party Independent Survey.

3.2: Food and Nutrition Security

233. At baseline, prior to designing the programme, a Knowledge, Attitudes and Practice (KAP) survey designed exclusively for nutrition will be used to assess existing practices and knowledge. (KAP surveys/studies are qualitative methods for understanding the KAP of the targeted population). The survey will be undertaken through a sample survey of women who are participating in the project. The sample size of these KAP surveys will be small as the knowledge, attitude and practices related to food and feeding do not differ very much within a community. The survey questionnaire or the guideline for focus group discussions will need to be context-specific and hence locally developed/adapted. Based on the planned nutrition activities and topics to be covered in this program the questionnaire or guide will be used to collect very basic information from the target groups for key aspects like

diversification in diets, increase in food groups and dietary diversity, infant and child feeding practices, water and hygiene practices, incidence of disease among the young, etc.

234. At the start of Year 3, when at least 40 groups or 400 women have been involved in the nutrition programme for more than a year, a first feedback survey will be undertaken to assess beneficiary feedback and adapt the approach as necessary. An end-line impact assessment will be scheduled in Year 5 of the project to measure the behaviour and dietary changes brought about by the intervention. Open source KAP questionnaires ([FAO, 2014](#)) will be modified by the Nutrition Specialists and used after adoption to local context and local food habits.

Table 14: Monitoring of Nutrition Activities

Reporting Timeline	Type of Report	Instrument Used	Responsibility
Baseline: Year 1	Qualitative KAP Report on nutrition	KAP Survey of women participating in the programme.	Nutrition Specialists
Start of Year 3	Beneficiary Feedback	Feedback from women participating in the survey.	Nutrition Specialists
End of Year 3	Qualitative KAP Report on nutrition	KAP Survey of women participating in the programme.	Nutrition Specialists
Year 5	Qualitative KAP Report on nutrition	KAP Survey of women participating in the programme.	Third Party Independent Survey.

3.3: Livelihood Resilience and Value Addition

235. A dedicated effort to monitor and evaluate this sub-component will be made in order to analyse how beneficiaries use the assistance provided by the project and how it impacts food security, income, nutrition and/or resilience, depending on the project objectives.
236. The project outcome indicators will be determined based on the benefits of the type of assistance package (i.e. poultry, beehive). Baseline data will be captured during the application process through a short questionnaire, which should include demographic, economic and livelihood sections.
237. One year after the distribution, M&E team will conduct Post Distribution Monitoring to repeat the baseline questionnaire in order to analyse the immediate results of the project to inform the decision making process regarding the continuation or cancellation of each package, or any improvements required.
238. The project assessment will be done during the Mid-Term and at Completion, which will measure the attributable contribution of packages to the higher outcomes and the objectives.

4.7.8 Knowledge Management

1. RLDP Knowledge Management (KM) processes will be structured and systematized throughout the lifecycle of the Project around a well-defined KM Strategy, which is a plan of action that outlines how the Project will manage the information, data, and insights to improve productivity and efficiencies. A Knowledge Management strategy will be fully prepared during the start-up workshop in a participatory manner based on the main principles and approaches discussed below.
2. For RLDP, the KM processes will be clearly linked to the M&E System. It is the responsibility of the M&E system to collect and analyse data from wide range of stakeholders, and generate insights that would increase the capacity to gain an accurate and deep understanding of the issues. KM process will manage and use these insights to create a learning environment.
3. M&E Officer will also be the custodian of KM and responsible for managing the intellectual capacity, planning and implementing KM activities, promoting ownership and commitment among the project staff to maximize the value and stimulating a learning environment through "knowledge".
4. KM process will have four main functional categories that will be formally structured, namely Acquisition, Memory, Transfer of Knowledge, Feedback and Utilization.

Table 1: KM Process Model Framework

Model Stage	Objective	Tools/Events	Responsible	Frequency
Acquisition	To collect information from various sources, including the beneficiaries.	Surveys, Grievance mechanism, meetings with internal and external partners.	Project Manager and M&E Officer	Continuous
Memory	Create a proper platform to store and maintain both qualitative and quantitative information.	FAO FPMIS, Online repository system for external users.	M&E Officer	Continuous, as required
Transfer	Disseminate the findings and learning to the relevant stakeholders.	Baseline, Mid-Term, Impact Assessment Workshops	M&E Officer, Contractor	After completion of Studies
		TPM Field Monitoring Surveys Communique	M&E Officer, TPM Contractor	Ad-hoc meetings as needed
		Thematic Studies and Workshops (i.e. Fragility)	M&E Officer, Consultant/Specialist	After completion of Studies

		Experience sharing and learning/ field experiences	M&E Officer, Project Manager, Field Officers	Quarterly
		Reporting (i.e. KPI Dashboard, Progress Report)	M&E Officer,	Semi-Annual
Feedback and Utilization	Integration of learnings into the project implementation and national policies	AWPB and Budgeting tools, Strategy & Policy papers. IFAD Missions, Advisory Steering Committee, Food cluster meetings	Project Manager, Technical Specialists, GEF Coordinator	Annual IFAD Missions

5. Knowledge will be acquired from various sources during the course of the implementation including beneficiaries through surveys, FGDs, interviews, and the grievance mechanism (details are provided in the PIM M&E Section). Collected data through M&E system will be analysed to produce knowledge that may have influence the decision making (from data management to insight generation).
6. RLDP KM system will be adaptive to the changing situations and flexible enough to incorporate learnings from different practices, sometimes through ad hoc manner without explicitly linking them with the structured processes. M&E team will communicate with the component leads, technical specialists, consultants, field teams, and third party implementing agencies through a consultative process (i.e. peer-to-peer exchanges) to document the issues worth assessment from the KM perspective encountered during the implementation.
7. Acquired information will be stored in an electronic platform of FAO (FPMIS) systematically, including any audio-visual materials, and a simple online repository platform will be created for external users for delivering knowledge materials to public audience. The details of the establishment of an external systems and the roadmap will be agreed during the start-up workshop.
8. The KM system of RLDP will use both push and pull methods for information dissemination. Push method will be used to distribute information through presentations, reports, and workshops which knowledge is delivered to the audience directly. KM workshops will be organized annually with the participation of stakeholders including the donor community and the development partners. Sufficient budget is allocated for these events in the M&E/KM component
9. Annual knowledge sharing workshops will be prepared systematically by FAO through consultation process with the stakeholders. These workshops will raise awareness on RLDP implementation and impact, exchange of ideas, experiences, and strategies to enhance implementation and build coalition and partnership with the other relevant actors to tackle the shared concerns. A concept note will be prepared six months in advance outlining the learning objectives, expected outputs, draft agenda, and logistic arrangements. A detailed assessment report will be published after the workshop to be shared with all concerned parties.
10. In addition, the pull method will be used to provide an environment for others who would like to share their learning and experiences. RLDP system will develop

knowledge sharing channels (i.e. WhatsApp KM groups, feedback boxes, e-mail groups) to allow both central and local staff to share what they find useful and relevant.

11. The KM system will be responsible from delivering the knowledge products, specifically on the Project's contribution to improve resilience and learnings from the operations in fragility and conflict context, the linkages between development and humanitarian works and graduation from assistance to self-reliance, and the NRM approaches addressing the outbreaks (i.e. covid-19). These KM products will be developed by subject of experts recruited by FAO. KM system will also utilize the research and studies conducted by the project such as developing easy to follow manuals for farmers based on the research on Climate Change and Adaptation.
12. One of the main KM products, which will be prepared after the MTR, is the study exploring how the project interventions contribute to the resilience given the fragility context in Yemen. The study will provide a critical analysis of the fragility factors and the response towards gradual building of livelihoods and resilience through RLDP development activities, as well as implications for the humanitarian and development nexus. The study will be presented in a public workshop to raise awareness of development activities summarizing evidence from research and practice that would also be of value to the government towards the development public policies and in terms of understanding the factors and rural development practices in restoration of livelihoods and the cultivation of both economic and political stability. The study will be published in hard copy and will be distributed to the GoY, RBAs, donor country representative offices, and the other development actors in the ground. A joint workshop will also be organized to share the results internally within IFAD and FAO.
13. The project's interventions will offer a number of best practices and lessons learned in enhanced natural resources management that will be documented by the project's team. The process of developing community action plans and community-based management for climate-resilient infrastructure will help better understand the opportunities and challenges of such practices in fragile contexts. In addition, lessons in conflict resolution mechanisms and gender mainstreaming in natural resources management will also be highlighted. Such knowledge will be shared across the NENA region through IFAD's platforms.
14. RLDP is also mainstreaming community health concerns across its activities through a detailed ESMP and a number of measures specific for the COVID-19 pandemic will be taken accordingly. In addition to awareness material that will be disseminated by the project's activities, the best practices applied by the project on community health will also be documented and shared across IFAD's projects in the region.
15. Through the GEF-supported knowledge management activities, the Agriculture Research & Extension Authority (AREA) will also ensure knowledge sharing through the production of leaflets summarizing the findings and outcomes of the trials and the recommendations for its scaling up in all FFS on a yearly basis.
16. FFS research will furthermore facilitate the quick transfer of knowledge to the farmers and integration into the training programmes. RLDP will promote: (i) in-country knowledge networking through periodic seminars/workshops and (ii) regional research networks. Special emphasis will be placed on knowledge regarding climate change adaptation and disaster-risk development planning. Main anchoring points for knowledge management will be identified, including research

institutions, civil society, regional KM networks and specialised service providers. The project will support the preparation of a number of awareness raising printed materials, scientific publications and technical reports that will be available online and as hard copies. Printed copies will be disseminated during field work, conferences, through mailing, etc, and will also be available at the FAO and MAI offices.

17. At the end of the Project, an international consultant will be hired to produce a policy position paper based on the results of the 5 years' on-farm research. This paper will assess the RLDP research programme, draw conclusions and make policy recommendations that will complement the policy strengthening outputs produced by the FAO project for strengthening improved seeds production capacities. The paper will also be presented to the Environment Protection Agency (EPA) to provide technical basis for climate change adaptation and mitigation priorities for the agriculture and water sectors in the updated NDCs.
18. Knowledge generated during the implementation will be periodically disseminated to influence policy level decision making through the Advisory Steering Committee meetings, which will be chaired by the Ministry of Planning and International Cooperation (MoPIC) with other key Ministries represented. This will allow Government taking the lead and turning the knowledge into action, as well as developing and implementing a policy change based on the learning from RLDP.
19. FAO will lead the efforts in the food security cluster to promote the outputs of the KM system and provide guidance on the food security and agriculture development. As the co-led agency of the food security cluster with WFP, FAO is in a good position to advocate and raise awareness based on RLDP experience and will contribute to the improvement of the annual Humanitarian Response Plan in Yemen.
20. The KM events will provide an opportunity to integrate the information received from various stakeholders about the Project performance. The necessary changes or improvements will be made accordingly during the next AWPB planning cycle. The feedback process will also stimulate further discussions during the IFAD missions allowing the formulation of timely and effective recommendations to enhance the quality of work.

Knowledge Management Plan – RLDP					
Phase	Topics	Activities	Frequency/Time	Outputs	Non-staff Budget Requirements
Detailed Planning of the KM system during the inception phase	Start Up Workshop	<ul style="list-style-type: none"> Review and agree with the stakeholders on the master action plan for KM 	During Start Up Workshop	Detailed KM Action plan agreed and distributed to stakeholders	No (covered by the start-up workshop budget)
		<ul style="list-style-type: none"> Develop the roles and responsibilities matrix/organigram both at the FAO and SFD central and field level 			
<ul style="list-style-type: none"> Develop a comprehensive and detailed plan for setting up the IT systems, building linkages with the M&E, organizing the KM events, and the production and distribution of KM Products. 					
<ul style="list-style-type: none"> Finalize the full KM Action Plan and distribute the plan across the relevant partners. 					
	Reporting Requirements	<ul style="list-style-type: none"> Develop the templates for the KM sections of the AWPB and Progress Reports – including KM performance and progress against selected indicators and related sections in the M&E Plan 	Within three months after inception	Project main reporting templates developed	No

Yemen
Rural Livelihood Development Project (RLDP)

		<ul style="list-style-type: none"> Submit the finalized KM Action Plan as an annex to the first AWPB 				
		<ul style="list-style-type: none"> Prepare the Monitoring and learning dashboard templates and plan for the automation of these reports 				
	Trainings	<ul style="list-style-type: none"> Organize a one-day event to train the field staff on the KM objectives, strategy, and activities. KM start-up kits for projects developed and available to all implementing partners. 	Within three months after inception	KM training provided to staff and training materials distributed	Yes (event cost and publication expenses for the materials)	
	Develop IT Solutions	<ul style="list-style-type: none"> Customize the in-house FAO filing system to capture visual and audio materials (no extra budget is needed) 	<ul style="list-style-type: none"> Gather the information requirements from KM system to feed into the FAO FPMIS and IFAD ORMS systems. Develop Knowledge Solutions Portal for electronic dissemination of knowledge products 	Within six months after inception	Road map developed for the IT infrastructure	No
		<ul style="list-style-type: none"> Gather the information requirements from KM system to feed into the FAO FPMIS and IFAD ORMS systems. 				
		<ul style="list-style-type: none"> Develop Knowledge Solutions Portal for electronic dissemination of knowledge products 				
Implementation Phase	Linkages with M&E	<ul style="list-style-type: none"> Compile Baseline Study learnings together with the Service Provider and prepare a brief report for the knowledge repository. The report will be distributed to implementing partners and funding agencies. 	<ul style="list-style-type: none"> One month after receiving the baseline final report 	M&E continuously feeding Knowledge Management System and KM produces inputs to the M&E reports/products	No	
		<ul style="list-style-type: none"> Semi-annual (and year-end) review of M&E activities, products, outreach and partnerships, with recommendations on priorities for knowledge development, knowledge partnerships and resource use. 	<ul style="list-style-type: none"> May and November of each implementation year 			
		<ul style="list-style-type: none"> Ongoing support and collaboration with the Service Providers and Implementing Partners and the stocktake of lessons learned and best practices during the implementation 	<ul style="list-style-type: none"> Ongoing 			
		<ul style="list-style-type: none"> Quarterly analysis of Grievance reports from M&E from the knowledge transfer point of view and contribute to the relevant sections in the Complaints and Feedback report 	<ul style="list-style-type: none"> Quarterly 			
		<ul style="list-style-type: none"> Provide inputs to the AWPB and M&E/KM Plan and semi-annual progress reports 	<ul style="list-style-type: none"> May and November of each implementation year 			
	Knowledge Products	<ul style="list-style-type: none"> Produce at least two strategic KM products that are clearly linked to the outcomes of the Project: <ul style="list-style-type: none"> Strengthening the resilience and the livelihoods of communities in fragile and conflict-affected situations through rural development – learning from Yemen experience Position paper based on the results of the 5 years' on-farm research (complement the policy strengthening outputs produced by the FAO project for strengthening improved seeds production capacities) 	<ul style="list-style-type: none"> Mid 2025 Mid 2026 	Two KM products completed	Yes (consultancy costs and publication expenses)	
<ul style="list-style-type: none"> The production of booklets, leaflets, brochures summarizing the findings and outcomes of the trials and the recommendations for its scaling up in all demonstration activities including FFS and nutrition trainings on a yearly basis. 		<ul style="list-style-type: none"> Annual, starting at Year 2 	Ongoing production of KM materials	Yes (publication costs)		
<ul style="list-style-type: none"> Production of at least two short videos on demonstrating the new techniques/methods introduced by the Project for wider distribution through social media. 		<ul style="list-style-type: none"> Annual, starting at Year 2 	Ongoing production of KM materials	Yes (publication costs)		
Partnership		<ul style="list-style-type: none"> Semi-annual awareness raising meetings on KM (discussion on the findings and planning for the future) with the 	<ul style="list-style-type: none"> Semi-Annual 	Regular meetings/events conducted to	Yes (event costs)	

		implementing partners and the donor/UN/INGO communities in Yemen		strengthen the partnership on KM	
		<ul style="list-style-type: none"> Organize Annual Stakeholder Workshops at year end 	<ul style="list-style-type: none"> Annual, starting at Year 2 		
		<ul style="list-style-type: none"> IFAD Yemen Programme Team (remotely) and FAO to represent RLDP in the joint inter agency working groups including sessions related to the humanitarian-development-peace nexus 	<ul style="list-style-type: none"> TBC 		
	IFAD Missions	<ul style="list-style-type: none"> Prepare an update report including the stocktake of KM and learning activities before the Supervision, MTR, and Project Completion Missions and discussed with IFAD. 	<ul style="list-style-type: none"> One month prior to each mission 	Learning from IFAD Missions integrated	No
		<ul style="list-style-type: none"> Lessons learned from supervision missions, MTR and PCR are published in a brief report after each mission. 	<ul style="list-style-type: none"> One month after each mission 		
	Dissemination	<ul style="list-style-type: none"> Systematically generate, distil and disseminate knowledge and innovations emerging from grant portfolio and relevant supplementary-funded initiatives. <ul style="list-style-type: none"> Annual Stakeholder KM Workshops organized Knowledge Solutions Platform updated semi-annually Progress reports and dashboard distributed to relevant stakeholders Audio and visual materials produced/distributed to beneficiaries and relevant stakeholders Filing and Library services provided continuously Successful approaches documented and shared Project Social media account updated regularly Project documents (i.e. mission reports, KM reviews) are distributed to the Project team regularly 	<ul style="list-style-type: none"> Year end Mid Year/Year End June and December of each year Continuous Continuous Continuous Continuous One month after each mission 	KM outputs are communicated through multiple channels to the stakeholders	Yes (event and publication costs)

4.8 Environmental and social management plan (ESMP)

4.8.1 Grievance and Redress Mechanism (GRM)

239. The project will follow IFAD's Complaints Procedure which ensures that appropriate mechanisms are in place to allow individuals and communities to contact IFAD directly and file a complaint if they believe they are or might be adversely affected by an IFAD-funded project/programme not complying with IFAD's Social and Environmental Policies and mandatory aspects of SECAP. Environmental and Social Accountability will be assessed based on: (i) the ability of beneficiaries to voice complaints and provide feedback through well-established GRMs; (ii) dissemination of information about the resumption of the RLDP to the intended beneficiaries' relevant communities; (iii) independent verification through the third-party monitoring agency; and (iv) the FAO/SFD field monitoring activities.
240. IFAD's GRM shall be fully explained to stakeholders during the project's start-up workshop and to beneficiaries during the project's activities. The GRM will capitalise on established FAO Yemen and SFD practices and will provide multiple access points (telephone, complaints box, website, email, postal address) so that beneficiaries will know whom to contact with regard to their concerns. FAO will have their call center with GRM operators equipped to receive complaints through a hotline. The number

should be available on all project-related documents, billboards, leaflets and other communication material. The complainants should first bring the matter to the attention of the PMU which should consult FAO and SFD. Grievances shall be addressed at the field level by the project team which will be the first layer of redress mechanism. If the grievance is not resolved at the field level, it will be escalated to the PMU and then to IFAD who will be responsible for addressing grievances related to violations of the Project's SECAP or the Policy on Environmental and Social Safeguards of the Global Environment Facility (if co-financing from GEF is made available).

241. The main responsibility of addressing complaints lies with the PMU and the implementing agencies. If the PMU does not adequately respond, then the matter may be brought to the attention of IFAD. The issue may be brought straight to IFAD if the complainants feel they might be subject to retaliation if they went to the PMU directly.
242. All grievances received and action taken on them will be reported to the PMU, implementing agencies and IFAD. If GEF funding is made available, IFAD will ensure that all complaints received and actions taken to address them are included in the annual Project Implementation Reports (PIRs).

ESMP Matrix

Interventions	Environmental/Social Impacts	Recommended Mitigation/Enhancement measures	Public Consultation Activities	Responsible Institution in Implementation Phase	Means of Verification (Monitoring and reporting)	Frequency of Verification	Cost Estimate
All Interventions	All possible adverse environmental and social impacts as a result of the RLDP's activities.	(1) Apply strictly the Grievance Redress Mechanism (GRM) as per the SECAP. (2) Ensure dissemination of the GRM to local communities prior to starting project activities. (3) Maintain solid documentation for the received complaints during the operation of the project and track the level of responsiveness (provision of feedback).	Start-up workshop with all the stakeholders.	PMU	(1) Review of the number of complaints received. (2) Review of the number of complaints solved, the mechanisms used and the time it took to solve them.	Monthly	\$2,000 (M&E Budget)
All Interventions	Beneficiary Dissatisfaction and Discrimination	In addition to the FAO GRM call centre, create a qualitative assessment of the aspirations of women and men of various age groups, especially the most vulnerable (female	Community focus groups at baseline.	PMU	(1) Collect and monitor disaggregated evaluation data. (2) Review number of complaints and negative data	Monthly	\$5,000 (M&E Budget)

Yemen
Rural Livelihood Development Project (RLDP)

		head of households, youth- especially young girls), through focus group discussions, to solicit feedback on the challenges being faced by them, their views on solutions and coping mechanisms, as well as feedback on the training programs and how they can be improved during all project stage.			compared to positive feedback and time it took to resolve them		
All Interventions	<u>Social:</u> Women, Youth and other vulnerable categories are excluded from project benefits	During the diagnostic process, conduct strong public consultation at different levels on the programme objectives, eligibility criteria and selection process for specific activities directed to specific social categories, and available grievance redress mechanisms. This should be done in partnership with IPs, CDAs, and community leaders.	Start-up workshop with all the stakeholders.	PMU	Ensure logframe data is disaggregated by sex, age and vulnerable groups where relevant.	Monthly	No extra budget needed.
All Interventions	<u>Social:</u> Gender Issues and all forms of Gender-Based	(1) Increase local CDAs engagement to work with local leaders and male household's	Start-up workshop with all the stakeholders.	PMU and IPs.	(1) Collect gender-disaggregated monitoring and evaluation data to	Annually	\$5,000 (M&E Budget)

	<p>Violence, including Sexual Harassment (SH) and Sexual Exploitation and Abuse (SEA) due to the increasing mobilisation of women to participate in project activities</p>	<p>members and promote campaign for sensitisation on gender equality and against gender biases and GBV. Community and Household level.</p> <p>(2) Conducting gender-sensitive and participatory consultations while finalizing and designing the various sub-project activities (Component 1). These have to include safe spaces/ women-only focus groups to encourage women's meaningful participation in consultations.</p> <p>(3) Create female only spaces for women to receive trainings and services.</p> <p>(4) Gender mainstreaming actions should be developed as part of a Gender Development Plan</p>			<p>track the extent to which women have been able to participate and benefit from project activities.</p> <p>(2) Cases of Sexual Harassment (SH) and Sexual Exploitation and Abuse (SEA) has to be dealt with in compliance with IFAD's Policy to Preventing and Responding to SH/SEA and reported directly to IFAD.</p>		
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Yemen
Rural Livelihood Development Project (RLDP)

		<p>(GDP) prepared by the IPs engaged in the implementation.</p> <p>(5) Sensitize the IP as to the importance of addressing SEA/SH in the project, and the mechanisms that will be implemented.</p> <p>(6) As part of the project's stakeholder consultations, property inform those targeted by the project about SEA/SH risks and project activities to get their feedback on project design and safeguard issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women's organizations and groups working with children) and should occur at the start and throughout the implementation of the</p>					
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Yemen
Rural Livelihood Development Project (RLDP)

		<p>project.</p> <p>(7) specific procedures for SEA/SH, including confidential reporting with safe and ethical documenting of SEA/SH cases should be prepared.</p> <p>(8) Clearly define the SEA/SH requirements and expectations in the bid documents.</p> <p>(9) Evaluate the contractor's SEA/SH Accountability and confirm prior to finalizing the contract the contractor's ability to meet the project's SEA/SH prevention and response requirements.</p> <p>(10) Code of Conduct: The agreed CoC to address behavior which will be used on the project for the contractor's workers, including sub-contractors and suppliers are</p>					
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Yemen
Rural Livelihood Development Project (RLDP)

		<p>compliance with SH and SEA related regulations</p> <p>11) Undertake regular M&E of progress on SEA/SH prevention and response activities, including reassessment of risks as appropriate.</p>					
All Interventions	<p><u>Social:</u> Child labour used in project's activities.</p>	<p>(1) Increase local CDAs engagement to work with local leaders and household's members and raise awareness on not using child labour.</p> <p>(2) Strictly apply GRM.</p> <p>(3) Sensitize the IP as to the importance of addressing child labor in the project, and the mechanisms that will be implemented.</p> <p>(4) As part of the project's stakeholder consultations, property inform those</p>	<p>Start-up workshop with all the stakeholders.</p>	<p>PMU and IPs</p>	<p>Review child labour complaints in compliance with GRM</p> <p>Review cases of complaints from workers.</p>	<p>Annually</p>	<p>No extra budget needed.</p>

Yemen
Rural Livelihood Development Project (RLDP)

		<p>targeted by the project about child labor risks and project activities to get their feedback on project design and safeguard issues. Consultations need to engage with a variety of stakeholders (political, cultural or religious leaders, health teams, local councils, social workers, women’s organizations and groups working with children) and should occur at the start and throughout the implementation of the project. .</p> <p>(5) Evaluate the contractor’s Accountability and confirm prior to finalizing the contract the contractor’s ability to meet the project’s child labor prevention and response requirements.</p> <p>(6) Code of Conduct: The agreed CoC to address</p>					
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Yemen
Rural Livelihood Development Project (RLDP)

		<p>behavior which will be used on the project for the contractor's workers, including sub-contractors and suppliers are compliance with child labor related regulations</p> <p>(7) Undertake regular M&E of progress on child labor prevention and response activities, including reassessment of risks as appropriate.</p>					
All Interventions	<p>Social: Decent working conditions and labour standards are not respected (especially health and safety)</p>	<p>Integration of internationally recognized Occupation Health and Safety Management standards as part of the trainings. This include training on the proper use and maintenance of personal protective equipment; remedies for</p>	<p>Start-up workshop with all stakeholders.</p>	<p>PMU and IPs</p>	<p>Review cases of complaints from workers.</p>	<p>Annually</p>	<p>No extra budget needed</p>

Yemen
Rural Livelihood Development Project (RLDP)

		adverse impacts such as occupational injuries, and proper documentation and reporting of occupational incidents.					
All Interventions	Environmental: SECAP provisions not included in procurement processes	OPR is currently developing a Matrix that maps the 9 guiding principles of SECAP with procurement requirements. This matrix will be disseminated to FAO and SFD in order to develop the relevant bidding documents. The standard Bidding documents that are being developed by IFAD for works incorporates this matrix and they can be used by FAO and SFD if they agree to do so.	Start-up workshop with FAO and SFD.	FAO and SFD.	Review bidding documents.	Before every procurement.	No extra budget needed.
All Interventions	<u>Environmental:</u>	(1) Public health awareness, proper	Start-up workshop with all stakeholders.	PMU and IPs.	(1) Review reports of Capacity building	Annually	\$4,000 (Component

	The project's activities unintentionally aggravate public health concerns in the target areas including waterborne diseases and COVID-19	<p>waste management and hygiene issues mainstreamed in all capacity building activities of the project especially FFS and nutrition trainings.</p> <p>(2) Water quality assessments carried out periodically in all target areas.</p> <p>(3) Ensuring that service providers follow national health and safety regulations at workplace.</p>			<p>workshops to ensure health issues were discussed.</p> <p>(2) Review water quality assessment reports.</p> <p>(3) Review complaints by workers during execution.</p>		2 studies (budget)
Component 2: Climate Resilient Community Infrastructure							
Climate Resilient Infrastructure	<u>Environmental:</u> Negative environmental impact due to construction/rehabilitation work carried out by the project.	<p>(1) Carry out Environmental Impact Assessments (EIAs) for each infrastructure intervention.</p> <p>(2) Strictly apply GRM.</p>	Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).	PMU and IPs.	<p>(1) Review EIAs reports vis-a-vis national laws and regulations.</p> <p>(2) Review complaints by local communities.</p>	<p>(1) Before execution of every intervention.</p> <p>(2) Annually.</p>	\$5,000 (Component 2 studies budget)

	<p><u>Environmental:</u> Negative environmental impact on the Wadi areas due to construction of check dams</p>	<p>(1) Carry out hydrological studies prior to intervening. (2) Strictly apply GRM.</p>	<p>Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>(1) Review hydrological studies. (2) Review complaints by local communities</p>	<p>(1) Before execution of every intervention. (2) Annually</p>	<p>\$10,000 (Component 2 studies budget)</p>
	<p><u>Environmental:</u> Unsustainable use of groundwater resources as a result of project activities.</p>	<p>(1) Conduct geological surveys prior to interventions involving groundwater to assess water availability. (2) Raise awareness of sustainable use of groundwater resources during capacity building activities related to infrastructure operation and maintenance. (3) Design and capacity of solar pumps on irrigation wells shall ensure that no unsustainable extraction of groundwater occurs</p>	<p>Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>(1) Review geological surveys conducted. (2) Review workshop reports for training activities done as on operation and maintenance of infrastructure. (3) Review design of solar pumps prior to their installation on irrigation wells</p>	<p>(1) Before the interventions involving groundwater use. (2) Annually.</p>	<p>\$15,000 (Component 2 studies budget)</p>

<p><u>Environmental:</u> Failure of rainwater harvesting systems due to decline in rainfall in target areas.</p>	<p>Review SECAP's Climate Risk Analysis and climate vulnerability targeting criteria before selecting sites.</p>	<p>Start-up workshop and community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>Review selected sites for infrastructure vis-à-vis targeting strategy and SECAP.</p>	<p>Before selecting target areas for rainwater harvesting.</p>	<p>No extra budget needed.</p>
<p><u>Environmental:</u> Community Action Plans (CAPs) come up with suggested interventions that will have detrimental environmental impact.</p>	<p>Apply SECAP and ESMP strictly to any potential interventions.</p>	<p>Start-up workshop and community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>Review CAPs against SECAP and ESMP.</p>	<p>Annually.</p>	<p>No extra budget needed.</p>
<p><u>Environmental and Social:</u> Conflict among local communities/farmers on access to resources due to limited target areas for interventions.</p>	<p>(1) Apply the project's targeting strategy. (2) Conflict-sensitive sectors of interventions should not be selected (e.g. any interventions relying on community policing) (3) Involve Water Users Associations and community leaders in focus groups.</p>	<p>Community focus groups carried out as part of component 1 to develop Community Action Plans (CAPs).</p>	<p>PMU and IPs.</p>	<p>(1) Review selected sites for infrastructure vis-à-vis targeting strategy. (2) Review community consultations reports.</p>	<p>Before selecting target areas.</p>	<p>No extra budget needed.</p>
<p>Component 3: Protection of Agriculture Livelihoods</p>						

Yemen
Rural Livelihood Development Project (RLDP)

Food and Nutrition Security	<u>Environmental:</u> Food safety concerns related to food-processing.	(1) Nutrition trainings should focus on food safety, water quality and hygiene related issues. (2) Strictly apply GRM.	Community dialogues as part of component 2.	PMU and IPs.	(1) Review nutrition trainings reports. (2) Review complaints related to food safety and waterborne diseases.	Annually.	No extra budget needed.
	<u>Environmental:</u> Water scarcity exacerbated by the development of kitchen gardens.	(1) Raise awareness of water scarcity issues and efficient water use during nutrition trainings. (2) Encourage use of harvested water or safe grey water for kitchen gardens during nutrition trainings.	Community dialogues as part of component 2.	PMU and IPs.	Review nutrition trainings reports.	Annually.	No extra budget needed.
	<u>Social:</u> IDPs and PWD (especially women and youth) excluded from activities.	Apply targeting strategy for social inclusion and provide training and capacity building of IP to undertake a proper targeting and social inclusive strategy	Community dialogues as part of component 2.	PMU and IPs	(1) Collect and monitor data on IDPs and PWD presence in project activities. (2) Deal with complaints and any emerging conflict issue in	Annually	No extra budget needed.

Yemen
Rural Livelihood Development Project (RLDP)

					compliance with GRM.		
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Annexes

Annex 1: Draft Terms of reference of key project staff

1. Terms of Reference of Project Manager

Under the overall guidance of the FAO Representative (FAOR), the Project Manager (PM) will be in charge of the overall management and implementation of the RLDP Project. The PM will be guided by the Project Design Report, the Project Implementation Manual and the financing agreements between IFAD and FAO and FAO and the Social Fund for Development and the implementing partners. The PM will ensure that all physical targets are planned for in a timely manner and that financial and progress reporting is undertaken on a timely basis. The PM will be responsible for the Annual Work Plan and Budgets and their timely clearance by IFAD. The PM will liaise with all partners to ensure and facilitate their work. The PM will be responsible for ensuring that financial management and procurement is undertaken according to the highest standards. He/she will provide support to all missions fielded by IFAD. The PM will report to the FAO Representative (FAOR) and keep the IFAD Country Director and the Advisory Steering Committee informed of progress.

Specific duties:

- Provide orientations for the implementation of the project;
- Ensure the project performance in accordance with the agreed policies and procedures;
- Coordinate with SFD and all implementing partners and technical experts to ensure their timely deployment.
- Monitor the progress by all implementing partners and facilitate them in implementation.
- Coordinate the project team and ensure partnership with key stakeholders;
- Ensure synergies between project components to maximize the project's impact;
- Supervise the project planning and implementation according to the financing agreement, the recommendations of the steering committee as well as the recommendations of the supervision missions;
- Timely coordinate the preparation of the annual work plan and budget as well as progress reports;
- Supervise the preparation and negotiation of the MoUs, contracts and other agreements with partners and service providers;
- Execute the approved annual action plan and budget;
- Identify areas which require external support and recruit suitable consultants;
- Guide the consultants, experts and contractors toward the realization of planned project outputs and evaluate their performance;
- Monitor the project implementation progress and facilitate performance;
- Support the implementation support missions and the follow up missions.

Expected outputs:

- Project general objective, specific objectives and activities timely reached within the frame of the financing agreement;
- Project planning and budgeting processes implemented timely with the full participation of key partners in a participation approach;
- Project physical and financial report timely submitted to the relevant authorities in accordance to the provision of the financial agreement;
- Disbursement procedures done in accordance to the project design report;

- The Project impact data updated regularly and disseminated to project partners for measuring the results across all project components;
- Excellent relations with line ministries, implementing agencies, project beneficiaries and other key partners.

Qualification:

The Project Manager must have a Master's degree in in the following areas:

- Agriculture or Animal Production with 5 years of working experience or a Bachelor's degree with 10 years of working experience.

Key competences:

- Fluency in Arabic and English;
- Computer literacy;
- Good communication skills;
- Ability to work with project's implementing partners.
- Ability to meet deadlines;
- Working experience with IFAD funded project is an advantage

2. Terms of Reference of FAO Agriculture Specialist

The FAO Agriculture Specialist will responsible for the technical design, content, implementation and supervision of the FFS activities dealing with crops, soil conservation techniques, water efficient and water productivity enhancing technologies as well as identifying appropriate inputs, practices and technologies for climate adaptation in the crop sector. FAO will also get short-term technical specialists as and when required for the FFS. FAO will work with AREA in the implementation of the applied research activities on farmer's fields. In addition, FAO will competitively procure the services of an Implementing Partner to provide all logistical support to the project activities with regard to the crop based FFS activities. FAO staff will work closely with Government Extension Agents in the project districts and will also develop terms of reference for community extension agents who will support project activities in the field. FAO will take overall responsibility for achieving the gender based and youth sensitive targets under the FFS and with reference to the distribution of the livelihood and matching grants under the project.

Specific duties:

- To interview and select the Government Extension Agents who will be deployed in the field for the implementation of the FFS;
- To prepare a training programme for updating the skills of the Government Extension Agents in the project districts.
- To implement the training programme and any refresher programme needed during the project period.
- To design the modules for the FFS appropriate for the selected project districts that are designed to enhance productivity, build climate resilience through developing adaptive practices, use of inputs and technologies available, enhance water use and productivity, etc.
- To prepare the training manual for the FFS Facilitators and train them in its use.
- To work with Government Extension Agents and identify community extension agents who will provide support to the FFS.

- To work with the Implementing Agency selected to identify target farmers for each type of school at the start of each year ensuring that women, women-headed and youth targets are met;
- To prepare Annual Work Plans and a training calendar at the start of each implementing year and ensure that it is implemented on time with support from IP;
- To supervise the IP in the management of the FFS and the tracking and attendance of participants in crop based FFS;
- To review and strengthen the terms of reference of the Implementing partner and guide its work.
- To prepare the Annual Work Plan and Budget with respect to the FFS crop activities of the project, the Implementing partners, Extension Agents and the Community Extension Agents and supervise the implementation of the sub-component activities.
- To develop appropriate monitoring and tracking tools to monitor behaviour change, and instruments for exit interviews at the end of each FFS.
- To ensure that the activities are properly monitored by the IP and the community extension agents and the government staff.
- To supervise the preparation of the progress reports for all crop based FFS activities in the project.

3. Terms of Reference of FAO Livestock Specialist

The FAO Livestock Specialist will be responsible for the technical design, content, implementation and supervision of the FFS activities dealing with livestock as well as identifying appropriate inputs, practices and technologies for climate adaptation in the livestock sector. FAO will also get short-term technical specialists as and when required for the FFS. In addition, FAO will competitively procure the services of an Implementing Partner to provide all logistical support to the project activities with regard to the livestock based FFS activities. FAO staff will work closely with Government Extension Agents in the project districts and will also develop terms of reference for community extension agents who will support project activities in the field. FAO will take overall responsibility for achieving the gender based and youth sensitive targets under the FFS and with reference to the distribution of the livelihood and matching grants under the project.

Specific duties:

- To interview and select the Government Extension Agents who will be deployed in the field for the implementation of the FFS;
- To prepare a training programme for updating the skills of the Government Extension Agents in the project districts.
- To implement the training programme and any refresher programme needed during the project period.
- To design the modules for the FFS appropriate for the selected project districts that are designed to enhance livestock productivity, build climate resilience through developing adaptive practices, use of inputs and technologies available, etc.
- To prepare the training manual for the FFS Facilitators for livestock production and husbandry practices and train them in its use.
- To work with Government Extension Agents and identify community extension agents who will provide support to the FFS.

- To work with the Implementing Agency selected to identify target farmers for each type of school at the start of each year ensuring that women, women-headed and youth targets are met;
- To prepare Annual Work Plans and a training calendar at the start of each implementing year and ensure that it is implemented on time with support from IP;
- To supervise the IP in the management of the FFS and the tracking and attendance of participants for livestock FFS;
- To review and strengthen the terms of reference of the Implementing partner and guide its work.
- To prepare the Annual Work Plan and Budget with respect to the FFS livestock activities of the project, the Implementing partners, Extension Agents and the Community Extension Agents and supervise the implementation of the sub-component activities.
- To develop appropriate monitoring and tracking tools to monitor behaviour change, and instruments for exit interviews at the end of each livestock FFS.
- To ensure that the activities are properly monitored by the IP and the community extension agents and the government staff.
- To supervise the preparation of the progress reports for all livestock based FFS activities in the project.

4. Terms of Reference of FAO International Nutrition Specialist

The FAO International Nutrition Specialist will be the person who is overall responsible for the technical design, content, implementation and supervision of the nutrition components of this project. It is expected that the current FAO International nutrition specialist will undertake this role. In addition, FAO will recruit a full-time National Nutrition Specialist who will be located on a rotational basis in one of the hubs in the project Governorates. In addition, FAO will competitively procure the services of an Implementing Partner to provide all logistical support to the project activities with regard to the nutrition component. The FAO International Nutrition Specialist will work for 2 months (each year) in the first three years and one month (each year) in the last three years of the project.

Specific duties:

- To prepare the technical content of the nutrition mentoring training to be delivered at the household level.
- To review and refine the selection criteria for the selection of the Community Nutrition Facilitators.
- To prepare the training manual for the Community Nutrition Facilitators and conduct their training with the National Nutrition Specialist.
- To review and strengthen the terms of reference of the Implementing partner and guide its work.
- To prepare the Annual Work Plan and Budget with respect to the nutrition activities of the project in coordination with the National Nutrition Specialist and the Implementing partners and the Community Nutrition Facilitators and supervise the implementation of the sub-component activities.
- To coordinate the integration of the nutrition component in all project activities such as FFS, the selection of infrastructure and the Adult Literacy Reflect sessions.
- Advise the national nutrition specialist on any challenges that may be experienced on the implementation of the nutrition components of the project.

- To develop appropriate monitoring and tracking tools to monitor behaviour change, and conduct exit interviews at the end of each nutrition session.
- To supervise the preparation of the progress reports on all nutrition activities in the project.

5. Terms of Reference of the National Nutrition Specialist

The National Nutrition Specialist will provide technical expertise for all aspects of the design, implementation, monitoring and supervision of the sub-component on Enhancing Nutritional Security of the Rural Livelihoods Development Project. The National Nutrition specialist will be responsible for the coordination and implementation of the nutrition interventions as defined in the project document (PIM, PDR) and will ensure that the nutrition activities are implemented as designed and are also mainstreamed in the adult literacy sessions, Farmer Field Schools and in the activities related to provision of climate resilient infrastructure especially portable water to households in the project area. The National Nutrition Specialist will be based in one of the governorates where the project is being implemented. The Nutrition Specialist will work for 6 months in the first year and full time for the remaining five years of the project. The National Nutrition Specialist will report to the FAO international Nutrition Specialist.

Support to be received:

- The National Nutrition Specialist will receive mentoring from the FAO-International Nutrition Specialist in order to understand the project components related to nutrition, and how they will be implemented.
- He/She will receive technical support from the FAO International Nutrition Specialist in development of the training materials for the Community Nutrition Facilitators and for the community groups.
- He/She will receive guidance on how to select and relate with the Implementing Partner, in order to ensure a smooth running of activities, monitoring of the nutrition outcomes of the project.

Specific duties:

A. Project Preparation:

- Take a lead in selection of the Implementing Partner for the implementation of the nutrition activities (IP);
- Provide technical assistance to the IP in the implementation of the nutrition component, include refining the approach in discussion with participating households;
- Take a leading role in development and compilation of the nutrition training manual (for the IP, community facilitators and community groups); liaise with the relevant working groups to provide inputs to the training materials.
- Provide technical Assistance to the IP to enable them to take the lead in the community mobilisation process and formation of community groups for the nutrition component.
- Interview and select the 40 Community Nutrition Facilitators that will work in the field together with the IP.
- Take the technical lead in designing the training programme for the CNFs and preparing the learning tools and materials that they will need;

- Provide the CNFs a clear plan, approach and systematized modules for field level implementation;
- Identify the criteria to be used in the field for selecting the households for nutrition enhancement and train the CNF in its administration;
- Identify the criteria for providing households support for crop and livestock production, food processing and preservation;
- Provide technical assistance to the IP and community facilitators in conducting food and nutrition training to the community groups and home visits to the households in the project;

B. Project Coordination

- In close liaison with other staff, ensure coordination with other project components in order to have nutrition well integrated;
- Liaise with the agriculture, water and livestock experts in the project, to ensure that they provide support to community facilitators and nutrition households in organizing FFS for kitchen gardens, livestock production and food processing activities and included in the Adult Literacy sessions;
- Establish and maintain working relationships with the line ministries (such as agriculture, health, gender) to build synergy in nutrition-sensitive interventions in project activities and establish coordination mechanisms;
- Support the coordinator to establish local partnerships on nutrition (UN, Private sector, CSOs) to support implementation and technical assistance;

C. Project Monitoring & Supervision

- Lead in development of nutrition tools for monitoring of the activities (KAP questionnaires) and in data collection;
- Ensure that all activities are implemented and deliverables are met on time through the IP by tracking its performance;
- In close liaison with other FAO staff, ensure adequate integration of nutrition in other project activities such as M&E system, Annual Work Plan and Budget and Progress reports;
- In collaboration with the project M&E specialist, ensure adequate data collection on nutrition indicators and entry in the Project's M&E database (e.g. develop terms of reference for baseline, mid and end-line studies).
- Provide technical support to ensure inclusion of key indicators in the KAP survey and other data collection instruments;
- In close liaison with the PMU staff, support the documentation of best practices and lessons learned on nutrition for in-country and global dissemination;

D. Perform other duties as required in the overall operations of the project.

Expected outputs:

- Selection and contracting of a suitable IP,
- Development of nutrition training materials and nutrition training sessions for relevant target groups
- Delivery of Annual work plans, Progress reports, project documentation related to nutrition issues and activities;
- Coordination mechanisms for the delivery of nutrition activities are settled.

- Ensuring that 4000 households are provided nutrition enhancement support.

Qualifications:

- A bachelor degree (from an accredited institution) in the field of human nutrition; food science or equivalent related to food security,
- At least 2 years of experience in, and demonstrated understanding of food and nutrition initiatives in rural development. Knowledge of and experience in the country is preferable.
- Experience in training and capacity building is required. Knowledge on the interactions between nutrition, gender, youth and climate change is strongly desirable.
- Experience of interacting with a variety of internal and external stakeholders is desirable.
- Strong project management and coordination skills; and basic knowledge on M&E is desirable.

Languages:

Fluency in English and Arabic.

**6. Terms of Reference of Environment, Climate and Social Safeguard
Specialist**

This Specialist is responsible for the GEF funded project activities, the Specialist will also promote the environmental and social sustainability of the RLDP project and to ensure that no adverse environmental or social impacts are caused by the project.

Specific duties:

A. Environment and climate (GEF)

- Take overall responsibility and leadership on the planning, implementation and monitoring of the GEF financed activities.
- Ensure that the project is managed in accordance with its annual work plans, coordinate the IFAD/GEF project activities on a regular basis, and ensure complementarities with the FAO project implementation team.
- Coordinate the work of TA and implementing entities such as the Social Fund for Development (SFD), and ensure that the Governorate and locality level project teams have all the logistic, technical, and capacity building support required for the successful development, design, and subsequent implementation of GEF project activities.
- Support the Project Management Unit in engaging in a close dialogue with the Governorate and locality authorities involved in the project and help them in the process of ensuring that CDAs members acquire the CC adaptation skills and capacity needed for successful CAP design and implementation.
- Support the RLDP Head of the Agriculture and Rural Development Unit in the selection and hiring process for all the national and international TA required for the implementation of the CC adaptation work. In collaboration with colleagues from FAO, draw specific ToR, propose selection criteria, prepare detail work plans, and supervise national and international consultants/subcontractors, providing advisory support as required and

maintaining strong quality control of their work, making sure it is fully embedded in the overall work plan of the RLDP.

- Maintain close coordination/linkages with all implementation partners (ministries and governmental agencies, media companies, private service providers and NGOs) on a regular basis.
- In collaboration with FAO colleagues and implementation partners, facilitate, monitor and supervise the process of identification and selection of extension workers and the set-up of key project capacity building outputs and tools, including the FFS Training of Trainers programme; the basic literacy and vocational training for women groups; the water and soil conservation training programmes; and the applied research programme for vulnerability reduction.
- In collaboration with FAO colleagues and implementation partners, supervise the procurement and maintenance of project equipment and development of infrastructure. Prepare ToRs and conditions for grant applicants and ensure publication in local media. Lead the selection process of the grant applications through field review and final scoring by the Application Evaluation Committee. Make sure that the goods acquired by the project are procured through a National Competitive Bidding process.
- With the assistance of TA and FAO colleagues, lead, coordinate and monitor the works implemented in the framework of the project grants, climate-resilient irrigation and agriculture technologies and management systems; and soil rehabilitation and conservation. In collaboration with FAO colleagues and implementation partners, supervise the work implemented by service providers, local partners and project beneficiaries for the rehabilitation and development of new infrastructures (water harvesting and terraces).
- Oversee the work of the AREA applied research for vulnerability reduction programme for the development of new alternative crops through the Farmer Field School trials. Manage the consultants delivering the seed / climate vulnerability assessment and the position paper contributing to the national policy dialogue on climate adaptation
- In collaboration with FAO colleagues and implementation partners, oversee the design and establishment of channels for regular project information dissemination, sharing, and networking among stakeholders' communities (from local to national levels).
- Monitor and supervise the quality of the awareness raising publications and the guidelines on best practices produced through the project.
- Lead responsibility for the organization of project-related meetings, conferences, and workshops.
- In collaboration with FAO colleagues and implementation partners, provide support and guidance for the gathering of data and information needed to undertake an effective monitoring and evaluation of all the activities included in the IFAD/GEF initiative.
- Be the lead person responsible ensuring the timely reporting of the quarterly and biannual progress reports as well as of the annual GEF Project Implementation Report (PIR).
- Supervise the M&E officer's inputs to all climate-related indicators in the IFAD log-frame.
- Conduct any other duties as required.

B. Environmental and Social Safeguards

- Review safeguards instruments and ensure all safeguards issues (i.e. Environmental and Social Impact Assessment/ESIA, Environmental and Social Management Plan/ESMP) are accurately addressed and provide expert guidance to the Project and implementing partners at all levels;
- Ensure that project activities are carried out in line with RLDP SECAP, IFAD safeguards policies and safeguards instruments prepared for the project, and national legislation; more specifically enforce environmental and social safeguards measures of the project as described in the ESMP;
- Identify opportunities to enhance the environmental and social impact of the project and to reduce and mitigate against its potential environmental and social risks;
- Prepare training materials and carry out technical trainings on social safeguards to staff, and other relevant stakeholders;
- Oversee the implementation of the gender and youth mainstreaming strategies by IPs including women and youth specific activities.
- Assess potential environmental social impacts of civil works planned under the Project, provide recommendations for adjusting designs for decreasing negative impacts to the extent possible, and identify measures for mitigating negative social impacts;
- Brief contractors engaged under the project on the applicable safeguards policies and their requirements;
- Oversee compliance by all project contractors with good social practices adopted by the Project (including stakeholder consultation, beneficiary feedback, gender sensitivity, etc.), and ensure that social risks that relate to child protection, and labor and working conditions for workers are properly managed;
- Collect data on project environmental and social impact and keep records of social supervision of project activities in a systemic manner that allows easy search-and-find out all documents upon request;
- Oversee community engagement, including with focus on inclusion of the most vulnerable and marginalised groups and regularly liaise with communities that are benefiting from the project to facilitate communities' access to economic opportunities resulting from project activities;
- Be responsible for project-related Grievance Redress Mechanism (GRM), both during its establishment and implementation, supervise the GRM operators and oversee the grievance redress mechanism to ensure any issues are resolved in a timely manner;
- Prepare regular safeguards monitoring reports, including preparation of the environmental and social safeguards, gender sensitivity, labor-related issues, and beneficiary engagement content of project progress reports submitted to FAO/IFAD;
- Draft reports on environmental safeguards and social development matters, and other relevant project documentation in line with project reporting requirements;
- Other relevant duties as requested.

Expected outputs:

The Environmental and Social Safeguards Specialist shall submit the following outputs

- Quarterly progress reports;
- GEF and IFAD safeguard monitoring reports, including annual PIRs, updates on social safeguards, stakeholder engagement, gender sensitivity and beneficiary

engagement as input to project progress reports, mid-term reports, and completion report;

- Delivery of Annual Work Plans (AWP), Progress reports, project documentation related to nutrition issues and activities;
- Work closely with all implementing partners to ensure AWP
- Review reports, ToRs and Social Safeguards Plans (if any) as required to the acceptable standard and quality;
- Submit reports on key learning's and lessons learned (social impact) and the way forward.

Qualifications:

- A bachelor degree (from an accredited institution) in environment and natural resource management; higher education in social science, sociology, social work or other relevant social discipline or equivalent related to the environment and social sciences.
- At least 2 years of experience in, and demonstrated understanding of climate change adaptation and natural resource management.
- Experience with social safeguards issues in development projects, including gender sensitivity, community inclusion, community development, inclusion of Vulnerable and Marginalised groups, stakeholder consultation, citizen engagement and grievance redress;
- Knowledge of and experience in the country is preferable.
- Experience of interacting with a variety of internal and external stakeholders is desirable.
- Strong project management and coordination skills; and basic knowledge on M&E is desirable.
- Good leadership, technical competence and professional skills for timely implementation, coordination and management of activities;

Languages:

Fluency in English and Arabic.

7. Terms of reference of gender and social inclusion (FAO/SFD)

Operationalisation of gender mainstreaming, youth mainstreaming and social inclusion strategies lies with the Implementing Partners (IPs) across all project components and activities. Work in close coordination with Social and Environment Safeguard Specialist.

Specific duties:

- A. Prepare a social inclusion strategy and action plan with key targets and indicators aligned to RLDP for disadvantaged socio-economic categories.
- B. Ensure adequate integration of gender and youth in the M&E system, Annual Work Plan and Budget and Progress reports;
- C. Conduct the diagnostic process ensuring selection of specific categories/target groups into RLDP operations.

- D. Conduct constant review of project implementation processes on how to achieve the best possible project outcomes with respect to targeting, gender equality, women's empowerment and social inclusion with key focus on youth and IDPs;
- E. Draft specific ToRs are required for CDAs gender focal points and community facilitators/Reflect Facilitators working at village level, including training if any capacity gap is assessed.
- F. Coordinate capacity building and training sessions on gender-sensitive and youth sensitive interventions for project staff, implementers and extension workers. The training should also include specific information on safeguard instruments for avoiding GBV, SEA, Child labour.

Expected outputs:

- Outline of gender and social inclusion strategy and contents for gender-awareness and life skills training
- Delivery of AWPB, Progress reports, project documentation related to gender, youth and Social Inclusion issues and activities;
- Coordination mechanisms for the delivery of gender and social inclusion related activities are settled (from Government to Village level).
- Set appropriated social safeguard instruments into operations.

Overall responsibilities for Gender Focal Points at community level (i.e. CDAs) and Reflect Facilitators:

- Support the organization of gender and youth related sensitisation events/sessions at village level for institutions and local leaders to create awareness on the importance to have women and youth as part of the economic development of the community. These sessions are preliminary to group formation to ensure women and youth are part of the community planning process and their concern captured during selection of sub-projects (part of diagnostic process).
- Organize and facilitate specific separate sessions/ Focus Group Discussion (FGD) with women and youth during the engagement process (diagnostic process) and identify women/youth that can play a leadership role for the community committees established under RLDP;
- Support IPs in the organization of the women's leadership trainings and keep track of monitoring of women in leadership positions (30%).
- Support IPs in organisation of gender specific trainings such as literacy, life skills as required;
- Support collection of data (quantitative and qualitative) on women and youth participation to ensure that proper M&E data collection is sex and age disaggregated;

8. Terms of Reference of FAO Procurement Specialist

Under the direct supervision of FAO's the International Procurement Officer, the Procurement Specialist would be responsible for the specific procurement activities needed for Project implementation. The Procurement Specialist will provide leadership and guidance to all PT and implementing partners' staff on procurement issues for goods, services and construction contracts.

Specific duties:

- In collaboration with other members of the PT, and implementing partners, and based on the AWPB update the rolling 18-month procurement plan for works, goods and services required by the project;
- Report on the status of procurement actions;
- File documents and correspondence and database records related to procurement actions, assigned tenders, purchase orders and contracts;
- Run periodic reports, taking action as requested;
- Ensure data input into systems as accurate;
- Review with the supervisor problems and discrepancies related to assigned actions;
- Maintain the filing system in the Procurement Unit according to FAO filing system
- Assist in prioritizing the procurement requisitions in terms of urgency for appropriate action to be taken by the Procurement or LOA Assistants. •
- Follow-up with requesting units on their procurement requisitions, ensuring that all requirements are met;
- Track all procurement processes up to delivery, acceptance and certification for payment. Assist in maintaining of the procurement tracking table on daily basis;
- Maintain and update the local Vendor roster on regular basis;
- Follow up with the suppliers to insure receiving and submitting of tender documents, request for quotations bids and offers;
- Backstop the Procurement Assistants during his/her absence.
- Provide office, administrative support and act as secretary for procurement dep and local procurement committee. Review, record, distribute and process incoming mail and correspondence Review invoices of incoming goods, transportation services and custom's clearance fees for accuracy; bring to the supervisor's attention any discrepancies which may arise, prior to processing the payment;
- Perform other related duties assigned by the supervisor

Qualifications:

- At least 5 years of Procurement experience at the national level. Experience with an UN Agency or International NGO desirable.
- University degree of similar in logistics, supply chain, Business Administration.
- Demonstrated ability to work under difficult conditions and a high degree of pressure.
- Proven experience in Procurement.
- Demonstrated leadership and management skills, Team Player

- Understanding of complex emergencies; experience working in insecure and crisis environment.

9. Terms of Reference of FAO Financial Management Specialist

FAO Financial Management Specialist will be responsible for developing and maintaining processes on the financial aspects, tenders, procurement and other financial functions, ensuring compliance with FAO norms and procedures.

Specific duties:

- Maintain impress accounts; reconcile expenditures, balances, payments, statements and other data
- Supervise the process of cash distribution. Work in close cooperation with technical units to develop solid monitoring systems to mitigate risks associated to CBT programmes
- Produce updates, project reports and other communication material, in line with FAO's and donors' requirements
- Prepare statement of expenditures (SOE) to be submitted to IFAD justifying at least 75% of cumulated advance received
- Work in close cooperation with program\projects management, M&E and operations units to ensure smooth implementation of activities, in line with the organisation's mandate, standards, rules and regulations
- Act as liaison between the program and financial teams to ensure continuity, accuracy, and adherence to key processes related to grant management, systems used and reporting;
- Monitor financial management of grant funds to ensure consistency with agreed technical plan and actual implementation;
- Act as liaison between the project and SFD financial team to ensure the submission to FAO, on quarterly basis, financial reports related to component 1 of the project. The reports include a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB, and will be submitted to FAO no later than 20 days after the end of each quarter.
- Prepare consolidated (including component 1 implemented by SFD) financial and technical reporting; monthly, quarterly and annual reports as per donor requirements. The financial reports should reflect all project activities, financing, and expenditures, including a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB and counterpart funds in cash or in the form of tax exemption. They should also include an estimation of the beneficiaries' contribution in kind and all other co-financing.
- Provide support during the organization's annual external audits;
- Facilitate in designing and preparation of simple and competitive business proposals including financial analyses;
- Maintain liaison with local banks and financial institutions to keep up-to-date with financial and regulatory information (exchange and interest rates, procedures and rules, maintenance of bank accounts, etc.).
- Maintain detailed records of the office petty cash fund and handle its proper replenishment in the system.

- Handle operational advances disbursed under identified projects and ensure proper clearance of the advances through submission of all corresponding documentation and also reflect the same in the system.
- Prepare routine correspondence of administrative nature; draft correspondence to verify data, answer queries, and obtain additional information on transactions and financial matters, as required.
- Maintain a filing system of administrative and financial documents.
- Assist in the process of budget monitoring and budget revisions.
- Verify supporting documents to ensure completeness before payments are processed.
- Ensure proper and adequate filing system for financial documents
- Record financial transactions in the System on daily basis.
- Ensure accurate maintenance of all financial and accounting files and transactions.
- Prepare all necessary information for audits and for (Third Part Monitoring) TPM to verify physical implementation of the activities of the project and the compliance with the internal controls and financial management arrangements
- Follow up on cash advances and ensure time clearance with the staff concerned.
- Perform other related duties as required
- Perform other duties as required and instructed by the supervisor

Qualifications:

- Education –Advance degree in Finance, Business Administration (or closely related field)
- Five years of relevant experience in administration, accounting or finance
- Fluency in English and Arabic Language.
- Ability to effectively use standard office software, such as MS Office (Windows, Word, Outlook, Excel, Exchange, Oracle, GRMS, or any related software) etc.

Key competences:

- Ability to use accounting software and other information systems and databases to insert data, make enquiries, retrieve/define ad hoc reports and analyses and edit results in appropriate format.
- Demonstrated experience to cooperate with multi-disciplinary teams
- Excellent communication skills
- Good communication skills in English
- Proven ability to meet deadlines with excellent skills to work under pressure.
- Systematic, organised and well-structured and efficient approach to work assignments.
- Analytical ability, accuracy and consistency. Exercise diligence and care in dealing with records and expenditures
- The incumbent must possess a cooperative spirit, flexibility and openness to work in an international environment.
- Tact and courtesy. Ability to establish and maintain effective working relationships with people of different national and cultural background

10. Terms of Reference of M&E Officer

Under the overall guidance of the FAO Representative (FAOR) and the direct supervision by the FAO International Monitoring and Evaluation Officer and in close cooperation with IFAD CO, technical officers, and SFD M&E Coordinator, the Monitoring and Evaluation Officer will monitor and evaluate project implementation and resulted impact of all FAO projects in Yemen.

Specific duties:

- Develop the M&E framework in line with the Project Implementation Manual capturing key indicators to monitor progress and assist in projects' evaluation;
- Implement appropriate monitoring and evaluation mechanisms of field activities for the smooth implementation of the RLDP project activities, including the follow-up on the performance of the projects;
- Work closely with IFAD CO to gather requirements and submission of reports on a timely basis;
- Provide necessary guidance and coordinate the M&E work schedule with SFD teams for Component 1 activities;
- Closely monitor the performance of TPM to ensure that the field monitoring activities are implemented according to the Technical Specifications;
- Collect progress against specific projects indicators provided in the log frames, as well as update progress on projects work plans on quarterly basis;
- Report on the overall implementation of project/s activities, including constraints, lessons learned and recommendations for better implementation;
- In coordination with technical colleagues, develop tools and templates for data collection, including timeframe;
- Conduct/supervise regular monitoring visits to ascertain the progress of activities;
- Provide M&E technical support to central and field offices, both for progress monitoring and impact assessment;
- Evaluate the impact of the project interventions;
- Participate with other national staff in training program for survey preparation and data collection methodology;
- Conduct surveys and assessments;
- Develop and maintain a database of FAO projects with key indicators;
- Contribute in the development of project proposals, specifically on the M&E components and design of logical frameworks;
- Perform any other related duties as requested by the supervisor.

Qualifications:

- University degree in agricultural economics, development studies, statistics or other relevant field;
- At least 5 years of relevant experience in database and information management, data analysis and quality assurance;
- Full competency and fluency in Arabic and English;
- National of Yemen.

11. Terms of Reference of M&E Associate

Under the overall guidance of the FAO Representative (FAOR) and the direct supervision by the FAO Monitoring and Evaluation Officer and in close cooperation with technical officers, the Monitoring and Evaluation Associate will monitor and evaluate project implementation and resulted impact of all FAO projects in Yemen.

Specific duties:

- Develop a simple and effective M&E plan in line with the Project Implementation Manual for the respective FAO hub and ensure its implementation;
- Implement appropriate monitoring and evaluation mechanisms of field activities for the smooth implementation of the project activities, including the follow-up on the performance of the projects;
- Report on the overall implementation of project/s activities, including constraints, lessons learned and recommendations for better implementation;
- Conduct regular monitoring visits to ascertain the progress of activities;
- Provide M&E technical support to the respective FAO and SFD projects personnel;
- Participate with other national staff in training program for survey preparation and data collection methodology;
- Conduct surveys and assessments;
- Contribute in the development of project proposals, specifically on the M&E components and design of logical frameworks;
- Perform any other related duties as requested by the supervisor.

Qualifications:

- Bachelor's degree in Project Management, Economics or Social Sciences or any other relevant studies;
- Minimum 3 years' experience related to the above duties and responsibilities;
- Full competency and fluency in Arabic and English;
- National of Yemen.

12. Terms of Reference of Grievance Mechanism - Operator

Under the direct supervision of the Head of FAO Yemen Monitoring and Evaluation Unit, the Grievance Mechanism – Operator will:

Specific duties:

- A. Ensure smooth implementation of FAO Yemen Beneficiaries Feedback Mechanism as per its Standard Operating Procedures, specifically:
 - Respond to incoming calls;
 - Complete call record and date entry in the database;
 - Demonstrate a high level of confidentiality and sound judgement;
 - Maintain database files;
 - Report cases to assigned staff members;
 - Keep track on the progress of actions required for reporting purposes;
 - Collect reports on beneficiaries' feedback and complaint from FAO hubs on monthly basis;

- Compile quarterly progress status reports on feedbacks and complaints received and issues addressed.
 - Ensure the dissemination of BFM flyers to beneficiaries and stakeholders through projects;
- B. Beneficiary verification, post-distribution monitoring, baseline/midline/endline surveys:
- Based on the sample size and the lists of beneficiaries provided by M&E specialists as well as questionnaires, conduct surveys by phone and register findings in the questionnaires;
 - Clean data and prepare summary reports based on a template shared by M&E specialists;
 - Maintain database files;
 - Review and enhance the effectiveness of the call center services, procedures and guidelines.
 - Perform any other related duties as assigned by the supervisor.

Qualifications:

- Bachelor's degree in Development Studies, Social Science, Agriculture, Economics or closely related fields.
- At least three years of experience in field assessments, analytical results and reporting.
- Experience with an UN agency, international NGO or donor agencies highly desirable.
- Computer literacy in Microsoft Word, Excel, Email/Internet, PowerPoint, is essential.
- Experience in using Kobo and/or other mobile data collection tools is highly desirable.
- Good communication skills.
- Good command in English and Arabic, both spoken and written.

Annex 2: Draft Terms of reference of facilitators, IPs and service providers

1. Terms of Reference of Community Nutrition Facilitators

Community Nutrition Facilitators (CNF) will be responsible for implementing the activities related to Sub-component 2.3: Food and Nutrition Security to enhance the nutrition security of vulnerable households. The CNF will undertake all field level activities for the successful implementation of this sub-component and of mentoring and tracking households targeted for nutrition improvement in the project area. The project will recruit 40 CNFs from the project districts (two women from each district) in which they are expected to work. These field level workers will all be women as they are required to work with women at the community level and track women in households through regular home visits. The CNF will be selected by the Implementing Partner that will be selected by FAO to implement the nutrition activities of the project with guidance from the FAO Nutrition Specialist. The community nutrition facilitators will report to the implementing partner responsible for this project component.

Support to be received:

The community facilitators will receive the following technical assistance to help prepare them for the community nutrition awareness, mentoring and support activities:

- 1-2 weeks food and nutrition training from FAO Nutrition Specialist with periodic refresher training.
- Training on how to identify households
- Protocol on home visits and community interaction
- Close supervision and guidance from the technical lead from the IP.
- Training materials and pedagogical tools to be used for community sessions,
- Support and regular visits from the local FFS facilitator for assistance with the kitchen gardens and livestock production activities;
- Monitoring tools for following up on the progress made by the households,
- Any other operational support that is required.

Specific duties of community nutrition facilitators:

- Support the IP in the selection of the vulnerable households to be included in the nutrition activities;
- Keep records of each of the households involved in their specific locations of responsibility (for example-questionnaires with their demography, any reported health and nutrition related diseases affecting the household etc),
- Provide nutrition training to the one nutrition community group (of 10 households) under their responsibility- intensive bi-monthly training for the first six months. (Each group training session will focus on a different nutrition topic which is detailed in the facilitators training modules)
- Work with the FFS facilitator to help the households set up their kitchen gardens, small livestock production activities and undertake food processing;
- Undertake individual household follow up, each month (for at least 6 months) and support the family to continually adopt good food and nutrition practise.
- Periodically follow up on each of the households after the first year of close interaction;

- Use the nutrition monitoring tools provided to assess the baseline status, and changes over time;
- Prepare reports after each training or home follow up visits and submit to the IP.

Duration: The Community Nutrition Facilitators will be engaged on a part time basis. For the first six months- each facilitator will offer training to one nutrition group, twice monthly. Each session will be a minimum of one hour and maximum of two hours. The other six months of the year, the facilitator will be expected to visit each household in his/her group (10 households) and assist them in implementing the lessons learned within their households, correct any poor practices and promote good nutrition behaviours for the general household and specific individual members of the household who are at risk of malnutrition. After engaging the group for the first year, the facilitator will make a visit once in two months to each household for the remaining life of the project. This will be besides the new groups trainings and follow ups to be undertaken in the subsequent years.

Qualifications:

- At least a secondary school certificate,
- Ability to communicate in English, Arabic,
- At least one-year experience in supporting community development activities (preferably in health, agriculture sectors)

2. Terms of Reference of Reflect Facilitators

Reflect Facilitators (RF) will be directly hired by the Implementing partner recruited to conduct literacy sessions using the Reflect methodology. The Implementing Partner recruited will hire 40 RFs all of whom will be women. The RF will be chosen from among those who have previous experience of teaching and will be trained in the REFLECT methodology by the Implementing partner who will have technical expertise in the Reflect approach. The specific tasks of the IP and RF will be the following

Specific duties of Reflect Facilitators

- Support the IP in the selection of the candidates to be included in the Reflect Sessions ensuring that the targeted number specified in the PDR and PIM are met;
- Conduct the Reflect Sessions for a nine-month period as designed by the Implementing Partner and hold regular sessions as specified in the reflect methodology;
Maintenance of the attendance of the participants and submit a monthly report on attendance and an annual report on the number of those graduating by sex and age.

3. Terms of Reference of Community Extension Agents

Community Extension Agents (CEA) will be responsible for implementing the activities related to Sub-component 3.1 Farmer Field Schools. The CEA will support the Extension Agents and the Implementing Partner in the facilitation of all field level activities for the successful implementation of the FFS. The project will recruit 20 CEAs for the project districts who will be expected to be based in the selected districts. These field level workers

will consist of 14 men and 6 women. The CEAs will be selected by the Implementing Partner that will be selected by FAO to implement the FFS activities of the project with guidance from the FAO Technical Specialists. The CEA will report to the implementing partner responsible for this project component.

Specific duties of Community Extension Agents

- Support the IP in the selection of the farming households to be included in the FFS activities for both crops and livestock and the adaptive research level activities;
- Support the IP in the maintenance of the attendance of the participants and their views on the training adoption of the practices, inputs and technologies demonstrated at the FFS;
- Use the monitoring tools provided to assess the baseline status, and changes over time in the use of improved practices;
- Work with the Community Nutrition Facilitator to help the households targeted under the nutrition programme set up their kitchen gardens, small livestock production activities and undertake food processing;

4. Terms of Reference of Implementing Partner

Community Mobilization, Planning, Identification & Implementation

This ToR describes the qualifications, functions and responsibilities of the Implementing Partner or Partners (IPs) who will assist in the implementation of field level activities in the Rural Livelihoods Development Project a project funded jointly by the International Fund for Development (IFAD) and the Global Environment Facility (GEF). The Food and agriculture Organization in Yemen will be the main implementing agency and the IP/IPs will be recruited by FAO and will work under its direct supervision under a contract with FAO.

The IP will be responsible for adopting the approach identified in Component 1.2 to adopt the diagnostic process and undertake all initial activities for conducting dialogues with the community to ensure that a community driven approach is adopted in the implementation of the project. These TORs describe the scope of work of the IP or IPs who will assist in the identification of the community infrastructure, the participants of the Farmer Field Schools and Field Days for the demonstration of enhanced agriculture production and climate resilient practices, the identification of participants for Adult Literacy and Nutrition sessions.

Scope of work

A. Project Preparation

- Review all project design documents including PDR and PIM to become aware of project approach;
- Identify and select Community Extension Agents (20 with 10% women), Reflect Teachers (40 all women) and 40 Community Nutrition Facilitators (all women).
- Organize the training of Community Extension Agents with support from the FAO technical specialists for FFS and Nutrition and organize the training of adult literacy Reflect Teachers through hiring of technical specialist on the Reflect methodology;

B. Community Mobilization and Engagement

- Adopt a diagnostic approach to implement project activities as outlined in the Project Implementation Manual and the Project Design Report. This will involve undertaking a series of dialogues to implement the project in a community driven manner.
- Conduct an exploratory visit with local communities to assess which is the most appropriate institutional and organization mechanism for community mobilization, participation and ensuring the implementation of project activities in a transparent, participatory and open manner;
- Conduct a series of dialogues with the community members to inform them about project activities ensuring that women are included in these dialogues in the main group or in separate dialogues;
- Seek community concurrence and feedback about the menu of options offered under RLDP and offer them choice to select those most relevant for them and ascertain their interest in participating in the different activities.
- Facilitate a series of second dialogues with the technical experts, implementing partners and the community lead or contact person for each of the project activities;
 - Identification of community infrastructure schemes
 - Identification of community members for managing the infrastructure and strengthening their capacity,
 - Participants for Farmer Field Schools
 - Participants for Adult Literacy
 - Participants for Nutrition
 - Beneficiaries of Livelihood Resilience and Value Addition
- To select and design the topics, determine the format and pedagogical methods, identify the participants and fix the location of the planned sessions.
- Lead the identification of beneficiaries is based on the selection criteria that is communicated during the first dialogue and work with them to identify the beneficiaries for each of the activities using clear criteria for selection ensuring that the target groups are chosen based on specified targets in the PIM and PDR.

C. Project Implementation

Climate Resilient Community Infrastructure (CRCI): SFD will be the technical lead in the implementation of this component; The P will undertake the following activities;

- Assist the communities to conduct the diagnostic process for the identification of the community priorities for climate resilient infrastructure;
- Ensure that women and youth are involved in the identification of village level priorities;
- Assist the communities in identification of the community representatives and resource people responsible for the operation and maintenance of the selected schemes;
- Assist the communities in identification of the community representatives who will be trained in the operation and maintenance of the selected schemes.
- To work with SFD and the communities to ensure that the selected schemes are implemented in accordance with the Terms of Partnership agreed between the community and SFD.

Farmer Field Schools: FAO will provide the technical lead in the implementation of this sub-component. The IP will undertake the following activities for FFS and Field Days specifically:

- The identification of farmers and implementation of the FFS will be undertaken by the IPs as outlined in the diagnostic process outlined above.
- The logistical arrangements and the venue for each will be determined in collaboration with the participating farmers and the AEA. It is expected that each FFS will include around 20 farmers in the FFS.
- Identify and organize 6000 farmers for the FFS over the five-year implementation period. The duration, length and topics will be decided between the technical specialist of FAO, the extension agents of the Ministry of Agriculture and Irrigation (MAI) and the farmers.
- Provide support to organize separate sessions for women farmers and at least 2400 women will be invited to participate in separate sessions for women.
- Provide support to organize separate sessions for young farmers and assist in organizing separate sessions for them.
- The IP will also organize Field Days for topics that require just a few hours of explanation and demonstration.

For Adult Literacy: The IP is expected to provide the technical lead in the design and implementation of adult literacy classes following the Reflect Approach. The module will be designed as based on the guidance in the PIM and PDR. The selected IP will be required to undertake the following tasks with respect to the literacy classes;

- Identification of 40 local teachers willing to serve in the project locations and signing of contracts with them;
- Development of a Reflect module for the young women and men in Yemen to ensure the course designed is context specific and includes key topics;
- Training of 40 local teachers and training them to conduct literacy sessions using the Reflect approach;
- Oversee the selection of the students for the classes to ensure the agreed criteria has been followed;
- The target group of this component will be women and men from the most vulnerable households and provide them targeted support to enhance their sense of self-worth, offer them protection and provide them support to enhance food and nutritional security for themselves and their families.
- The IP will provide the literacy sessions for 6000 people of whom 70% will be women and 80% will be youth.
- Assist in developing the tools for monitoring student performance and reporting on it;
- Supervision of the Reflect teachers in the implementation of the literacy classes over the course of the project;
- Regular monitoring and feedback on course content, relevance and impact on participants.

For Nutrition: The IP will with the technical lead of the FAO's technical expertise Undertake the following tasks;

- Identify and recruit 40 local women Community Nutrition Facilitators (CNF);

- Identify, together with the NF and the community households that will be targeted under the nutrition sub-component;
- Prepare a work plan for the NF to implement ensuring that all required inputs and training materials are available at the venue;
- Assist the CNF organise meetings with the participating households and together plan for venues and convenient times (days and hours) for the nutrition training times.;
- Use ICT4D to help the CNF; and the nutrition support groups communicate with each other and be informed of any changes;
- Provide all logistical support to the CNF in organizing the nutrition support groups,
- Assist the nutrition facilitators in administering the tools for monitoring household behaviour and reporting on any changes;
- Supervision of the NF in the implementation of the sessions

D. Coordination

The IPs will ensure that they coordinate and synergize among the various project activities in the field between the infrastructure and agriculture components as well as between the sub-components for greater value added and impact.

E. Monitoring and Supervision

The IP will provide regular M& E reports to FAO.

The IP will organize exit interviews of all participants of CRCI, FFS, Adult Literacy and Nutrition Sessions and compile and analyze the results and provide to FAO.

The IP will assist the M&E Unit to track and record adaptation and benefits from CRCI, adoption rates of the FFS, empowerment due to Adult Literacy and behaviour change as a result of participation in the Nutrition Sessions and report trends to FAO.

The IP will coordinate with IFAD and GEF during supervision and evaluation missions and surveys and provide all requested information.

The IP will document key lessons and best practices and share them with FAO.

The IP will coordinate with IFAD and GEF during supervision missions and provide its feedback on the component 2 activities of RLDP.

The IP will establish a grievance redress mechanisms for both beneficiary and staff and ensure that all complaints are dealt with in the strictest of confidence without prejudice.

Qualifications

The IP or IPs will be an established private service or an NGO, specialized in the provision of community development, with either direct experience in the domain of agriculture and livestock development, food & nutrition, adult literacy or ensure the inclusion of technical

experts with the requisite expertise. Experience of working with women and youth will be a requirement.

Duration and conditions of contract

- Performance Based
- 18 months with renewal for another 18 months for two subsequent periods. until end of project period.

5. Terms of Reference of Third Party Monitoring (TPM)

Scope of Services, Expected Outputs and Target Completion

This TOR encompasses RLDP project monitoring as part of FAO's M&E activities. Prior to the start of third-party monitoring activities, the contractor will closely collaborate with FAO Yemen. FAO Yemen will provide the contractor with relevant documentation, including project documents, the responsible parties capacity assessments, and other relevant monitoring or evaluation information. The agent of TPM is expected to conduct a quantitative and qualitative analysis of the project documentation prior to undertaking field-level activities. All documentation shared with the contractor is considered confidential and is not for wider dissemination or sharing with counterparts.

It should be noted that the recruitment of a TPM agent is not expected to replace the full M&E activities undertaken by FAO, nor is it expected to replace FAO's own internal monitoring systems. The contracted agent is expected to provide an independent perspective and extend the reach of FAO in the field. The agent will have to monitor RLDP activities implemented by FAO Yemen and Social Fund for Development (SFD) as the main implementation partner. The project will be implemented in the project districts. The agent is expected to visit project sites quarterly based on a sampling methodology.

IFAD jointly with FAO and SFD have defined a set of indicators to measure the project implementation and the progress toward the expected results. For each indicator, specific data will be collected. Some data will directly be collected by FAO and some by SFD, but a few additional data will have to be collected by the TPM agent. This will include direct information on the project activities as well as light qualitative assessments to be conducted in a sample of project implementation sites.

The TPM agent will be reporting directly to FAO and will also work closely with the responsible parties at SFD. It is not the role of the TPM agent to carry out on-site project management; rather it is to help FAO ensure that the project activities are carried out in line with the terms of the RLDP Project Documents and also SFD Operational Manuals.

Specific duties:

- Develop a monitoring plan including specific parameters for site visits, asset verification, and data collection methodologies and tools for the selected project activities and sites;
- Implement the monitoring plan through a schedule of visits, including to capture and analyse data in a timely and accurate manner and to conduct some qualitative assessment on a sample of sites;
- Provide timely, relevant, and verified project level information to FAO, SFD and IFAD.
- Assess the implementation processes and their compliance with the agreed modalities, as spelled out in the Project Design Document (PDR), the Project Implementation Manual (PIM) and SFD Operational Manual;

- Verify compliance with environmental and social safeguards mitigation measures as per the Project's Social, Environmental and Climate Assessment Procedures (SECAP) and checklist attached to the SECAP.
- Verify, to the extent possible, whether Goods, Works and Consulting Services contracted were supplied/completed according to the required specifications and technical standards in the bidding document.

Deliverables/reporting:

During the course of the field level data collection, the contractor is expected to provide FAO with timely feedback, especially in instances where immediate attention or action is warranted. At the outset of the contract, the contractor is expected to provide an inception report within 30 days with a detailed Annual Work Plan, final concept of the methodology, and list of indicators to be collected and reporting system.

The contractor is expected to provide the full reports simultaneously to FAO and IFAD, on a quarterly basis, with the following components:

- Explanation of the field methodology used;
- Source consulted. All reports submitted by the contractor are expected to be sourced, with an assessment of the reliability of the source, and the credibility of the specific content;
- Key findings from the field, fully addressing the questions contained in the original information request;
- Identify cases of non-compliance with the provisions of agreed guidelines and procedures (inc. PIM), inappropriate practices or questionable decisions/actions, including those that may have been related to corrupt or fraudulent practices (if any);
- Identify areas of non-compliance with the Project's Social, Environmental and Climate Assessment Procedures (SECAP) or subsequent subproject's Environmental and Social Management Plan or checklist.
- Quotes from key beneficiaries and partners;
- Detailed set of actionable recommendations for FAO Yemen management and the responsible partners, linked to the findings in the field;
- GPS coordinates of project implementation sites visited;
- Geo-tagged photos and short videos will be required as evidence with the reports;
- List of recommended actions for implementation and responsibilities
- In light of discovered shortcomings, non-compliances and deficiencies, suggest improvements in the procurement and contracting process.

For some tasks, specific templates (e.g. environmental and social checklist annexed to the SECAP) will be developed and agreed to between FAO and the contractor, upon signing of the contract. It is expected that the reports provided by the TPM agent will adhere to the agreed upon templates. For all remaining tasks, general approaches will be developed and agreed to between FAO and the contractor, upon signing of the contract.

All data and information will have to be provide in soft and hard copy. Soft copy should be provided in excel format, specific format will be agreed with FAO and IFAD at the beginning of the contract.

In addition to the reports submitted to FAO and IFAD, the contractor may be requested to provide briefings to relevant FAO staff to further explain findings and make recommendations for management's consideration.

Institutional Arrangement

The TPM agent will liaise directly with the FAO Chief Technical Advisor (CTA) and the Project M&E Officer and work closely with the SFD M&E Coordinator. The TPM agent will support the FAO project management team to provide the IFAD and other stakeholders

with better means for learning from field experience, improving service delivery to community, planning and allocating resources, and demonstrating results.

Duration of Work

The project duration is set at 5 years. It is expected the TPM agent will provide third-party monitoring services through the project implementation period. The TPM agent is required to provide quarterly reports to FAO and the IFAD within 14 days of the end of the quarter. FAO and the IFAD will review the reports for the purposes of monitoring and quality assurance within ten working days.

Annex 3: Social inclusion and targeting

Table 1

Integrated food security phase classification - IPC Phases (2019)						
Governorate	Population (2019)	Phase 1 Minimal	Phase 2 Stressed	Phase 3 Crisis	Phase 4 Emergency	Phase 5 Catastrophe
Taizz	3.065.034	266.500	554.000	903.500	1.293.000	44.500
Al Hudaydah	2.985.122	365.000	573.500	1.002.500	1.023.000	22.500
Dhamar	2.176.229	246.500	419.500	825.000	686.000	-
Lahj	1.058.219	109.500	188.000	344.000	414.500	2.000
Al Dhala	779.656	59.500	124.500	234.500	344.000	16.500
	10.064.260	1.047.000	1.859.500	3.309.500	3.760.500	85.500

Table 2

Farming Systems in the Project Area								
Governorates	Agriculture HHs	Cropping only HHs	Livestock only HHs	Mixed farming	(%) of ag hhs of total hhs.	(%) of crop only hhs	(%) of livestock hhs	(%) of mixed farming hh
Al Dhala	63,700	4,204	16,817	42,679	76%	7%	26%	67%
Dhamar	171,100	23,270	24,638	123,192	66%	14%	14%	72%
Al Hudaydah	252,650	5,558	180,645	66,447	52%	2%	72%	26%
Lahej	99,768	4,889	67,742	27,137	68%	5%	68%	27%
Taiz ^{41b}	316,503	22,155	142,426	151,921	85%	7%	45%	48%
Total	903,721	60,076	432,268	411,376	67%	7%	48%	46%

Source: Emergency Food Security and Nutrition Assessment. Yemen. June 2017. Taizz figures are estimated using governorate proportions as the UN survey did not cover Taizz.

Table 3 and 4

OCHA (2020)		
Governorate	Returnees	IDPs
Taizz	148.326	411.750
Al Hudaydah	24.660	362.292
Dhamar	9.660	186.774
Lahj	79.470	69.492
Al Dhala	33.792	33.306
	295.908	1.063.614

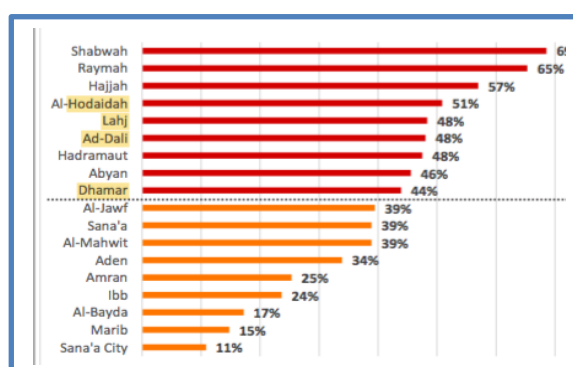


Table 5: Beneficiaries by component and gender and age disaggregated

Component 2: Climate Resilient Community Infrastructure	Total Households	Total (people)	Women	Youth	(%) women	(% youth)
2.1. Domestic water supply	3284	22,000	11.322	3960	51%	18%
2.2: Small-scale irrigation and flood-based livelihood systems	2284	15.300	7.803	2.754	51%	18%
2.3: Soil and water conservation	2463	16.500	8.415	2.970	51%	18%
Component 2 Total	8031	53.800	27.540	5582	51%	18%
Component 3 : Protection of Agriculture Livelihoods						
3.1. Capacity Building for Agriculture Production						
Farmer Field Schools	6000	40.200	2.400	2.400	40%	40%
3.2: Food and Nutrition Security						
Reflect Students	6000	40.200	4.200	4800	70%	80%
Nutrition Session Participants	4000	26.800	4.000	1600	100%	40%
3.3. Livelihood Resilience and Value Addition						
Livelihood Packages	1500	10.050	675	600	45%	40%
Matching grants	500	3.350	225	200	45%	40%
Component 3 Total	18,000	120,600	11.500	9.600	64%	53%
Project Total						
Targeted people	26,031	174.400				

Table 6: women headed household in the targeted governorates (ESFNA 2017)

	Women headed HHs		
Overall for all country		11.7	
By Governorate			
Dhamar	8.9		
Lahj	7.8		
Al Dhale	14.7		
Al Hudayda	17.5		
Average	12.2		

List of ranked district (April 2020)

The list show top 20 priority districts (highlighted in yellow). The table grades climate/environmental risk from the lowest (dark green) to the highest (dark pink) and also GAM.

Long list

Governorate	Preselected districts (based on malnutrition, climate and environmental risk indicators) *	Population (2019)	Population HHs (2019)	% of HHs in Agriculture	Climate Vulnerability Index **	Erosion Risk **	Landslide Risk **	Flash Flooding Risk **	Malnutrition (GAM)	IPC Phase Classification	% of IDPs and Returnees	Number of pre-identified VUs
Taizz	Mawiyah	187,589	26,798	NA	0.477	0.451	0.157	0.393	15.0%	Phase 4	0%	15
Taizz	Sabir Al Mawadim	141,715	20,245	56%	0.440	0.526	0.474	0.229	15.0%	Phase 4	1%	3
Taizz	Al Misrakh	134,789	19,256	47%	0.433	0.555	0.516	0.144	15.0%	Phase 4	2%	5
Taizz	Al Wazi'iyah	9,626	1,375	56%	0.381	0.477	0.000	0.773	17.8%	Phase 4	74%	9
Taizz	Al Qahirah	120,505	17,215	NA	0.468	0.533	0.000	0.622	15.4%	Phase 4	9%	2
Taizz	Al Ta'iziyah	281,622	40,232	1%	0.486	0.530	0.051	0.583	15.0%	Phase 4	2%	15
Taizz	Al Mawasit	168,191	24,027	67%	0.472	0.558	0.099	0.479	15.0%	Phase 4	2%	11
Taizz	Sama	61,202	8,743	NA	0.514	0.482	0.090	0.339	15.0%	Phase 4	4%	3
Al Hudaydah	Az Zuhrah	224,061	32,009	52%	0.574	0.394	0.000	0.792	25.2%	Phase 3	0%	15
Al Hudaydah	Alluheyah	171,578	24,511	52%	0.615	0.400	0.000	0.743	25.2%	Phase 3	0%	8
Al Hudaydah	Al Qanawis	119,096	17,014	52%	0.644	0.368	0.000	0.732	25.2%	Phase 3	1%	5
Al Hudaydah	Az Zaydiyah	153,759	21,966	52%	0.684	0.376	0.000	0.704	25.2%	Phase 4	3%	1
Al Hudaydah	Al Mighlaf	61,152	8,736	52%	0.670	0.333	0.000	0.757	25.2%	Phase 4	1%	5
Al Hudaydah	Bura	74,621	10,660	52%	0.535	0.457	0.519	0.231	25.2%	Phase 4	7%	8
Al Hudaydah	Jabal Ra's	72,309	10,330	52%	0.425	0.637	0.000	0.766	25.2%	Phase 4	6%	17
Al Hudaydah	Al Garrahi	129,050	18,436	52%	0.426	0.543	0.000	0.794	25.2%	Phase 4	0%	12
Dhamar	Jahran	138,899	19,843	66%	0.631	0.526	0.000	0.801	10.6%	Phase 3	1%	1
Dhamar	Jabal Ash sharq	100,576	14,368	66%	0.534	0.420	0.280	0.482	12.8%	Phase 4	0%	20
Dhamar	Maghirib Ans	86,699	12,386	66%	0.620	0.645	0.472	0.348	10.6%	Phase 3	0%	10
Dhamar	Utmah	243,119	34,731	66%	0.567	0.657	0.441	0.396	12.8%	Phase 3	0%	14
Dhamar	Wusab Al Ali	275,137	39,305	66%	0.427	0.878	0.603	0.358	12.8%	Phase 3	0%	17
Dhamar	Wusab As Safil	263,145	37,592	66%	0.407	0.651	0.185	0.611	12.8%	Phase 4	0%	28
Lahj	Al Had	77,336	11,048	62%	0.767	0.315	0.000	0.587	9.7%	Phase 4	5%	11
Lahj	Habil Jabr	59,521	8,503	80%	0.688	0.298	0.000	0.455	9.7%	Phase 4	15%	7
Lahj	Al Milah	40,094	5,728	81%	0.635	0.236	0.000	0.596	19.8%	Phase 4	4%	6
Lahj	Al Musaymir	37,439	5,348	68%	0.566	0.282	0.000	0.533	19.8%	Phase 4	7%	7
Lahj	Tur Al Bahah	66,342	9,477	72%	0.521	0.318	0.031	0.496	19.8%	Phase 4	1%	6
Lahj	Arah	71,844	10,263	65%	0.476	0.402	0.000	0.770	19.8%	Phase 4	2%	10
Lahj	Tuban	144,544	20,649	46%	0.705	0.259	0.000	0.593	19.8%	Phase 4	1%	5
Al Dhale'e	Juban	69,189	9,884	76%	0.757	0.462	0.000	0.538	12.1%	Phase 3	2%	9
Al Dhale'e	Qa'atabah	150,392	21,485	53%	0.641	0.421	0.015	0.524	12.1%	Phase 4	1%	15
Al Dhale'e	Ash Shu'ayb	63,121	9,017	56%	0.679	0.544	0.000	0.443	12.1%	Phase 3	3%	11
Al Dhale'e	Al Hussein	62,888	8,984	63%	0.636	0.461	0.000	0.427	12.1%	Phase 4	1%	8
Al Dhale'e	Al Azariq	64,847	9,264	88%	0.609	0.415	0.039	0.399	12.1%	Phase 3	1%	9
TOTAL	All preselected districts	4,125,997	589,428									328
TOTAL	20 top priority districts	2,246,167	320,881									182

* Highlights indicate the top four priority districts per governorate.

** Environment-related risks are rated on a scale of 0 (green) to 1 (red), with 1 showing the highest level of risk.

Short list

Governorate	Priority District Name	Population (2019)	Population HHs (2019)	% of HHs in Agriculture	Climate Vulnerability Index	Erosion Risk	Landslide Risk	Flash Flooding Risk	Malnutrition (GAM)	IPC Phase Classification	% of IDPs and Returnees	Number of pre-identified VUs	Total VUs in Governorate
Taizz	Sabir Al Mawadim	141,715	20,245	56%	0.440	0.526	0.474	0.229	15.0%	Phase 4	1%	3	28
Taizz	Al Wazi'iyah	9,626	1,375	56%	0.381	0.477	0.000	0.773	17.8%	Phase 4	74%	9	
Taizz	Al Mawasit	168,191	24,027	67%	0.472	0.558	0.099	0.479	15.0%	Phase 4	2%	11	
Taizz	Al Misrakh	134,789	19,256	47%	0.433	0.555	0.516	0.144	15.0%	Phase 4	2%	5	
Al Hudaydah	Az Zaydiyah	153,759	21,966	52%	0.684	0.376	0.000	0.704	25.2%	Phase 4	3%	1	35
Al Hudaydah	Al Mighlaf	61,152	8,736	52%	0.670	0.333	0.000	0.757	25.2%	Phase 4	1%	5	
Al Hudaydah	Jabal Ra's	72,309	10,330	52%	0.425	0.637	0.000	0.766	25.2%	Phase 4	6%	17	
Al Hudaydah	Al Garrahi	129,050	18,436	52%	0.426	0.543	0.000	0.794	25.2%	Phase 4	0%	12	
Dhamar	Jahran	138,899	19,843	66%	0.631	0.526	0.000	0.801	10.6%	Phase 3	1%	1	42
Dhamar	Maghirib Ans	86,699	12,386	66%	0.620	0.645	0.472	0.348	10.6%	Phase 3	0%	10	
Dhamar	Utmah	243,119	34,731	66%	0.567	0.657	0.441	0.396	12.8%	Phase 3	0%	14	
Dhamar	Wusab Al Ali	275,137	39,305	66%	0.427	0.878	0.603	0.358	12.8%	Phase 3	0%	17	
Lahj	Al Had	77,336	11,048	62%	0.767	0.315	0.000	0.587	9.7%	Phase 4	5%	11	34
Lahj	Al Milah	40,094	5,728	81%	0.635	0.236	0.000	0.596	19.8%	Phase 4	4%	6	
Lahj	Arah	71,844	10,263	65%	0.476	0.402	0.000	0.770	19.8%	Phase 4	2%	10	
Lahj	Habil Jabr	59,521	8,503	80%	0.688	0.298	0.000	0.455	9.7%	Phase 4	1%	7	
Al Dhale'e	Juban	69,189	9,884	76%	0.757	0.462	0.000	0.538	12.1%	Phase 3	2%	9	43
Al Dhale'e	Qa'atabah	150,392	21,485	53%	0.641	0.421	0.015	0.524	12.1%	Phase 4	1%	15	
Al Dhale'e	Ash Shu'ayb	63,121	9,017	56%	0.679	0.544	0.000	0.443	12.1%	Phase 3	3%	11	
Al Dhale'e	Al Hussein	62,888	8,984	63%	0.636	0.461	0.000	0.427	12.1%	Phase 4	1%	8	
TOTAL		2,208,830	315,547									182	

GIS Maps

Environment and Climate Vulnerability Maps

Figure 1

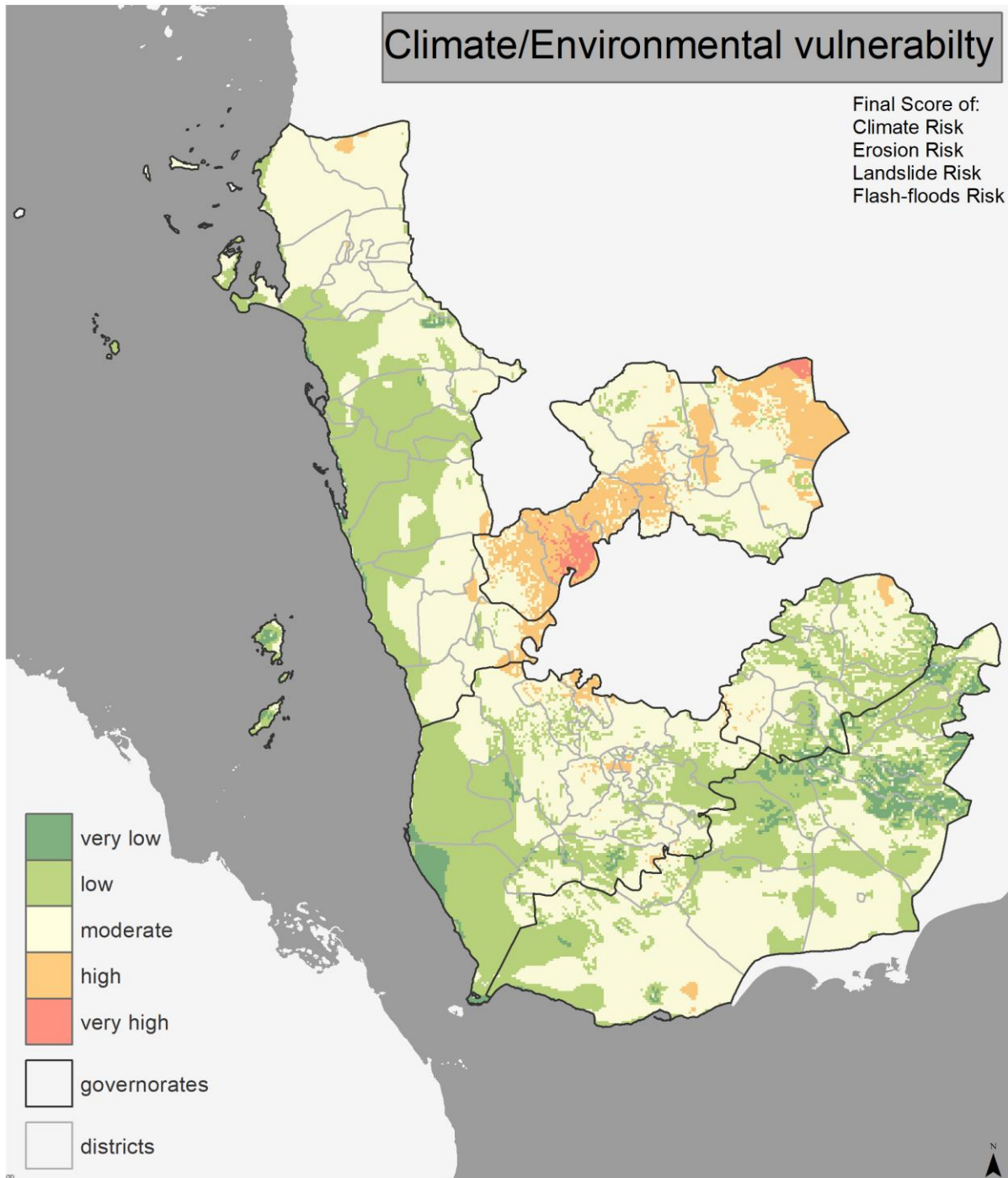


Figure 2

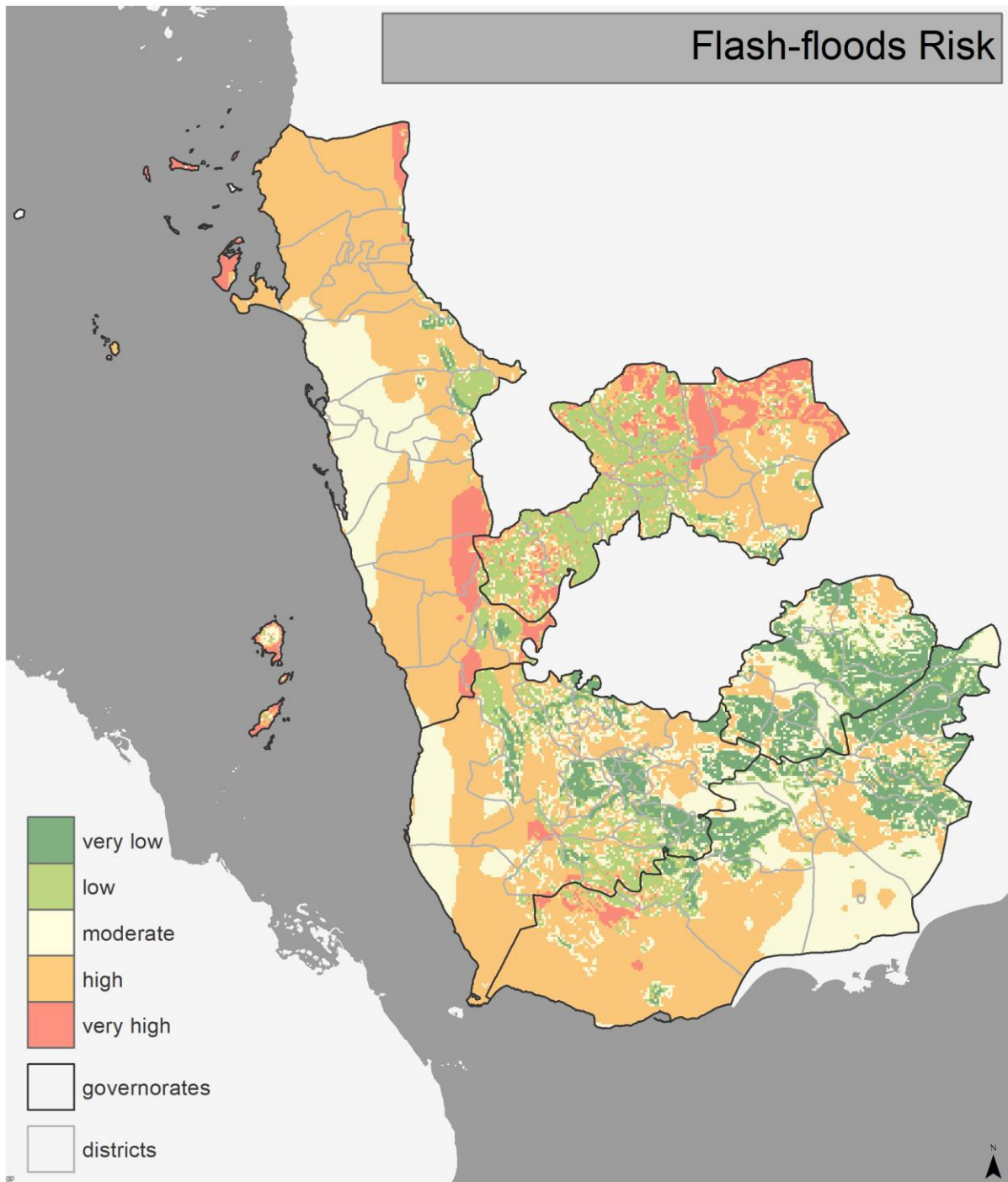


Figure 3

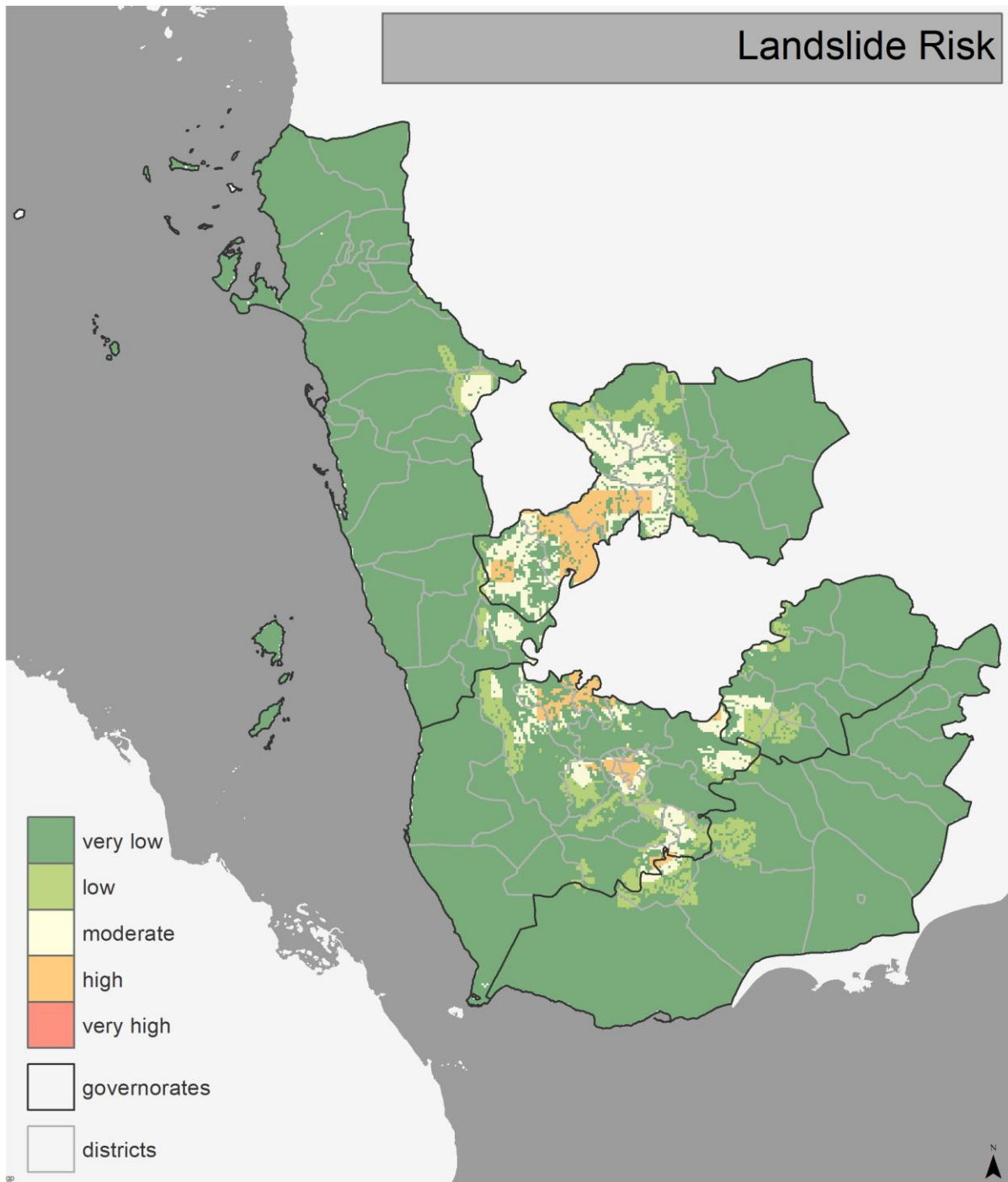


Figure 4

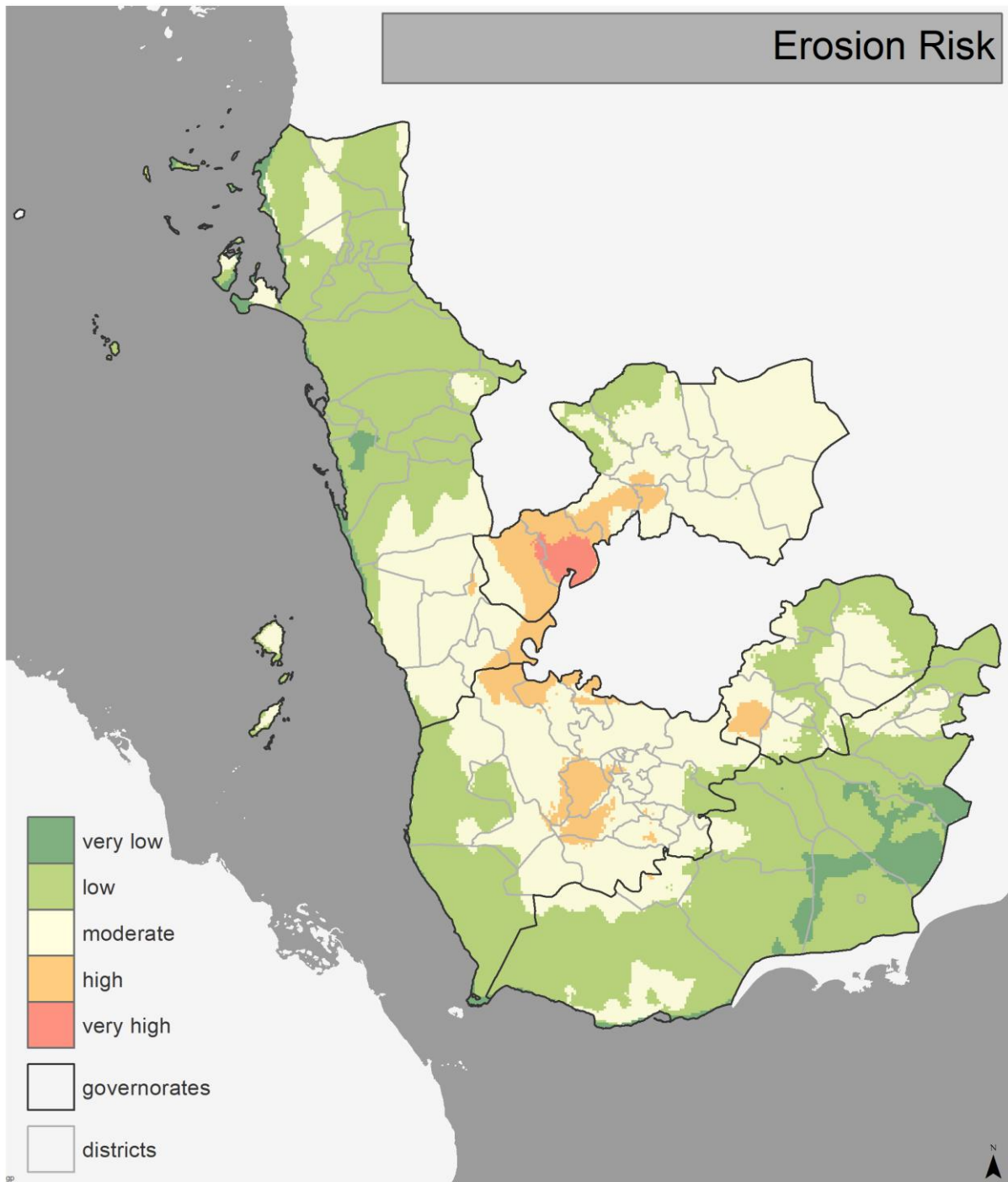


Figure 5

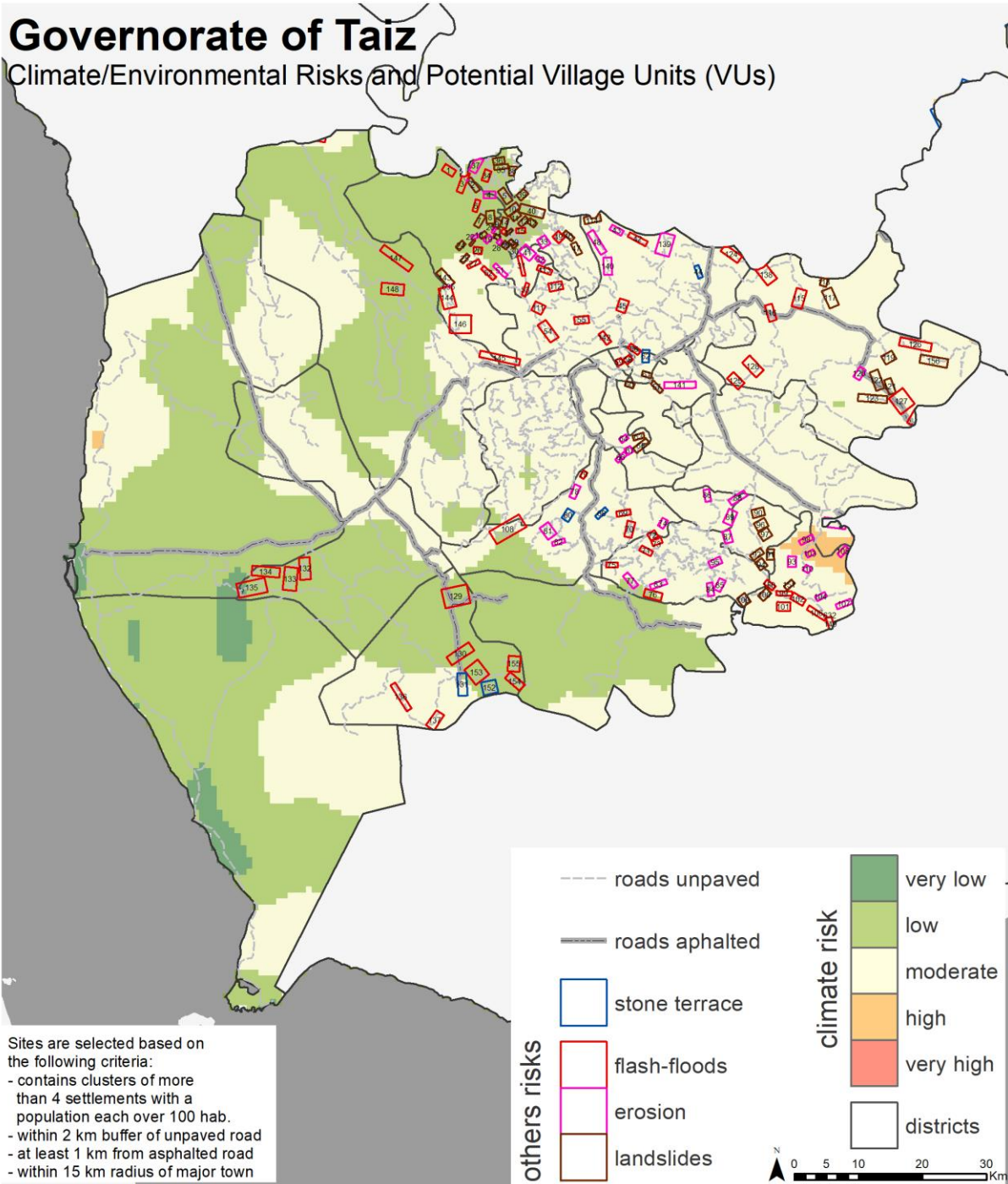


Figure 6

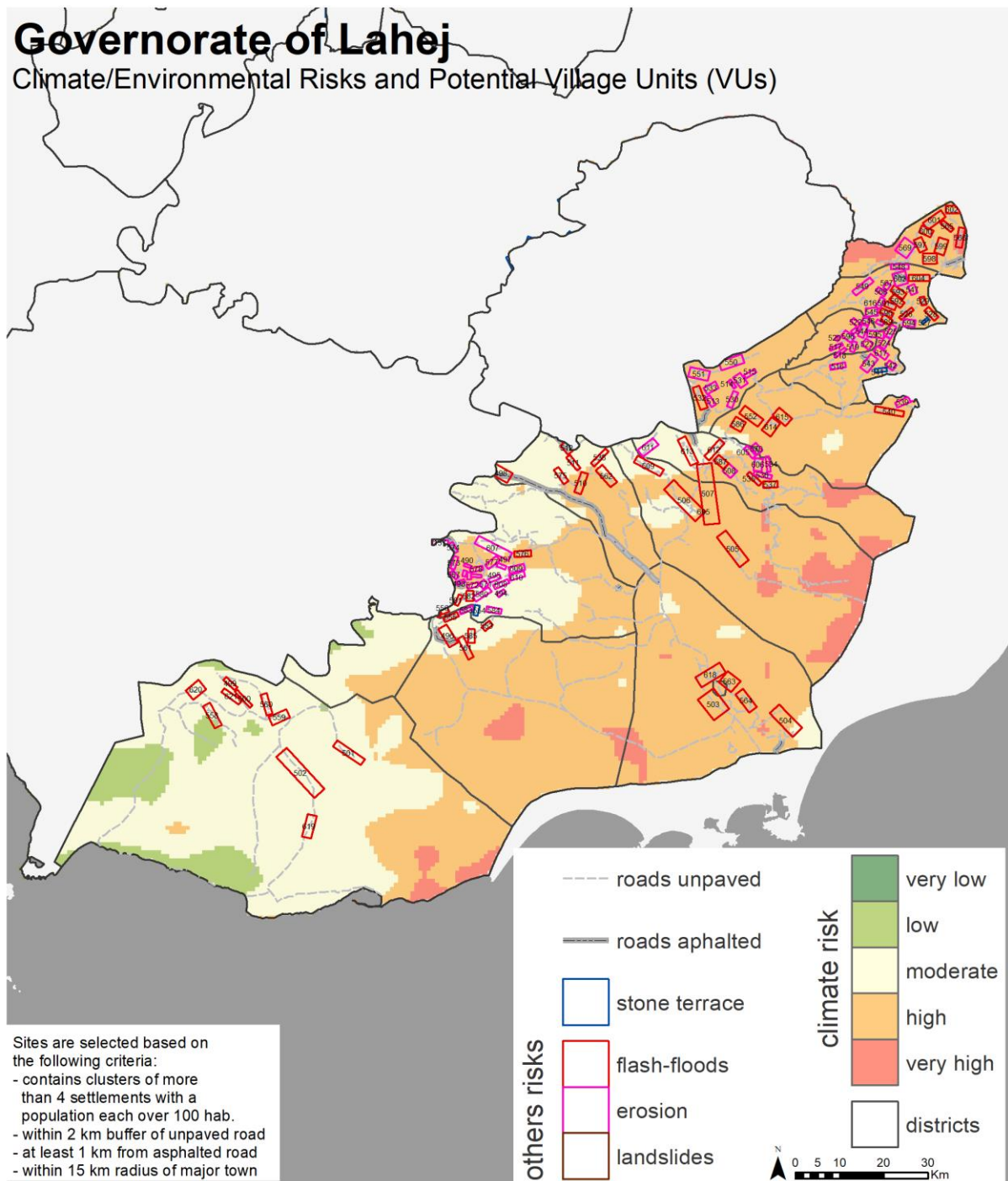


Figure 7

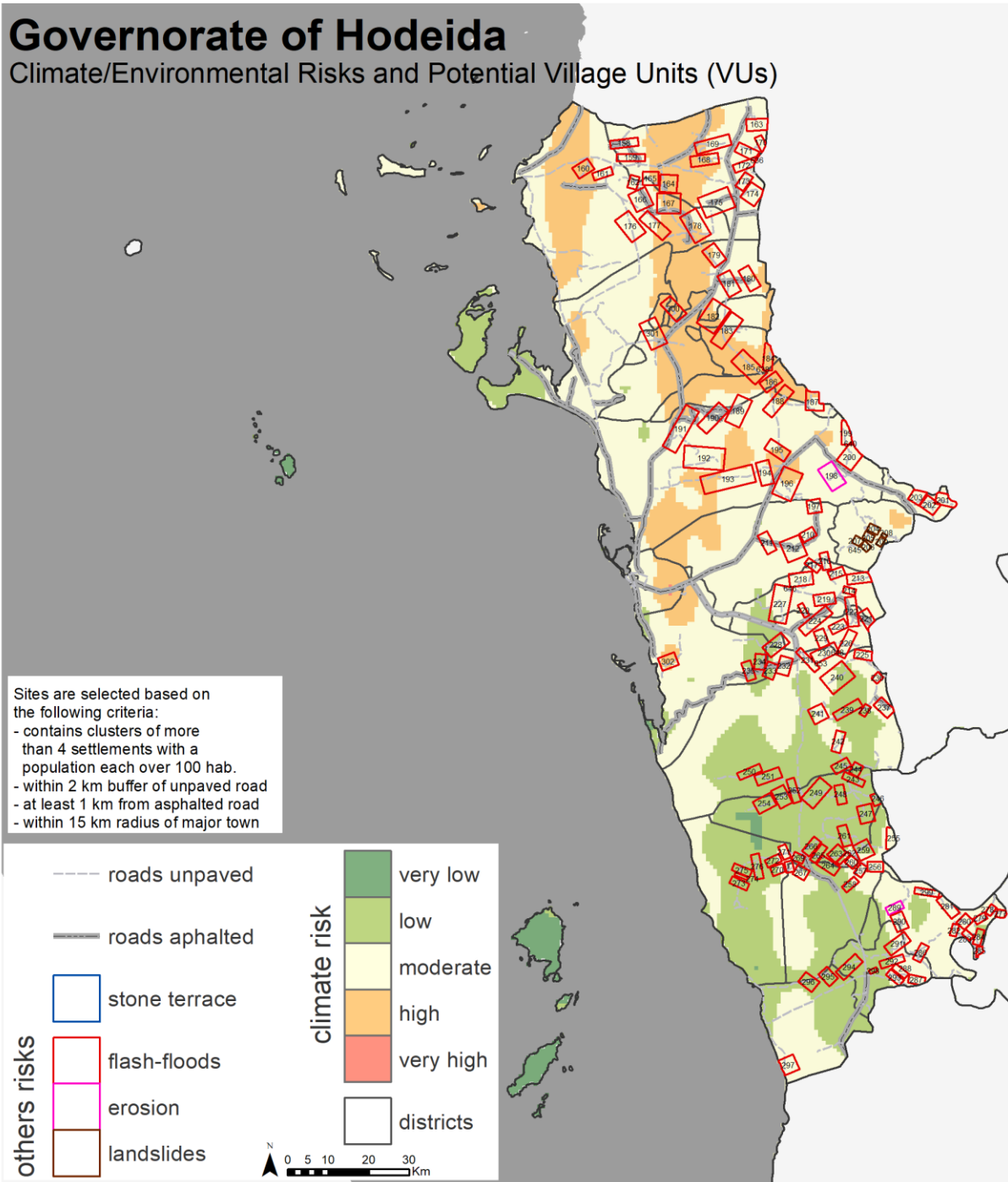
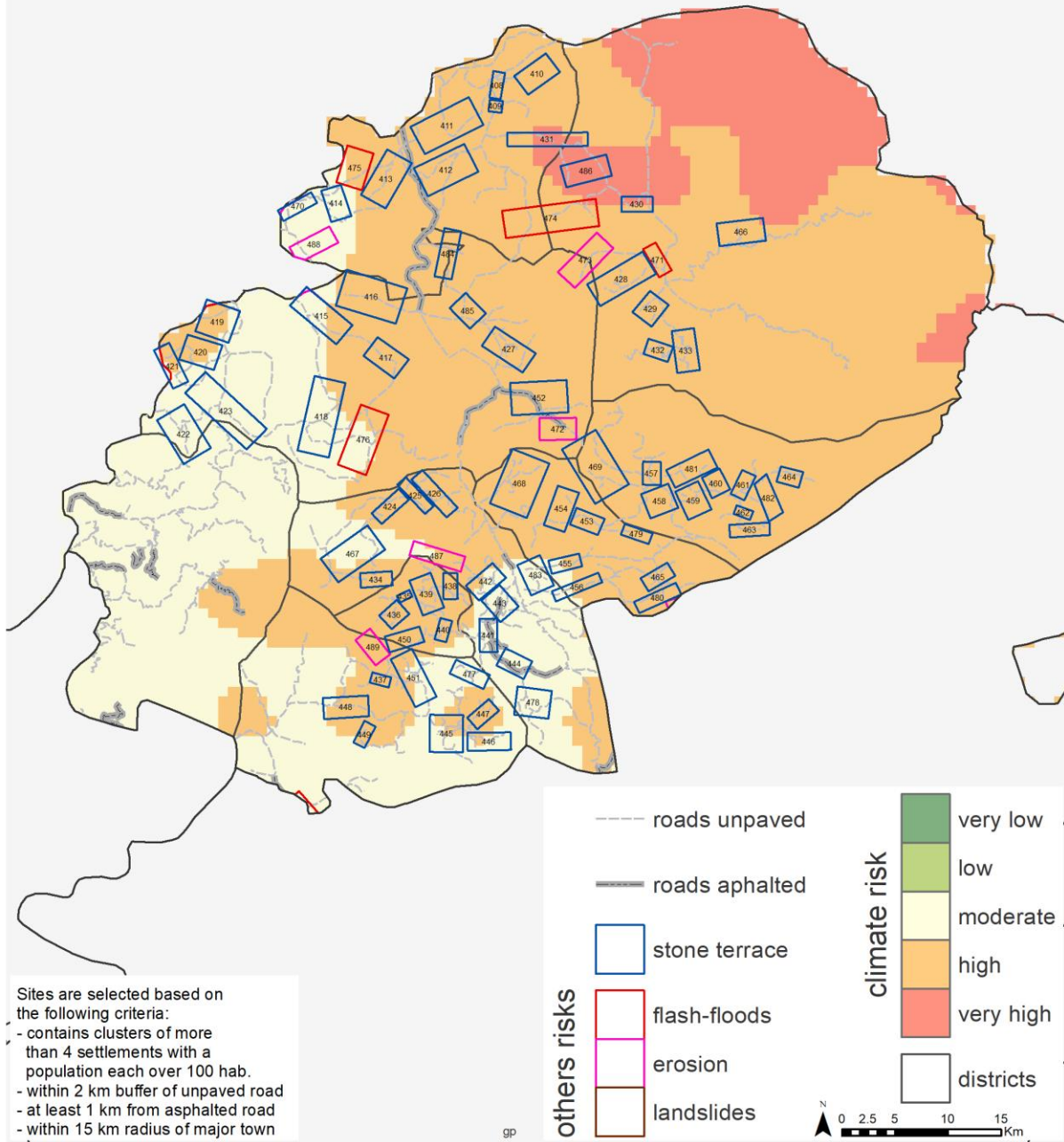


Figure 8

Governorate of Al-Dhala

Climate/Environmental Risks and Potential Village Units (VUs)



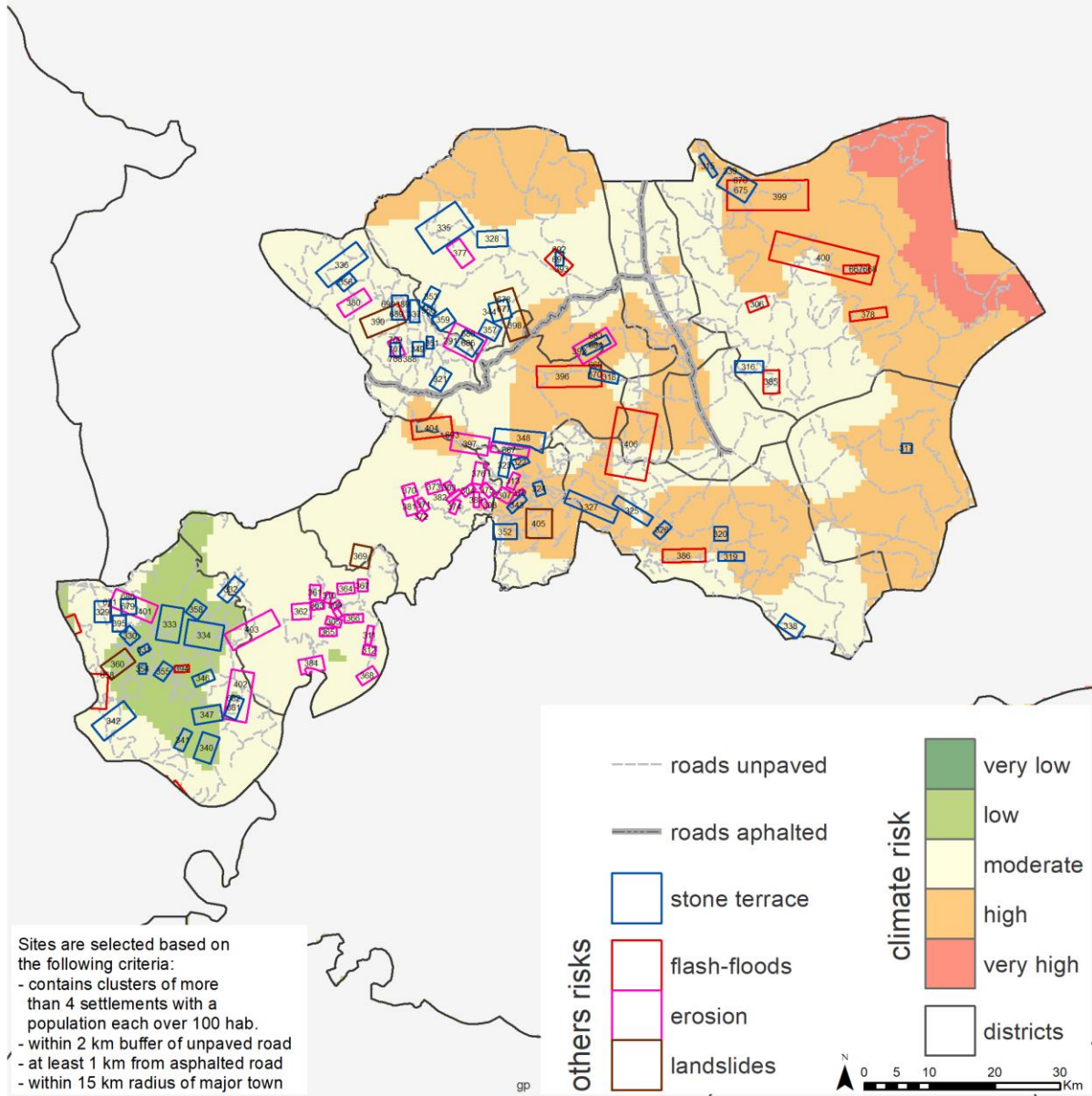
Sites are selected based on the following criteria:

- contains clusters of more than 4 settlements with a population each over 100 hab.
- within 2 km buffer of unpaved road
- at least 1 km from asphalted road
- within 15 km radius of major town

Figure 9

Governorate of Dhamar

Climate/Environmental Risks and Potential Village Units (VUs)



Sites are selected based on the following criteria:

- contains clusters of more than 4 settlements with a population each over 100 hab.
- within 2 km buffer of unpaved road
- at least 1 km from asphalted road
- within 15 km radius of major town

Figure 2



Figure 3

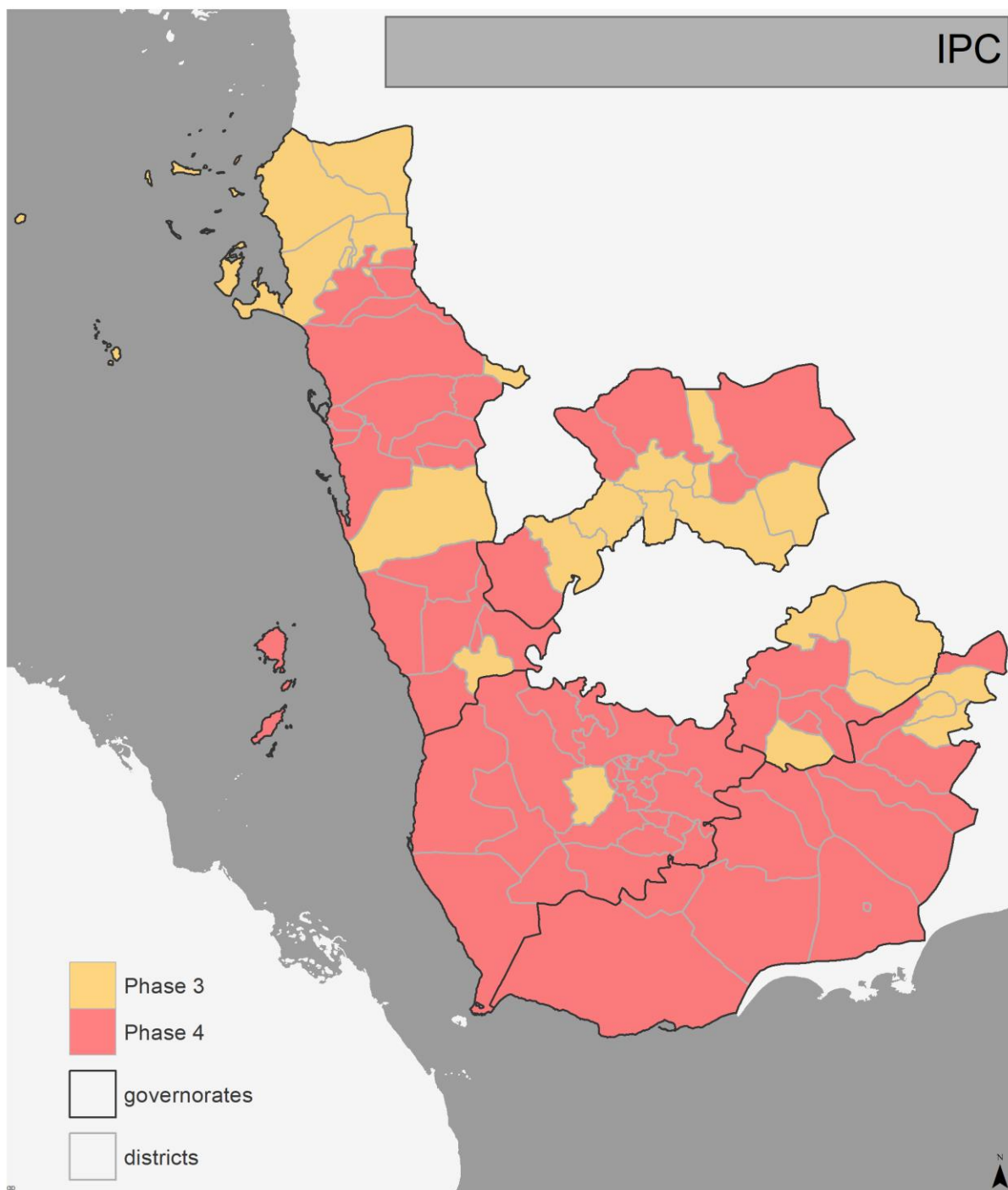
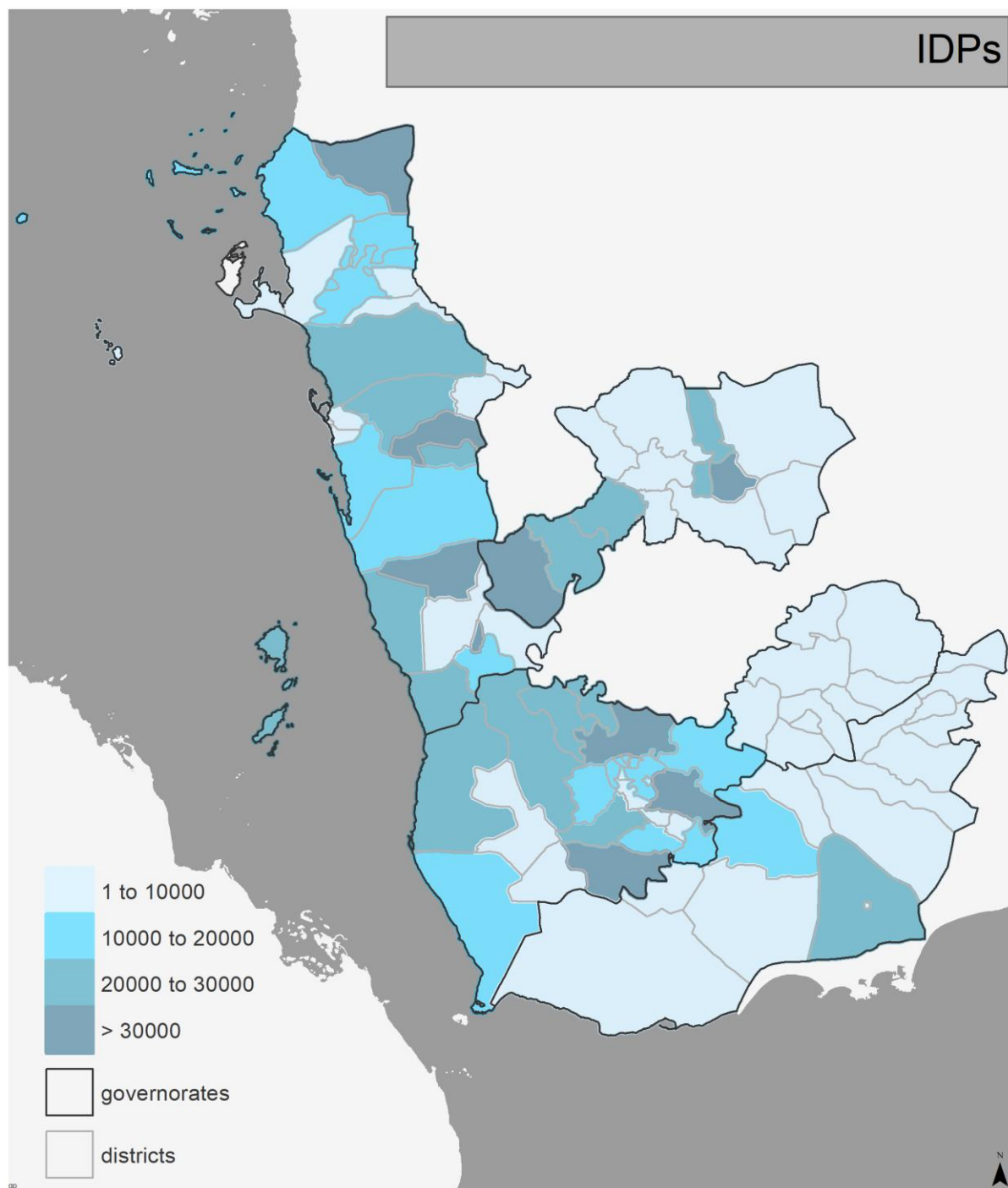


Figure 4



Selection Criteria

Component 3.1: Capacity building for agriculture production	Details	Beneficiaries selection criteria
FFs and extension services	FFS Modules – Crop	<ol style="list-style-type: none"> 1- Households with low daily income of less than US\$2 per day. 2- Small holders' farmers engaged in crop production (irrigated/rainfed) as main source of livelihood; 3- Households that have nine and more member are prioritized. 4- Household farming less than 1.5/2 hectares of agricultural land in lowland /coastal area and less than 1 hectare in highland (indicative-to be refined by IP). 5- Families having disabled are prioritized. 6- Families hosting internally displaced families are prioritized.
FFs and extension services	FFs Modules- Livestock Targeting 40% Women, including IDPs (10%)	<ol style="list-style-type: none"> 1- Households with low daily income of less than US\$2 per day 2- Small holders' farmers practising livelihood activities as main source of income/livelihoods. 3- Households that have nine and more member are prioritized. 4- Household who own animals (i.e.3-5 ruminants and 2 cows) and sufficient labour (family 18-60 age). 5- Female and female headed households will be given priority and should be 40% beneficiaries for this activity. 6- Families having disabled person in the household are prioritized. 7- Families hosting internally displaced families are prioritized. 8- IDPs Households can be included as they often perform livestock (small ruminants) production as main source of living (10%).
Component 3.2. Nutrition	Details	Beneficiaries selection criteria
Nutrition Education	Curriculum on nutrition targeting 100% women, including women from IDPs.	<ol style="list-style-type: none"> 1- Women led household or youth led households. 2- Households with Pregnant or Lactating Women (PLW), or 3- Households with children under 5 years old (registered in or being released from therapeutic nutrition centres for SAM or MAM). 4- Women will be targeted 100%. Women from IDPs can be included as they rank among those suffering from higher food deficit and acute/chronic malnutrition.
Component 3.3: Livelihood resilience and value addition	Contents of the package	Beneficiaries selection criteria
Restoring livelihoods	Provision of livelihood-packages targeting 40% women and 40% youth (50% young boys and 50% young girls)	

Yemen
Rural Livelihood Development Project (RLDP)

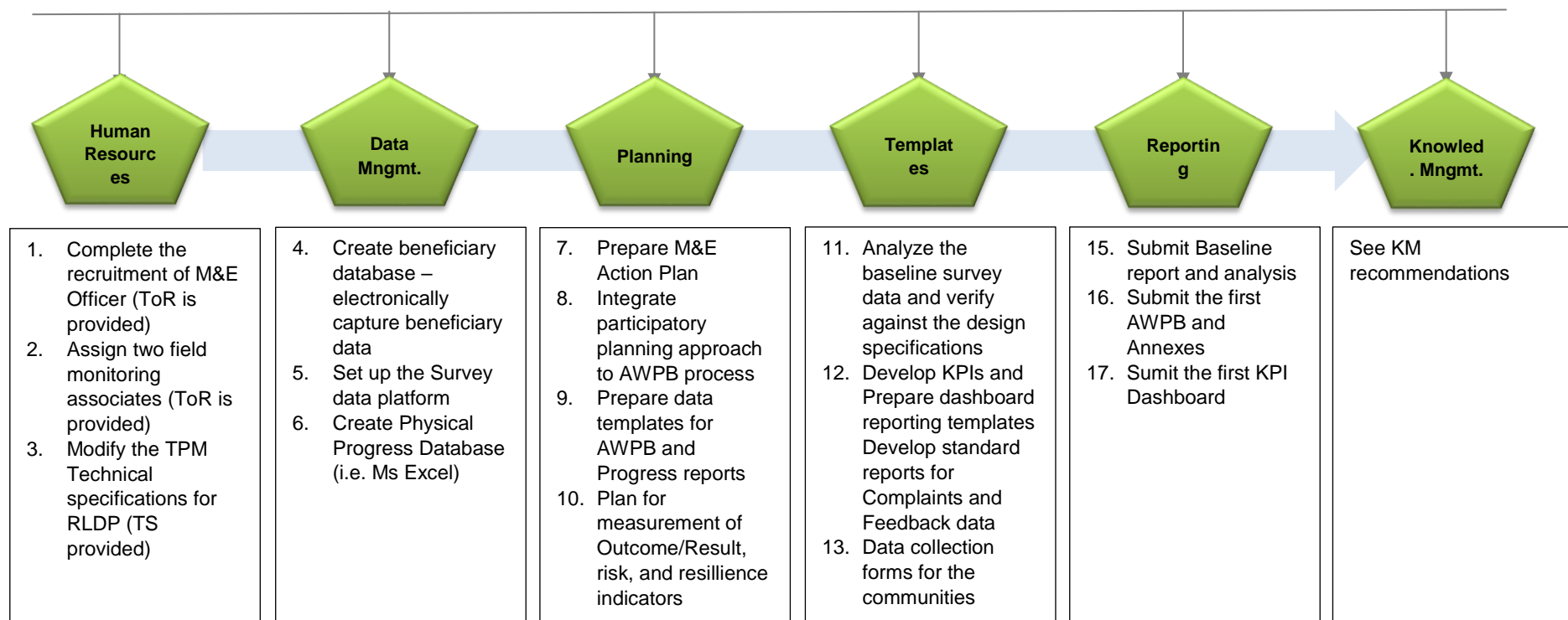
Package1: Cash+	- 10 Eggs-laying chickens. - Poultry feed 90Kg.	<ol style="list-style-type: none"> 1- Households with no or very limited access to land for cultivation (less than 0.10 ha), but with at least 4m2 of land for poultry production. 2- Households with low daily income of less than US\$2 per day. 3- Households not included in any other similar intervention at the same time. 4- Households that have one or more members dedicated to poultry keeping. 5- Households with a capacity to feed the poultry once the feed provided by the programme is finished. 6- Households led by women (female headed households) and young farmers directly involved in running their farm. 7- Households with children admitted to the therapeutic feeding/nutrition centre. 8- IDP households or host community households living in areas with high concentrations of IDP. 9- Households that have nine and more members. 10- Households with a member with disabilities. 11- Households with pregnant or lactating women.
Package 2: Poultry	- 10 Eggs-laying chickens. - Poultry feed 90Kg. - Coop (1 cage, 1 drinker, 1 feeder, 1 eggs-nest, 1 set of eggs trays)	<ol style="list-style-type: none"> 1- Households with no or very limited access to land for cultivation (less than 0.10 ha), but with at least 4m2 of land for poultry production 2- Households with low daily income of less than US\$2 per day 3- Households not included in any other similar interventions at the same time. 4- Households that have one or more members dedicated to poultry keeping. 5- Households with a capacity to feed the poultry once the feed provided by the programme is finished. 6- Households led by women (female headed households) and young farmers directly involved in running their farms. 7- Households with children admitted to the therapeutic feeding/nutrition centers. 8- IDP households or host community households living in areas with high concentrations of IDPs. 9- Households that have nine and more members. 10- Households with a member with disabilities. 11- Households with pregnant or lactating women.
Package 3: Restocking	- 5 live animals (sheep/Goats). - 200 kg of animal feed concentrate. - 3 pcs of feed blocks (8kg each). - 2 pcs of mineral blocks (5kg each).	<ol style="list-style-type: none"> 1- Households owning less than three animals. 2- Households with low daily income of less than US\$2 per day 3- Households not included in any other similar interventions at the same time. 4- Households that have one or more members dedicated to livestock keeping. 5- Households with a capacity to feed the animals once the feed provided by the program is finished. 6- Households led by women (female headed households) and young farmers directly involved in running their farm. 7- IDP households or host community households living in areas with high concentrations of IDPs. 8- Households that have nine and more members. 9- Households with a member with disabilities.
Package 4: Animal feed	- 200 kg of animal feed concentrate. - 2 pcs of mineral blocks (5kg each).	<ol style="list-style-type: none"> 1- Households with 5-20 small ruminants, which consider livestock production as the main source of livelihood (Mandatory). 2- Households with low daily income of less than US\$2 per day (Mandatory). 3- Households not included in any other similar interventions at the same time (Mandatory). 4- Households led by women (female headed households) and young farmers directly involved in running their farm (Supplementary). 5- IDP households or host community households living in areas with high concentrations of IDPs (Supplementary). 6- Households that have nine and more members (Supplementary). 7- Households with a member with disabilities (Supplementary).
Package 5: Beehives	- 5 cells of beehives. -Honey extractor.	<ol style="list-style-type: none"> 1- Households with a condition (favorable area/terrain) to engage in beekeeping. 2- Households with low daily income of less than US\$2 per day.

Yemen
Rural Livelihood Development Project (RLDP)

	<ul style="list-style-type: none"> - 1 set of honey production kit (suger can, pollen, 1 set of jars, etc. 	<ul style="list-style-type: none"> 3- Households not included in any other similar interventions at the same time. 4- Households that have one or more members dedicated to beekeeping. 5- Households led by women (female headed households) and young farmers directly involved in running their farm. 6- IDP households or host community households living in areas with high concentrations of IDPs. 7- Households that have nine and more members.
Package 6: Milk producers	<ul style="list-style-type: none"> - 2 Can 5L. - 1 Can 10 L. - 1 Can 20 L. - 1 Funnel with two filters. - 1 Bucket 15L. - 1 Iodine bottle 1L. - 1 Squeeze bottle. - 1 thermometer. - 2 Towles. 	<ul style="list-style-type: none"> 1- Households with at least 10 livestock / or at least one dairy cow and produce milk. 2- Households with daily income of less than US\$2 per day. 3- Households not included in any other similar interventions at the same time. 4- Households led by women (female headed households) and young farmers directly involved in running their farm. 5- IDP households or host community households living in areas with high concentrations of IDPs. 6- Households that have nine and more members. 7- Households with experience in milk production, processing and sell. 8- Households with enough capacity in milk processing to accommodate the dairy value chain. 9- Households with access to crop markets and/or accept to process milk.
Component 2: Domestic water supply		<ul style="list-style-type: none"> 1- Households with low daily income of less than US\$2 per day. 2- Households that have nine and more member are prioritized. 3- Families having disabled are prioritized. \ 4- Women Head od HHs are prioritized 5- Families hosting internally displaced families are prioritized.

Annex 4: Monitoring & Evaluation

M&E Preparations for the first 12 Months



M&E System Objectives during the next 12 months:

Build the M&E staff capacity with clear roles and responsibilities. Dedicated staff at the central and regional levels carrying out the recommended activities.

M&E system periodically and systematically collects beneficiary and activity data at all levels – and establish a solid database system.

M&E activities are carried out by a plan. M&E contributes to the AWPB planning processes and proactively improves the investment planning.

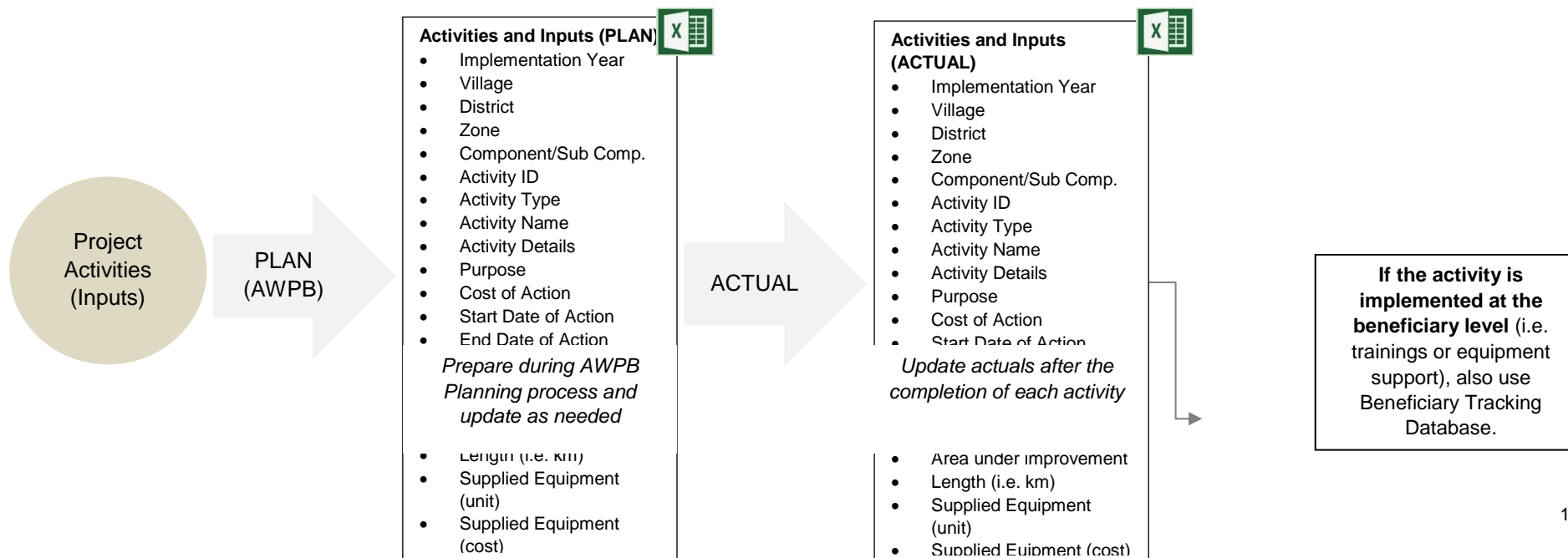
Data is being analyzed to produce insights on targeting, cross components, results, performance.

The analytical capacity goes beyond the reporting of physical achievements. Reporting on results and outcomes are achieved. M&E contributes meaningfully to the decision making

M&E products are linked to the KM processes and insights are disseminated to the relevant audience..

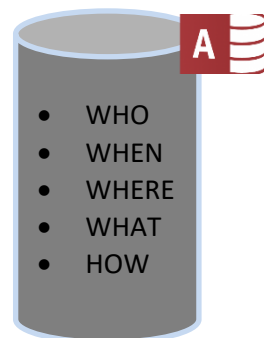
Activity Database

Prepare the consolidated activity database, the list of activity details under each component by Plan vs. Actual



Beneficiary Database

STEP 2: Capture beneficiary information for all activities directly targeting individuals.



- Prepare standard forms to capture beneficiary information from farmers and communities;
- Train project focal points and M&E field specialists on the forms and data requirements;
- Develop and Follow data entry quality standards;
- Periodically enter form data into MS Excel spreadsheets.
- All data can be transferred into MS Access database in a consolidated form.

AWPB Planning Process



<p>DON'T: The planning process is not systematically captured – unorganized lists and w/o sufficient activity details.</p>	<p>DO: Use Investment Planning Form as a simple tool for planning, which should include activity, estimated cost, number of people, etc. Organize the prep and submission of forms with clear timeliness and responsibilities</p>	<p>DON'T: No information on how the activities are prioritized, in what sequence, who is in charge to track the changing priorities, and how the priorities are contributing to the development objectives.</p>	<p>DO: M&E consolidate the IPFs and provide data on regional equity, cost per beneficiary, gender & youth, vulnerability and risk indicators, outreach to inform the decision makers during the budget planning</p>	<p>DON'T: M&E Unit doesn't consolidate and report on the progress systematically. No follow up on the changing needs and requirements of communities</p>	<p>DO: M&E unit track the community plans each year and compare IPFs against the previous year and suggest how the demands are being met, the gaps, and the resource requirements.</p>	<p>DON'T: M&E system is not influential and contributing to the strategic decision making and the planning of AWPB</p>	<p>DO: Conduct analysis to generate insights collected from beneficiaries, IPFs, physical achievements, target profile, progress against the baseline, LFM status, to inform the budgeting process.</p>
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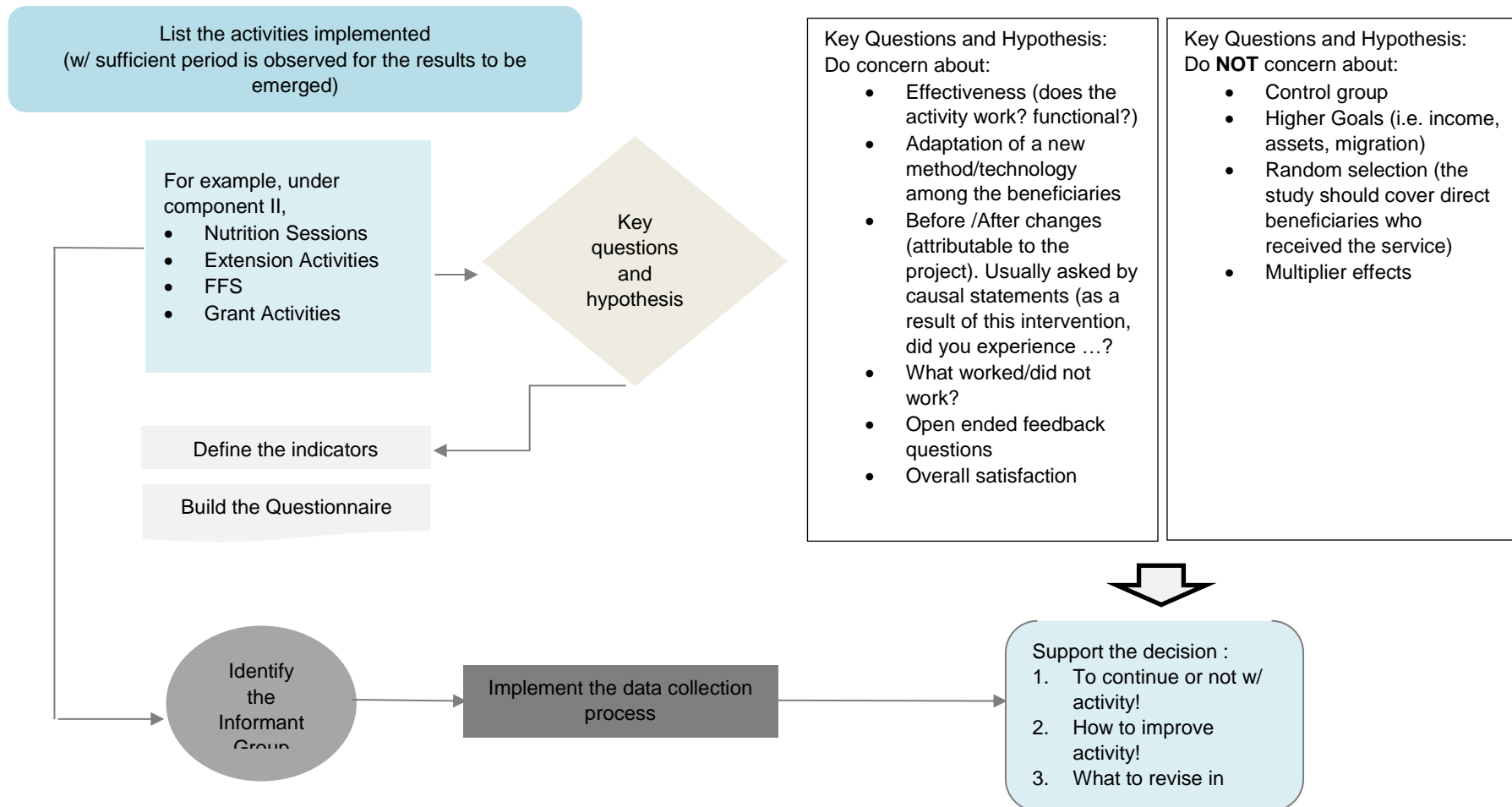
M&E to prepare a standard form and train community specialists, who should be responsible working with the communities during the planning stage.

M&E to prepare standard spreadsheet to register the IPF data and analyze the consolidated data to inform the management on key priorities.

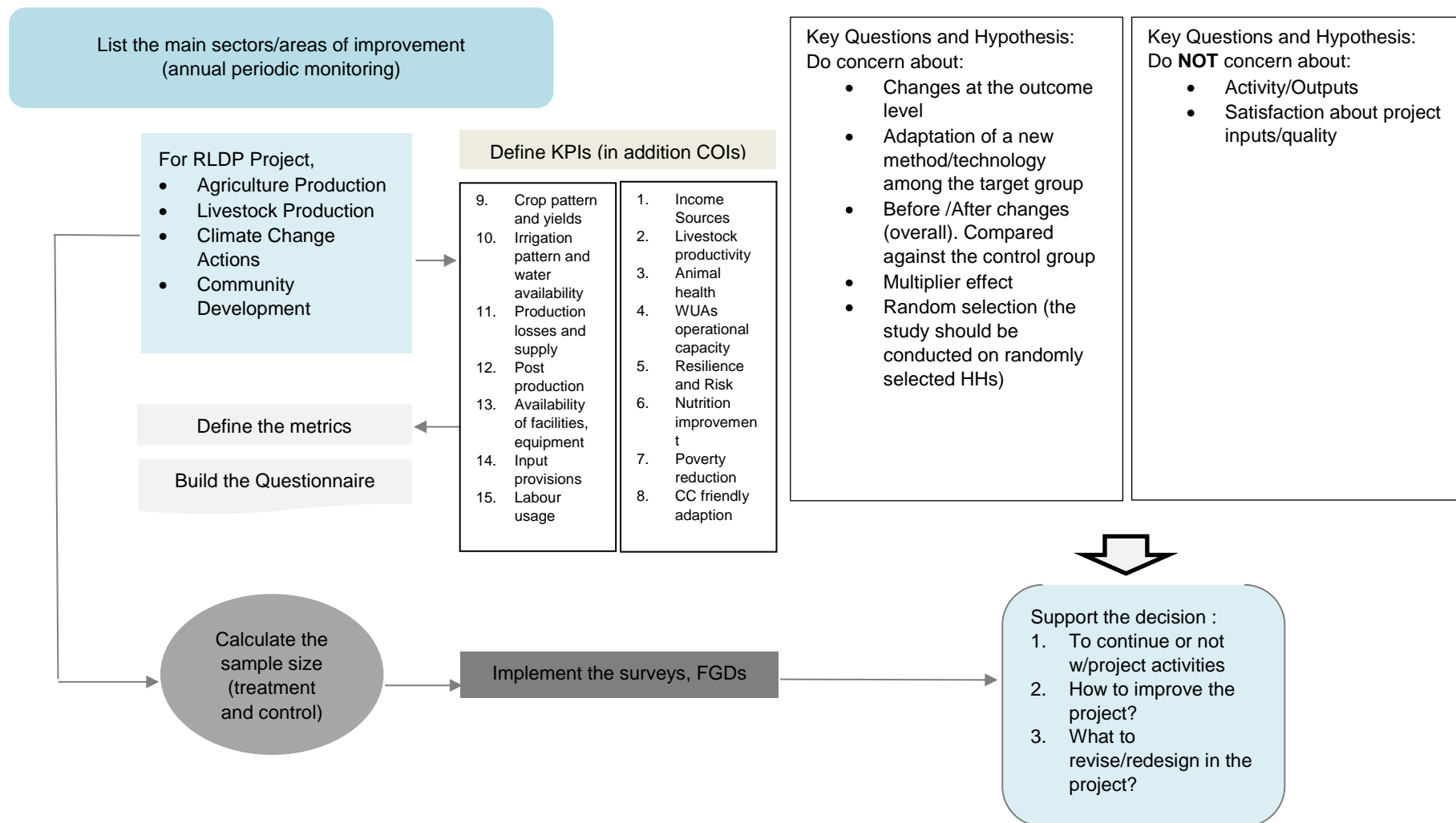
M&E to analyze the IPF historically to check the progress and the gaps.

Analyze the M&E data before the AWPB process and present the findings to influence the budgeting process.

Output Monitoring (immediate results) by TPMs



Outcome Monitoring (KPIs and COIs) by TPMs



M&E Plan Content

1. INTRODUCTION:

<Provide background information about the RLDP Project. Describe what the purpose of the monitoring and evaluation plan is, its purpose and intended audience>

2. PROJECT SUMMARY:

<Provide basic information on the project that this monitoring and evaluation plan is for>

Title	<Insert>
Loan Agreement Date	<Insert>
Entry into Force	<Insert>
Financing Closing Date	<Insert>
Project Closing Date	<Insert>
Implementing Partners	<Insert>
Project Components	<Insert>
Target Area	<Insert>
Target Beneficiary	<Insert>
Cost by Financier	<Insert>
M&E Budget	<Insert>

3. LOGICAL FRAMEWORK

INSTRUCTIONS: Provide the Project log framework as per the table below.

	PROJECT SUMMARY	INDICATORS	MEANS OF VERIFICATION	RISKS / ASSUMPTIONS
Goal	<Insert>	<Insert>	<Insert>	<Insert>
Outcomes	<Insert>	<Insert>	<Insert>	<Insert>
Outputs	<Insert>	<Insert>	<Insert>	<Insert>
Activities	<Insert>	<Insert>	<Insert>	<Insert>

4. INDICATORS

INSTRUCTIONS: For each indicator listed in the previous logframe table describe precisely what the indicator is and how it will be measured. An example is shown below. Copy and paste the table as many times as required for completing all the indicators.

Indicator	Increase in crop yield of Product A by X% at the end of year Y
Definition	Average yield of crop A in the target area, which is defined as the incremental yield increase after the implementation of the new variety seeds divided by the total yield previously measured.
Purpose	To assess whether the improved seeds quality/variety would increase the productivity of the crop.
Baseline	100 tons/season for Crop A
Target	130 tons/season for Crop A
Data Collection	Information will be collected from the Farmers by the trained enumerators at Baseline, Mid-term and Completion. The same data will also be collected through TPM if the Project plans to scale up before investing in this activity.
Tool	Questionnaire
Frequency	Baseline, Midterm, Completion, Annual Surveys (optional)
Responsible	Enumerators, TPM
Reporting	The survey data will be reported in Baseline, Midterm and completion reports. For Annual surveys (if needed), the results will be included in the Progress Report and M&E Annual report.
Quality Control	Field Extension Specialists will check the accuracy of the data through spot checks by visiting sample farms during the harvest season.

5. DATA MANAGEMENT

Storage

<Describe how the database platform, and storage requirements. Who will manage the database and how often it would be updated? Also, describe the process to consolidate various spreadsheets including the data received from the field officers and data collection suppliers>

Analysis

<Describe the analysis – including dashboard reporting requirements. How and how often the data will be presented to the decision makers and the methods of disseminating the analysis findings. What software will be used for the analysis (i.e. SPSS)?>

Privacy

<Also, specify the data privacy issues, pertaining laws, and how the personalized information will be shared with IFAD and other stakeholders>

6. M&E WORK SCHEDULE

<Summarize the details of the Action Plan by populating the following table. If needed, please add more rows and/or columns.>

No.	Activity	Reason for implementing this activity	Expected results	Budget needed	Deadline	Responsibility
1	Development of an M&E database (in excel)	Need for one repository gathering all information on project activities, to facilitate analysis, reporting and assessment of project performance	<ul style="list-style-type: none"> - The M&E officer will easily find the most updated figures on a specific activity (e.g. people trained in crop), as info entered in the database is always the latest - Data provided to the IFAD mission will be clear and easy to review, as only the updated database will be shared with the mission - Comparison between reached outputs and expected outcomes is easier, as all needed info are in one place - etc. 	0 \$	31 st December 2021	M&E officer
2	<Insert>	<Insert>	<Insert>	<Insert>	<Insert>	<Insert>
3	<Insert>	<Insert>	<Insert>	<Insert>	<Insert>	<Insert>
4	<Insert>	<Insert>	<Insert>	<Insert>	<Insert>	<Insert>

Annex 4: Logframe

Results Hierarchy	C.I	Indicators					Means Verification			Assumptions
		Name	Unit	Base-line	Mid-Term	End Target	Source	Frequency	Responsibility	
Outreach	1.	Number of people receiving services promoted or supported by the project (number of individuals who have directly received or used services promoted or supported by the project)	Persons	0	52,040 ⁱ	71,800	M&E Beneficiary Database	Annual	FAO M&E Unit in coordination with SFD M&E Unit	Political and Macro-Economic instability do not interfere with the implementation and lead to inappropriate targeting
		- Men	Persons	0	24,258	32,760				
		- Women	Persons	0	27,782	39,040				
		- Youth	Persons	0	9,266	15,182				
	1.a	Corresponding number of households reached	HH	0	15,425	26,031				
		- Women headed households	HH	0	1,882 ⁱⁱ	3,176				
	1.b	Estimated total number of HH members (persons in the HH supported by the project). Number of HH (1.a) * Average no. of HH members	HH	0	103,348 ⁱⁱⁱ	174,400				
Goal: To rebuild communities' resilience against the economic and environmental shocks and improve the livelihoods of poor, excluded and deprived people		Percentage reduction in the number of target rural households living below the poverty line	%	0	5%	10%	National/regional statistical services / WB and UN statistics/	MTR and completion	Targeting Specialist and FAO/SFD M&E units, Baseline, Mid-term, and Impact assessment contractors	Instability in local communities are provided real incentive to rebuild their lives and contribute to stability and peace.
		Percentage improvement in the average score of the Resilience Index Measurement and Analysis (RIMA)	Score	n/a	5%	15%	Baseline and completion survey			

<i>Development Objective:</i> To improve the food security and the poverty level of smallholder farmers through increased agriculture production, and the efficient use of Natural Resources.	Percentage of beneficiary households reporting at least 20% increase in average HH net income from both farm and non-farm activities/services	HH	0	50%	70%	s, RIMA Scores			
	Percentage of poor rural smallholder HHs increased climate resilience	%	0	50%	80%				
	Percentage of households satisfied with project-supported services	%	0	60%	80%				
	- Men	%	0	60%	80%				
	- Women	%	0	60%	80%				
	- Youth	%	0	60%	80%				
<i>Outcome 1</i> The community and farmer institutions are strengthened to deliver the services effectively and to ensure the sustainability of project investments	Number of Community Institutions (CDA/WUAs/VCU/CBOs) become functional or successfully implementing O&M activities	No.	0	20	30		MTR and completion	FAO/SFD M&E units, Mid-term, and Impact assessment contractors	
	Percentage of households reporting they can influence decision-making of local authorities and project-supported service providers	%	0	50%	70%				Intra-community conflicts prevent formation of effective CDAs (R
	- Men	%	0	50%	70%				
	- Women	%	0	40%	60%				
	- Youth	%	0	50%	70%				
<i>Output 1</i> Capacity building and training activities are delivered	Number of people trained under the capacity building activities	No.	0	2,150	3,309	M&E Beneficiary Database	Quarterly	FAO M&E Unit in coordination with SFD M&E Unit	
	- Men			1,096	1,686				
	- Women			1,054	1,623				
	- Youth			455	700				
<i>Outcome 2</i> Strengthen the environmental sustainability	3.2. Number of households reporting a significant reduction in the time spent for	No.	0	14,080	17,600	Baseline, mid-term and	Baseline, mid-term	FAO/SFD M&E units, Baseline,	Sufficient implementation capacity and

and climate resilience of poor rural people	collecting water or fuel					Completion survey	and Completion survey,	Mid-term, and Impact assessment contracts.	capable service providers to develop infrastructure. Intervene in areas where there is no active fighting and work through partners who have developed a good modus operandi in securing clearances from local authorities and are trusted by local communities.
	- Men		0	6,834	8,542				
	- Women		0	7,246	9,058				
	- Youth		0	2,534	3,168				
	1.2.3 Number of persons reporting reduced water shortage vis-a-vis production needs	No.	0	9,792	12,240				
	- Men		0	4,798	5,998				
	- Women		0	4,994	6,242				
	- Youth		0	1,763	2,203				
	3.2.2 Percentage of households reporting adoption of environmentally sustainable and climate resilient technologies and practices	%	0%	64%	80%				
	3.1.4 Number of hectares of land brought under climate-resilient management (modified current	Ha.	0	1,688	3,253				
<i>Output 2.1 Rural population access to clean drinking water</i>	Number of individual households provided with water supply (i.e. Rooftops and courtyard water harvesting)	HH	0	500	800	M&E Beneficiary Database	Quarterly	FAO M&E Unit in coordination with SFD M&E Unit, TPM	
<i>Output 2.2 Rehabilitation or improvement of small-scale community level water infrastructures for irrigation schemes and flood-based agriculture schemes</i>	Area served under the rehabilitation of flood-based agriculture system and irrigation systems	Ha.	0	525	715	M&E Beneficiary Database	Quarterly	FAO M&E Unit in coordination with SFD M&E Unit, TPM	
2.1.5	Number of road rehabilitation	Km.	0	14	20				
<i>Outcome 3 Enhance the resilience and protect the livelihoods of agriculture</i>	1.2.2 Percentage of households reporting adoption of new/improved inputs, technologies or practices	%	0	60%	80%	FFS Surveys, Adoption survey	Annual FFS methodology, Baseline,	FAO M&E Unit, Baseline, Mid-term, and Impact assessment	Traditional views of women's role in family and society can be change
	- Men	%	0	60%	80%				

households in Yemen		- Women ^v	%	0	50%	70%		mid-term and Completion	IP Nutrition Field officers, FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	Tension with the host community is softened through project support providing win-win solutions
		- Youth	%	0	65%	75%				
	1.2.4	Percentage of households reporting an increase in production	HH	0	50%	75%				
		- Men	%	0	50%	75%				
		- Women	%	0	40%	60%				
		- Youth	%	0	45%	55%				
	1.2.9	Percentage of households with improved nutrition Knowledge Attitudes and Practices (KAP)	%	0	45%	60%	KAP surveys	Annual KPAs, Baseline, mid-term and Completion	IP Nutrition Field officers, FAO M&E unit, Baseline, Mid-term, and Impact assessment contractors	
<i>Output 3.1</i> Trainings provided to improve crop and livestock production and in the management of climate-related risk	1.1.4	Number of persons trained in production practices and/or technologies	People	0	2,400	6,000	M&E Beneficiary Database	Quarterly	IP Nutrition Field officers, FAO M&E unit, TPM	
	1.1.3	Number of rural producers accessing production inputs and/or technological packages	HH	0	138	346				
<i>Output 3.2</i> The provision of targeted support to the rural households to improve their nutrition	1.1.8	Number of households provided with targeted support to improve their nutrition (women only)	HH	0	1,600	4,000	M&E Beneficiary Database	Quarterly	IP Nutrition Field officers, FAO M&E unit, TPM	
<i>Output 3.3</i> Providing livelihood support packages to smallholders to add value to their current production in order to make their	1.1.3	Number of rural producers accessing production inputs and/or technological packages (livelihood packages) and matching grants	Persons	0	1,173	2,346	M&E Beneficiary Database	Quarterly	IP Field officers, FAO M&E unit, TPM	
		- Men	Persons	0	722	1,446				
		- Women	Persons	0	451	900				

Yemen
Rural Livelihood Development Project (RLDP)
Project Implementation Manual

livelihoods more resilient		- Youth	Persons	0	400	800				
<i>Output 3.4</i> Capacity built to carry out, communicate and to use knowledge products	Policy 1	Number of policy-relevant knowledge products completed	No	0	2	4	Stakeholder platforms, meetings, and network with national/local institutions	Annual	Project Manager, M&E Officer, SFD Focal Points	Political and governance risks can impede implementation, control of the country by different parties could lead to interferences

-
- ⁱ 80% of Component 2: Climate Resilient Community Infrastructure AND 50% of Component 3 : Protection of Agriculture Livelihoods
 - ⁱⁱ 12.2% of total HHs are female headed
 - ⁱⁱⁱ Number of people in one HH is 6.7
 - ^{iv} Based on average arable land holdings of total farmers benefiting from FFS , 50% of irrigated landholdings and 20% of rain-fed impacted
 - ^v The results from the women and youth respondents will be extrapolated proportionally beyond the original observation range.

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 9: Integrated Project Risk Matrix (IPRM)

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Overall Summary

Risk Category / Subcategory	Inherent risk	Residual risk
Country Context	High	High
<i>Political Commitment</i>	<i>High</i>	<i>Substantial</i>
<i>Governance</i>	<i>High</i>	<i>High</i>
<i>Macroeconomic</i>	<i>High</i>	<i>High</i>
<i>Fragility and Security</i>	<i>High</i>	<i>Substantial</i>
Sector Strategies and Policies	High	Substantial
<i>Policy alignment</i>	<i>High</i>	<i>Substantial</i>
<i>Policy Development and Implementation</i>	<i>Substantial</i>	<i>Substantial</i>
Environment and Climate Context	Substantial	Moderate
<i>Project vulnerability to environmental conditions</i>	<i>Substantial</i>	<i>Moderate</i>
<i>Project vulnerability to climate change impacts</i>	<i>Substantial</i>	<i>Moderate</i>
Project Scope	Moderate	Low
<i>Project Relevance</i>	<i>Moderate</i>	<i>Low</i>
<i>Technical Soundness</i>	<i>Moderate</i>	<i>Low</i>
Institutional Capacity for Implementation and Sustainability	High	Substantial
<i>Implementation Arrangements</i>	<i>High</i>	<i>Substantial</i>
<i>Monitoring and Evaluation Arrangements</i>	<i>Substantial</i>	<i>Moderate</i>
Financial Management	Substantial	Moderate
<i>Organization and Staffing</i>	<i>High</i>	<i>Substantial</i>
<i>Budgeting</i>	<i>High</i>	<i>Substantial</i>
<i>Funds Flow/Disbursement Arrangements</i>	<i>High</i>	<i>Substantial</i>
<i>Internal Controls</i>	<i>High</i>	<i>Substantial</i>
<i>Accounting and financial reporting</i>	<i>High</i>	<i>Substantial</i>
<i>External Audit</i>	<i>Substantial</i>	<i>Substantial</i>
Project Procurement	Substantial	Moderate
<i>Legal and Regulatory Framework</i>	<i>Moderate</i>	<i>Low</i>
<i>Accountability and Transparency</i>	<i>High</i>	<i>Moderate</i>
<i>Capability in Public Procurement</i>		<i>No risk envisaged</i>
<i>Public Procurement Processes</i>		<i>No risk envisaged</i>
Environment, Social and Climate Impact	Substantial	Moderate
<i>Biodiversity Conservation</i>		<i>No risk envisaged</i>
<i>Resource Efficiency and Pollution Prevention</i>	<i>Moderate</i>	<i>Low</i>
<i>Cultural Heritage</i>		<i>No risk envisaged</i>
<i>Indigenous People</i>		<i>No risk envisaged</i>

Risk Category / Subcategory	Inherent risk	Residual risk
<i>Labour and Working Conditions</i>	<i>Moderate</i>	<i>Low</i>
<i>Community Health and Safety</i>	<i>High</i>	<i>Substantial</i>
<i>Physical and Economic Resettlement</i>		<i>No risk envisaged</i>
<i>Greenhouse Gas Emissions</i>		<i>No risk envisaged</i>
<i>Vulnerability of target populations and ecosystems to climate variability and hazards</i>		<i>No risk envisaged</i>
Stakeholders	High	Substantial
<i>Stakeholder Engagement/Coordination</i>	<i>High</i>	<i>Substantial</i>
<i>Stakeholder Grievances</i>	<i>Substantial</i>	<i>Moderate</i>
Overall	Substantial	Moderate

Country Context	High	High
Political Commitment	High	Substantial
Risk: There are now three political governments in the country who have control over specific geographic areas.	High	Substantial
Mitigations: RLDP will be implemented by FAO and SFD who have proved that they can successfully negotiate with all three governments and deliver effectively on the ground for the benefit of the people regardless of the Government which purports to exercise control.		
Governance	High	High
Risk: The government has weak capacity to be part of the implementation or to properly monitor the project's progress.	High	High
Mitigations: RLDP will be implemented by FAO and SFD who have proved that they can successfully negotiate with all three governments and deliver effectively on the ground for the benefit of the people regardless of the government which purports to exercise control. The internationally recognised government will be represented in the Advisory Steering Committee of the project.		
Macroeconomic	High	High
Risk: Impact of exchange rate instability is high.	High	Substantial

<p>Mitigations:</p> <p>Adequate provision for price contingencies has been done during design. During implementation, the unallocated category of the loan will be used to cover cost increases due to exchange rate risks, as provided for in the financial agreement. FAO and SFD will carry out annual reviews of unit costs in the AWPB to allow for price escalations.</p>		
<p>Risk:</p> <p>High inflation rate coupled with dramatic fall income as many public sector workers have gone for months without being paid</p>	High	High
<p>Mitigations:</p> <p>The project will contribute, though minimal, to maintaining some basic public services in the agricultural sector and capacity.</p>		
<p>Fragility and Security</p>	High	Substantial
<p>Risk:</p> <p>Reaching the target population may be challenging as Yemen is in the midst of a complex conflict that is causing massive physical damage, devastating the economy, weakening institutions, and generating an unprecedented humanitarian crisis.</p>	High	Substantial
<p>Mitigations:</p> <p>Target governorates have been agreed with the Internationally Recognised Government and the de-facto government then validated with FAO. Targeting strategy took into consideration security and accessibility within the target governorates. During implementation, FAO, SFD and the Advisory Committee will continuously assess the list of selected districts to be able to be flexible to accommodate future changes based on how the situation might evolve in the target areas.</p>		
<p>Sector Strategies and Policies</p>	High	Substantial
<p>Policy alignment</p>	High	Substantial
<p>Risk:</p> <p>Most of Yemen's strategies are outdated and thus may not be as relevant.</p>	Substantial	Substantial
<p>Mitigations:</p> <p>Project design took into consideration priorities in these strategies but also validated the information through desk research and meeting with other stakeholders in the country. During implementation, continuous beneficiary consultation by FAO and SFD and Advisory Steering Committee will ensure relevance of the interventions the the target population.</p>		
<p>Risk:</p> <p>The agriculture sector has been under severe distress due to the ongoing conflict and the sector priorities have shifted as a result of conflict</p>	High	Substantial

<p>Mitigations:</p> <p>This risk will be mitigated by the project through its interventions, including capacity building, awareness campaigns and a focus on restoring and increasing the use of productivity and nutrition-enhancing crop and livestock practices.</p>		
<p><i>Policy Development and Implementation</i></p>	<i>Substantial</i>	<i>Substantial</i>
<p>Risk:</p> <p>The implementation of strategies in agriculture and sustainable development has been interrupted due to the conflict. Due to the weakened governance and political instability, the government cannot prioritize its core functions including the development of new strategic vision and policy instruments for the rehabilitation of social and economic sectors.</p>	Substantial	Substantial
<p>Mitigations:</p> <p>For design, IFAD worked through the Rome Based Agencies to focus on areas of its strategic priorities as identified in the 11th Replenishment including the mainstreaming areas. The selection of FAO and SFD as the implementing partners will ensure continuous engagement with the Yemen people , governorate official and the three governments for some policy development. The Advisory Council will be involved in the policy development agenda during the course of the project.</p>		
<p>Environment and Climate Context</p>	Substantial	Moderate
<p><i>Project vulnerability to environmental conditions</i></p>	<i>Substantial</i>	<i>Moderate</i>
<p>Risk:</p> <p>Yemen's water scarcity remains the main environmental issue. Lack of water in target areas is the main risk that could negatively impact project activities. Other issues regarding water and soil quality are of substantial risk as well especially in the conflict context.</p>	Substantial	Moderate
<p>Mitigations:</p> <p>In areas where groundwater will be used, FAO will arrange for geological surveys to determine water quantity will be done by the project in compliance with the ESMP. This will ensure sound targeting and sustainable use of water resources. Water and soil quality assessments are also planned for target areas.</p>		
<p><i>Project vulnerability to climate change impacts</i></p>	<i>Substantial</i>	<i>Moderate</i>
<p>Risk:</p> <p>The project will operate in areas with high vulnerability to climate change and extreme weather events.</p>	Substantial	Moderate

<p>Mitigations:</p> <p>A detailed climate risk analysis has been developed as part of the SECAP and the proper adaptation measures have been identified. Around half of the IFAD financing is going to adaptation-focused activities and an additional \$10 million from the GEF's LDCF will be co-financing the project with the aim of increasing communities' resilience to climate change. The infrastructure component of the project will be enhancing adaptation to climate change impacts in the target areas. The other activities (e.g. FFS, trainings, community mobilization) are not highly vulnerable to the impacts of climate change and can be easily adapted.</p>		
Project Scope	Moderate	Low
Project Relevance	Moderate	Low
<p>Risk:</p> <p>Due to the fragile and unstable situation, there may be external factors that may impede the proper implementation of technical components due to lack of understanding of the changing priorities.</p>	Moderate	Low
<p>Mitigations:</p> <p>Project is designed to be flexible during implementation, with community consultation and priorities an important pillar for success. During design, relevant documents on Yemen's current needs have been consulted and meetings with development stakeholders took place to ensure that the project is well aligned with the priorities. The targeting strategy relied on the most recent IPC, malnutrition, IDPs and climate vulnerability data. The unallocated amount in the budget shall help addressing emergencies should they arise. During implementation, the community based approach, where communities identify their priorities at all times and with continuous community feedback processing by FAO and SFD, the project will increase the chances of keeping the interventions relevant.</p>		
Technical Soundness	Moderate	Low
<p>Risk:</p> <p>As the design was organised remotely, no field visits were conducted and there was minimum consultation of the target populations. The identification of sound technical solutions to the problems faced by the populations may have been weak.</p>	Moderate	Low
<p>Mitigations:</p> <p>IFAD has long years of experience in Yemen and implemented large scale programs in the country. The design focused on the core competencies and lessons learned from its previous portfolio and included local consultants. In addition, the project is designed to be flexible during implementation, with community consultation and priorities an important pillar for success. During implementation, the FAO and SFD will take a flexible community driven approach to ensure relevance for the target group and appropriate designs of the technical interventions. Priority will be given to technical solutions that can be managed by knowledge that is easily available in the country and at local levels.</p>		
Institutional Capacity for Implementation and Sustainability	High	Substantial
Implementation Arrangements	High	Substantial

<p>Risk:</p> <p>As the project will be implemented through FAO and SFD, government ownership and cooperation may be weak. With three governments in charge of different areas of the country, achieving ownership and cooperation may be challenging and may affect implementation.</p>	High	Substantial
<p>Mitigations:</p> <p>A key part of the implementation strategy is to provide operational support and incentives to Government line agencies, local implementing agencies, and community organizations and community agents for effective delivery. The "Advisory Steering Committee" will involve key governmental institutions from the internationally recognised government and will be following up on the project. This will also serve to rebuild their institutional capacity as well as mitigate against the risk of outside partners and agencies not being able to travel in the project area.</p>		
<p>Monitoring and Evaluation Arrangements</p>	Substantial	Moderate
<p>Risk:</p> <p>The M&E system is very complicated in the context of Yemen; the continued war and the restricted movement</p>	Substantial	Moderate
<p>Mitigations:</p> <p>The primary responsibility for the design and implementation of the Project M&E System will be assumed by FAO i.e Head of M&E Department at FAO and two M&E associates will be assigned at FAO Field Hubs in Aden and Sanaá plus the M& section of SFD. RLDP activities will be geo-referenced and A robust GRM mechanism has been developed for communities to submit their complaints and ensure timely response.</p>		
<p>Financial Management</p>	Substantial	Moderate
<p>Organization and Staffing</p>	High	Substantial
<p>Risk:</p> <p>The risk that the implementing entity does not have the necessary number of adequately qualified and experienced financial management staff in the national and regional centers, resulting in limited ability to meet the functional needs of the project.</p>	High	Substantial
<p>Mitigations:</p> <p>The project will be implemented by FAO using their assessed structures and guidelines. Regarding the activities to be implemented by SFD, an assessment of their internal capacities from human resources , internal controls environment and financial and accounting systems had shown a strong and sustained capacities which allow to reduce the residual risk to moderate.</p>		
<p>Budgeting</p>	High	Substantial

<p>Risk:</p> <p>The risk that budgeted expenditures are not realistic, not prepared or revised on a timely basis, and not executed in an orderly and predictable manner, resulting in funds not being available when needed, ineligible costs and reallocation of project funds and slow implementation progress.</p>	High	Substantial
<p>Mitigations:</p> <p>An initial 18-month Procurement Plan will be prepared by both FAO and SFD using the template provided by IFAD. Each party will prepare the plan for its component(s) and FAO will have the responsibility of consolidating the plan before its submission to IFAD as part of a complete AWPB. SFD will prepare and submit to FAO, on quarterly basis, financial reports related to component 2 of the project. The reports include a statement of payments by financing sources, by component, sub-component, and a comparison against approved AWPB, and will be submitted to FAO no later than 20 days after the end of each quarter. FAO will prepare, on quarterly basis, interim unaudited financial reports (IFRs) for the whole project, in accordance with the format acceptable to IFAD, and template will be available within the Project Implementation Manual. The IFRs will be submitted to IFAD no later than 45 days after the end of each quarter.</p>		
<p>Funds Flow/Disbursement Arrangements</p>	High	Substantial
<p>Risk:</p> <p>The risk that funds from multiple financiers disburse with delay due to cumbersome treasury arrangements or inability of project cost centers and service providers to justify prior advances, resulting in delayed implementation.</p>	High	Substantial
<p>Mitigations:</p> <p>Disbursement to FAO shall be made on the basis of advance of funds method. FAO is required to prepare and submit AWPB in accordance with the format and periodicity agreed with IFAD. The grants proceeds will be transferred into the FAO bank account based on withdrawal application submitted to the IFAD. The funds related to the implementing of component 2 will be transferred to SFD by FAO on the basis of the progress of the execution of the activities implemented under the responsibility of SFD.</p>		
<p>Internal Controls</p>	High	Substantial
<p>Risk:</p> <p>The risk that appropriate controls over Project funds are not in place, leading to the inefficient or inappropriate use of project resources.</p>	High	Substantial

<p>Mitigations:</p> <p>To provide reasonable assurance that project funds are spent for the intended purposes, the following arrangements will be in place: (i) reliance on established FAO internal control mechanisms for the process of disbursement, documentation of expenditures and reporting; (ii) use of third party monitoring (TPM) to verify physical implementation of the activities of the project and the compliance with the internal controls and financial management arrangements; and (iii) preparation of timely financial reports submitted to IFAD. Furthermore, the internal control system in place within the SFD has been deemed acceptable by IFAD</p>		
<p>Accounting and financial reporting</p>	High	Substantial
<p>Risk:</p> <p>The risk that accounting systems – including policies and standards – are not integrated and reliable, leading to inaccuracies in financial records, and that reasonable records are not prepared, issued and stored, leading to lack of informed decision-making.</p>	High	Substantial
<p>Mitigations:</p> <p>FAO will maintain a financial management system, including records and accounts, adequate to reflect the transactions related to the activities, in accordance with the requirements of the FAO financial regulations and rules and maintain separate accounts in their books to record the financial transactions of the project. SFD uses accounting software (MIS) linked to a financial system for the project monitoring. These two systems are in line with IFAD requirements. The financial reporting of the projects is automatically generated by the system, including withdrawal applications. MIS provides statements on commitments and payments by component, sub-component, activities and by financing sources. Tax exemptions, based on exemption certificates, and beneficiaries' contributions in kind to reflect counterpart contributions will also be recorded in the accounting system issued under each contract.</p>		
<p>External Audit</p>	Substantial	Substantial
<p>Risk:</p> <p>The risk that independent and competent oversight of the Project financial statements is not in place or performed timely leading to possible misrepresentation of the financial results and/or suspension or other remedies due to compliance breaches.</p>	Substantial	Substantial
<p>Mitigations:</p> <p>As per IFAD Handbook for Financial Reporting and Auditing of IFAD-Financed Projects, the grants of any amounts provided to United Agencies, subject to the Policy for Grant Financing, are classified as Type C Grants. The Recipient should submit annually to IFAD certified Statements of Expenditures (SoE) signed by an authorized signatory) within 45 days of the period-end. Therefore, FAO as recipient is exempted from the submission of audited financial statements of the project.</p>		
<p>Project Procurement</p>	Substantial	Moderate
<p>Legal and Regulatory Framework</p>	Moderate	Low

<p>Risk:</p> <p>The Project Procurement Implementation will be done in accordance with FAO Procurement Guidelines. Part of the Project will be implemented by SFD which will use their Procurement Guidelines</p>	Moderate	Low
<p>Mitigations:</p> <p>FAO Procurement Guidelines were assessed and Found acceptable to IFAD. Also, SFD Procurement Guidelines were assessed and found acceptable to IFAD. SFD Procurement will be done under the supervision of FAO</p>		
<p>Accountability and Transparency</p>	High	Moderate
<p>Risk:</p> <p>The current situation in Yemen limited the competition and the availability of the required goods and services to be delivered.</p>	High	Moderate
<p>Mitigations:</p> <p>In light of the continuous conflict, this risk can be mitigated only by advance planning and commitments by FAO which take into consideration the current situation in Yemen and the fast-track procedures that FAO has in place for countries in level 3 emergencies such as Yemen. In addition, SFD's presence in the different governorates and its continuous operations in the country throughout the conflict will help in mitigating this risk</p>		
<p>Capability in Public Procurement</p>		No risk envisaged
<p>The Project is implemented using the Procurement Guidelines of FAO and SFD which is an autonomous state organization. Therefore no Public Procurement is involved</p>		
<p>Public Procurement Processes</p>		No risk envisaged
<p>No Public Procurement Processes are used in the implementation of the project</p>		
<p>Environment, Social and Climate Impact</p>	Substantial	Moderate
<p>Biodiversity Conservation</p>		No risk envisaged
<p>The project will not operate in any ecologically sensitive or biodiversity-rich areas.</p>		
<p>Resource Efficiency and Pollution Prevention</p>	Moderate	Low
<p>Risk:</p> <p>Weak institutional capacity to monitor water and soil use is a risk. The project is expected to enhance water and soil resources efficiency across its components in the target areas. Pollution due to infrastructure development works is expected to be minimal.</p>	Moderate	Low

<p>Mitigations:</p> <p>A detailed SECAP and ESMP with a robust GRM have been developed for the project. The ESMP identifies measures to ensure sound natural resources management by the project.</p>		
<p>Cultural Heritage</p>		No risk envisaged
<p>The project will not operate close to any cultural heritage sites.</p>		
<p>Indigenous People</p>		No risk envisaged
<p>The project will not operate in areas where indigenous people are</p>		
<p>Labour and Working Conditions</p>	Moderate	Low
<p>Risk:</p> <p>Yemen's current conflict situation- among other reasons- has led to increased incidences of GBV, child labour and poor working conditions (health and safety).</p>	Moderate	Low
<p>Mitigations:</p> <p>A detailed SECAP and ESMP with a robust GRM have been developed for the project. The ESMP identifies measures to restrict child labour. It also identifies mitigation measures for GBV and sexual harassment across the project's activities. The GRM should allow for any sexual harassment/violence cases to be reported and dealt with immediately. The health and safety concerns will follow community health and safety measures described in the subcategory below.</p>		
<p>Community Health and Safety</p>	High	Substantial
<p>Risk:</p> <p>Yemen is suffering from a strong Cholera outbreak since 2016 and the COVID-19 situation is expected to worsen. The country's current institutional capacity and the lack of accessibility significantly poses more risk on the current situation.</p>	High	Substantial
<p>Mitigations:</p> <p>The ESMP outlines a number of measures to be taken to mainstream health and hygiene considerations across all project activities. These measures include water quality assessments, food safety and awareness raising on COVID-19 precautions.</p>		
<p>Physical and Economic Resettlement</p>		No risk envisaged
<p>The project does not include any physical or economic resettlement activities.</p>		
<p>Greenhouse Gas Emissions</p>		No risk envisaged

The project does not include activities that are expected to be of a high Carbon footprint. On the contrary, the project will promote mitigation co-benefits such as solar-powered pumping and better soil practices.		
<i>Vulnerability of target populations and ecosystems to climate variability and hazards</i>		<i>No risk envisaged</i>
The project will not increase the vulnerability of target populations and ecosystems to climate variability and hazards. On the contrary, around half of the IFAD financing is going to adaptation-focused activities and an additional \$10 million from the GEF's LDCF will be co-financing the project with the aim of increasing communities' resilience to climate change.		
Stakeholders	High	Substantial
<i>Stakeholder Engagement/Coordination</i>	<i>High</i>	<i>Substantial</i>
Risk: There are now three political governments in the country who have control over specific geographic areas. Instability in local communities and tribal conflicts are common. Other development partners may be working in the same target areas.	High	Substantial
Mitigations: RLDP will be implemented by FAO and SFD who have proved that they can successfully negotiate with all three governments and deliver effectively on the ground for the benefit of the people regardless of the government which purports to exercise control. The internationally recognised government will be represented in the Advisory Steering Committee of the project. As for communities, the first component is targeting community mobilization and community action plans development in a participatory approach with a focus on women and youth. As for other development partners, coordination through FAO will ensure complementarity of efforts in common target areas.		
<i>Stakeholder Grievances</i>	<i>Substantial</i>	<i>Moderate</i>
Risk: The security situation might increase the chance of grievance among communities and other stakeholders.	Substantial	Moderate
Mitigations: A robust GRM mechanism has been developed for communities to submit their complaints and ensure timely response. FAO and SFD will communicated grievances from other stakeholders to IFAD in order to discuss the appropriate action required.		

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 10: Exit Strategy

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Annex 10: Exit Strategy

The overall approach in the is designed to embed an exit and sustainability aspect in all key project components. The project approach is premised on the experience that community-based approaches in which all priorities are identified by the beneficiaries lead to strong ownership of the investments and are far more sustainable. A summary table showing the different project investments, the point at which project will exit, the elements that will serve to enhance the sustainability and the prospects of sustainability based on current features and past experience of similar investments is given in the table below.

Investment	Exit Point	Sustainability Elements	Prospect for Sustainability
Climate resilient community infrastructure	At completion of scheme	Based on priority needs as identified by beneficiaries. Clear terms of ownership, financing and responsibility for operation and maintenance. Beneficiary contribution. Climate resilience features. Training in scheme operation and maintenance.	High Evidence of high proportion of schemes functioning and maintenance in the past as long as not damaged during conflict.
Farmer Field Schools	At completion of FFS session after one crop cycle or after 10 sessions.	Based on relevance of topics for production and climate adaptation. Focus on capacity building of farmers.	High Evidence of adoption of 80% of the practices demonstrated in similar programmes.
Research	At completion and after the presentation of position paper	Increased capacity of researchers to conduct farmer-focused adaptive research. Contributions to a national policy dialogue for innovative adaptive agriculture. Contributions to international commitments for climate change adaptation	High Research will be monitored and reviewed annually. Positive results will be mainstreamed into the FFS training programme. An international consultant will review all the research conducted and draw relevant conclusions for policy development.
Adult Literacy	After 9 months of Reflect training	Focus on developing skill and vision of self-empowerment.	High
Nutrition Session	After 6 months of intense session	Focus on changing behaviour.	High Evidence shows

	followed by 6 months of close monitoring		from Malawi, Kenya, Iran and India shows sustained behaviour change after short sessions on nutrition awareness.

Yemen

Rural Livelihood Development Project (RLDP)

Project Design Report

Annex 11: Mainstreaming themes – Eligibility criteria checklist

Mission Dates: 22 March - 30 April 2020

Document Date: 29/09/2020

Project No. 2000002352

Report No. 5418-BA

Near East, North Africa and Europe Division
Programme Management Department

Mainstreaming themes – Eligibility criteria checklist

	<input type="checkbox"/> Gender transformational	<input checked="" type="checkbox"/> Youth sensitive	<input checked="" type="checkbox"/> Nutrition sensitive	<input checked="" type="checkbox"/> Climate finance						
Situation analysis	<input type="checkbox"/> National gender policies, strategies and actors <input type="checkbox"/> Gender roles and exclusion/discrimination <input type="checkbox"/> Key livelihood problems and opportunities, by gender <input type="checkbox"/> Use (pro-WEAI) assessment for M&E baseline	<input checked="" type="checkbox"/> National youth policies, strategies and actors <input checked="" type="checkbox"/> Main youth groups <input checked="" type="checkbox"/> Challenges and opportunities by youth group	<input checked="" type="checkbox"/> National nutrition policies, strategies and actors <input checked="" type="checkbox"/> Key nutrition problems and underlying causes, by group <input checked="" type="checkbox"/> Nutritionally vulnerable beneficiaries, by group							
Theory of change	<input type="checkbox"/> Gender policy objectives (empowerment, voice, workload) <input type="checkbox"/> Gender transformative pathways <input type="checkbox"/> Policy engagement on GEWE	<input checked="" type="checkbox"/> Pathways to youth socioeconomic empowerment <input checked="" type="checkbox"/> Youth employment included in project objectives/activities	<input checked="" type="checkbox"/> Nutrition pathways <input checked="" type="checkbox"/> Causal linkage between problems, outcomes and impacts							
Logframe indicators	<input type="checkbox"/> Outreach disaggregated by gender <input type="checkbox"/> Women are > 40% of outreach beneficiaries <ul style="list-style-type: none"> • Pro-WEAI indicator 	<input checked="" type="checkbox"/> Outreach disaggregated by age	<input checked="" type="checkbox"/> Outreach disaggregated by gender <ul style="list-style-type: none"> • Further details to be confirmed 							
Human and financial resources	<input type="checkbox"/> Staff with gender TORs <input type="checkbox"/> Funds for gender activities <input type="checkbox"/> Funds for Pro-WEAI surveys in M&E budget	<input checked="" type="checkbox"/> Staff with youth TORs <input checked="" type="checkbox"/> Funds for youth activities	<input checked="" type="checkbox"/> Staff or partner with nutrition TORs <input checked="" type="checkbox"/> Funds for nutrition activities	<table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">IFAD Adaptation Finance</td> <td style="text-align: right;">\$5,235,000</td> </tr> <tr> <td>IFAD Mitigation Finance</td> <td style="text-align: right;">N/A</td> </tr> <tr> <td>Total IFAD Climate-focused Finance</td> <td style="text-align: right;">\$5,235,000</td> </tr> </table>	IFAD Adaptation Finance	\$5,235,000	IFAD Mitigation Finance	N/A	Total IFAD Climate-focused Finance	\$5,235,000
IFAD Adaptation Finance	\$5,235,000									
IFAD Mitigation Finance	N/A									
Total IFAD Climate-focused Finance	\$5,235,000									

ECG Remarks	Gender Nutrition I have reviewed the document and do agree that it has mainstreamed the SI issues quite well. Please see attached with a few edits. Following a technical review, the project does meet the mainstreaming criteria for youth and nutrition. (Message from Joyce Njoro, Mon 15/06/2020 14:00) Youth I have reviewed the document and do agree that it has mainstreamed the SI issues quite well. Please see attached with a few edits. Following a technical review, the project does meet the mainstreaming criteria for youth and nutrition. (Message from Joyce Njoro, Mon 15/06/2020 14:00) <input type="checkbox"/> No social inclusion themes
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