

Arab Republic of Egypt

Promoting Resilience in Desert Environments (PRIDE)

Final project design report

Main report and appendices

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Contents

Currency equivalents	iii
Weights and measures	iii
Abbreviations and acronyms	iv
Map of the project area	v
Executive Summary	vi
Logical Framework	viii
I. Strategic context and rationale	1
A. Country and rural development context	1
B. Rationale	4
II. Project description	7
A. Project area and target group	7
B. Development objective and impact indicators	9
C. Outcomes/Components	10
D. Lessons learned and adherence to IFAD policies and the SECAP	16
III. Project implementation	19
A. Approach	19
B. Organizational framework	21
C. Planning, M&E, learning and knowledge management	23
D. Financial management, procurement and governance	25
E. Supervision	27
F. Risk identification and mitigation	27
IV. Project costs, financing, benefits and sustainability	28
A. Project costs	28
B. Project financing	29
C. Summary benefits and economic analysis	30
D. Sustainability	32

List of Tables

Table 1. Estimated Population in the Project Area	9
Table 2. Project Risk Profile and Mitigation Measures	28
Table 3. Budget by Component (USD 000)	29
Table 4. Budget by Financier	29
Table 5. Budget by Category	30
Table 6. Project Beneficiaries of PRIDE Project	30

Appendices

Appendix 1:	Country and rural context background	35
Appendix 2:	Poverty, targeting and gender	41
Appendix 3:	Country performance and lessons learned	53
Appendix 4:	Detailed project description	55
Appendix 5:	Institutional aspects and implementation arrangements	67
Appendix 6:	Planning, M&E and learning and knowledge management	79
Appendix 7:	Financial management and disbursement arrangements	87
Appendix 8:	Procurement	99
Appendix 9:	Project cost and financing	107
Appendix 10:	Economic and Financial Analysis	127
Appendix 11:	Draft project implementation manual	137
Appendix 12:	Compliance with IFAD policies	141
Appendix 13:	Contents of the Project Life File	143

Currency equivalents

Currency Unit	=	Egyptian Pound
US\$1.0	=	LE 18

Weights and measures

1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

Abbreviations and acronyms

AWPB	Annual Work Plan and Budget
BCC	Behaviour Change Campaign
CAPMAS	Central Agency for Public Mobilization and Statistics
DRC	Desert Research Centre
ECDC	Egyptian Countryside Development Company
EDHS	Egypt Demographic and Health Survey
EGP	Egyptian Pound
EIRR	Economic Internal Rate of Return
EPADP	Egyptian Public Authority for Drainage Projects
ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization
FY	Financial Year
GDP	Gross Domestic Product
GII	Gender Inequality Index
GIS	Geographic Information System
GOE	Government of Egypt
ICB	International Competitive Bidding
IDD	Iodine deficiency disorders
IFAD	International Fund for Agriculture Development
LTB	Letter to the Borrower
M&E	Monitoring & Evaluation
MALR	Ministry of Agriculture and Land Reclamation
MDDW	Minimum Dietary Diversity for Women
MIIC	Ministry of Investment & International Cooperation
MWRI	Ministry of Water Resources and Irrigation
NCB	National Competitive Bidding
NEET	Neither in Education Employment or Training
NNI	National Nutrition Institute
NPC	National Project Coordinator
NPV	Net Present Value
PBAS	Performance Based Allocation System
PMU	Project Management Unit
PRIDE	Promoting Resilience in Desert Environments
RIMS	Results & Impact Management System
SDG	Sustainable Development Goals
SDRCM	Sustainable Development Resource Centre for Matrouh
SECAP	Social, Environmental and Climate Assessment Procedures
TGR	Total Goiter Rate
TIPs	Trials for Improved Practice

Executive Summary¹

Introduction

The current project aptly titled Promoting Resilience in Desert Environments (PRIDE) has been designed keeping in mind key Government of Egypt and IFAD priorities. The Sustainable Development Strategy (SDS) of the Government of Egypt is designed to transform its economy into a dynamic one with the capacity to reduce poverty, create productive employment opportunities, and maintain social and political stability. The vision recognises that focused and strategic investments are needed for areas that have been left behind. IFAD's proposed investment covering all vulnerable rural communities in Matrouh is aligned with the SDS. The approach developed under PRIDE is also aligned with IFAD's corporate priorities, especially its focus on building climate resilience in rural disadvantaged communities and integrating nutrition-sensitive activities in projects. The PRIDE project will assist the Government in enhancing the productive potential of agriculture in desert areas and places a strong focus on crops and livestock appropriate for these harsh environments. The project will also assist with the development of the 1.5 million feddan flagship programme through developing effective strategies for assistance of the youth and small-farmer groups. The project builds on IFAD's previous experience in assisting emerging communities on new reclaimed lands. The project also builds on experience of other donors in the region, in particular the World Bank's previously funded intervention. Finally, the project implementation arrangements respond to the recent IFAD country program evaluation.

Project Description

The development goal of the project will be to reduce poverty and enhance food and nutrition security in rural areas through remunerative, sustainable and resilient livelihoods. The project will assist approximately 216,000 people (36,000 HHs) to build resilience to climate conditions, improve nutritional and socio-economic profiles and improve productive capacities. The current project will be implemented across the Matrouh Governorate, thereby covering all rural vulnerable communities in the region: along the coastal areas, in the Siwa Oasis and in the newly reclaimed lands in El Moghra. The project will be implemented in the Matrouh Governorate and will include specific interventions for the coastal areas from Dabaa to El Salloum, selected activities in the Siwa Oasis and El Moghra in the Al Alamein District where the Egyptian Countryside Development Company (ECDC) or El Reef El Masry has allocated 60,000 feddan to youth and smallholders companies (as part of the 1.5 million feddan initiative).

The PRIDE Project will consist of two main components, which will include (i); Climate Resilient Livelihoods (ii) and Integrated Nutrition-Sensitive Investments. The Climate Resilient Livelihoods component will consist of four subcomponents; (i) Water for Agriculture and Watershed Management; (ii) Enhancing Connectivity; (iii) Livestock and Rangeland Development and (iv) Crop Production. The second component will consist of three sub-components: (i) Water for Health (ii) Empowerment of Women for Nutritional Change (iii) Social Infrastructure.

Project Approach

The PRIDE project will be implemented over a seven-year period and will adopt a community-driven development approach. The project will cover rural communities facing vulnerabilities across the

¹ Mission composition: The mission worked under the overall guidance of Mr Abdelkarim Sma, Officer in Charge of Egypt, Kaushik Barua (Programme Officer Egypt) and Ms. Howaida al Hawary (IFAD Country Programme Officer). The consultant's team consisted of Ms. Maliha H. Hussein (Mission Leader and Agriculture Economist), Ms Shazreh Hussain, Poverty, Gender and Targeting Specialist, Mr Ali Lansari (Agronomist), Mr Mohamed Abdul-Latif (Procurement Specialist), Mr. Aziz Al-Athwari, (Financial Specialist) and Ms Agnese Tonnina (Economic and Financial Analyst). Mr David Colbert, (Environment and Climate Change Specialist) and Mr Nigatu Regassa (under the guidance of Marian Odenigbo, IFAD Nutrition Specialist) worked from their home stations on specific aspects of the design. Ms Isabella Mazarella, Programme Assistant in Rome and Mostafa Aly, Country Programme Assistant provided the mission logistical support

Matrouh Governorate. The approach with the tribal communities in the coastal areas will build on the participatory approach initiated in the Matrouh Governorate by the World Bank in its first investment in the area, which is still used by the Desert Research Centre in interacting with the 43 local communities in the area. In the newly reclaimed areas of El Moghra, the project will work with the youth and smallholder groups who are organized in small formal companies. The project will capitalize on the opportunity to adopt a private sector led approach by facilitating linkages between the large investors and the smallholder youth companies in El Moghra. The implementation approach of the project will be demand driven to ensure that project investments are valued and sustained by the beneficiaries. However, a direct targeting approach will be adopted to ensure that the most vulnerable segments of society are not left behind.

Implementation Arrangements

The Ministry of Agriculture and Land Reclamation (MALR) will be the lead agency responsible for the implementation of the project. The project will have a Project Steering Committee (PSC) at the National Level. A Central Project Management Unit will be established in Cairo at the MALR and will assume the overall responsibility for the implementation of the project on the ground. This PMU will provide the basis for establishing a consolidated approach to programme management for the country programme in the future. The Central PMU will supervise project activities being implemented by DRC in the coastal areas and Siwa, which will be implemented by DRC with support from an NGO for the women's activities and government line agencies. The Central PMU will be directly involved in the implementation of the project activities in the newly reclaimed lands in El Moghra with support from ECDC through inviting proposals from agriculture research and extension agencies, line agencies, the private sector and other service providers. The PMU will provide quality assurance and monitoring and evaluation and supervision for all project activities.

Project Costs and Financing

The overall budget of the project is estimated to be USD 81.599 million. IFAD will provide a loan of USD 61.871 million and a grant of USD one million. The Government will provide USD 13.957 million or 17% of the total for co-investing in feeder roads as well as in kind contribution for the use of its staff and facilities, and taxes and duties foregone. The beneficiaries will provide USD 4.77 million as their in-kind contribution for labour in selected project activities such as 20% of the cost of cisterns, reservoirs, sanitation facilities, rangeland development, etc.

The cost of Component 1: Climate Resilient Livelihoods will be expected to cost USD 42.535 mn. Component II: Integrated Nutrition Investments will be expected to cost USD 31.520 mn. The cost of project management will be 7.544 mn. Of the total allocation from IFAD sources, USD 57.098 million will be spent on programmes of which DRC will be implementing programmes valued at USD 36.84 million in the rain-fed areas, an NGO will be implementing programmes valued at USD 7.9 mn (14%) while the central PMU will be implementing programmes worth USD 12.35 million (22%) on the newly reclaimed lands.

Project Benefits

The project is expected to reduce water deficit in the area by at least 20% or by 825,000 cubic meters, increase area under agriculture production by 19,000 feddan from the development and rehabilitation of old and new wadis, provide 250 kilometres of rural roads, a comprehensive feasibility study for the Siwa Oasis, increase in livestock productivity, support the families in newly reclaimed lands to initiate crops and production activities adapted to desert environments, improve quality of diets for vulnerable households, increase in sanitation facilities access to schools and health facilities.

Net Present Value (NPV) and Economic Internal Rate of Return (EIRR). The net present value of the Project is positive and amounts to USD 51 million. The economic internal rate of return is estimated at 20% over a 20 years period. Incorporating the benefits from access to education and health facilities will substantially increase the returns from the investments.

Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Goal: Reduce poverty and enhance food and nutrition security in rural areas through remunerative, sustainable and resilient livelihoods.	• % of population below the international poverty line of the rural households in the Governorate. ²	49.8%	45%	35%	National/ regional statistical services (CAPMAS)	MTR and completion	PMU M&E unit	<ul style="list-style-type: none"> Political stability Macro-economic conditions remain stable or improve. No major political shocks in the region
	• % of HHs reporting increased food security as measured by Food Insecurity Experience Scale (FIES)	0%	30%	60%	Baseline, mid-term and Completion food survey	MTR and completion	PMU M&E unit	
Development Objective: Assist approximately 216,000 people (36,000 HHs) to build resilience to climate conditions, improve nutritional and socio-economic profiles and improve productive capacities.	• % of HHs that have increased their asset ownership ^{3*}	0%	10%	30%	Mid-term and Completion survey (updated RIMS survey)	MTR and completion	M&E officer	
	• No. of HH receiving services promoted or supported by the project.	0	15,000	36,000	Baseline, mid-term and Completion survey	MTR and completion	M&E officer	
	• % of HHs reporting adoption of environmentally sustainable and climate-resilient activities*	0%ca	10%	30%	Baseline, mid-term and Completion survey (Component 11 of IFAD-MPAT)	MTR and completion	M&E officer	
	• % of HHs reporting improved meal frequency	0%	30%	60%	Baseline, mid-term and Completion survey (Food survey/dietary intake methodology as validated by FAO)	MTR and completion	M&E officer	
Component 1: Climate Resilient Livelihoods: Water Harvesting, Watershed Management, Enhancing connectivity, Livestock and Rangeland development, Crop Productivity. <i>Outcomes:</i> Increased economic	• Reduction in the water deficit in Matrouh Governorate.	4 million m ³ is the deficit in domestic water needs in the project area	3.6 million m ³	3.2 million m ³	Project M&E Data Component reports DRC analyses	Annually	M&E officer Component officer	<ul style="list-style-type: none"> Climatic changes are in line with current predictions in terms of the level of rainfall and global warming.
	• % of HHs reporting significant reduction in time and cost on water *	0%	10%	30%	Baseline, mid-term and Completion survey (adapted from IFAD-WEAI methodology)	MTR and completion	M&E officer	

² CAPMAS Report 2016.

³ An income survey was recommended in place of asset measurement during the IFAD QE review. However, assessment of incomes in rural areas are cumbersome, due to multiple income streams, social pressures and norms with regard to self-reporting incomes, difficulties in determining incomes due to self-consumption.

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
mobility and changes in economic status due to increased production, income, consumption and food diversity;	• % of HHs reporting an increase in crop/ livestock production*	0%	10%	30%	Baseline, mid-term and Completion survey	MTR and completion	M&E officer Component officers	
	• % of HHs adopting community rangeland and breed improvement practices	0%	10%	30%	Mid-term and Completion survey	MTR and completion	M&E officer Component officers	
Outputs	• Number of reservoirs (capacity of 300 m3) for irrigated agriculture constructed or rehabilitated by project	0	190	500	M&E Data Component reports	Annually	M&E officer Component officer	<ul style="list-style-type: none"> ▪ DRC has built sufficient implementation capacity ▪ ECDC master plan for El Moghra developed by PY1 (to identify roads)
	• Number of feddans of land brought under improved community rangeland practices (equivalent to RIMS indicator land brought under climate resilient management)*	0	30,000	90,000				
	• Number of feddans of valley beds rehabilitated or developed (wadi) by project*	0	684 feddan (36km*19/km)	1900 feddan (100km*19/ km)				
	• Km of feeder roads constructed by project*	0	250 km	250 km				
	• Feddan of new land cultivated in Moghra.	0	24,000 feddan	42,840 feddan	M&E Data from ECDC	Annually	ECDC & M&E Officer	
Component 2: Integrated Nutrition-Sensitive Investments: Domestic water supply, nutrition packages, social infrastructure <i>Outcomes: Improved access to social sector services.</i>	<ul style="list-style-type: none"> • % of HHs reporting good dietary diversity (≥5 food groups out of 12). • % of women reporting good dietary diversity ((≥5 food groups out of 10) • % of children under five with good diet diversity score (≥4 food groups out of 7). 	0%	10% increase	30% increase	Baseline, midterm and Completion survey (MDDW/ dietary diversity methodology validated by FAO)	MTR and completion	M&E officer	<ul style="list-style-type: none"> ▪ Coordination between line ministries (Agriculture, Education and Health) ensured. ▪ Coordination between MALR and ECDC ensured for El Moghra and new lands
Outputs	• Number of cisterns (capacity of 120 m3) for homesteads constructed/ rehabilitated by project	0	2400	6000	M&E Data Component reports	Annually	M&E officer Component officer	<ul style="list-style-type: none"> ▪ Community leaders are willing to included women and youth in project activities,
	• Number of reservoirs (150 m3) for homesteads constructed/ rehabilitated by project	0	200	500				

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
	• Number of women provided with targeted support to improve their nutrition (nutrition packages)	0	1600	4000				
	• Number of schools constructed by project	0	18	18				
	• Number of health units/ mobile health clinics constructed/rehabilitated by project	0	8	8				
	• # of schools receiving nutrition message	0	12	18				▪

**Up to 15 indicators including a few optional RIMS indicators. In addition to these, RIMS mandatory indicators must be added. **The distribution of indicators is illustrative*

****Intermediate targets for the Goal and Outputs are optional.*

I. Strategic context and rationale

A. Country and rural development context

1. **Economic Overview:** The total population of Egypt was estimated at 92.8 million in 2016. The country is the largest Arab country by population and has the second largest economy in the Arab world. Since 2011, the country has experienced political upheaval and societal unrest that spread across the region and highlighted the unmet aspirations of the population regarding lack of political inclusion and economic opportunities. The subsequent developments in the country have adversely affected the Egyptian economy and people's livelihoods. The internal turmoil has been exacerbated by the instability in the region and has led to a sharp decline in revenue from tourism and reduction in remittance income due to the return of Egyptian labour working in the regional countries. The rising energy crisis has also taken a toll and threatens the economic growth rate in the country. However, several measures have been undertaken by the Government to alleviate the energy crisis such as import of liquefied gas, investment in renewable energy and energy conserving technologies. Economic growth in the past three decades has been moderate and uneven, and insufficient to reduce poverty or absorb the rapidly growing supply of labour. Unemployment remains high, particularly for women and youth. Egypt is rated as a lower middle-income country with a GDP per capita estimated to be around US\$ 2,724 in 2016.⁴ The economy is gradually improving with annual rates of GDP growth reaching 4 percent in 2015/16, up from an average of only 2 percent during the period 2010/11-2013/14.⁵

2. **Currency Devaluation and Inflation:** There has been a consistent attempt by the Central Bank of Egypt to set the exchange rate of the Egyptian Pound at levels which reflect the demand and supply, and close the gap in the black market rate which is a key supplier of foreign exchange. The last several rounds of major devaluations took place in March 2016 and November 2016. In the first round, the Central Bank of Egypt devalued the EGP by 12.6 percent to EGP 8.8 to the dollar and in the second one it has brought the rate down by 74% against the dollar to around EGP 15.35-15.75 to the dollar. The current rate in the free-floating exchange rate regime is around EGP 18 to the USD. The devaluation was designed to attract fresh capital into the country and end a hard currency shortage that has plagued the economy for years. Rising fuel prices have had a detrimental impact and led to an increase in inflation. To mitigate the impact of the rising inflation due to the devaluation, the Government increased its food subsidy allocation by 20 percent per beneficiary in May 2016.⁶ However, consumer prices in Egypt rose 31.5 percent year-on-year in April 2017.⁷ The Egyptian Pound forecasts are expected to remain more or less stable for the next few years and depreciating by only around 5% or so on an annual basis.⁸

3. **Agriculture:** Agriculture is a key sector in the Egyptian economy, providing livelihoods for 55 per cent of the population and directly employing about 23 per cent of the labour force.⁹ Although the sector's contribution to GDP has fallen over time, it still accounts for about 13 per cent of GDP and 20 per cent of total exports and foreign exchange earnings. Agriculture-related industries such as processing and marketing and input supplies account for a further 20 per cent of GDP. Agriculture is important for growth and poverty reduction as a rise in farm income can drive demand for the large, employment-intensive rural non-farm sector. The area of agricultural land in Egypt is confined to the Nile Valley and the delta, with a few oases and some arable land in Sinai. The total cultivated area is 7.2 million feddans, representing only 3 percent of the total land area in the country. The entire crop area is irrigated, except for some rain-fed areas along the Mediterranean coast. Due to its growing population and limitation in cultivated area, Egypt cannot meet its food requirements and is the world's

⁴ <https://tradingeconomics.com/egypt/gdp-per-capita>

⁵ http://www.indexmundi.com/egypt/gdp_real_growth_rate.html

⁶ FAO Country Report. August 2016. <http://www.fao.org/giews/countrybrief/country.jsp?code=EGY>

⁷ <http://www.tradingeconomics.com/egypt/inflation-cpi>

⁸ <http://www.tradingeconomics.com/egypt/currency/forecast>

⁹ FAO Statistics. 2014

largest wheat importer. Cereal import requirements in the 2016/17 marketing year (July/June) were forecast at around 20.1 million tons with wheat imports estimated at 11.5 million tons.¹⁰ To meet the food requirements, the Government has set the reclamation of new land for agriculture as one of its highest priorities.

4. **Weak farmer organizations and marketing infrastructure:** Smallholders generally lack the mechanisms for integration with markets due to land fragmentation, limited produce and lack of effective organizations. The agriculture cooperatives in the country have been used as an administrative mechanism to distribute seeds and fertilizers rather than to assist farmers to reduce their transactions costs through collective input supply or marketing. The individualist nature of Egyptian farmers has also served to inhibit collaboration among them. The problems of marketing agriculture produce are exacerbated by the high degree of variability in prices of agricultural commodities and limited market information. There is also lack of post-harvest, processing and marketing facilities and low levels of agricultural industrialization. The high degree of perishability of horticulture and dairy produce leads to rapid quality deterioration, a consequent reduction in prices and reduction in farmer incomes. However, along with these constraints there are also opportunities. Contract farming is becoming more commonplace because of the “supermarket revolution”. In some contract farming arrangements, the private sector provides most of the agronomic information in place of extension agents and also assists in enhancing access to markets. The Government’s experiment of creating Youth and Smallholder companies on the newly reclaimed lands is one measure to help deal with the issue of land fragmentation, increase agriculture production and encourage collective enterprise.

5. **Water Scarcity:** The country has little or no rainfall except in a narrow band along the northern coast. Egypt has an arid climate with an annual average rainfall ranging from 60 to 190 mm along the Mediterranean coast to 25 to 60 mm in the Nile delta, and less than 25 mm in Upper Egypt and its adjacent areas. Scarcity of water is a key constraint to agricultural growth. The Nile River is the main and almost exclusive source of surface water for Egypt. Based on a 1929 agreement, Egypt currently maintains its historic right to three-quarters of the Nile’s water or about 55.5 billion cubic meters of its total flow of roughly 84 billion cubic meters. Per capita fresh water availability is expected to decline from 711.0 m³ in 2008 to 550 m³ in 2030.¹¹ The country is experiencing severe water poverty which is likely to worsen due to population growth and climate change combining to raise the risks of inadequate water supplies and conflict over the available supplies – and further pressure is expected from the increased demand of Nile resources by other members of the Nile Basin Commission.

6. **Sensitivity of agriculture to climate change:** Analysts estimate that the expected rise in temperature will lead to up to 20 per cent decrease in productivity for some major crops (wheat, barley and maize) by 2050. It will reduce the production of livestock and affect the productive potential of many agricultural zones in the country. The marginal agricultural areas will be negatively affected and desertification will increase. High temperatures will increase evaporation and water consumption and put a further strain on the acute water scarcity in the country. A rise in sea levels will have a negative effect on coastal areas, tourism and agricultural land in the Nile Delta region.¹² Enhanced resilience to climate change will hence have close resonance with responding to water scarcity, increasing land productivity and livelihood diversification. Adaptation measures on the supply-side include ways to improve irrigation techniques and know-how, increased use of water harvesting and watershed management in the north coastal zone where there is some rainfall, introduction of drought and salinity tolerant cultivars, introduction of renewable energy alternatives, as well as improving production, post-harvest and marketing facilities.¹³

¹⁰ FAO Country Report. August 2016. <http://www.fao.org/giews/countrybrief/country.jsp?code=EGY>

¹¹ According to Sustainable Agricultural Development Strategy Towards 2030 (SADS, 2009)

¹² Egyptian Environmental Affairs Agency, 2014.

¹³ FAO, 2014.

7. **Poverty:** The Central Agency for Public Mobilization and Statistics (CAPMAS) maintains that Egypt's poverty rate¹⁴ increased over the year 2012/2013, reaching 26.3 percent compared with 25.2 percent in 2010/2011 and nearly 25 percent live just above the poverty line.¹⁵ Some 11.9 percent of Egypt's population is in extreme multi-Dimensional Poverty.¹⁶ In addition, many of the households along the poverty line are highly vulnerable and susceptible to falling back into poverty as a result of a host of factors. Data also shows that there has been an increase in inequality, with the Gini-coefficient rising from 28.7 to 31 between 2005 and 2010.¹⁷ While more recent data is not available, it is believed that inequality is still on the rise. Unemployment continues to be an overriding concern, especially for youth and women with many of the Egyptians working in the Middle East region returning home because of growing regional instability. Several studies have tried to estimate poverty by Governorate. Due to the difficulty of conducting surveys among the widely scattered population in some Governorates like Matrouh, these studies appear not to reflect the actual situation on the ground and tend to underestimate the poverty and illiteracy rates. Using the percentage of female illiteracy as a proxy indicator of poverty shows a gender illiteracy rate of 36.3% in the Governorate¹⁸ and is ranked at 24 out of the 27 Governorates in the country.

8. **Malnutrition:** Despite Egypt's significant progress in reducing infant and child mortality in the last decades, high levels of child malnutrition still persist across the country. Egypt is one of the 20 countries in the world with the highest number of children suffering from chronic malnutrition. Child malnutrition was deteriorating even at times when Egypt experienced rapid economic growth and, it is expected that the malnutrition status of children will continue to deteriorate if necessary measures are not put in place rapidly.¹⁹ It is estimated that 22% of children under the age of five are stunted, 13% are low birth weight or underweight, and 10% are wasted.²⁰ National averages, however, obscure vast regional differences in under-nutrition prevalence. In recognition of its **nutritional challenges**, Egypt has developed a 10-year Food and Nutrition Policy and Strategy (2007 – 2017).

9. **Gender inequality:** The Constitution of Egypt guarantees equal treatment of all citizens. However, this has not translated into equality of status, assets or opportunities for women. Their marginalization and exclusion from social, economic and political life has led to lower access to education, health, employment and productive resources making them more vulnerable to poverty, food security, ill-health and violence than men. Egypt ranks low on international indicators of gender equity. It had a Gender Inequality Index (GII)²¹ value of 0.60 and a rank of 129 of 142 countries in 2014.²² Although indicators relating to women have improved over the years, they still remain large differences between men and women in literacy and schooling, the labour force and unemployment rates, wage differentials and political participation. It is assessed that the deeply entrenched, cultural values, and social class as well as the urban/rural location are factors that affect the situation of Egyptian women, but it is the cultural tradition that most strongly affects their lives. In some areas the situation of women is even worse such as in the tribal structure of Bedouin societies found in the deserts of the country where the traditional norms are still prevalent like in the Matrouh Governorate.

Government Policy and Strategy

10. **Sustainable Development Strategy (Vision 2030):** The strategy launched in March 2016 spans over the three dimensions of sustainable development, namely; economic, social and environmental dimensions, and outlines the broader principles which will guide Egypt in pursuing its developmental goals. The strategy envisages focused and strategic investments to areas that have

¹⁴ The extreme poverty limit is an annual EGP 3,570 (US\$ 518) per person, which means approximately EGP 312 per month per person, or EGP 10 (approximately US\$ 1.5) per day per person).

¹⁵ Central Agency for Public Mobilization and Statistics (CAPMAS). Arab Republic of Egypt, 2012.

¹⁶ World Food Programme, The Status of Poverty and Food Security in Egypt: Analysis and Policy Recommendations (2013).

¹⁷ Economic growth, inequality and poverty: social mobility in Egypt between 2005 and 2008, 2009, World Bank, 2010.

¹⁸ Based on the results of a survey of income, expenditure and consumption in 2015. CAPMAS 2016. Page 578.

¹⁹ UNICEF. https://www.unicef.org/egypt/immunisation_7133.html

²⁰ <http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/129926/filename/130137.pdf>

²¹ The Gender Inequality Index (GII) reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity.

²² <http://reports.weforum.org/global-gender-gap-report-2014/rankings/> World Economic Forum.

been left behind. The first two milestones of the political roadmap adopted in July 2013 – the ratification of the new Constitution in January 2014 and presidential elections in May 2014 – have been completed. This has returned Egypt to political stability, providing the government with the opportunity to tackle anew the country's economic constraints and to launch far-reaching structural reforms.²³ The Government has demonstrated strong resolve to deal with the issues of economic development and growth and is committed to pursuing policies for rural growth and poverty alleviation. Egypt's Vision 2030 outlines a well-structured programme to restore macroeconomic imbalances, address social inclusion priorities, and achieve sustainable and diversified growth. The sustainable development plan and budget for FY 2016/2017 are primarily focused on achieving inclusive economic growth, enhancing social justice, and increasing employment rates, particularly among young people.

11. **Sustainable Development Goals:** For Egypt, inclusive and sustainable development is a core constitutional value and objective. The Constitution of Egypt covers economic, social, and environmental dimensions, as well as many of the 17 SDGs in its different articles, presented as national goals, binding all sectors and levels of government, and calling upon different stakeholders to participate in the developmental process towards achieving them. The Government of Egypt has expressed its full commitment to achieving the SDGs. The Ministry of International Cooperation has been entrusted as the National Coordinator of the committee. Key priorities for the Government has been poverty eradication, addressing inequalities, gender mainstreaming and boosting sustainable economic growth, through decent job creation, sustainable infrastructure, access to adequate and affordable housing, quality health and education, as well as, expanding the use of renewable energy. Women and youth are particularly being targeted under the strategy.²⁴ The Central Agency for Public Mobilization and Statistics (CAPMAS) has been tasked with publishing a new study every February to measure the government's progress in implementing the Sustainable Development Goals (SDGs).

12. **The Flag Ship 1.5 million Land Reclamation Programme:** Egypt has one of the world's lowest per capita holding of agricultural land. It is annually decreasing as population growth rate greatly exceeds that of the expansion of agricultural land. A corner stone of Government policy is land reclamation aimed at expanding Egypt's farmland by 20%. The flagship project aims to expand Egypt's prospective agricultural land from eight million to 9.5 million feddans or (630,000 hectares). The Government has placed special emphasis on developing areas with the potential for land reclamation and has identified 10 potential sites in a three-phase programme. In the first phase, El Moghra, Toshka and the Frafra oasis will be developed. The project aims to reduce the food gap and increase the populated area through the creation of new urban communities. The main objective of this project is to create an integrated society in the reclaimed lands in Moghra, support economic diversity, the provision of productive and decent job opportunities, and ensuring the participation of all Governorates in achieving inclusive and sustainable growth. A private company named the Egyptian Countryside Development Company (ECDC) or Reef El Masry has been formed with equity participation from the Ministries of Finance, Agriculture and Housing to facilitate the acquisition and allocation of land. The Government is allocating the land to investors, youth and smallholders on payment with partial development in some sites.

B. Rationale

13. The priorities of the Government of Egypt and the IFAD strategic corporate objectives both converge in the proposed project. The Government is committed to supporting those areas that have lagged behind in meeting key sustainable development goals, in developing new lands in order to enhance agriculture production and provide sustainable employment opportunities to the small holders and youth. The current project will focus on addressing some key strategic objectives that IFAD has made a commitment to such as strengthening the environmental sustainability and climate

²³ Egypt's Five Year Macro-Economic Framework and Strategy. FY14/15 to FY 18/19. Egypt Economic Development Conference. Sharm El Sheikh. March 2015. Government of Egypt.

²⁴ . Sahar Nasr. Minister of International Cooperation Arab Republic of Egypt. National Review. Sustainable Development Goals. July 2016. http://moic.gov.eg/MopRep/MIC/English.pdf_915201625622PM.pdf

resilience of poor rural households, increase their productive capacities and mainstream nutrition in its portfolio of projects. These priorities are urgent for the selected project area given its high poverty status, poor nutritional profile of the children and low socio-economic profile of women.

14. The current project presents the opportunity to support rural communities facing vulnerabilities in terms of nutrition and climate change across the Matrouh Governorate. By covering the entire governorate, the project will bring focused attention to one of the poorest regions in the country. The project will support two types of livelihoods; the rain-fed areas of the coastal zone of Matrouh and the desert areas irrigated by underground water in the newly reclaimed lands in El Moghra. The project will assist the neglected Bedouin rural communities to break the cycle of natural resource degradation and poverty in a fragile natural environment by building their resilience to a harsh climate and providing an integrated package of investments that will help the households to improve their productive potential and socio-economic profile. The area has potential for enhanced horticulture crop and livestock production with investments in water harvesting, watershed management, improved agriculture management practices and introduction of crops and techniques suitable for desert areas. The project will also provide an integrated package of support to the young and the emerging farming communities in El Moghra.

15. The Governorate of Matrouh is one of the largest in terms of area, yet it is among the poorest in Egypt as evidenced by a range of socio-economic indicators. The settlement of the nomadic herders in an area that has between 50 to 150 millimetres of rainfall and is chronically water deficit has put increasing pressure on the land, water and vegetative resources. The Governorate of Matrouh is one of the few areas in Egypt where rain-fed agriculture is practised. Along with the two main horticulture crops of figs and olives, some farmers are beginning to experiment with selected field crops. The project can help farmers with watershed development to capture the rainwater and assist with supplementary irrigation to increase the sustainability of rain-fed agriculture in areas, which are susceptible to climate change and assist in improved crop management to overcome the drought effect.

16. Most of the rural population is dependent on the dwindling natural resource base with few opportunities for off-farm employment. While livestock represents the main source of income, there has been a rapid decline in numbers due to the degradation of the rangelands and limited water for fodder production. Since the settlement of the population and its transformation into a sedentary community, the livestock holding capacity has been significantly reduced from about one million animals to around 500,000 due to lack of feed resources. Assistance to these communities is essential to assist the Government with its plans to restrict rural out-migration by making livelihoods more productive and sustainable. The project will also refine and scale up the approach adopted in community based rangeland development and community based breed improvement programmes based on the lessons learnt from IFAD's experience in similar environments in Asia and Africa.

17. The current project provides an opportunity to test an integrated approach to nutrition mainstreaming, as proposed in IFAD's Nutrition Action Plan. There is a strong focus in the current project on a comprehensive package for women with respect to improving their access to better diets, water, sanitation, health and education facilities. IFAD has a strong commitment to 'inclusive and sustainable rural transformation' so that extreme poverty is eliminated and every rural family lives in dignity. For IFAD, nutrition is a key focus area and its Nutrition Action Plan is designed to promote the equality and empowerment of women in ways that help them improve nutrition for themselves, their children and their families. These commitments require an integrated approach to investing in literacy, education and sanitation as improving nutrition requires cross-sectoral investments. There is a high incidence of diarrhoea in children under five in Matrouh reported at 19.5% percent. Poor households are unable to afford proper sanitation facilities, with particularly dire health consequences for women who can only leave the house early morning to go to the fields with limited access at other times of the day.

18. The project will also invest in educational facilities in these scattered settlements for which Government has been unable to develop and implement a cost-effective school model. There is

strong evidence that improving women's literacy levels has potentially large social benefits, such as increase in women's empowerment, increased life expectancy, reduction in early marriages, reduced child mortality and improved children's health.²⁵ While gender equity in schooling is a basic human right and does not have to be justified by reference to wider benefits for economic growth or development, nevertheless, girls' education has some powerful multiplier properties and there is a strong association between maternal education, child survival and reduction in fertility rates.²⁶ These generate additional quantifiable benefits in terms of reduction in health expenditures, increased productive investment and reduction in poverty levels. Enrolling in school also delays marriage age and reduces the prospects of adolescent fertility in a country where girls get married young. Maternal education has the potential to act as a powerful catalyst for progress in child health and nutrition, thereby reducing the risk of child mortality.²⁷

19. The project area also includes the Siwa Oasis which has centuries old date-palm and olive groves and has been recently recognized as a Global Agriculture Site. The farming systems in the Oasis are under a threat due to the significant increase in soil and water salinity exacerbated by unregulated digging of shallow wells, over-irrigation, poor drainage, lack of water quality monitoring and encroachment of the desert. The Government has not fully investigated the technical options for sustainable agriculture in desert oases and has invested limited resources in dealing with the specific problems faced by the people of this oasis. Many of the oases in the New Valley Governorates are also undergoing a similar crisis, which will only be exacerbated if a comprehensive solution is not found. The project will assist in properly studying the irrigation and drainage issues in Siwa and develop a comprehensive feasibility and engineering plan for a sustainable solution. The model for Siwa could also serve as a prototype for scaling up the implementation of the technical options available in other oases in the country.

20. The project will also include new land in El Moghra in the El Alamein District in Matrouh Governorate. The Egyptian Countryside Development Company (ECDC) or the El Reef el Masry has earmarked the land for 252 groups of youth and smallholders along with the large investors. The project will work with the youth groups, each of which has been allocated a parcel of 230 feddans. Of these groups, 140 have been selected and land allocated to them. It is expected that they will move to the new settlements within the next two months while the others will be identified and contracts signed as soon as possible. There is high demand for these lands due to its accessibility and cost, which is lower than that in other new developments. The area has been supplied with water from shallow wells, which have been dug at a depth of 170 to 200 metres. Given the level of salinity in the water of between 2000 to 8000 ppm, the new settlers will require special assistance in planting and management of crops which are saline tolerant such as Jojoba, pomegranate, olives and selected fodder crops. These groups will need technical assistance and training to adapt their farming practices to desert environments. The newly settled families will also be assisted with the social and marketing infrastructure that is missing from these areas. Government will be supported to provide social services to these communities. The project will use IFAD's previous experience on reclaiming new lands in helping these emerging communities.

21. Agriculture development in Al-Moghra can help demonstrate how working back from the market can help build a powerful model where growth is driven by high demand for high value crops. The project has the opportunity of working closely with the private sector and scaling up the private sector led model already in evidence in the area under which smallholders are provided key production inputs (seedlings, sand dune encroachment structures, drip irrigation equipment, solar panels, etc.) and smallholder production is aggregated for the market. Large companies provide opportunities for equity partnerships and contractual farming arrangements for upstream market linkages that connect the small farmer to the domestic and foreign markets. IFAD assistance can help to defray some of the initial capital requirements of transforming the desert to productive agriculture lands and in reducing

²⁵ UNESCO (2006), EFA Global Monitoring Report 2006: Literacy for Life.

²⁶ Watkins, Kevin. April 2012. When learning saves lives: education and child mortality. Education for All Global Monitoring Report.

²⁷ Cohen, 2008; Lewis and Lockheed, 2008; Singh-Manoux et al., 2008.

the initial capital costs of the youth groups by providing a package of goods and services. The same model can be used to guide the development in other new lands.

22. IFAD has a comparative advantage due to its approach of empowering local communities with a special focus on women and the youth to achieve sustainable development that is best suited for this area. IFAD will build and scale up the experience of the World Bank in the Matrouh Resource Management Project that was implemented in the Governorate more than 14 years ago. The project will also scale up the well-tested traditional technology used for the development of cisterns, reservoirs and valley beds. The project will incorporate the innovation introduced in watershed management by the Italian Cooperation in designing dikes, which capture the fertile silt for expanding the area under cultivation in the valleys. The project will also introduce a range of new technologies for improved management of the information systems for water quality monitoring, electronic tablets for inducing behaviour change and information dissemination for women through innovative use of technology.

23. The project expects to work closely with the International Centre for Bio-Saline Agriculture (ICBA), which has signed an agreement with ECDC to provide technical services for evaluating the land resources of Moghra and provide advice on appropriate salt tolerant crops and efficient water use. IFAD is also in discussions with the African Development Bank to assess how it can collaborate with the Bank's initiative to eliminate extreme poverty, reduce hunger and malnutrition. In the project area, IFAD is exploring how it can use the lessons from the Bank's study on the feasibility of investing in Renewable Energy (RE) to pump groundwater in the reclaimed lands and ease the burden on the declining fossil fuel sources in Egypt. IFAD is exploring parallel financing opportunities with the Bank for investments in solar energy for youth groups in El Moghra. IFAD has also discussed the potential for using the experience of some of the UN organizations such as WHO and UNICEF and using their experience in developing its nutrition and women's empowerment programmes

II. Project description

A. Project area and target group

24. The current project will be implemented in the Matrouh Governorate along the coastal areas, in the Siwa Oasis and in the newly reclaimed lands in El Moghra. The Governorate of Matrouh is among the two largest Governorates of Egypt with a total area of 166,000 square Kilometres, which represents 16% of the total area of the country. It extends over 450 kilometre along the Mediterranean coast from Alexandria in the East to the Libya borders, in the West. Agriculture in Matrouh Governorate is essentially a livestock-tree crop system with cropped barley grown as livestock feed. Less than 20% of the land is arable with over 120,000 feddans of orchards and over 150,000 feddans of barley, depending on rainfall. About 43 percent of the area is dense to medium rangeland and about 38 percent is very sparse rangeland. The main source of income in the coastal areas comes from livestock, figs and olives. While some of the coastal areas in Matrouh attract a large number of tourists, this is confined to a few months in the year and has not impacted the rural households significantly.

25. Four agro-ecological zones are distinguished in the coastal areas of the Governorate (i) a narrow coastal strip, about 5 km inland, which has good alluvial soils and horticulture is the main farming activity, with livestock and barley; (ii) a mixed production strip, 5-15 km inland, of lower rainfall and soil quality, and a mixed small ruminants-barley farming system prevails with orchards grown in the *wadis*; (iii) a rangeland strip, 15-50 km inland, of semi-nomadic population, largely used for small ruminants grazing, with scattered barley cultivation in land depressions; and (iv) an open-range area lies beyond 50-km inland, where a nomadic population are living on animal production, mainly camels. Tourist villages provide seasonal work for some of the young men in the area.²⁸ The coastal areas suffer tremendously from soil erosion and water run-off due to rains, topography and close distance to

²⁸ Project Appraisal Document the Second Matrouh Resource Management Project. World Bank. Water, Environment, Social and Rural Department Middle East And North Africa Region. February 6, 2003

the Mediterranean Sea. With regards to vegetation, the settlement of the Bedouin nomads has contributed to overgrazing and degradation of the vegetative resources leading to desertification and loss of biodiversity.

26. The Siwa Oasis in the Matrouh Governorate has a unique and rich history, geographic attributes and a distinct cultural identity. Its fame lies primarily in its ancient role as the home to the oracle of Ammon. It lies between the Qattara Depression and sea of sand in the Western Desert. It is one of Egypt's most isolated settlements. Agriculture is the main activity of modern Siwa, particularly the cultivation of dates and olives. It is known as Egypt's most fertile oasis and is famous for its olive trees and its 700,000 date palms. Handicrafts like basketry are also of regional importance. Until a tarmac road was built to the Mediterranean coast in the 1980s, Siwa's only links with the outside world were by arduous camel tracks through the desert. These were used to export dates and olives, bring trade goods, or carry pilgrims on the route which linked the Maghreb to Cairo and hence to Mecca. The area has recently received the Khalifa International Award for Date Palm and Agricultural Innovation (KIADPAI) and the Oasis has been awarded the Globally Important Agricultural Heritage Site (GIAHS) certification by FAO in October 2016 because it has preserved the environmental and heritage ecosystem in the cultivation of dates. Eco-tourism has in recent decades become a vital source of income. Much attention has been given to creating hotels that use local materials, use of natural therapy and display local styles and capitalize on the serene ecology of the environment and its protected status.

27. The target group of the PRIDE project will be the population of the Governorate of Matrouh which is estimated to be around 450,000 people or 60,000 households²⁹ of which 41,589 households are considered as rural, with an average household size of 6 persons in the rural areas of the Governorate. A more detailed analysis of the target groups is given in Appendix 2. An indication of the poverty and deprivation in this area, relative to other governorates, is provided by the following statistics from the Egypt Demographic and Health Survey (EDHS), despite the urban bias in the sample size for Matrouh (70 per cent urban to 30 percent rural). Matrouh has 37.9 per cent of its population living in the lowest wealth quintile, only in Sohag and Minya the proportion is higher. It has the highest rate of illiteracy among women (43.9%), the highest TFR of all governorates at 4.8, and the third highest percentage of teenage pregnancy. It has the lowest percentage of mothers receiving ante-natal checkups at 59.9 percent – 10 percent below the governorate with the second lowest percentage.³⁰

28. The coastal population of Matrouh is composed of six main tribes which can be further divided into sub-tribes. There are about 43 sub-tribes in the project area. The sub-tribe or the 'qabila' is the functional tribe of most importance in dealing with the government. It is a blood-related group, and the reference most commonly used by individuals for defining their tribal identity. Each sub-tribe is further divided into clans. The sub-tribe has well established and recognized rights over its cultivated area, watersheds and rangelands and any new land brought under cultivation is managed based on this well-established system of use and proprietary rights. The Siwa Oasis is inhabited by some 30,000 people with a rich cultural heritage and belong to the very distinct Berber community with a unique culture and a distinct language spoken by the Berber called Siwa "Amazingh". Table 1 below, gives the location of the population in each of the District.

²⁹ Statistical Yearbook. Central Agency for Public Mobilisation and Statistics (CAMPAS). Ref No: 71-01111-2015. Arab Republic of Egypt. September 2015.

³⁰ Ministry of Health and Population (2015), Egypt Demographic Health Survey, 2014

Table 1. Estimated Population in the Project Area

Districts	Total Rural People	HHs
Marsa Matrouh	56,185	9,364
El Dabaa	48,723	8,121
El Negila	25,705	4,284
Barrani	46,896	7,816
El Saloum	17,990	2,998
Siwa	28,329	4,722
El Moghra in El Amien	21,420	4,284
Total	245,248	41,589

Source: CAPMAS 2016 and ECDC for El-Moghra

29. The hierarchical and patriarchal tribal structure of the Bedouin, the very distinct customs of the Berber people in Siwa and the isolated location of the Governorate puts women at a much greater disadvantage compared with many other part of the country. There is limited access to basic social sector services like domestic water supply, sanitation, health, education, electricity or transport. Women are virtually confined to the homestead with few opportunities for productive employment. The strict codes which women have to observe limit their access to resources, limit their mobility and access to health and education services. Young men with limited choices are involved in the agriculture sector where they are under-employed. Those with opportunities generally like to move into the trade and transport sectors. The local tourism industry in the coastal area has been growing but can offer employment for only two-to three months in the year. The result is very limited opportunities for productive employment for young men and women.

30. In El Alamein, the project will work with the 252 groups of youth and smallholders who have been allocated land in the new lands of El Moghra. It is expected that around 4,284 households will be given this land in groups of between 10 and 23 with an average membership of 17 members in each group. These groups consist of individuals who have come together to form companies and qualify for the open ballot for receiving the land parcels. The land will be allocated to the smallholder companies on a provisional basis on payment of 15% of the total cost of EGP 18,000. The ownership of the land will be formally transferred to the groups on condition that they develop 60% of the land and pay their instalments within eight years.³¹ The groups consist of young men and women³² with high aspirations to be independent and initiate their own farming enterprises. They have a mix of experience in the farming and the service sectors. They are likely to need additional capital, technical skills and production and marketing support and access to social sector services to make their new venture a success and gradually shift their families with them. The Project will also engage with the households who settled in these areas several years ago on their own initiative and assist them in expanding their farming operations and more importantly in linking with the smallholders for expanding production.

B. Development objective and impact indicators

31. The development goal of the project will be to reduce poverty and enhance food and nutrition security in rural areas through remunerative, sustainable and resilient livelihoods. The development objectives of the project will be to build the resilience of poor rural households to the harsh climate conditions in the Matrouh Governorate by improving their productive capacities, assist communities to enhance the productive potential of the newly reclaimed lands and assist women and children from poor households to improve their nutritional and socio-economic profile. The attaining of these objectives is central to Egypt in meeting its Sustainable Development Goals.

32. The project is expected to increase the number of people experiencing economic mobility with changes in both income and consumption, food diversity and improvement in the quality of diets; (ii)

³¹ A grace period of two years is allowed before the payment of the land cost becomes due in instalments.

³² It is estimated that the groups comprise of about 20% women members.

Increase the number of people with greater resilience and (iii) increase the number of people with gains in agriculture and non-agriculture products.

C. Outcomes/Components

Outcomes

33. The project outcomes will include the following; (i) economic mobility and changes in economic status including production, income, consumption and improved food diversity; (ii) adoption of new and improved inputs, technologies or practices. The project log-frame gives a more detailed list of indicators at the outcome, output and impact level. Appendix 4 elaborates the project in more detail.

Components

34. The Promoting Resilience in Desert Environments (PRIDE) Project will consist of two main components which will include (i); Climate Resilient Livelihoods (ii) and Integrated Nutrition-sensitive Investments.

35. The allocation of resources and facilities under the various components such as roads, schools and health facilities will be apportioned between rain-fed Matrouh and the new lands in El Moghra on the basis of the needs and demands in the area as agreed in the Annual Work Plan and Budget by the Project Steering Committee. An initial allocation of resources between the two has been specifically earmarked and indicated in the budget based on the projected needs. Investments in Siwa will focus on the Siwa drainage study, investments in social infrastructure, livelihood packages for women and dissemination of the tried and tested technologies by DRC through strengthening of its research infrastructure.

Component 1: Climate Resilient Livelihoods (USD 42.535 mn, IFAD USD 32.023 mn)

36. The Climate Resilient Livelihoods component will consist of four sub-components; (i) Water for Agriculture and Watershed Management; (ii) Enhancing Connectivity; (iii) Livestock and Rangeland Development and (ii) Crop Production.

i. Water for Agriculture and Watershed Management (USD 17.066 mn, IFAD USD 15.427 mn)

37. Studies have shown that application of supplementary irrigation can appreciably increase crop productivity in these rain-fed areas and presents an important measure for adaptation to climate change³³. The project will invest in 500 water reservoirs with a capacity of 300m³. These reservoirs are critical for providing supplementary irrigation in an area where the rainfall pattern is very uncertain. Some enterprising households have demonstrated how strategically placed reservoirs can help to capture additional water for supplementary irrigation. It is expected that 500 households will benefit from supplementary irrigation for inter cropping and vegetable production either along the wadis or on farmers' fields which are well placed for the purpose. The project will also assist in the water harvesting and watershed management in the wadis. Under this subcomponent, the project will undertake watershed development on 100 kms of new and old valley beds or wadis to bring around 1900 feddans under improved watershed management. Watershed management activities will capitalise on the experience of the Desert Research Centre which has enhanced its technical capacity for watershed management in the wadis through the construction of various types of check dams with masonry structures for water and silt retention and prevention of soil erosion which have helped to use the water more efficiently to plant mainly figs and olives for increased food security and incomes in the coastal belt. The project will also provide support in the plantation of olives, figs and some of the other crop species that have been successfully tested by DRC such as almonds, watermelons, zizyphus, caper, etc.

³³ Samiha A. H et al. Management of Climate Induced Drought and Water Scarcity city in Egypt. Pp 27-46. Rain Fed Areas in Egypt: Obstacles and Opportunities. May 2016.

38. The project will provide a limited amount of matching grants to youth groups to defray the initial capital cost of developing the new lands until full production³⁴, which can be substantial. While ECDC is making arrangements to enable the smallholders to access agriculture credit through the formal banking system, it is not yet clear how quickly or easily this will be accessible to them. The private sector is also expected to play a role in the provision of some inputs especially drip irrigation systems and saplings and recover the cost from future production. However, these efforts will need to be supplemented by the project. The costs that will need to be defrayed will typically include the development of the on-farm water management system including the installation of drip irrigation systems, the erecting of fences around the land perimeter to protect against sand dune encroachment, purchase of key inputs like saplings, fertilisers, etc.

39. The matching grants will be provided only to the youth and small-groups based on the following selection criterion; (i) The grants will be allocated on first come first serve basis to those with a signed contract with ECDC; (ii) the groups have developed and submitted a production plan to ECDC; (iii) groups will have to demonstrate that they have a well-defined financing plan that could include their own funds, loans and forward contracting with private sector; (iv) Only those groups will be eligible who have started farming on the ground and expect to bring 60% of the land under cultivation; (v) the matching grants will be prioritized based on the number of shareholders within a group; (v) Equitability of shareholding will be given priority and groups where one member has more than 30% of the land will not qualify for the matching grant and (vi) a maximum of USD 5000 will be provided per shareholder in a group.

40. **SIWA Drainage Study:** IFAD has undertaken several reviews of the irrigation and drainage issues in Siwa over the last six months and has also examined the previous studies on the subject. The rising levels of salinity and water logging pose a serious threat to agriculture in the Oasis. There is a range of options that were examined and discussed with the key stakeholders such as the Egyptian Public Authority for Drainage Projects (EPADP), the Chairman of the Groundwater Sector (GWS) and other officials of the Ministry of Water Resources and Irrigation (MWRI). The issue is extremely complex and needs further in-depth study to ensure that the solutions proposed are long-term and sustainable. Similar issues are beginning to emerge in the other oases in the New Valley Governorate such as Kharga and Fara.

41. While there is a high demand to implement an immediate solution to the problems in Siwa, the project will finance a comprehensive analysis of the Siwa Oasis with a detailed feasibility study, engineering design and costed plans. The feasibility study will also include an environmental and social assessment. IFAD will finance the study under the PRIDE project and select an international firm on a competitive basis for the purpose. The MWRI and MALR will both be involved in the preparation of the study and the results will help in identifying the technical options, the institutional and policy changes regarding digging of new wells and the on-farm water management practices required. The study will be used for key policy dialogue with the Government and will be used as a prototype for Oases development in Egypt especially in the New Valley Governorate. ECDC will also be consulted for the use of the surplus drainage water for new land development envisaged as part of the 1.5 million feddan in Siwa in the next phase of the mega Government project. The project and IFAD will ensure that key donors (AfDB, World Bank, Italian agency, European Commission among others who have been contacted by the design team) will be part of the review committee for the study. The implementation arrangements of the recommended actions will be based on the results of the study, with the study contributing to developing a prototype for oasis development.

ii. Enhancing Connectivity (USD 14.822 mn, IFAD USD 7.626 mn)

42. Egypt has one of the lowest road network concentrations in the region³⁵ with the Matrouh Governorate among the lowest areas of concentration within the country. The project will invest in the

³⁴ Some salt tolerant fodder species can be grown as annual crops and give relatively quick returns. However, the typical crops currently being grown such as Jojoba and pomegranates can take between 3 to 5 years for full maturity.

³⁵ Misr National Transport Study (MINTS). The Comprehensive Study on The Master Plan for Nationwide Transport System in the Arab Republic of Egypt. Technical Report No 1. JICA. March 2012.

construction of 250 kilometers of feeder roads with IFAD financing covering 60 percent of total investment cost. The rest will be covered by GoE counterpart funding. The identification of the roads will be undertaken in close participation with local communities with the assistance of DRC. The Master Plan prepared for the Moghra settlement by Reef El Masry will be the basis for the identification of roads allocated for Matrouh. The Department of roads and bridges in the Matrouh Governorate will prepare the design, BOQs, technical specifications and supervise the process. The roads will follow the road design standard given in the Egyptian Code for the Work of Urban and Rural Roads.

iii. Livestock & Rangeland Development (USD 3.104 mn, IFAD USD 2.615 mn)

43. The main source of income for the smallholders in the Matrouh Governorate is livestock that are grazed on extensive rangelands. The rangelands have been depleted due to low production capacity, prolonged low rainfall and over-grazing. The project will work together with local communities to develop plans for community rangeland development. The project will finance the plans which meet a certain criteria that assesses the willingness of the farmers to commit their own resources, potential impact, innovation and sustainability. The models that will be used could include individual, group and community actions through support for alley production, forage seed production and protection of depleted rangelands through a system of rotational grazing measures. DRC has rangeland management expertise and will use its previous experience to outline a step-by-step approach in the project implementation manual. Each selected community will sign a Terms of Partnership with DRC under which the responsibility of the community and DRC will be clearly identified. The community actions will include a clear articulation of the plan including participating households, area to be closed for free grazing, area to be planted and monitored for regeneration of indigenous species, area to be prepared for plantation and a joint community agreement on supervision and monitoring of the rangeland plans and progress. DRC will provide technical assistance, seeds of palatable plant species and other inputs subject to certain milestones being met at each stage of the implementation of the community plans.

44. The project will also strengthen the farmer capacity to enhance the productivity of the small ruminant herds of sheep and goats through breed improvement and training on improved management and feeding practices. The project will provide 120 rams and feed for them during the project period. DRC will implement a breed improvement plan in close collaboration with the smallholder farmers and private breeders. The breed improvement plan will also entail the signature of a Terms of Partnership under which DRC will provide improved rams to selected communities which agree to abide by the terms and conditions of partnership. The communities will oversee the agreement while individual farmers will implement the programme. The farmers will rent the rams from DRC and ensure their circulation within the smallholder farmer if they do not have enough flocks for breeding. The rams will be provided to participating communities and households just before the start of the mating season in May and returned at the end of each season. Each ram is expected to serve 33 ewes in each season. The payment for the use of the ram will be in the form of an off-spring from the improved Barqi or Damascus breed. The combination of the improved project rams and those with the farming communities are expected to cover the entire small ruminant population over the seven-year project period. DRC will make a proper breed plan and include it in the PIM at the start of the programme and develop suitable mechanisms to monitor and track progress. The Project will also provide mobile veterinary services through DRC, which has shown the capacity for much wider outreach to the hinterlands.

45. The project will also assist the small-farmers in El-Moghra to establish livestock activities through technical assistance, training and support. Investment in aquaculture has proved to be a viable investment given the need to build sedimentation ponds to settle the excess iron in some of the wells in Moghra. Farmers have found that these ponds can provide an important source of income through fish farming and sale to the adjoining areas of Al Alamein. Some of the private sector farmers and companies which are currently located in Moghra have invested in appropriate livestock. Technical assistance will be provided to the farming communities to explore some viable livestock production activities.

iv. Crop Production (USD 7.543 mn and IFAD USD 6.356 mn)

46. The horticulture production and marketing sub-component will work with smallholders to improve the productivity of the figs and olives in the coastal areas. Under this component, the project will provide training on orchard management including soil tillage and soil fertility management, water management, integrated pest management, pruning and harvesting. The training will be given to both men and women along with tool kits for harvesting and pruning. The training approach will include demonstrations on farmer fields as well as field visits and exchange visits. DRC will be supported in disseminating the technologies it has developed to the farmers and in undertaking a stronger role in applied research of relevance to the smallholders in desert environments. The capacity of DRC and the agriculture department to monitor soil, water and leaf analysis will be strengthened by providing them with improved technology and equipment and use this to guide smallholder farmers.

47. The project will also assist the newly settled youth and small farmer groups in Moghra with technical advice on sustainable agriculture practices based on an evaluation of soil and water analysis in the area. Studies undertaken in the area by the Desert Research Centre show that the geological conditions of the oasis are very varied and the availability of water and the concentration of salt differs, based on the location within the area. Salinity levels range from 2000 to 8000 ppm. The project will provide technical assistance and training to farmers in El Moghra for species and varieties suitable under saline and water stress conditions such as jojoba, olives, pomegranate, selected fodder varieties, etc., The project will contribute to the creation of a bio saline centre for services to the new farmers in El Moghra area. The project will provide specialised technical assistance through providing support to organizations like ICBA, DRC, ARC, etc. ICBA is planning to establish a specialized platform for research and development of saline environments and has signed a MOU with ECDC. The MALR will be supported in disseminating the technologies that they have developed on their various research stations to the farmers and in undertaking a stronger role in applied research of relevance to the smallholders in desert environments.

48. Technical assistance and research support will be provided to all investors in El Moghra who request it to ensure the sustainability of the farming practices in the area. This type of investment is considered a public good and will focus more on determining the water and soil quality, aquifer recharge levels, suitability of planting different types of crops given the salt and mineral content of the water. Thus, those agencies which submit proposals for research and pilot testing of certain crop varieties or monitor water and soil quality will be expected to disseminate the findings of the research to all farming companies, groups and individuals in the area. Specific provision will be made in the proposals to identify the dissemination strategies.

49. A Central PMU within MALR will invite proposals for the new lands from agencies such as DRC, ARC, ICBA and any other NGO or private sector partner for assistance to the farmers in the area. The selection of the proposals will be based on the following criteria; (i) utilising the scarce water resources efficiently; (iv) utilising saline water innovatively for the production of saline tolerant crop and livestock enterprises; (iii) disseminate and up-scale tested crop and livestock production technologies for desert environment, (iv) providing technical advice through well documented research for desert environments and saline agriculture; (v) water and soil quality monitoring and recommendations on viable options for sustainability of the farming systems; (vi) Generating employment for the youth; (vii) introducing high value added services along the value chain such as input supply and output marketing such as sorting, grading, processing; (viii) building the skills and capacity of youth and smallholder farmers to provide skills for new land development.

Component 2: Integrated Nutrition-Sensitive Investments (USD 31.52 mn, IFAD USD 25.076)

50. Given the socio-economic profile of the population in the Matrouh Governorate, particularly the situation of women and children, this component will promote the equality and empowerment of women in ways that help them improve nutrition for themselves, their children and their families by providing a comprehensive package which includes access to domestic water and sanitation, Moringa trees around the homestead that improves nutrition and access to basic social sector and income

generating opportunities for women. This component will consist of three sub-components: (i) Water for Health (ii) Empowerment of Women for Nutritional Change (iii) Social Infrastructure.

i. Water for Health (USD 14.76 mn, IFAD USD 11.96 mn)

51. There is acute water shortage in the Governorate estimated to be around 56% of the domestic needs of the area. The domestic water supply sub-component will increase the availability of domestic water by providing 6000 cisterns (120 m³) and 700 reservoirs (150 m³) at the homesteads for the harvesting of rainwater. The project will also support the rehabilitation of 100 Roman Cisterns (between 500 to 1000 m³) that are used for drinking for both humans and livestock. This will promote women and children's health and nutrition status and result in saving of women's time and labour as they are primarily responsible for fetching water. While women's mobility is generally restricted, households do not inhibit women when it comes to fetching water. Women-headed households, in particular, often walk long distances for water. The interventions in water supply will contribute to availability and access to safe drinking water.

52. The community is well versed in the construction of these cisterns and reservoirs, as well as the rehabilitation of Roman cisterns. DRC has well-established capacity to implement the activities in this subcomponent and have successfully managed and supervised it for different projects in the past.

53. The project will also install desalinization plants in Al Moghra. In locating these plants, the project will coordinate with ECDC and locate them based on its Master Plan and locate them in close proximity to areas with the highest concentration of new settlers who have initiated farming activities and are on the ground.

ii. Women's Empowerment for Nutritional Change (USD 7.631 mn and IFAD USD 6.478 mn)

54. This subcomponent will seek to raise the nutritional status of households, particularly women and children through integrating a number of interventions that will increase access to nutritious food and increase awareness for improved choices in nutrition. Electronic tablets will be used as an engaging platform for disseminating carefully researched, high quality behaviour change material and increase in literacy as an empowering tool. The nutrition and livelihood packages will provide access to protein rich foods through support for pigeon towers, poultry, goat packages and handicraft support for 3000 women. The project will introduce the Moringa tree also known in Egypt as the Tree of Life due its high content of essential vitamins and minerals to 5000 households.

55. These packages will increase household consumption of protein rich diets and make a modest, yet significant, contribution to women's incomes in a desert environment in which women's livelihood opportunities are highly restricted. In areas such as Siwa, where women are involved in a range of handicraft activities such as basket weaving, clay ovens, silver jewellery, date-honey production, cloth weaving, etc., 400 women will be supported to increase their purchasing power and enable them to secure better nutrition, healthcare and education opportunities for themselves and their children. Literacy classes will be provided to 2000 young girls/women. Secondary evidence provides a wealth of information on the impact of literacy as a tool for empowerment, increased life expectancy, reduced child mortality and improved children's health.³⁶ **Literacy with health-nutrition components allows women to improve their futures and the future of their families.** A specialized NGO will be hired to develop and implement many of the activities of this component and a behaviour change strategy based on research relevant for Matrouh (See Appendix 5).

56. The mission shared its approach with WHO and UNICEF and they endorsed the integrated approach to nutrition-sensitive investments being adopted by the project and WHO offered to provide technical oversight to the project for the nutrition activities based on their experience in the country. WHO offered to sign a Memorandum of Understanding for the purpose, if required. This arrangement will not have any cost implications for the project.

³⁶ UNESCO (2006), EFA Global Monitoring Report 2006: Literacy for Life.

iii. Social Infrastructure (USD 9.129 mn, IFAD USD 6.289 mn)

57. This subcomponent will contribute to increasing access to health and education, particularly for women and children. While these activities are not part of IFAD's normal package of investments, without them, the overall impact and sustainability of the project investments will be restricted due to the extremely vulnerable situation of women and girls in the area. These investments are expected to have a high value added on their own and provide a strong entry point for engaging the forgotten women of these tribal communities. These facilities will have women staff in all key positions such as teachers, doctors, nurses, etc.

58. The location of these facilities will be coordinated with the responsible line agencies of the Government in Matrouh, the Central PMU, DRC and also accord with the Master plan of ECDC for investments in Moghra.

59. The practice of open defecation is widespread leading to the danger of deadly faecal-oral diseases, and compromising the health, dignity, and very often safety of women and girls. Poor households are unable to afford latrines, with particularly dire health consequences for women. Therefore, a key intervention of the project will be the provision of 3000 latrines to promote hygiene and sanitation in the communities.

60. Lack of access to health is another key constraint for women in these remote areas. Households are often at distances of 30-50 km from health units and a combination of poverty and restrictive cultural norms, severely limits access of women and children to even basic medical services. The project will build 3 health units and provide five mobile health units which will be managed by the health department with operating support from the project. One of the mobile units will be designated for Moghra and provide emergency health services to the new farmers who will be relocating to the area. In time, one of health units will be permanently located in Moghra once a sufficient number of people have settled in the area.

61. There was a strong demand from the community for access to community-based elementary schools in close proximity to their villages in both Siwa and along the coast. The project will also invest in the education of children, particularly girls. Many girls are deprived of even a primary education due to the distance from schools and cultural norms, which do not allow them to be taught by male teachers provided by the Government. The project will build 15 multi-grade schools and staff them with women teachers by providing adequate incentives. It will also build 3 high-schools as there is a paucity of high schools in the area. The Education department in the Governorate of Matrouh has committed to taking over these facilities and operating them upon completion of construction. This intervention has the opportunity of promoting nutrition outcomes through the integration of nutrition education, messaging and promotion of WASH activities.

62. **Employment of youth:** The project will provide young men training in the construction of cisterns, reservoirs, pruning of olives, date palms and figs, production of saplings and nursery management, watershed management and rangeland development. The project will assist DRC in recruiting young men to work on its research farms and in the implementation of project activities as apprentices. Those candidates who do well will be provided with kits and tools to enable them to generate an income through provision of services to the community. Similarly, the project will also explore opportunities for training youth for provision of the range of vocational skills required by investors and small holders on the newly reclaimed lands such as electricians, plumbers, pruners, harvesters, carpenters, construction workers, etc. The project can use its resources to sponsor training for the youth. The implementation of this intervention will explore possible integration of nutrition awareness and messages during capacity building.

63. Technological innovations that will be included in the project will include (i) the use of electronic tablets for the dissemination of messages for women for behaviour change; (ii) MIS system which will be tablet based and will record a GIS referenced monitoring and evaluation system for greater transparency, accountability and accuracy; (iii) An android based system for tracking water and soil

quality and following the trends in different location to provide technical advice to farmers on farming practices; (iv) introduction of a range of solar and energy saving technologies on the new lands.

64. The electronic tablets will be instrumental in transmitting nutrition messages including healthy eating, feeding practices, proper hygiene practices, nutritious diet preparation, the importance of safe drinking water and preventive healthcare measures like maintenance of personal hygiene, and other related nutrition-health based information. These apps can also be used in the women literacy program for promoting health eating.

D. Lessons learned and adherence to IFAD policies and the SECAP

65. The lessons from the experience of IFAD's on-going and completed projects as well as its experience from its grant funded projects and the findings from the most recent Country Programme Evaluation (CPE) undertaken in 2016 by the Office of Evaluations have been considered in the current design. These lessons guide the implementation arrangements, targeting, components, opportunities for policy dialogue and knowledge management. Appendix 3 describes the lessons learnt and Appendix 12 outlines the adherence to relevant IFAD policies.

66. Some of the important lessons that emerge from this analysis include the following; (i) Project Management arrangements within the MALR need to be strengthened as a lean PMU is economical but has trade-offs in terms of effectiveness; (ii) Use of existing institutions and implementation arrangements enhances the sustainability of project interventions and can expedite start-up; (iii) Greater efficiency and effectiveness can be realized through focusing projects in a concentrated area and not spread them over a large geographic area; (iv) Greater support and funding is required for funding and support to capacity building; (v) Dedicated resources and staff for women's participation ensures the likelihood of their inclusion in project activities; (vi) A multi-pronged strategy to address the exclusion of women is required through facilitating access to basic rural services, infrastructure and improved rural water supply; (vii) Special strategy is required to include youth in a participatory manner in project activities; (viii) Sanitation and waste treatment has been insufficiently addressed in IFAD projects; (ix) Concentrated delivery of an integrated package of support is required to make projects effective in the new lands; (x) Greater investment in rural institutions should be the key starting point for all project activities and should provide the anchor for all investments; (xi) Greater focus on linking farmers with markets through the private sector.

67. The current design has also incorporated some of the key lessons from the Implementation Completion Report (ICR)³⁷ of the World Bank financed Matrouh Resource Management Project. The ICR rated the overall performance of the project as satisfactory and noted the positive impact of the project on water resource management, crop and livestock productivity as well as communal rangeland management. The ICR noted that the project was significantly delayed in getting off the ground and that its rural finance component was a failure. The lessons that it identified from its experience include the following; (i) multi-sectoral/multi-disciplinary approach in natural resource management and poverty alleviation projects is more likely to lead to achievement of objectives than the single-sector projects of the past and requires the use of multi-disciplinary teams; (ii) participatory project implementation requires flexible budgeting that is not constrained by predetermined outputs, but relies on a truly demand-driven identification of activities, in order for the participatory planning and implementation approach to be fully responsive to beneficiary demands; (iii) Given the time required for community-level discussion and negotiation to agree on beneficiary priorities, full-time dedicated and skilled staff should be assigned to interface with communities and support their process of organization; (iv) Rural credit programs, particularly in remote areas, require innovative mechanisms that adapt to constraints such as collateral, religious views to interest rate payment and need for credit delivery at lowest levels³⁸; (v) Targeting the poorest segments of the society can be a challenging process where communities have strong traditional structures, and requires time, clear monitoring mechanisms and strong engagement with the tribal organization; (vi) Community

³⁷ Implementation Completion Report (IDA-25040). Matruh Resource Management Project. June 3, 2003. World Bank.

³⁸ The Projects rural finance component was declared a failure and eventually cancelled.

rangeland management may be a more suitable approach than activities targeting individual farmers, but requires more initial time to be invested in negotiation and conflict resolution.

68. **Adherence to IFAD Policies:** IFAD's fifth Strategic Framework covers the period 2016-2025. It serves as an overarching policy guideline to provide direction to IFAD's work, and as a key instrument for consolidating IFAD's development effectiveness. The current project is well aligned to meeting its overall goal and with its five principles of engagement namely that IFAD-supported programmes will consistently aim to target and benefit the largest number of poor rural people possible, empower them socially and economically, and promote gender equality. IFAD will place a premium on innovation, learning and scaling up of successes and, in the process, leverage effective and efficient partnerships where comparative advantages are exploited for greater impact. The PRIDE tries to incorporate these key principles of engagement.

69. IFAD's poverty targeting and gender sensitive design and implementation guidelines updated in January 2013 were also completed for the Project. Women and youth are given a central role in the project design and dedicated staff, specific targets and separate budget line items have been allocated for them. IFAD's climate change strategy³⁹ recognizes that the speed and intensity of climate change are outpacing the ability of poor rural people and societies to cope. The current project takes cognisance of the fact that poor rural people are in the front line of climate change impacts; the ecosystems and biodiversity on which they rely are increasingly being degraded. The project incorporates IFAD's assessment that climate-related risks, and potential opportunities, can be addressed more systematically within its projects and policy advice. The current design is in full accord with IFAD's Private Sector Development and Partnership Strategy, which places strong emphasis on further developing and strengthening the linkages of smallholder farmers with the private sector. The model of development in El Moghra follows a private sector led approach in which large companies with external links to both domestic and export markets assist the smallholders in aggregating production to meet market demand through contract farming arrangements.

70. **Environmental and Social Category:** The proposed project is classified as Category B under IFAD's Social, Environmental and Climate Assessment Procedures (SECAP), as a small-scale, rural development project with no potentially significant adverse social or environmental impacts. Any adverse project impacts will be minor and site-specific in nature and can readily be remedied by appropriate preventive actions and/or mitigation measures. Such measures will be identified on a case-by-case basis during project implementation employing the project's Environmental and Social Management Framework (ESMF). The ESMF will describe the potential environmental and social impacts and risks of various project interventions and prescribe the preventive actions and mitigation measures, as well as their anticipated costs, to be incorporated into the design of sub-projects and activities. Moreover, the potential social and environmental benefits of the project's interventions, in terms of alleviating poverty and enhancing food security, conserving fragile natural resources and building resilience to climate change impacts in project areas, more than outweigh any potential adverse impacts resulting from them. These benefits will be directly derived from the project's investments in infrastructure for water harvesting and wadi management, efficient use of scarce water especially in Moghra, monitoring water and soil quality for ensuring sustainable crop choices, promotion of rangeland restoration, improving breeds for emphasis on livestock productivity, good agricultural practices for figs, olives and other key crops, support for improved nutrition and alternative livelihoods for women and children, and expanded access to social services for households in the project areas. The project will ensure that its interventions comply with IFAD's Natural Resources Management, Climate Change and Land Policies and relevant SECAP Guidance Statements, as well as with the relevant laws and policies of the Government of Egypt.

71. As an extra safety measure, an Environmental and Social Management Framework will be developed- to examine the potential risks and impacts of the subprojects (wadi development, rural roads, water reservoirs etc.). An ESMF annotated outline is given in Annex 4. The project will also

³⁹ Climate Change Strategy. IFAD, May 2010.

recruit an environmental specialist/ climate change specialist who will oversee the implementation of the ESMF. A special budget for technical assistance for the ESMF has been identified on an annual basis to enable on-going assessment in collaboration with IFAD's Environment and Climate Division. Overall, DRC staff (and relevant staff from the central PMU) will be provided capacity building efforts on safeguards issues (already a specialisation in the DRC team). Environmental and social audits as part of environmental/ social/ climate assessments will be undertaken during the project life. More in-depth assessments will be conducted during the Mid-Term Review and Project Completion.

72. **Climate Risk Category:** The proposed project areas are expected to experience risks of adverse impacts of climate change in the coming decades, ranging from sea level rise along the Mediterranean coast to decreasing and more erratic precipitation with increasing temperatures over the areas. These climate change impacts will make the already harsh conditions for humans, animals and agriculture in the project areas even more harsh, putting additional stress on the water-stressed natural resource base and the human and animal populations that depend on it. Egypt's Third National Communication under the UNFCCC (2016) recognized the vulnerability of the agricultural sector to climate change and identified a number of major negative impacts anticipated in the coming decades: (i) expected rise in temperature and changes in seasonal patterns of precipitation resulting in decreasing productivity of crops and livestock, as well as changes in environmental agricultural zones; (ii) adverse impacts on marginal agricultural areas and increasing desertification rates; (iii) higher temperatures increasing water evaporation and water consumption; (iv) socio-economic impacts such as increasing migration of labour from marginal and coastal areas; and (v) expected sea level rise resulting in negative effects on coastal areas, tourism and agricultural lands.

73. The proposed project's Climate Risk Classification is Moderate according to IFAD's SECAP climate risk classifications. The project's interventions will not be expected to increase the vulnerability of target populations and resources to climate hazards. On the contrary, the project will actually strengthen resilience to climate change impacts in the project areas. Because of the desert and oasis locations of its project areas, the project recognizes that its interventions are vulnerable to climate-related hazards. Climate trends in recent decades and future climate scenarios for the Matrouh Governorate indicate the vulnerability of the project's wadi management, horticulture and rangeland activities to climate hazards such as extreme droughts, flash floods, etc. Expected decreases in precipitation and shortening of growing seasons in the rainfed areas of Matrouh will threaten the cultivation of both tree crops and cereals, and increases in temperature in the Siwa oasis will jeopardize date palm production.

74. Many of the project's interventions already represent climate adaptation measures, e.g. water harvesting and wadi water and soil retention infrastructure, restoration and management of rangelands with native fodder species, promotion of good agricultural practices and research on drought-resistant and salt-tolerant varieties for crop production particularly in El Moghra with its high levels of salinity. In addition, the project will install basic climate monitoring stations in a number of the project districts to enable the DRC to monitor temperature and precipitation and share such information with the local population. The project will also investigate incorporation of additional actions, consistent with measures identified in Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction (2011) and its Third National Communication under the United Nations Framework Convention on Climate Change (2016).

75. **SECAP Considerations in the Project Design:** The proposed project has fully integrated relevant SECAP considerations into its project design, among them addressing the vulnerability and adaptation priorities for rural people, promoting sustainable use of natural resources, emphasizing the participation of and benefits to women and youth, and promoting sound agricultural processes. The project's design also includes development of an Environmental and Social Management Framework (ESMF) to ensure site-specific review of potential environmental and social impacts/risks (including those to cultural heritage) of sub-projects (wadi development, rural roads, water reservoirs, etc.) and identification of appropriate preventive actions and/or mitigation measures to address them (including managing "chance finds" of cultural significance). The ESMF will also specify public disclosure

requirements for project activities and sub-projects and establish (or build on existing) local grievance mechanisms for addressing, in a timely and fair manner, potential conflicts/concerns raised by project-affected people. A SECAP Review note is given in Annex 1 and an annotated Table of contents for the ESMF is in Annex 4.

76. The project's emphasis on social and environmental benefits, as well as climate adaptation measures to build climate resilience, is reflected in both project components. The first component's investments in water harvesting, wadi development, efficient water use, rural roads, support for livestock and rangeland development, breed improvement, crop production and use of salt tolerant varieties and research on better adaptation of agriculture to local conditions, will result in social benefits in terms of increased farm incomes and improved food security. The component's environmental benefits and climate adaptation measures are reflected as well, in terms of improved water resources management, enhanced rangeland conservation and good on-farm agricultural practices (including water-use efficiency and integrated pest and crop management). The second component's investments in domestic water supply, improved nutrition and health, diversification of livelihoods for women, and provision of basic social infrastructure (schools, health units and latrines) and employment training for youth will primarily result in social benefits by enhancing the overall health and well-being of families in project areas.

III. Project implementation

A. Approach

77. **Community Driven Development:** The PRIDE project will be implemented over a seven-year period and will adopt a community-driven development approach. This approach will be implemented throughout the project area with slight modifications. The approach with the tribal communities in the coastal areas will build on the participatory approach initiated in the Matrouh Governorate by the World Bank in its first investment in the area, which is still used by the Desert Research Centre in interacting with the 43 local communities in the area. This approach will organize communities on the basis of their tribal affiliations given the strong allegiance to tribal identity. A Mandoub, who is the head of each extended family and represents it. The project will build on this approach with due safeguards in place to ensure equity and targeting of the IFAD target group in the distribution of project investments.

78. **Participatory Approach:** Taking into account the differences among stakeholders in the various project areas, the project will initiate stakeholder consultations to ensure equitable participation by communities in all aspects of planning, design and implementation of project activities and sub-projects. The implementing agencies and service providers implementing project activities will carefully document continuous and meaningful stakeholder consultation throughout project implementation. DRC, the NGO and those implementing the project activities in EL Moghra will all be required to consult with communities and in particular the vulnerable sections of the communities especially women and youth.

79. **Private Sector led Approach:** In the newly reclaimed areas of El Moghra, the project will work with the youth and smallholder groups who are organized in small formal companies. The project will capitalize on the opportunity to adopt a private sector led approach by facilitating linkages between the large investors and the smallholder youth companies in El Moghra. The large investors see an opportunity to partner with the youth companies to enhance their production and meet the high export demand for crops grown in the area such as Jojoba and pomegranates. Partnership with the youth companies enables them to aggregate production and capture a larger share of the market. The youth companies can benefit significantly from the symbiotic relationship with the large investors to realize economies of scale, learn from their experience, negotiate contractual farming arrangements and link them with markets. This model could provide key lessons for the development of farming on new lands in other areas of the country as well.

80. **Demand Driven Approach:** The implementation approach of the project will be demand driven to ensure that project investments are valued and sustained by the beneficiaries. Terms of partnership will be specified for participation in each area of intervention including physical infrastructure, cisterns, reservoirs, drip irrigation systems on new lands, sand dune encroachment fences, roads, training and demonstrations, community rangeland plans and breed improvement, livelihood and nutrition packages and social sector services. These terms will specify the role and responsibility of each implementing partner, beneficiaries and Government line agencies for those investments like schools, health units and mobile health and veterinary services which are the mandate of Government. The monitoring and reporting responsibilities of each partner will also be specified.

81. **Geographical Targeting:** The project will be implemented in the rural areas of the six districts or marakiz of Matrouh Governorate: Marsa Matrouh, El Negila, El Barrani, El Saloum, El Dabaa, Siwa and in the El Moghra settlement in El Alamein in the 60,000 feddan of newly reclaimed lands allocated to youth groups. The selected areas are relatively poor areas despite the growing tourist industry along the coast. The project investments in these districts will consider the relative poverty levels in the districts while determining the volume of support. The two poorest districts, El Saloum and El Nagila will receive 25 percent each of the cisterns, latrines, nutrition and livelihood packages and literacy classes. Within the project area, DRC will plot and geo-reference the household clusters, which will constitute the units for planning interventions for women given that women's mobility is restricted to these clusters. The project will also plot the existing cisterns and sanitation facilities in the homestead to support transparent targeting. The budget for El Moghra has been separately earmarked for the youth and smallholder groups in this new settlement.

82. **Direct Targeting Approach:** The project will adopt a direct poverty targeting approach in providing its investments at the household level. In providing water for agriculture and watershed management, an important criteria for allocating reservoirs for irrigation and wadi development will be that at least eighty percent of farmers will be small-holder farmers with 50 to 100 trees.⁴⁰ The project will have a sharp poverty and vulnerability focus in targeting the cisterns, livelihood packages, sanitation facilities and mobile health units to disadvantaged women. Houses will be prioritized and selected for cisterns, livelihood packages and sanitation facilities on the basis of a poverty score. The project will support the construction of rural roads and other social sector services by prioritizing the needs of remote communities

83. The On-farm water management support in El Moghra will be given exclusively to the youth who have established companies for farming and investing in the newly reclaimed lands in the Moghra settlement. A criteria has also been specified for this in detail in the foregoing sections and includes equity within the groups, number of members, first come first serve basis and progress on the ground.

84. A poverty scoring system will be detailed and used to screen participants in project villages. Households will be screened and assigned a poverty score that will be based on the following determinants of poverty and nutrition vulnerability: (i) women-headed household: this will include widows, divorcees and women whose husbands are too ill to earn an income (ii) dependency ratio (iii) education level of women and (iv) distance from existing health unit (v) number of children under five. Beneficiaries will be geo-referenced to promote transparency and accountability. Mobile health units will prioritize clusters of households living over 30 km away from a health unit.

85. **Gender and Targeting Action Plan:** The gender strategy of the project will be sensitive to the specific nature of women's constraints in Matrouh and focus on affirmative action to increase their level of empowerment, well-being and visibility as development actors. The empowerment of women will be ensured through a range of strategies. Targets will be set for women's participation in all key activities with women and women-headed households receiving priority. A gender and targeting action plan will be formulated at the implementation stage by the PMU with implementation partners and reviewed on a yearly basis. The project will be sensitive to arrangements required to enable

⁴⁰ Trees are a better indicator of poverty than land to the highly variable productivity of land.

women/girls to participate – such as arranging literacy, health and nutrition sessions as well as training in fig and olive harvesting at the cluster level given the limitations on women's mobility, providing incentives for mobile health clinics and one-room schools to be staffed by women.

86. The terms of reference for staff and technical experts will include responsibilities for following the gender strategy of the project. The PMU will be required to recruit Women's Programme Specialists at DRC to work at the district level, and a short term Gender Specialist for the PMU on a periodic basis. An NGO with experience in working with women will be recruited for assisting in implementation of project activities targeted at women. The monitoring and evaluation framework will include indicators disaggregated by sex to track the project's performance in promoting women's empowerment in terms of their capacity-building, grant packages and other investments. The Minimum Dietary Diversity for Women (MDDW) tool and key questions from the Women's Empowerment in Agriculture Index (WEAI) will also be incorporated. Any studies undertaken by the project will address gender issues and disaggregate data collection, analysis and findings by gender. A gender assessment of project activities will be conducted prior to the mid-term review. A poverty and gender specialist will be included in the yearly supervision missions, Mid-Term Review and Project Completion Mission.

87. Overall, the project will strongly contribute to the objectives of IFAD's Gender Policy. This includes directly addressing two of the three dimensions: economic empowerment (through the livelihood packages) and reduction of drudgery (through the provision of sanitation/ WASH facilities and water for domestic usage). With regard to promoting representation/ decision-making, based on an in-depth assessment of local contexts and the extremely oppressive conditions at present, it was decided that this will be addressed at a later stage of the project to work through a gradual approach. However, some women's groups will be promoted in the management of the WASH facilities, education and health units, and through the livelihood/ pigeon packages.

88. Self-selection: The project interventions for horticulturists and livestock farmers such as provision of training and extension services, support for cooperatives and companies through training and provision of small equipment will principally be attractive for small-holder horticulturists and small ruminant farmers who have challenges with orchard and livestock management and limited access to training and extension services. Similarly, in the newly reclaimed lands, the project will work with those new settlers who self-select themselves and indicate their commitment to developing the new lands. The project will ensure that the selection of cooperatives and companies will be based on a criterion that measures their commitment and capacity for sustaining project investments. The Project Implementation Manual (PIM) will ensure appropriate phasing of project activities with both the farmer groups, cooperatives and companies in the project area

B. Organizational framework

89. **National Level:** The Ministry of Agriculture and Land Reclamation will be the lead agency responsible for the implementation of the project. The project will have a Project Steering Committee (PSC) at the National Level. It is expected that the MALR will activate the PSC prior to the initiation of operations on the ground. The PSC will have as its members the MALR, the Ministry of Water Resources and Irrigation (MWRI), MIIC, the Ministry of Health, Ministry of Education, Ministry of Environment, ARC, DRC, ECDC and a representative of the Governorate of Matrouh. The PSC will also include as observers, one or two representatives of the Association of the youth farmer companies of El Moghra. The PSC will also include technical resource people to be nominated by the MALR. The PSC will meet at least once a year and provide guidance on key technical and programmatic aspects. The National Project Coordinator will be the Secretary of the PSC. Appendix 5 describes the project implementation arrangements.

90. **Central Project Management Unit:** A Central Project Management Unit will be established in Cairo at the MALR and will assume the overall responsibility for the implementation of the project, on the ground. This PMU will provide the basis for establishing a consolidated approach to programme management for the country programme in the future. The staff in this unit will be competitively

recruited from project resources and work on a full time basis in managing and supervising project activities. The PMU will be staffed with a dedicated National Project Coordinator, financial, procurement, M&E specialists. Short-term technical expertise will be used for cross-cutting issues of poverty and gender targeting, environmental assessment and other technical areas. The best staff available will be recruited for the crucial management roles. IFAD and the IFAD Country Office will follow up with the relevant Ministries (MIIC and MALR) to ensure that these positions are filled as soon as possible after project approval (within 3 months of signing).

91. The Central PMU will supervise project activities being implemented by DRC in the coastal areas and Siwa, which will be implemented by DRC with support from an NGO for the women's activities and government line agencies. The Central PMU will be directly involved in the implementation of the project activities in the newly reclaimed lands in El Moghra in coordination with the Agriculture Research Centre, DRC, the line Ministries and the facilitation and support of ECDC. The PMU will provide quality assurance and monitoring and evaluation and supervision for all project activities.

92. For the settled communities in Matrouh, the project activities will be implemented by the Sustainable Development Resource Centre for Matrouh (SDRCM) of the DRC which has previous experience of managing the World Bank and EU funded projects in the area. The project will use the existing five Extension and Support Units of DRC, its research farms in Siwa at the district level and will establish an additional unit in El Dabaa. These units will be provided operational support for the implementation of project activities. The funds provided under the project are significantly higher than DRC has been receiving from the Government and its capacity for effective utilization will be considerably enhanced under the project. While DRC has a large staff in Matrouh, they have had limited resources to spend from the normal Government budget. Thus the DRC capacity to implement the project, procure and manage the financial resources, monitoring and engaging with women will be enhanced through technical assistance and field support and additional field staff. This will also include environmental, social and climate change specialists to oversee implementation of the ESMF and manage the climate monitoring stations.

93. Based on the skills needed to implement the project in the Matrouh area, DRC will use the following categories of staff; (i) a core team from within the existing DRC pool of 230 staff members; (ii) Additional staff to be competitively recruitment from the market and (iii) part-time staff from among the DRC existing pool. The core staff will work on the project on a full time basis and will be paid from the Government budget. The salaries of additional staff hired for the project will be paid from the project budget. DRC will designate the staff needed by the project from among the DRC existing pool on a part time basis.⁴¹ The part-time staff will have to submit quarterly time sheets for time spent on project activities with a clear indication of tasks undertaken. Government will pay the salaries of the full-time and part-time DRC staff while the project will only cover incentives for them. Appendix 5 gives the details of the positions and the project budget provides for the additional costs of salaries and stipends.

94. An NGO will be competitively recruited to implement the activities targeted at women under the empowerment for nutritional change sub-component. There are a few NGOs which have been active in Matrouh such as Misr El Kheir Foundation, Kenana, etc. Misr El Kheir was created in 2007 and its core programmes including health, education, science technology and innovation, social solidarity and life enhancing skills. The NGO Kenana conducts educational and training programs and offers literacy programmes, health services, and environment awareness seminars. These organizations recognize the importance of empowering women and especially female heads of households. Some of these organizations have emerged as influential grassroots and environment focused NGOs, and a leading advocate for women's rights. In its first year the Central PMU will advertise for the services of a qualified NGO to implement the literacy and nutrition awareness programmes for women.

⁴¹ A tentative list of positions has been given in the detailed budget.

95. The programme for the new lands in El Moghra will be coordinated by the central PMU in Egypt. The Central PMU will work in close collaboration with a host of line agencies for the purpose. The Agriculture Research Centre, DRC, ICBA, FAO, etc., government line agencies and private sector companies can implement project activities based on acceptance of proposals by the Project Steering Committee for access to the funding provided under the project. The PSC will initiate a call for proposals to assist the youth companies in El Moghra and qualify the selected proposals based on a criterion specified in the relevant sections of the report. ICBA is interested in working in El Moghra and has submitted a concept note to ECDC for assessing the potential for bio-saline agriculture. DRC has also indicated its interest in establishing a research centre in Moghra. The local line agencies of Agriculture, Livestock, Health and Education, Roads and bridges will implement activities in El Moghra which can be financed from the project budget under coordination and approval by the Central PMU.

96. ECDC is the main agency responsible for allocation of land to the selected groups. The project has no direct role in the land allocation or titling decisions. The project will only provide the support services after group formation and land allocation to the youth companies. ECDC will facilitate the PRIDE project implementation in the following ways; (i) share the data on the 252 groups of youth and smallholders; (ii) share the Master plan of El Moghra; (iii) shares studies on the water quality and quantity in the wells in El Moghra and (v) use its leverage to facilitate development by other line agencies, the Central Bank and private sector; (vi) provide support to the farmers through access to credit and marketing services that it is arranging for the newly reclaimed lands and (vii) Use its leverage to support the youth groups in Moghra and (viii) mobilise additional funding for Moghra.

C. Planning, M&E, learning and knowledge management

Planning

97. In the first year the project will conduct a Start-up Workshop, with the aim of sensitizing the Central Project Management Unit Team and other potential implementing partners, such as the DRC, ARC, ECDC, ICBA, Association of youth companies and the line Ministries involved in implementing the project about the project objectives and scope. The partners of the project will also be provided an opportunity to learn about IFAD's systems of procurement, financial management, annual work plans and monitoring and evaluation. During this initial period, the Central PMU and the Regional PMU hosted by DRC at the SDRCM will prepare the Project Implementation Manual (PIM), which will specify the implementation modalities and selection criteria and roles and responsibilities for each of the project components. The financial flows, procurement and monitoring and evaluation arrangements will also be identified in the PIM.

98. The Central PMU will prepare an Annual Work Plan and Budget (AWPB) and corresponding procurement plans for the project as a whole. The SDRCM will prepare the work plan and budget for those activities which are part of the DRC's area of responsibility, and the Central PMU will prepare for the El Moghra area in close coordination with potential implementing partners such as ARC, line agencies in the Governorate and ECDC. The PRIDE annual planning will build on existing participatory approaches with local communities which will incorporate local community action plans prepared in collaboration with the local community leaders or the mandoubs and will include all project activities including community rangeland plans, breed improvement and activities focused on women in discussion with the NGO implementing women's programmes.

99. The AWPB will be used as a tool for specifying implementation priorities, identifying the financial and procurement requirements and establishing a work plan with specific targets for the staff and implementing partners. The AWPB will constitute the basis for release of funds and for financial management. The National Project Coordinator in the Central PMU will assume the overall responsibility for the preparation of the AWP/B. He/She will coordinate with all implementing partners for the purpose. The AWPB will be submitted to IFAD for its no-objection prior to its approval and inclusion in the Government budget. Appendix 6 gives some more details of the planning, monitoring and evaluation aspects of the project.

Monitoring and evaluation

100. The Project's Logical Framework provides indicators for Project implementation along with their corresponding means of verification. The M&E system will generate quantitative and qualitative information on the project's performance in a form that will compare physical progress against the planned targets and allow assessment of performance and undertake any remedial action if required. The project will use IFAD's revised RIMS framework to enhance the measurement of IFAD's results at the outcome level. Updated IFAD reporting systems, including the Online Log-frame, currently being developed in IFAD, will be introduced to the project as they are finalised and rolled out (as per IFAD corporate plans, all new projects will eventually feed in their key RIMS and M&E data into the Online Log-Frame). Appendix 6 describes M&E arrangements for the project.

101. The monitoring and evaluation indicators will be disaggregated by gender. The project team will fine-tune the progress, performance and impact indicators of the project at the Start-Up Workshop with support from IFAD. The Project Management Unit will define targets and refine the indicators for subsequent years annually as part of the internal planning processes and build on the experience gained as the project evolves. Part and parcel of the project's M&E system will be the monitoring of environmental and social impacts of project interventions employing indicators identified for this purpose in the project's ESMF. The Project Management Unit will define targets and refine the indicators for subsequent years annually as part of the internal planning processes and build on the experience gained as the project evolves. In addition to the above, the PMU will consider performing annual environmental and social audits aimed at specific areas of concern to the project.

102. The overall responsibility for the M&E activities will be assumed by the National Project Coordinator at the Central PMU who will be assisted by the Monitoring and Evaluation Officers at the national level and the M&E officers at the Governorate level in preparing all progress and monitoring reports. Given the limited capacity for monitoring and evaluation overall in the country, the project will select strong monitoring and evaluation candidates for the Central PMU and further train the M&E staff at DRC who have developed a good system for recording data on the programme beneficiaries. Women officers at the Central PMU, DRC and the NGO implementing the programme for women will be especially tasked with collecting gender disaggregated information, geo-referencing all investments and undertake case studies on the perceptions of women beneficiaries and the impact of the project on them.

103. The Project will be assisted in the development of a **Management Information System (MIS)** with IFAD support. The system will be designed based on the requirements identified in the Logical Framework and in keeping with IFAD RIMS requirements and the guidance provided by the technical divisions of IFAD on M&E. The system will have the capacity to provide gender-disaggregated data on all key indicators. In addition, and in line with recent IFAD corporate priorities, the M&E system will also capture all people-specific indicators disaggregated by age to capture the engagement of youth in the project. With regard to the MIS, NEN will also introduce DRC to the 'NEN Planner', an MIS tool currently being developed in-house to facilitate the management of AWPBs, annual progress reports and RIMS reporting.

104. The Desert Research Centre already has a Geographic Information System (GIS): which will be used to map interventions. The GIS system will be upgraded and an initial GIS survey will be conducted in the first year (with GIS data to be updated through regular monitoring). The overall objectives of the survey and tracking are to: (a) provide an overview of the project, including the various components and interventions; (b) provide synthesized reports and graphical elements (charts and maps) on the various activities of the Programme including investments per community, status of infrastructure completed, (c) provide updates on various project outcomes through the life of the project: geophysical (e.g. land cover, water resources availability, etc.), infrastructure (e.g. schools, health centre, roads, cisterns, reservoirs, etc.), and demography (population, poverty, etc.); and (d) provide objective elements in defining the priority list of areas to be targeted by the Programme.

105. A Third party will be contracted to undertake a Baseline Survey that will be conducted during the first year of the Project. IFAD will provide the PMU and SDRCM guidelines in developing the terms

of reference and the household questionnaire for the baseline survey. Assistance will be sought from IFAD's newly established Strategic Planning and Impact Assessment Division if required. Beneficiary feedback surveys will be conducted in year 3 and end of year 6 through a Third Party to track some intermediate outcomes.

106. A **Mid-Term Review** will be carried out towards the end of the Project's third year. The review will cover: (i) physical and financial progress as measured against AWPBs; (ii) progress in the implementation and emerging outputs and intermediate outcomes of the infrastructure schemes; (iii) assessment of the efficacy of the capacity building activities; (iv) progress in crop and livestock productivity through provision of training and community rangeland plans; (v) participation of women and youth and their perceptions of the project and the emerging outcomes reported by them and (vi) the progress of settlement of the new communities and companies in the newly reclaimed lands.

107. **Final Evaluation:** An independent Final Evaluation will take place three months prior to the Project completion date, and will assess overall project outreach, outcomes and impact. The final evaluation will also review the sustainability of results and the potential for scaling-up. The final evaluation will provide recommendations based on lesson learnt. The Final Impact Assessment will be undertaken by a neutral agency with no previous involvement in project implementation. The Terms of Reference for this evaluation will be prepared by IFAD.

Learning and knowledge management

108. The PRIDE project contains several components expected to provide significant lessons key in the national development agenda of the Government and reflect IFAD corporate priorities. As such, learning and knowledge management will be important in drawing out the lessons from the project to assist the Government with refining its policy and for scaling up the successful elements of the project. Some of the key areas in which the lessons will be important will include the following; (i) development of a comprehensive prototype model for Oases development in Egypt; (ii) ancillary support required to attract and support emerging communities in the 1.5 million feddan initiative to reclaim new lands; (iii) model for community rangeland development; (iv) Attributes of a successful approach to gender-sensitive and nutrition mainstreaming measures; (v) using technology in water quality monitoring, inducing behaviour change and in the MIS system; (vi) Sustainable management of resources in the new lands; (vii) Development of modalities for the development of youth companies in the new lands.

109. The lessons from each of these experiences will be carefully documented by the component lead in the PMU under direct supervision by the NPC. Where required, short-term technical assistance will be used to write up succinct case studies of each of these elements of the project and present them in workshops and shared through technical reports. The project lessons on these aspects will be disseminated to the Government, implementing partners, other development partners in the country and shared with IFAD. The IFAD country office will play a supporting role in assisting the project to organise the sharing events and workshops budgeted as part of the project activities. The lessons will be shared more widely by IFAD through its various tools for sharing the knowledge gleaned from IFAD-supported projects and programmes such as through the use of what is termed as "Learning Routes" to share knowledge transfer among development partners.

D. Financial management, procurement and governance

110. The Borrower/Recipient will open two Designated Accounts (DA) for the loan and grant in US\$ or Euros in the Central Bank of Egypt. Funds will flow from the DAs to correspondent project operating accounts opened in Egyptian Pounds. The PMU Director in the Central PMU and the Ministry of Finance (MOF) Controller assigned to MALR will be authorized to operate these accounts. Funds will be transferred in local currency from the operating accounts managed by CPMU to the operating accounts managed by the Regional PMU at DRC in Matrouh in advance i.e every six months on the basis of the AWP/B. Payments to other service providers such as the NGO implementing the women's empowerment component, the firm implementing the Siwa study and other

agencies implementing the programme in El-Moghra will be paid on the basis of a work plan, progress and payment schedule specified and agreed in their contracts and MOUs with the Central PMU. Appendix 7 outlines the financial management arrangements.

111. The project will adopt accounting procedures and policies consistent with international public sector accounting standard (cash basis). The CPMU will be responsible for consolidation of the project accounts and the financial reporting for all financing sources on a monthly, quarterly, semi-annual and annual basis, and furnish the reports to IFAD on a quarterly basis. Disbursement methods used in PRIDE will include reimbursement, direct payment and replenishment of the DAs. The CPMU will submit timely withdrawal applications to IFAD.

112. Conditions to be met prior to disbursement will include the following: (i) Establishment of CPMU and recruitment of key project staff; (ii) procurement and installation of well-tested web-based accounting software to record all financial transactions at the Central and regional PMU; (iii) preparation of detailed PIM; (iv) preparation of detailed AWPB for the first year of Project implementation and the 18-month Procurement Plan; and (v) opening of the DAs and (vi) designation of persons authorized to sign withdrawal applications electronically through IFAD Client Portal (ICP). Start-up costs will be allocated to meet the related cost of some of the disbursement conditions (i, ii and iii) above. Start-up cost can be withdrawn after the entry into force of financing agreement.

113. **Audit Arrangements.** The Recipient, through the PMU, will appoint an independent auditor acceptable to IFAD, under terms of reference cleared by IFAD. The proposed FMS consultant will help the PMU in preparing the external audit TOR. The contract for the audit will be awarded during the first year of the project and thereafter, extended from one year to the next with the same independent auditor, subject to satisfactory performance and IFAD clearance up to a certain time period. The auditor will give a separate opinion on each account and provide a 'Management Letter' addressing the adequacy or otherwise of the accounting and internal control systems. The Recipient, through the PMU, will submit the above-mentioned certified items to IFAD not later than six months after the end of the fiscal year to which they relate. The external auditor will be changed or rotated every 3-4 years.

114. **Procurement:** The procurement experience of IFAD funded projects in Egypt reveals several challenges as a result of which the projects in the current portfolio have experienced considerable delays in the bidding, evaluation and negotiation sub-processes, and ultimately contract management. Delays in the preparation and finalisation of the bidding documents are caused by various factors, including incomplete terms of reference, inadequate specification of equipment, lack of proper specification of qualification and evaluation criteria, inconsistencies in the use of procurement methods, and low capacity or performance of project procurement staff. There are issues related to the use of the most appropriate shopping method, the evaluation processes are not always consistent with the Merit Point evaluation method being used where the Compliance should have been used or vice versa. As a result, the existing projects in the portfolio have experienced disbursement delays leading to sub-optimal performance. The design of the current project will attempt to put in place some safeguards to ensure that the project does not suffer from similar problems during implementation. This includes reduction of the thresholds during the initial period until the project can demonstrate confidence in its systems and methods.

115. IFAD's procurement guidelines specify that national procurement systems will be used under the conditions that the systems are assessed as satisfactory or better. The Project will adopt the Egypt's Public Procurement Law 89/98, to the extent that it is consistent with the IFAD Procurement Guidelines 2010. National system will be applied to all procurements except the one above the threshold for international competitive bidding (ICB) that will be undertaken according to the World Bank Guidelines. Appendix 8 describes procurement issues and arrangements. The procurement plan for the first 18 months has been prepared and is available.

116. The Central and regional PRIDE PMUs will be responsible to manage and oversee overall Project-related procurement including International Competitive Bidding (ICB), National Competitive Bidding (NCB) procurements and selection of consultants for larger consultancy contracts as well as

National Shopping, though it will require extensive support. The majority of the procurement activities under PRIDE will be small in nature and value, with substantial community participation; relatively few high-value/specialized procurement packages will attract ICB. Rather, most will be within the thresholds of NCB, national shopping (quotations) and community procurement. Appropriate thresholds that can maximize the efficiency of procurement implementation but contain the governance risks will be specified in the Letter to the Borrower (LTB).

117. The Project will contribute to building up the in-house procurement capacity of the Ministry of Agriculture and Land Reclamation and Desert Research Center, instilling best practices and the required approach and methodology, and monitoring the timeliness and quality of the process. IFAD plans an intensive training programme at start-up to familiarise PRIDE staff with IFAD Guidelines. The effectiveness of procurement will be assessed during supervision and alternate arrangements put in place if necessary.

118. Start-up costs. Withdrawals from the IFAD financing in respect of expenditures for procurement related start-up costs incurred before the satisfaction of the general conditions precedent to withdrawal will not exceed an amount of USD 25,000. These funds are intended to cover the recruitment of a consultant for the PMU, who will be dedicated to procurement activities of the PRIDE including: (i) start-up procurement activities, (ii) setting-up of the procurement system and (iii) preparation of the procurement section of the PIM.

E. Supervision

119. The project will be directly supervised by IFAD. The Country Programme Manager and his in-country team will provide on-going implementation support to the project. However, a core team from headquarters will undertake a mission on an annual basis to assess overall management arrangements and performance including financial and procurement aspects and monitoring and evaluation. Based on field team's findings, the CPM and his team will make an overall assessment of the progress, visit the project Governorate and determine the areas requiring implementation support. The participation of Government representatives from MIIC and MALR in the supervision mission will be encouraged.

F. Risk identification and mitigation

120. A risk mitigation matrix has been developed to identify and elaborate on how the threat of some of the potential risks will be managed or mitigated.

Table 2. Project Risk Profile and Mitigation Measures

Risk	Probability of Occurrence	Severity	Risk Mitigation Measures
(i) Delay due to approval and ratification.	Low	Medium	Strong support for the project and commitment by the highest level at the Governorate to expedite approvals and facilitate timely implementation.
(ii) The capacity of DRC to effectively utilize the resources allocated to it.	Low	Medium	The amount of resources allocated to DRC have been kept to a level that is considered is within their capacity to implement. DRC capacity will be strengthened and in addition implementation support through an NGO will be provided for implementing selected activities as well as support of the line agencies for activities within their mandate
(iii) Difficulty of involving women in the extremely conservative traditional social society in the Governorate;	Medium	Medium	Women will be organized at the cluster level and as an incentive and entry point for their participation facilities of high importance for women such as health facilities, schools for girls and integrated nutrition and livelihood packages will be provided.
(iv) Elite capture of the benefits of the project by the tribal leaders;	Low	Low	Strong targeting criteria and strengthening of monitoring and targeting measures.
(vi) The new communities in El Moghra are slow to develop the new lands and make them productive.	Medium	Medium	The project design incorporates support for defraying initial capital investments and facilitate support to the emerging communities. The resources will be reallocated based on progress at Mid-Term.

IV. Project costs, financing, benefits and sustainability

A. Project costs

121. The overall budget of the project is estimated to be USD 81.59 million over a seven-year period. Appendix 9 gives details of the project costs and financing. The phasing of the project over its entire duration is shown in the table below. The cost of Component 1: Climate Resilient Livelihoods will be expected to cost USD 42.535 mn. Component II: Integrated Nutrition-Sensitive Investments will be expected to cost USD 31.520 mn. The cost of project management will be 7.544 mn. Of the total allocation from IFAD sources, USD 57.098 million will be spent on programmes of which DRC will be implementing programmes valued at USD 36.84 million in the rain-fed areas, an NGO will be implementing programmes valued at USD 7.9 mn (14%) while the central PMU will be implementing programmes worth USD 12.35 million (22%) on the newly reclaimed lands.

Table 3. Budget by Component (USD 000)

	Totals Including Contingencies							Total
	2018	2019	2020	2021	2022	2023	2024	
A. Climate Resilient Livelihoods								
1. Water for Agriculture and Watershed Management	3 525	1 613	2 047	2 469	2 657	2 710	2 046	17 066
2. Enhancing Connectivity	408	7 127	7 287	-	-	-	-	14 822
3. Livestock & Rangeland Development	121	565	330	1 317	260	265	245	3 104
4. Crop Production	1 029	2 171	2 714	713	611	305	-	7 543
Subtotal	5 083	11 476	12 378	4 498	3 528	3 281	2 291	42 535
B. Integrated Nutrition Investments								
1. Water for Health	938	2 709	4 242	3 883	2 929	59	-	14 760
2. Nutrition Enhancement & Education	836	739	1 474	1 493	1 524	1 046	519	7 631
3. Social Infrastructure	302	3 978	2 330	1 344	385	391	397	9 129
Subtotal	2 075	7 426	8 047	6 721	4 838	1 495	916	31 520
C. Project Management	2 499	793	1 181	849	833	806	582	7 544
Total PROJECT COSTS	9 658	19 695	21 606	12 069	9 199	5 583	3 790	81 599

122. Given that the rate of settlement on the new lands is uncertain, a review of the progress in the use of the funds will be made during mid-term and the funds re-allocated between the two programme regions depending on which of the pillars of the project are disbursing the allocated funds effectively to meet project objectives.

B. Project financing

123. IFAD will provide a loan of USD 61,871,399 from the Performance Based Allocation System (PBAS) for Egypt for the current financing cycle from 2016 to 2018. In addition, IFAD will provide a grant of USD one million. The Government contribution will be approximately US\$ 13.95 million, of which US\$ 7.6 million will be in-kind contribution⁴² for the use of its staff and facilities in the project area and US\$ 6.35 million will be for income foregone for taxes or in cash contribution to pay the tax component. The rates and amounts of the taxes and duties in the project's costs presented below are defined only to determine the Government contribution and to value the total project cost. Beneficiaries will provide US\$ 4.77 million as their in-kind contribution for labour in selected project activities such as 20% of the cost of cisterns, reservoirs, sanitation facilities, community rangeland development, etc. The proposed financing plan is summarized in Table 4 below.

Table 4. Budget by Financier

	IFAD		IFAD Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Climate Resilient Livelihoods										
1. Water for Agriculture and Watershed Management	15 427	90.4	-	-	1 357	8.0	282	1.7	17 066	20.9
2. Enhancing Connectivity	7 626	51.4	-	-	-	-	7 196	48.6	14 822	18.2
3. Livestock & Rangeland Development	2 615	84.2	-	-	217	7.0	272	8.8	3 104	3.8
4. Crop Production	6 356	84.3	-	-	-	-	1 187	15.7	7 543	9.2
Subtotal	32 023	75.3	-	-	1 574	3.7	8 938	21.0	42 535	52.1
B. Integrated Nutrition Investments										
1. Water for Health	11 962	81.0	-	-	2 670	18.1	128	0.9	14 760	18.1
2. Nutrition Enhancement & Education	6 478	84.9	346	4.5	-	-	806	10.6	7 631	9.4
3. Social Infrastructure	6 289	68.9	-	-	527	5.8	2 313	25.3	9 129	11.2
Subtotal	24 730	78.5	346	1.1	3 196	10.1	3 247	10.3	31 520	38.6
C. Project Management	5 118	67.8	654	8.7	-	-	1 772	23.5	7 544	9.2
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

124. IFAD funding will be used as follows; Component 1: Climate Resilient Livelihoods USD 32.023 million. Component 2: Integrated Nutrition-Sensitive Investments will cost USD 24.730 million and project management and support will cost USD 5.118 million. An analysis of the projected use of IFAD funds by category shows that the largest share of IFAD loan proceeds will be used for civil works (54%), followed by goods, services and inputs (29%). Training and workshops are expected to cost 7%, consultancies, including the Siwa Drainage study are estimated to cost 5%, salaries and allowances 4% and operating costs 2%. strengthening the MIS system.

⁴² In kind-contribution

125. The IFAD grant of USD 1 million will be used for technical assistance, for hiring the services of an NGO for implementing activities related to nutrition and livelihood packages for women, and the development of an MIS system. A division of the budget by categories is given in Table 5 below.

Table 5. Budget by Category

	IFAD		IFAD Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs										
A. Consultancies /a	2 898	66.2	940	21.5	-	-	537	12.3	4 376	5.4
B. Goods & Services	12 685	87.0	60	0.4	217	1.5	1 611	11.1	14 573	17.9
C. Trainings & Workshops /b	4 261	90.8	-	-	-	-	430	9.2	4 691	5.7
D. Civil Works	33 201	71.4	-	-	4 553	9.8	8 723	18.8	46 478	57.0
E. Grants	5 153	100.0	-	-	-	-	-	-	5 153	6.3
Total Investment Costs	58 199	77.3	1 000	1.3	4 770	6.3	11 301	15.0	75 271	92.2
II. Recurrent Costs										
A. Salaries and Allowances	2 610	50.5	-	-	-	-	2 558	49.5	5 167	6.3
B. Operating costs /c	1 063	91.5	-	-	-	-	98	8.5	1 161	1.4
Total Recurrent Costs	3 672	58.0	-	-	-	-	2 656	42.0	6 328	7.8
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

/a It includes Technical assistance and studies
/b It includes meetings
/c including maintenance

C. Summary benefits and economic analysis

126. The benefits expected from the project include both quantitative and qualitative benefits. Appendix 10 gives a detail analysis of the benefits and costs of the project. It is expected that the project will benefit around 36,000 households. This number includes some double counting of households. The project outputs are expected to include the following; (i) reduction in the water deficit in the area by at least 20% or 825,000 cubic meters; (ii); increase in area under agriculture production by 19,000 feddan from the development and rehabilitation of old and new wadis; (iii) provision of 200 kilometres of rural roads; (iv) a comprehensive feasibility study and costed engineering designs for irrigation and drainage for the Siwa Oasis; (v) improvement in the vegetative and regeneration capacity of 90,000 feddan of rangelands; (vi) increase in livestock productivity; (vii) supporting the families in newly reclaimed lands to initiate crops and production activities adapted to desert environments over 42,000 feddans of newlands; (viii) introduction of a range of new technologies to improve the system of water quality monitoring and management; (ix) assist in improving the interaction between research and extension of varieties suitable for desert environments; (x) improved quality of diets for households, especially women and children; (xi) increase in employment opportunities for rural women and youth; (xii) increase in sanitation facilities for 3000 households, access to school facilities for 1000 students annually and health facilities for 15,000 women annually.

Table 6. Project Beneficiaries of PRIDE Project

Estimated no. of beneficiaries by component and activities				
Component 1: Climate Resilient Livelihoods	Notes	HHs	People	Women
<i>Reservoirs for Irrigated Agriculture</i>	500 reservoirs	500	3000	
<i>Wadi Development</i>	1900 feddans	2000	12000	
<i>Feeder Roads /a</i>	250 km	10200	61200	
<i>Rangeland and livestock development</i>		7159	42954	
<i>Horticulture Training</i>		2000	12000	1000
<i>Cooperative Management</i>				
<i>On farm water management (Moghra)</i>		4284	25704	
Component II: Integrated Nutrition Investments				
<i>Domestic Water Supply</i>	845,000 m3	6500	39000	
<i>Nutrition supplementation g Pigeon Towers & Poultry</i>				4000
<i>Nutrition Supplementation (homestead plants)</i>		1000	6000	5000

<i>Income generation</i>				400
<i>Health & Nutrition Awareness</i>		1000	6000	3000
<i>Literacy Classes</i>				2000
<i>Formal Schools</i>	3	1000	6000	330
<i>Multi-grade schools</i>	15			225
<i>Health Units Services</i>	3			22500
<i>Mobile Health Units</i>	5			75000
<i>Sanitation Facilities I</i>		400	2400	3000
Total		36 043	216 258	116 455

/a 150 km of roads are financed by the IFAD loan and 100 km by the GoE.

127. While women will benefit from the activities targeted at the households, they will also benefit from activities directly targeted at them. It is expected that 6500 women will benefit directly from the project packages especially designed for them including potable water, nutrition & livelihood packages, training and literacy classes. The most significant benefit for women will be the availability of potable water at the homestead, which will save them the additional water costs as tankers charge EGP 145 or more for the cost of transporting and purchasing water for each 4 cubic meter. In addition, around 100,000 women and girls will benefit from access to the health and education services over the course of the seven-year period. This number includes double counting especially women who may access health services several times during the course of the project period. Table 6 below gives the overall number of beneficiaries.

128. The benefits of health interventions in terms of Disability adjusted Life Years were difficult to incorporate into the economic analysis due to the complexity of assigning a value to this metric and was not included although the anecdotal data shows that there is a high rate of morbidity and mortality in the region. The cost savings of health expenditures due to reduction in child morbidity alone will be significant but was not calculated due to paucity of specific data.

129. Girls' education has some powerful multiplier properties and there is a strong demonstrated positive association between maternal education, child survival and reduction in fertility rates.⁴³ These generate additional quantifiable benefits in terms of reduction in health expenditures, increased productive investment and reduction in poverty levels. Children born to more educated mothers are more likely to survive and less likely to experience malnutrition. The more educated women are, the more likely they are to have better access to reproductive health and provide better nutrition to their children, all of which reduce the risk of child mortality.⁴⁴ The internal rate of rate for the schools being established by PRIDE was calculated using only the partial returns from the incremental income of high school graduates. This was found to be 21% with a Net Present Value of EGP 28 million. The assumptions used were based on the labour force participation rate of men (48%) and women (18%) and the wage rates used were based on current salary levels incorporating the wage differentials for women.

130. Net Present Value (NPV) and Economic Internal Rate of Return (EIRR). In undertaking the economic analysis the benefits related to (i) crop production especially from figs, olives in the wadis; (ii) agriculture in the newlands which included production of jojoba (iii) livestock production including small ruminants and (iv) pigeon packages (iv) rural roads (v) construction and rehabilitation of homestead cisterns and reservoirs for increasing households' access to drinking water. Appendix 10 elaborates the models used in the financial and economic analysis. The aggregation of these models was phased according to the outreach expected over the life of the project. The Project economic costs were calculated to remove price contingencies, taxes and duties. A discount rate of 10% was used for the economic analysis. The net present value of the Project is positive and amounts to USD

⁴³ Watkins, Kevin. April 2012. When learning saves lives: education and child mortality. Education for All Global Monitoring Report.

⁴⁴ Cohen, 2008; Lewis and Lockheed, 2008; Singh-Manoux et al., 2008.

51 million. The economic internal rate of return is estimated at 20% over a 20 years period. Incorporating the benefits from access to education and health facilities will substantially increase the returns from the investments.

131. Sensitivity Analysis. A sensitivity analysis was conducted to assess the variation of the EIRR and the NPV according to various scenarios. The risks highlighted in the main risk section of the report were included. The sensitivity analysis investigated the effect of fluctuations in project costs, project benefits, and delays in implementation on the NPV and ERR. A sensitivity analysis was conducted to assess the variation of the EIRR and the NPV according to various scenarios. The risks highlighted in the main risk section of the report were included. The Project remains profitable in all scenarios. The switching values were also estimated for the project and the analysis shows that the project will still be feasible if benefits decrease by up to -66% or costs increase by up to +197%.

D. Sustainability

132. There are many aspects that will enhance the sustainability of the project investments such as use of tested techniques for construction of water harvesting and collection of domestic water, the demand-driven and self-selection approach, community contribution in initial capital costs and low cost of operation and maintenance and careful selection of project activities based on need. The technology for making the cisterns was first pioneered by the Romans many centuries earlier. Given the extreme shortage of rain in Matrouh, cisterns and reservoirs are one of the few means of ensuring water supply for domestic use and for supplemental irrigation of crops. There is virtually no maintenance cost involved after their construction.

133. The project ensures the sustainability of the irrigation infrastructure through a two-pronged approach, which establishes a pre-qualification criterion for the investments at the community or company level in the first instance and once the agreement at this collective level has been ensured, individual owners take responsibility for their individual plots. Along the coast, the project management will first ensure that all the claimants of land in a Wadi have reached a consensus on how the land will be allocated and managed along the site for watershed management. Within each plot of land, the responsibility for management will belong to individual households. Previous experience in the coastal areas of Matrouh shows that there is a well-defined system of land ownership, distribution and management which has worked well in ensuring the sustainability of the infrastructure in the watersheds. Each individual household maintains the dikes, water diversion structures and bunds along the contours of the valley bed in his plot of land. In El Moghra, the experiment with the youth groups is new and remains to be tested. However, the project will select those groups who are committed to developing their land and have initiated the initial investments on their plots. The company structure provides an element of cohesion and shared responsibility and the individual shareholders know that they need to work together to succeed. The project will capitalize on this collective spirit and sign a terms of partnership with the youth companies to select those groups who demonstrate a strong commitment to maintain the infrastructure and have a well-developed management plan for the purpose.

134. The roads will be built according to the standards of the Roads Department and maintained by them. The high schools and Health Units will be taken over by the concerned line agencies as soon as they are constructed. Their staffing and operation will be the responsibility of the Government. The mobile health and veterinary services will be managed by the Government line agencies with support from the project.

135. The demand driven nature of the project will further ensure that the project chooses beneficiaries from among those who will value the investments. Thus apart from careful targeting of project beneficiaries, the project will also require a contribution of 20% in kind for most investments either in terms of initial labour contribution. The project will also ensure that the delivery mechanisms used to impart different types of trainings are appropriate for the target group. Thus the timing and location of the training will be carefully planned especially for women to ensure their participation. The training content for the youth will be discussed with them and the potential for employment and self-

employment opportunities available will be assessed. The project's emphasis on building local capacity for services, which the newly established communities in El Moghra will be willing to pay for, will be made prior to training youth in these vocational skills and trades to ensure that their services are valued by communities in the new lands.

136. Further, environmental and social sustainability will be ensured through monitoring and participatory approaches. An ESMF for the project will be developed with regular monitoring. An annotated Table of contents for the framework is at Annex 5. In terms of sustainability of natural resources, the project will be implemented in line with Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction (2011). Appropriate management and utilization of groundwater from the pumps will be integrated into all activities promoted by the project. In addition, the project and the IFAD country team will maintain linkages with the African Development Bank and other donors working on assessing the utilization and sustainability of groundwater resources in project areas and across new lands. With regard to community ownership and grievances, IFAD has developed a Complaints Procedure for "Alleged Non-Compliance with its Social and Environmental Policies and Mandatory Aspects of its Social Environmental and Climate Assessment Procedures". Parties adversely or potentially adversely affected by IFAD-funded projects and programmes may bring issues to existing programme-level grievance redress mechanisms or to the Fund's attention using SECAPcomplaints@ifad.org. Guidance on the steps involved for submitting complaints are given at <https://www.ifad.org/topic/gef/secap/tags>.

Appendix 1: Country and rural context background

1. **Egypt falls in the medium human development category.**⁴⁵ There has been some notable progress in the achievement of the Sustainable Development Goals in the country. Between 1990 and 2015, Egypt's life expectancy at birth increased by 6.7 years. Mean years of schooling increased by 3.6 years, and expected years of schooling increased by 3.3 years. Infant mortality rates have also shown improvements in the past four decades, dropping from 25 to 20.3 in 2015 and child mortality dropped from 28 to 24 in the same period. Between 1990 and 2015, Egypt's HDI value increased from 0.547 to 0.691, an increase of 26.4 percent. This is above the average of 0.631 for countries in the medium human development group, and above the average of 0.687 for the countries classified as the Arab States. Egypt's GNI per capita increased by about 71.5 percent between 1990 and 2015.⁴⁶
2. **Economic Overview:** Egypt is the largest Arab country by population and has the second largest economy in the Arab world. Since 2011, the country has experienced political upheaval and societal unrest that spread across the region and highlighted the unmet aspirations of the population regarding lack of political inclusion and economic opportunities. The subsequent developments in the country have adversely affected the Egyptian economy and people's livelihoods. The internal turmoil has been exacerbated by the instability in the region and has led to a sharp decline in revenue from tourism and reduction in remittance income due to the return of Egyptian labour working in the regional countries. The rising energy crisis in the country has also taken a toll and threatens the growth rate. Economic growth in the past three decades has been moderate and uneven, and insufficient to reduce poverty or absorb the rapidly growing supply of labour. Unemployment remains high, particularly for women and youth. Egypt is rated as a lower middle-income country with a GDP per capita estimated to be around US\$ 3,614 in 2015.⁴⁷ The economy is gradually improving with annual rates of GDP growth reaching 4 percent in 2015/16, up from an average of only 2 percent during the period 2010/11-2013/14.⁴⁸
3. **Currency Devaluation and Inflation:** There has been a consistent attempt by the Central Bank of Egypt to set the exchange rate of the Egyptian Pound at levels which reflect the demand and supply and close the gap in the black market rate which is a key supplier of foreign exchange for those unable to meet their needs at banks. The last two rounds of major devaluations took place in March 2016 and November 2016. In the first round, the Central Bank of Egypt devalued the EGP by 12.6 percent to EGP 8.8 to the dollar and in the second one it has brought the rate down by 74% against the dollar to around EGP 15.35-15.75 to the dollar. The move is designed to attract fresh capital into the country and end a hard currency shortage that has plagued the economy for years. In the free-floating exchange rate regime, the EGP is currently trading at EGP 18 to the USD. To mitigate the impact of the rising inflation due to the devaluation, the Government increased its food subsidy allocation by 20 percent per beneficiary in May 2016.⁴⁹ However, consumer prices in Egypt rose 31.5 percent year-on-year in April of 2017.⁵⁰ Egyptian Pound forecasts are expected to remain more or less stable for the next few years and expected to depreciate by around 5% on an annual basis.⁵¹
4. **Agriculture:** Agriculture is a key sector in the Egyptian economy, providing livelihoods for 55 per cent of the population and directly employing about 23 per cent of the labour force.⁵² Although the sector's contribution to GDP has fallen over time, it still accounts for about 13 per cent of GDP and 20 per cent of total exports and foreign exchange earnings. Agriculture-related industries such as

⁴⁵ Egypt's Progress Towards Achieving the Millennium Development Goals (2010), p. 15.

⁴⁶ UNDP, Human Development Report, The Rise of the South: Human Progress in a Diverse World, Egypt, (2016) www.undp.org/content/dam/rbas/img/docs/Egypt.docx

⁴⁷ https://www.google.com.eg/?gfe_rd=cr&ei=il8mWZXFkrCs8wfT8Z-gAg#q=gni+per+capita+egypt

⁴⁸ http://www.indexmundi.com/egypt/gdp_real_growth_rate.html

⁴⁹ FAO Country Report. August 2016. <http://www.fao.org/giews/countrybrief/country.jsp?code=EGY>

⁵⁰ <http://www.tradingeconomics.com/egypt/inflation-cpi>

⁵¹ <http://www.tradingeconomics.com/egypt/currency/forecast>

⁵² FAO Statistics. 2014

processing and marketing and input supplies account for a further 20 per cent of GDP. Agriculture is important for growth and poverty reduction, as a rise in farm income can drive demand for the large, employment-intensive rural non-farm sector. The area of agricultural land in Egypt is confined to the Nile Valley and delta, with a few oases and some arable land in Sinai. The total cultivated area is 7.2 million feddans, representing only 3 percent of the total land area. The entire crop area is irrigated, except for some rain-fed areas along the Mediterranean coast. Due to its growing population and limitation in cultivated area, Egypt cannot meet its food requirements and is the world's largest wheat importer. Cereal import requirements in the 2016/17 marketing year (July/June) are forecast at around 20.1 million tonnes with wheat imports estimated at 11.5 million tonnes.⁵³ To meet the food requirements, the Government has set the reclamation of new land for agriculture as one of its highest priorities.

5. **Weak farmer organizations and marketing infrastructure:** Smallholders generally lack the mechanisms for integration with markets due to their limited produce, lack of organization or effective cooperatives. The agriculture cooperatives in the country have been used as an administrative mechanism to distribute seeds and fertilizers rather than assist farmers to reduce their transactions costs through collective input supply or marketing. The individualistic nature of Egyptian farmers has also served to inhibit collaboration among them. There is a high degree of variability in prices of agricultural commodities and limited market information. There is a lack of post-harvest, processing and marketing facilities and low levels of agricultural industrialization. The high degree of perishability of horticulture and dairy produce leads to rapid quality deterioration, a consequent reduction in prices and reduces farmer incomes. However, along with these constraints there are also opportunities. Contract farming is becoming more commonplace because of the "supermarket revolution". In some contract farming arrangements, the private sector provides most of the agronomic information in place of extension agents. The Government's experiment of creating Youth and Smallholder companies on the newly reclaimed lands is one measure to help deal with the issue of land fragmentation and encourage collective enterprise. Large private sector investors are interested in engaging in contract farming arrangements with these emerging companies in order to meet the demand for some special crops such as Jojoba on the new lands.

6. **Water Scarcity:** The country has little or no rainfall except in a narrow band along the northern coast. Egypt has an arid climate with an annual average rainfall ranging from 60 to 190 mm along the Mediterranean coast to 25 to 60 mm in the Nile delta, and less than 25 mm in Upper Egypt and its adjacent areas. Scarcity of water is a key constraint to agricultural growth. The Nile River is the main and almost exclusive source of surface water for Egypt. Based on a 1929 agreement, Egypt currently maintains its historic right to three-quarters of the Nile's water or about 55.5 billion cubic meters of the Nile's total flow of roughly 84 billion cubic meters. Per capita fresh water is expected to decline from 711.0 m³ in 2008 to 550 m³ in 2030.⁵⁴ The country is experiencing severe water poverty which is likely to worsen due to population growth and climate change combining to raise the risks of inadequate water supplies and conflict over the available supplies – and further pressure is expected from the increased demand of Nile resources by other members of the Nile Basin Commission.

7. **Sensitivity of agriculture to climate change:** Analysts estimate that the expected rise in temperature will lead to up to 20 per cent decrease in productivity for some major crops (wheat, barley and maize) by 2050. It will reduce the production of livestock and affect the productive potential of many agricultural zones in the country. The marginal agricultural areas will be negatively affected and desertification will increase. High temperatures will increase evaporation and water consumption and put a further strain on the acute water scarcity in the country. A rise in sea levels will have a negative effect on coastal areas, tourism and agricultural land in the Nile Delta region.⁵⁵ Enhanced resilience to climate change will hence have close resonance with responding to water scarcity, increasing land productivity and livelihood diversification. Adaptation measures on the supply-side include ways to improve irrigation techniques and know-how, increased use of water harvesting and watershed

⁵³ FAO Country Report. August 2016. <http://www.fao.org/giews/countrybrief/country.jsp?code=EGY>

⁵⁴ According to Sustainable Agricultural Development Strategy Towards 2030 (SADS, 2009)

⁵⁵ Egyptian Environmental Affairs Agency, 2014.

management in the north coastal zone where there is some rainfall, introduction of drought and salinity tolerant cultivars, introduction of renewable energy alternatives, as well as improving post-harvest facilities.⁵⁶

8. **Poverty:** The Central Agency for Public Mobilization and Statistics (CAPMAS) maintains that Egypt's poverty rate⁵⁷ increased over the year 2012/2013, reaching 26.3 percent compared with 25.2 percent in 2010/2011 and nearly 25 percent live just above the poverty line.⁵⁸ Some 11.9 percent of Egypt's population is in extreme multi-Dimensional Poverty.⁵⁹ In addition, many of the households along the poverty line are highly vulnerable and susceptible to falling back into poverty as a result of a host of factors. Data also shows that there has been an increase in inequality, with the Gini-coefficient rising from 28.7 to 31 between 2005 and 2010.⁶⁰ While more recent data is not available, it is believed that inequality is still on the rise. Unemployment continues to be an overriding concern, especially for youth and women with many of the Egyptians working in the Middle East region returning home because of growing regional instability. Several studies have tried to estimate poverty by Governorate. Due to the difficulty of conducting surveys among the widely scattered population in some Governorates like Matrouh and the New Valley, these studies appear not to reflect the actual situation on the ground and tend to underestimate the poverty and illiteracy rates. Using the percentage of female illiteracy as a proxy indicator of poverty shows with a gender illiteracy rate at 36.3%⁶¹ Due to the difficulty of conducting surveys among the widely scattered population in some Governorates like Matrouh and the New Valley, Matrouh is one of the poorest Governorates ranked at 24 out of the 27 Governorates in the country.

9. **Malnutrition:** Despite Egypt's significant progress in reducing infant and child mortality in the last decades, high levels of child malnutrition still persist across the country. Egypt is one of the 20 countries in the world with the highest number of children suffering from chronic malnutrition. Child malnutrition was deteriorating even at times when Egypt experienced rapid economic growth and, it is expected that the malnutrition status of children will continue to deteriorate if necessary measures are not put in place rapidly.⁶² It is estimated that 22% of children under the age of five are stunted, 13% are low birth weight underweight, and 10% are wasted.⁶³ National averages, however, obscure vast regional differences in under-nutrition prevalence. In recognition of its nutritional challenges, Egypt has developed a 10-year Food and Nutrition Policy and Strategy (2007 – 2017).

CHILD ANTHROPOMETRY

Number of children under 5 affected (000)		
Stunting ^a	2,068	2014
Wasting ^a	881	2014
Overweight ^a	1,456	2014
Percentage of children under 5 affected		
Wasting ^a	10	2014
Severe wasting ^a	5	2014
Overweight ^a	16	2014
Low birth weight ^b	13	2008

Sources: ^a UNICEF/WHO/WB 2015; ^b UNICEF 2015.

⁵⁶ FAO, 2014.

⁵⁷ The extreme poverty limit is an annual EGP 3,570 (US\$ 518) per person, which means approximately EGP 312 per month per person, or EGP 10 (approximately US\$ 1.5) per day per person.

⁵⁸ Central Agency for Public Mobilization and Statistics (CAPMAS). Arab Republic of Egypt, 2012.

⁵⁹ World Food Programme, The Status of Poverty and Food Security in Egypt: Analysis and Policy Recommendations (2013).

⁶⁰ Economic growth, inequality and poverty: social mobility in Egypt between 2005 and 2008, 2009, World Bank, 2010.

⁶¹ Based on the results of a survey of income, expenditure and consumption in 2015. CAPMAS 2016. Page 578.

⁶² UNICEF. https://www.unicef.org/egypt/immunisation_7133.html

⁶³ <http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/129926/filename/130137.pdf>

10. **Gender inequality:** The Constitution of Egypt guarantees equal treatment of all citizens. However, this has not translated into equality of status, assets or opportunities for women. Their marginalization and exclusion from social, economic and political life has led to lower access to education, health, employment and productive resources making them more vulnerable to poverty, food security, ill-health and violence than men. Egypt ranks low on international indicators of gender equity. It had a Gender Inequality Index (GII)⁶⁴ value of 0.60 and a rank of 129 of 142 countries in 2014.⁶⁵ Although indicators relating to women have improved over the years, they still remain large differences between men and women in literacy and schooling, the labour force and unemployment rates, wage differentials and political participation. It is assessed that the deeply entrenched, cultural values, and social class as well as the urban/rural location are factors that affect the situation of Egyptian women, but it is the cultural tradition that most strongly affects their lives. In some areas the situation of women is even worse such as in the tribal structure of Bedouin societies found in the deserts of the country where the traditional norms are still prevalent like in the Matrouh Governorate

Government Policy and Strategy

11. **Sustainable Development Strategy (Vision 2030):** The strategy launched in March 2016 spans over the three dimensions of sustainable development, namely; economic, social and environmental dimensions, and outlines the broader principles which will guide Egypt in pursuing its developmental goals. The strategy envisages focused and strategic investments to areas that have been left behind. The first two milestones of the political roadmap adopted in July 2013 – the ratification of the new Constitution in January 2014 and presidential elections in May 2014 – have been completed. This has returned Egypt to political stability, providing the government with the opportunity to tackle anew the country's economic constraints and to launch far-reaching structural reforms.⁶⁶ The Government has demonstrated strong resolve to deal with the issues of economic development and growth and is committed to pursuing policies for rural growth and poverty alleviation. Egypt's Vision 2030 outlines a well-structured programme to restore macroeconomic imbalances, address social inclusion priorities, and achieve sustainable and diversified growth. The sustainable development plan and budget for FY 2016/2017 are primarily focused on achieving inclusive economic growth, enhancing social justice, and increasing employment rates, particularly among young people.

12. **Sustainable Development Goals:** For Egypt, inclusive and sustainable development is a core constitutional value and objective. The Constitution of Egypt covers economic, social, and environmental dimensions, as well as many of the 17 SDGs in its different articles, presented as national goals, binding all sectors and levels of government, and calling upon different stakeholders to participate in the developmental process towards achieving them. The Government of Egypt has expressed its full commitment to achieving the SDGs. To maintain the momentum for advancing this transformative agenda, and ensure effective institutional mechanisms are installed, an inter-ministerial committee for the follow up on the implementation of the SDGs was established, chaired by the Prime Minister and including all relevant ministries and national entities. The Ministry of International Cooperation has been entrusted with the role of the National Coordinator of the committee. A key priority for the Government has been poverty eradication, addressing inequalities, gender mainstreaming and boosting sustainable economic growth, through decent job creation, sustainable infrastructure, access to adequate and affordable housing, quality health and education, as well as, expanding the use of renewable energy. Women and youth are particularly being targeted under the strategy.⁶⁷ The Central Agency for Public Mobilization and Statistics (CAPMAS) has been tasked with publishing a new study every February to measure the government's progress in implementing the Sustainable Development Goals (SDGs).

⁶⁴ The Gender Inequality Index (GII) reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity.

⁶⁵ <http://reports.weforum.org/global-gender-gap-report-2014/rankings/> World Economic Forum.

⁶⁶ Egypt's Five Year Macro-Economic Framework and Strategy. FY14/15 to FY 18/19. Egypt Economic Development Conference. Sharm El Sheikh. March 2015. Government of Egypt.

⁶⁷ Sahar Nasr. Minister of International Cooperation Arab Republic of Egypt. National Review. Sustainable Development Goals. July 2016. http://moic.gov.eg/MopRep/MIC/English.pdf_915201625622PM.pdf

13. **The Flag Ship 1.5 million Land Reclamation Programme:** Egypt has one of the world's lowest per capita holding of agricultural land. It is annually decreasing as population growth rate greatly exceeds that of the expansion of agricultural land. A corner stone of Government policy is land reclamation aimed at expanding Egypt's farmland by 20%. This project aims to expand Egypt's prospective agricultural land from eight million to 9.5 million feddans or (630,000 hectares). The project aims to reduce the food gap and increase the populated area through the creation of new urban communities. The main objective of this project is to create an integrated society in the reclaimed lands, support economic diversity, the provision of productive and decent job opportunities, and ensuring the participation of all Governorates in achieving inclusive and sustainable growth. The Government has placed special emphasis on developing areas with the potential for land reclamation and has identified 10 potential sites in a three-phase programme. In the first phase, El Moghra, the Toshka region and the Frafra Oases will be developed. A private company named the Egyptian Countryside Development Company (ECDC) or Reef El Masry has been formed with equity participation from the Ministries of Finance, Agriculture and Housing to facilitate the acquisition and allocation of land. The Government is allocating the land to investors, youth and smallholders on payment with partial development in some sites.

Appendix 2: Poverty, targeting and gender

Poverty in Egypt

1. The Central Agency for Public Mobilization and Statistics (CAPMAS) show that Egypt's poverty rate increased over the year 2014/2015, reaching 27.8 percent compared with 25.2 percent in 2010/2011, with extreme poverty reaching 5.3 percent.⁶⁸ The current poverty line stands at an average 482 EGP (about \$54) per month while the extreme poverty line stands at 322 EGP (about \$36). About 56.8% of those living in Upper Egypt's rural areas cannot meet their basic needs, compared to 19.7% in the Nile Delta's rural areas. This applies to roughly a third of people in Upper Egypt's urban areas. Some 11.9 percent of Egypt's population is living in extreme Multi-Dimensional Poverty⁶⁹. There are also high levels of inequality with the poorest 40 percent of the population accessing a mere 22.3 percent of the country's income. The unemployment rate was 13.4 percent in 2014. Nearly half the population is vulnerable to external shocks, especially the rising food prices. The Gini coefficient was reported to be 31 overall in 2010 with 22 in rural areas.⁷⁰

2. Inflation has been one of the key **drivers of rural poverty** in the recent past but there are other structural drivers of poverty, which include lack of adequate public infrastructure, private capital accumulation, and low investment in human capital, the absence of pro-poor programme-based fiscal policy and small size of land-holdings. The annual rate of inflation in consumer prices reached 14.8 per cent in June 2016.⁷¹ The vast majority of landowners in rural Egypt (91%) own less than 3 feddan.⁷² which on its own, with current levels of productivity is insufficient to maintain an average family of 6 members. The lack of access to credit, agricultural extension services and post-harvest facilities, coupled with exploitative marketing mechanisms further contributes to poverty.

3. **Food insecurity** in Egypt remains an issue of household access to food driven by purchasing power. Approximately 74.7 percent households reported rising food prices as the main shock. The consequences of this are negative household coping strategies, particularly a reduction in dietary diversity (35 percent of Egyptians suffer from poor dietary diversity, rising to 58.3 percent for the poor). This increase in food insecurity has been driven largely by rising poverty levels and a succession of crises from 2005 (including the avian influenza epidemic in 2006, the food, fuel and financial crises of 2007–09, further global food prices increases from late 2010 and a challenging macroeconomic context in the wake of the 2011 revolution). CAPMAS's 2011 Household Income, Expenditure and Consumption Survey (HIECS), highlights an increase in the prevalence of food insecurity to 17.2 percent (13.7 million people) in 2011 from 14 percent of the population in 2009.⁷³

Government Policy and Strategies for the Poor

4. Policies aimed at helping households withstand the effects of the financial crisis were not sufficient to prevent an increase in poverty. The crisis revealed that **Egypt does not have a scalable targeted social protection system that could adequately protect the poor and those in danger of falling into poverty.**⁷⁴ During the crisis, Egypt dramatically expanded its subsidized food programme, and increased budget support to subsidize bread. The data show that without this

⁶⁸ The extreme poverty limit is an annual EGP 3,570 (US\$ 518) per person, which means approximately EGP 312 per month per person, or EGP 10 (approximately US\$ 1.5) per day per person).

⁶⁹ WFP, (2013) Status of Poverty and Food Security in Egypt :Analysis and policy Recommendation Preliminary Summary Report

⁷⁰ EDHR, 2010.

⁷¹ Egypt Independent 27 July 2016 - <http://www.egyptindependent.com/news/278-percent-egyptian-population-lives-below-poverty-line-capmas>

⁷² Central Agency for Public Mobilization and Statistics, Statistical Yearbook 2015

⁷³ WFP, 2013, The Status Of Poverty And Food Security In Egypt: Analysis And Policy Recommendations

⁷⁴ World Bank, Social and Economic Development Group Middle East and North Africa Region, Report No. 60249-EG, "Arab Republic of Egypt Poverty in Egypt 2008-09:Withstanding the Global Economic Crisis" (June 17, 2011) <https://openknowledge.worldbank.org/bitstream/handle/10986/12551/602490ESW0P1180osed0May0230201200EG.pdf?sequence=1>

expansion, the poverty incidence will have been at least 3 percent higher. However, the increased support was not well targeted and was costly (at least 1 percent of GDP). Cash social assistance programmes were also expanded and helped some of the poor to avoid extreme poverty, but they remained too small to have a visible effect on national averages.

5. In recognition of its **nutritional challenges**, Egypt has developed a 10-year Food and Nutrition Policy and Strategy (2007 – 2017). Egypt is confronted by the double challenge of malnutrition and malnutrition-obesity. **The prevalence of stunting in Egypt is 21.4 percent making it one of the 20 high-burden countries of the world**⁷⁵. Egypt's nutritional challenges can be classified into two broad categories: maternal, infants and young children, youth and young adults. The causes of nutrition problems in Egypt are a function of many factors: most households are food insecure because of low income, high food prices and low local agricultural production, in addition to poor dietary practices due to lack of awareness, inadequate health advice, adoption of Western diets high in refined carbohydrates, saturated fats and sugars, as well as a more sedentary lifestyle. These are commonly cited as the major contributors to the increase in overweight and chronic diseases. There are also the problems of environmental pollution and food safety challenges due to lack of enforcement of existing laws. There is an overarching health system challenge that derives from uncoordinated and disjointed planning of nutrition activities; often leading to sub-optimal use of resources and impact on nutrition status⁷⁶. (see Annex 1 on Status of Nutrition in Egypt).

Gender Inequality in Egypt

6. Although the Constitution of Egypt guarantees equal treatment of all citizens, this does not translate into equality of status, opportunities and access and control over resources for women. **Gender inequality persists, directly undermining the country's socio-economic progress**. Egypt ranks low on international indicators of gender equity. It has a Gender Inequality Index (GII) value of 0.57, ranking it 135 out of 188 countries in the 2015 index. In Egypt, 2.2 percent of parliamentary seats are held by women, and 54.5 percent of adult women have reached a secondary or higher level of education, compared to 68.2 percent men. For every 100,000 live births, 33 women die from pregnancy related causes; and the adolescent fertility rate is 51.9 births per 1000 live births. Women's participation in the labour market is 22.8 percent compared to 76.1 for men, marking a very large disparity⁷⁷. Cultural norms and customary practices are compelling determinants of social and familial attitudes that influence the position and condition of women resulting in their marginalization and exclusion from social, economic and political life. Women's lower access to education, health, employment, income, and productive resources makes them more vulnerable to poverty than men. Labour statistics commonly under-estimate women's labour force participation as they do not take into account their high engagement in the informal sector or in home-based activities. A defining characteristic of women's employment is the gender-based differential in remuneration: male wages are higher both in rural and urban areas with women estimated to earn the equivalent of 26% of men's income⁷⁸.

7. **Women in rural Egypt face greater deprivation along several axes compared to their urban counterparts**. Rural women do most of the agricultural work. Of the 53% of the working population engaged in the agricultural sector, 79.78% are comprised of female workers, compared to 39.62% for males. Around 42% of employed women are unpaid workers in agriculture, 35% are self-employed, and only 3% are agricultural wage earners. Gender disparities are also more pronounced in rural areas. For example, larger differences exist between poor girls and boys compared to non-poor girls and boys, where 19% of poor girls in rural areas are not enrolled in school, as opposed to 13% for poor boys (for the non-poor, the corresponding figures are 7% and 6%, respectively)⁷⁹.

⁷⁵ WHO Indicators 2017

⁷⁶ UNICEF, Egypt Nutrition Landscape Analysis Report 2012.

⁷⁷ The Gender Inequality Index (GII) reflects gender-based inequalities in three dimensions – reproductive health, empowerment, and economic activity. - <http://hdr.undp.org/en/composite/GII>

⁷⁸ UNDP, Egypt Human Development Report, 2008

⁷⁹ UNDP, Arab Development Challenges Report 2011,

However, total percentage of employment in agriculture has fallen to 25.84 (2015) percent, with women's participation to 43.22 percent (2014)⁸⁰.

8. The **burden of unemployment in Egypt falls particularly on young women** and the more highly educated. According to recent CAPMAS statistics (2015), 24 percent women were reported to be unemployed, in comparison to 9 percent men, and 9.6 percent are illiterate. The unemployment rate of **young** females is more than five times that of young males (38.1 per cent versus 6.8 per cent). The unemployment-to-population ratio is 11.9 per cent among female youth compared to 5.2 per cent among male youth.⁸¹ Gender disparity is key to understanding the situation of youth in the Egyptian labour market. Despite significant strides in reducing the gender gap in education in Egypt, young women are much more likely to fall in the Neither in Education Employment or Training (NEET) category than young men (49.5 per cent and 9.3 per cent, respectively). More young working women than men are unpaid family workers. Almost one-third of female working youth (28.9 per cent) are unpaid family workers compared to 14.2 per cent of male working youth.

Youth in Egypt

9. **Egypt's population of over 95⁸² million has a high proportion of young people.** As much as 31 percent of Egypt's population in 2014 was dependent with 27 million children under the age of 15 years, and another 30 percent between the ages of 15 and 30 years (25.7 million youth)⁸³. In Egypt, overall 40.7 percent of young people are in the NEET category. 43.8 percent of the men age 24–29 in this category hold a university degree, yet their qualifications seem insufficient for existing job opportunities. The NEET phenomenon is not gender neutral and disproportionately affects women: two out of three young women in rural Egypt (69.7 percent) and more than half of the female youth in urban areas (60.4 percent) are NEET. In contrast, only one out of eight young men in urban areas (13.2 percent) and a tenth of young men in rural Egypt (10.5 percent) are NEET.⁸⁴ If the increase in the number of working-age youth contributes to productive activities in their societies, the youth bulge can be used to yield a demographic dividend. However, if a large group of youth cannot find good jobs and obtain a satisfactory income, then the youth bulge could become a potential source of social and political unrest.⁸⁵

Target Area

10. The Governorate of Matrouh is one of the largest in Egypt in terms of area. Matrouh is sub-divided into eight districts (marakiz) and 56 villages. Only part of the two of the six districts, Al Hammam and Al Alamein are irrigated. The rest of the districts are arid and dependent on rainfall. An updated poverty rate for Matrouh Governorate is not available. Poverty rates and other statistics for Frontier Governorates are often aggregated due to the low percentage of population living in these areas and the challenges of collecting data from scattered populations living in the desert. The extreme multi-dimensional poverty rate for rural areas in the Frontier Governorates is 25 percent, well above the national average of 11.9 percent.⁸⁶ The Frontier Governorates also have the highest percentage of households without toilet facilities in the country. An indication of the poverty and deprivation in this area relative to other governorates is provided by the following statistics from the Egypt Demographic and Health Survey (EDHS), despite the urban bias in the sample size for Matrouh (70 per cent urban to 30 percent rural). Matrouh has 37.9 per cent of its population living in the lowest wealth quintile, only Sohag and Minya have a higher percentage. It has the highest rate of illiteracy

⁸⁰ World Bank, Data Bank : Egypt 2017.

⁸¹ Ghada Barsoum, Mohamed Ramadan and Mona Mostafa 2014, Labour market transitions of young women and men in Egypt (ILO funded study)

⁸² <http://www.worldometers.info/world-population/egypt-population/>

⁸³ Central Agency for Public Mobilization and Statistics, Statistical Yearbook 2015

⁸⁴ World Bank Quick Notes Series (December 2016), Egypt's Youth Outside Work And Education

⁸⁵ World Bank (2011). World Development Report 2011: Conflict, Security, and Development. Washington, DC.

⁸⁶ WFP, (2013) Status of Poverty and Food Security in Egypt :Analysis and policy Recommendation Preliminary Summary Report

among women (43.9%), the highest TFR of all governorates at 4.8, and the third highest percentage of teenage pregnancies. It has the lowest percentage of mothers receiving antenatal checkups at 59.9 percent – 10 percent below the governorate with the second lowest percentage.⁸⁷

11. The Bedouin community in the coastal areas of the Governorate of Matrouh has been neglected for many years. The settlement of the nomadic herders in an area that has between 50 to 150 millimeters of rainfall and is chronically water deficit has put increasing pressure on the land, water and vegetative resources. Most of the rural population is dependent on the dwindling natural resource base with few opportunities for off-farm employment. While livestock represents the main source of income there has been a rapid decline in numbers due to the degradation of the rangelands and limited water for fodder production. Since the settlement of the population and its transformation into a sedentary community, the livestock holding capacity has been significantly reduced from about one million animals to around 500,000.⁸⁸ Field visits by the IFAD Mission to several settlements confirmed that the rural population was in fact living in conditions of extreme multi-dimensional poverty with very limited access to basic social sector services like domestic water supply, sanitation, health, education, electricity or transport exacerbated by the scattered nature of the settlements.

12. Al Moghra in Al-Alamein will also be a target area for the project. Al Moghra is desert land which is part of 1.5 million feddan land reclamation scheme of the Government of Egypt. Due to prolonged period of droughts and the degradation of the natural vegetation, part of this land which was at one time used as range lands, was no longer in use. The Bedouins who used this land at one time, no longer live there and are dispersed in the adjoining Governorates. Since the last five or six years, pioneering private sector companies in search of scarce agricultural land moved into this area. Private sector investment in the area relied on Law 143, enacted in 1981 to grant security of tenure to individuals and companies provided they can demonstrate that they have been farming uninhabited desert lands. Their entry into Moghra was facilitated by the six Bedouin tribes who assert traditional usufruct right to this land⁸⁹. Currently, 22 investor companies have 'bought' usufruct rights on around 27,000 feddans⁹⁰ by paying the Bedouin chiefs for security. The tribes in turn ensure that there are no competing claims on the lands granted to them. These companies have capitalized upon the availability of water at shallow depths to undertake agriculture production. The salinity levels in the water range between 2000 to 8000 ppm but are suitable for a range of salt tolerant crops such as jojoba, pomegranate, olives and selected fodder varieties.

13. The private sector interest in the area is driven by high demand for Jojoba oil. The traders in Europe and the Far East were reluctant to deal with companies with smallholdings and wanted to engage primarily with companies with large productive potential. This has led to a massive spurt in growth in the area. The levels of production of Jojoba seed required for participating in the international market has translated into a keen interest in the youth farmers who are viewed as potential producers of Jojoba and providers of labour. The companies in the area have established Jojoba plantations and many of the areas have begun Jojoba oil production. These companies are counting on the existing law and expecting that their ownership will be regularized by ECDC as part of the 1.5 million feddan project. Currently, the companies are in the process of acquiring legal ownership and are in negotiation with the Government.

Target Groups

14. The primary target group of PRIDE in Matrouh Governorate will be women and men who are poor small-holder livestock farmers, poor small-holder horticulturists, principally growing figs and olives rearing livestock along the coastal areas. In Al Moghra, the primary target group will be youth companies who are being granted ownership rights by ECDC. In Matrouh Governorate, 70 to 85

⁸⁷ Ministry of Health and Population (2015), Egypt Demographic Health Survey, 2014

⁸⁸ Government of Matrouh and the Database of the Desert Research Centre. November, 2016

⁸⁹ ECDC claims that all land belongs to the Government and contests the claims of the Bedouin.

⁹⁰ ECDC claims that the actual land which is being farmed is less than half of this area.

percent of livestock farmers have herds of up to 50 animals.⁹¹ In Siwa Oasis, ninety percent of the farmers are smallholders owning ½ to 2 feddan. Seventy-five per cent have less than five small ruminants and a few have cows.⁹² In Al Moghra, youth and small farmer companies jointly own a parcel of 238 feddan of reclaimed land in joint ownership. These groups can have up to 23 shareholders with a minimum shareholding of 10 feddan each. ECDC has already selected 140 youth companies and will select another 112 for the new lands in Al Moghra.

15. **Smallholder semi-nomadic livestock farmers:** The project will focus on farmers living in the rangeland belt 15-50 km inland from the coast. The Bedouins living in the rangeland usually own some family land in the 1 to 2 km radius around the household clusters they live in. The level of education among these farmers is typically low. Some are not literate, others have attended primary school with few studying up to the preparatory level (12th grade). Women's education is limited to primary and illiteracy is high. Household sizes tend to be large. Although official sources maintain the average size of household is 6, anecdotal evidence shows larger households with typically three to five families living together in one housing unit.

16. Livestock is their principal source of income, food security and their safety net. The poor livestock farmers the project will be engaging with will have from 50 – 100 small ruminants, goats and sheep, and may own some poultry and pigeons. These farmers graze their small ruminants on family owned and communal rangeland. Due to deterioration of the rangeland and frequent droughts, the farmers, often under pressure, have to move to a semi-intensive system and purchase feed for their livestock. Marketing of livestock is not a problem and there is ready access to the weekly district livestock markets. Some of these farmers also engage in daily wage labour to supplement the family income. The critical challenges they face include scarcity and cost of fodder due to the degradation of the rangelands, scarcity of water, low productivity of livestock due to poor feeding, inbreeding and poor management practices, inability to afford feed, lack of access and cost of veterinary care as well as lack of access to formal credit. Loans with interest are considered haram (strictly forbidden in Islam).

17. Women are involved in looking after livestock – cleaning, feeding and milking – when the livestock is around the homestead. There is no strong tradition of processing the milk of small ruminants beyond some yogurt for household consumption. Women are involved in raising pigeons, ducks and poultry, if the household can afford it. This is used mainly for home consumption but can be a source of income for women as the proceeds from selling eggs and poultry are considered women's income even when sold through the men. The project will benefit these farmer households through providing incentives and support for rangeland management, support to grow perennial fodder intercropped with barley, cisterns and reservoirs for households and livestock, a breeding programme to provide high quality rams and mobile veterinary clinics for improved animal healthcare.

18. **Small-holder horticulturist farmers:** The project will also engage with small holder horticulturists who have up to 100 trees with some livestock and will be mainly located in the narrow coastal strip, about 5 km inland which has good alluvial soils and horticulture is the main farming activity. The farmers rear livestock and grow barley in the mixed production strip, 5-15 km inland which has lower rainfall and soil quality, and practise a mixed farming system in the wadis. Most of the agricultural tasks are performed by men but women are involved in harvesting crops and fruits. In Matrouh, their main constraints are availability of water, post-harvest losses, lack of access to storage, grading and processing facilities. The project will be providing these farmers with training on orchard management, post-harvest and marketing, increased availability of water through cisterns and reservoirs and access to extension services. In Siwa, the main constraints include excessive salinity, water-logging and inappropriate irrigation management which have led to high tree mortality in many areas, threatening the age old agriculture in the area. The project will undertake a study on the

⁹¹ Andrea Pape-Christiansen. 2000. Impact assessment of rangelands improvement activities in the Matrouh Resource Management Project. Consultancy Report

⁹² Based on community dialogues and consultations with DRC staff

irrigation and drainage problems of Siwa and help to disseminate information on crops suitable for desert environments through the DRC research station.

19. **Women:** In the project area, the hierarchical and patriarchal tribal structure of the Bedouin, as well as the distinct customs of the Berber people in Siwa puts women at a much greater disadvantage compared to many other parts of the country. Women are virtually incarcerated in the homestead. The strict codes which women have to observe limit their access to resources, limit their mobility and access to health and education services with few opportunities for productive employment. Bedouin settlements comprise scattered clusters of houses (5–25 in each cluster) which may or may not be connected by roads. The access to basic services such as schools and health units is limited both by their availability, cultural norms and the cost of accessing the facilities.

20. Young girls are often deprived of even a basic education. This is essentially due to two factors. One, the non-availability of schools within 2-3 kilometres requires arrangement of transport in communities which are poor and do not prioritize girls education. Two, primary schools are staffed by the government with male teachers for remote areas and, due to cultural restrictions in the majority of the communities, a girl after puberty is not allowed to be taught by a male teacher. Similarly, the non-availability of health units within walking distance limits access. Communities can be as much as 50 km from a health unit. Poverty, scarcity of water, lack of access to basic health and education services, limited access to markets, a harsh desert environment which limits food diversity coupled with cultural restrictions on women and girls lead to poor health outcomes and malnourishment.

21. During field visits, women and children's health in the rangeland belt of Saloum and Ras El Hikmah was observed to be poor. Children and women appeared malnourished and older women were suffering from obesity and diseases. Women reported rice, bread, lentils and beans to be their staple food with some vegetables and fruit. Chicken was at best eaten once a week and mutton only during the Eid festivals. Pigeons are an important source of protein for those who can afford to keep pigeon towers. The scarcity of water and sanitation arrangements appears to have a greater impact on women and children's health as they are essentially confined to the homestead. In the districts of Matrouh, with some exceptions, where women are involved in some handicrafts but income generating activities are mostly limited to sewing tents, some income from poultry and working as agricultural labour during the harvesting season.

22. During field visits in Saloum, Ras El Hikmah and Siwa, women reported that deliveries mostly took place at home with a woman in the cluster acting as the midwife. Antenatal visits were rare. There was a strong tradition of breastfeeding children anywhere from 9 months to 2 years. However, if a woman became pregnant, breast-feeding was stopped. The age at which infants were provided with solid food varied from 6 months to 2 years.

23. In Siwa oasis, women and children access to health, education and food is better compared to women living in the desert belt. There is a stronger tradition of sending girls to school and girls were attending up to grade 9, even if the school was co-educational. Girls have greater mobility and fewer restrictions before they are married, unlike girls in the rangeland belt, however as soon as they are married, the norms become as restrictive as elsewhere in Matrouh. However, transport costs, ancillary expenses and cultural restrictions limited the access of girls to secondary school (Grade 11 and 12). Unmarried girls were allowed to access training in sewing and handicrafts as long as it was in women only groups. However, once a girl gets married, much higher levels of restrictions come into force. There was a village in Siwa, Ain Safi, where it was reported that both married and unmarried women could work outside the home. Community-based NGOs that have the confidence of the community were able to provide training to married girls and women. During field visits, women and children appeared to be healthier than those in the desert belt with women reporting higher intakes of vegetables, fruits and meat (fish, chicken and sheep/ goat organs). Although women in Siwa are also confined to the homestead, denser population leads to greater interaction with other women and women are engaged in several livelihood activities such as basket weaving, making clay ovens, date-honey, silver jewellery etc. During the early part of the project implementation, socio-economic

characteristics, vulnerabilities, assets and livelihoods with constraints and opportunities of different groups of women/girls will be collected and gender mainstreaming activities based on this analysis.

24. **The project will support women by increasing their well-being, their nutritional status and promoting their dignity.** It will help save women's time and labour as well as have a beneficial impact on their health by building cisterns to increase the availability of water. Women will be provided with livelihood packages (poultry, pigeons and goat⁹³) as well as support for income generating activities to help them improve their own and their families' nutritional status. Another intervention to promote improved nutrition will be the introduction of the Moringa tree which has multiple health benefits. Mobile health units with women staff will be provided through the Department of Health to women living in remote areas. A critical intervention to promote the health and dignity of women will be the provision of sanitation facilities. Nutrition and health awareness sessions as well as literacy sessions will be provided for women and the access of children, particularly girls, to primary education will be addressed through providing multi-grade one-room classrooms. Girls and boys would also be provided with access to formal education through the establishment of three formal schools up to preparatory (Grade 9) with the objective of particularly increasing the number of girls receiving an education beyond primary.

25. It should also be borne in mind that the project will recruit gender specialists both at the level of the central PMU and the field PMU. This will ensure that all gender constraints are addressed and specific strategies are implemented to enhance empowerment/ gender mainstreaming.

26. **Youth:** Education and livelihood opportunities for young men and women are limited, with young women facing severe restrictions. In the rural areas, young men can be non-literate or have low levels of schooling. Girls, especially in the rangeland belt, are much more likely to be non-literate and at best have completed primary school. Young men are involved in the agriculture sector and are under-employed or unemployed. The local tourism industry in the coastal area has been growing but can offer employment for only two-to three months in the year. Some young men seek employment as casual wage labourers in other governorates for three to four months in the year to supplement family income. Young women face the challenge of early marriage, multiple pregnancies and highly restricted mobility. However, there are instances of women breaking through the glass ceiling, graduating from university and working with NGOs and government institutions such as DRC.

27. The project will provide young men with training in orchard management and livestock management, employ young men as veterinary doctors for the mobile clinics and provide vocational training for young men to become electricians, plumbers, carpenters, technicians in drip irrigation, etc with the potential for employment with Investors or companies on new lands. Young women will benefit from all the packages for empowering women for nutritional change and increased access to health services through the establishment of Health Units and Mobile Health Clinics. Young women will also receive training in fig and olive harvesting through demonstration on special packages developed for display on tablets. In addition, the project will provide employment opportunities for local young women who have broken through the cultural restrictions as Women Development officers.

28. **Small holder and youth farmers in newly reclaimed lands in AL-Moghra:** The project will support the small-holder farmers and youth companies in the newly reclaimed lands in Moghra in the Governorate of Matrouh. The Government of Egypt has allocated 60,000 feddan in parcels of 238 feddan of reclaimed land to 252 youth and smallholder farmer groups. The eligibility criteria are as follows: (i) groups of 10 to 23 youth and smallholder farmers form a company (age 21 and above) (ii) at least one shareholder has experience in agriculture and one to is a graduate (iii) share-holders participate in a training programme (iv) minimum share in the company is 2 per cent or 10 feddans. Currently the price per feddan in Morgah is LE 18,000. The shareholders of youth and farmer companies are required to deposit 25% of the cost of the land in the company LE 1,071,000 (\$59,500) upfront. However, 5% of this has to be paid with the application for land, 10% on possession. The rest

⁹³ Only in Siwa oasis where alfalfa is increasingly cultivated and goats can easily graze.

has to be paid over six years after a two year grace period. The youth companies are expected to take possession and begin work on these lands by August-September, 2017.

29. The mission met with some of the shareholders in these youth companies. These young men and women come from diverse backgrounds ranging from school and university teachers, entrepreneurs with small businesses, smallholder farmers. Some were currently unemployed. These young men and women were under 30 years old and their investments in these companies had been made by either selling a small piece of land, selling the family home or savings from a small business or employment in the country or in the Gulf States. The mission was informed that between ten to twenty percent of the shareholders of these companies are women. These young men and women have limited resources and are counting on support in several areas to develop the land. ECDC has dug a well for each parcel of land and is in the process of creating a master plan for this area. ECDC plans to provide roads, access to basic services, electricity and access to loans. However, basic services and timeframes for the provision of these services have to be negotiated with other government departments. These groups will be supported by the project with training in on-farm sustainable water management, suitable agricultural activities, vocational training for youth, roads, desalinization plant and social infrastructure such as schools and health units.

Targeting Strategy

30. **Project Target Group:** There are estimated to be 41,589 rural households in the proposed project area.⁹⁴ The project will target these households based on an approach and strategy outlined below.

Table 2.1. Potential Target Group⁹⁵

	Total Rural	HHs	Communities
Marsa Matrouh	56,185	9,364	17
El Dabaa	48,723	8,121	5
El Negila	25,705	4,284	6
Barrani	46,896	7,816	7
El Saloum	17,990	2,998	8
Siwa	28,329	4,722	
El Moghra	21,420	4,284	252
Total	245,248	41,589	

31. **Poverty Targeting Approach:** PRIDE will help to build the resilience of poor rural households to the harsh climate conditions in the Matrouh Governorate by improving their productive capacities, assist communities to enhance the productive potential of the newly reclaimed lands and assisting women from poor households to improve their nutritional and socio-economic profile thus helping Egypt in meeting its Sustainable Development Goals. There is a strong focus in the current project on women with respect to improving their access to better diets, water, sanitation, health and education facilities. These will be included due to IFAD's strong commitment to 'inclusive and sustainable rural transformation' so that extreme poverty is eliminated and every rural family lives in dignity. For IFAD nutrition is a key focus area and its Nutrition Action Plan is designed to promote the equality and empowerment of women in ways that help them improve nutrition for themselves, their children and

⁹⁴ CAPMAS figures on the rural population are considered highly underestimated by key stakeholders such as the Governor of Matrouh, NGOs working in the area and DRC. The census was last conducted in 2006 and is being conducted again this year. The challenge of collecting data from scattered populations in the desert possibly drives this underestimation.

⁹⁵ There are 252 groups in El Moghra each with an average of 17 households as indicated by ECDC. In addition, there are Bedouin families and youth in El Alamein and surrounding areas who could benefit from opportunities for employment on the new lands. These numbers will be confirmed during final design.

their families. These commitments require investing in literacy, education and sanitation as improving nutrition requires cross-sectoral investments.

32. **Geographical Targeting:** The project will be implemented in the rural areas of six districts (marakiz) of Matrouh Governorate: Marsa Matrouh, El Negila, El Barrani, El Saloum, El Dabaa, Siwa and in Mograh settlement in Alamein in the 60,000 feddan of newly reclaimed lands. The Project will be working with the 43 communities identified to be living in 40 villages in these areas. Project benefits will be equitably distributed between these communities based on a range of criteria including poverty, population, relative remoteness, etc. The two poorest districts, El Saloum and El Nigela will receive 25 percent each of the cisterns, latrines, nutrition and livelihood packages and literacy classes. One hundred nutrition and livelihood packages and 400 handicraft packages have been reserved for Siwa Oasis. Within the project area, the project will plot and geo-reference the household clusters which will constitute the units for planning interventions for women given that women's mobility is restricted to these clusters. The project will also plot the existing cisterns and sanitation facilities in the homestead to support transparent targeting. The budget for Mograh has been separately earmarked.

33. **Self-selection:** The project interventions for horticulturists and livestock farmers such as provision of training and extension services, will principally be attractive for small-holder horticulturists and ruminant farmers who have challenges with orchard and livestock management and limited access to training and extension services.

34. **Direct targeting:** The project will have a sharp poverty and vulnerability focus in targeting the cisterns⁹⁶, livelihood packages, sanitation facilities, multi-grade classrooms, mobile health units to disadvantaged women and girls. DRC and the implementing NGOs will take a number of steps to ensure that these beneficiaries are identified in a fair and transparent manner. Community meetings will be held in the project with representatives from each household to inform households about project interventions and criteria for selection. Google earth will be used to plot the clusters of households in a given area and the cisterns, pigeon towers and latrines that already been provided through other projects will be pinpointed on this map and submitted to the PMU. All project interventions will be geo-referenced. During a visit to a cluster, the M&E team will hold a meeting with men and women separately to ascertain that all the households that meet the selection criteria specified by the project in a given community are included. Each beneficiary will be visited, verified and geo-referenced by DRC's / NGOs M&E team (men and women). Beneficiary data will be entered in the project's MIS with their geo-coordinates. Over the course of the project the M&E team will visit each household cluster to collect geo-reference baseline data on the poorest and poor households.

35. The poorest houses will be prioritized. In all communities, the poorest households, essentially those considered eligible for zakat, will be identified according to the following criteria and served first: (i) women-headed (this includes women who are single, divorced or widowed as well as households in which adult men are unable to earn due to age or any kind of disability) (ii) households with no land and no livestock (iii) households with no member employed (this does not include women's engagement in handicraft or casual wage labour.)

36. Once all the poorest women in the area have been served, in each district, DRC/NGO will target the number of clusters across communities in the districts of Marsa Matrouh, El Negila, El Barrani, El Saloum, El Dabaa that are over 30 km inland and have poor access to water sanitation and health. These will be ranked by remoteness with the most remote receiving top-priority for homestead cisterns, nutrition and livelihood packages. The following scoring system will be used to rank beneficiaries:

Table 2.2 Scoring Criteria for Ranking Households

⁹⁶ In the case of cisterns, selection will take place on the basis of socio-economic criteria but the final allocation is based on the type of soil and rock formation, the characteristics and extent of the water catchment area, the topography and characteristics of the landscape. DRC will determine whether to construct a cistern (rocky soil) or reservoir (soft soil), the use of instruments/ tools for construction, etc. Contributions from the beneficiaries are only in terms of labour (opening of the aperture), ensuring that poorer HHs also have the capacity to construct cisterns/ reservoirs.

Indicator	Score
Ownership of livestock (Number)	
None	10
20 or less	8
50 or less	5
Over 50	3
Number of under-five children	
Over 5	10
Up to 5	5
None	3
Ownership of Productive Land (Feddan)	
Under 5 feddan	10
Between 5.1 to 10	5
Over 10 feddan	3
Off-Farm Employment (Number Employed Off-Farm Full Time)	
None	10
Between 1 and 2	5
Above 2	3
Disability	
More than 1	10
None	3

37. Beneficiaries will be given priority based on the score they receive in descending order. Those with the highest score will get the service first. All households in a given household cluster who meet the criteria will be served to promote fairness and social cohesion. In case there are sufficient resources left to serve more women, after the women in clusters in the over 30 km inland belt have been served, clusters in the 20 to 30 km belt.

38. Multi-grade schools will be established for household clusters that do not have access to one. Women teachers will be paid special incentives to increase the number and duration for which girls remain in school. Most multi-grade schools currently have male teachers as hiring women teachers entails higher expenditures since special incentives and transportation have to be provided. Mobile and stationary health units will only be provided if the Department of Health commits to providing women staff.

39. In providing water for agriculture and watershed management, an important criteria for reservoirs for irrigation and wadi development will be that at least eighty percent of farmers will be small-holder farmers with 50 to 100 trees.⁹⁷ The desalinization plants and on-farm water management support will be given exclusively to the farmers and youth companies investing in the newly reclaimed lands in the Morgah settlement. The project will support the construction of rural roads, prioritizing the needs of remote communities. The criteria for roads will be elaborated further in the final design mission.

40. Eighty per cent of the beneficiaries of support for livestock farming, mobile veterinary clinics, livestock training, incentives for resting rangeland and alley fodder planting will be farmers with herds of up to 50 small ruminants. The project will take a broader, more inclusive approach for community rangeland management. Eighty percent of the beneficiaries supported for orchard management and cooperatives will be horticulturists with up to 100 fig and/or olive trees. One thousand women will be targeted for training in harvesting figs and olives.

⁹⁷ The number of trees are a much better indicator of the household status compared with land which may not be very productive due to water scarcity or poor water quality.

41. Roads for the coastal areas will be selected based on the following criteria; (i) areas which have no previous road connection; (ii) No of households benefitting; (iii) areas which will benefit more based on reduction in costs of transporting water, animal feed, access to social sector services and access to trade and markets. The roads for El Moghra will be selected based on the following criteria; (i) the roads are in accordance with the Master Plan for the area; (ii) No existing source of financing is available; (iii) location will be based on areas where young farming companies have initiated farming activities; (iv) priority will be given to areas with the highest concentration of young groups.

42. The project will provide a limited amount of grants to youth groups to defray the initial capital cost of developing the new lands in El Moghra.[1]. While ECDC is making arrangements to enable the smallholders to access agriculture credit through the formal banking system, it is not yet clear how quickly or easily this will be accessible to them. The private sector is also expected to play a role in the provision of some inputs especially drip irrigation systems and saplings and recover the cost from future production. However, these efforts will need to be supplemented by the project. The costs that will need to be defrayed will typically include the development of the on-farm water management system including the installation of drip irrigation systems, the erecting of fences around the land perimeter to protect against sand dune encroachment, purchase of key inputs like saplings, fertilisers, etc.

43. The grants will be provided only to the youth companies on the new lands based on the following selection criteria; (i) The grants will be allocated on first come first serve basis to those with a signed contract with ECDC; (ii) the groups have developed and submitted a production plan to ECDC; (iii) groups will have to demonstrate that they have a well-defined financing plan that could include their own funds, loans and forward contracting with private sector; (iv) Only those groups will be eligible who have started farming on the ground and expect to bring 70% of the land under cultivation; (v) the matching grants will be prioritized based on the number of shareholders within a group; (v) Equitability of shareholding will be given priority and groups where one member has more than 30% of the land will not qualify for the matching grant and (vi) a maximum of USD 5000 will be provided per shareholder in a group.

44. **Empowering and Capacity building:** the participation of men and women small-holder farmers in orchard management and livestock will increase their capacities for effective management of their productive resources. The participation of women, who are bound by severe cultural restrictions, in literacy classes, health and nutrition classes with exposure to electronic tablets will increase their confidence, well-being and happiness. Children and girls in particular will be empowered through providing them with access to education. As demonstrated by research, this will have wide-ranging social benefits for women and girls. In addition, their capacity to make wise choices for improved nutrition will be increased through their participation in the BCC nutrition campaign. The ownership of assets given through the livelihood packages and/or increase in income through market based handicraft development will empower women. The allocation of cisterns and sanitation facilities in women's name will also promote their visibility and dignity. Youth will be empowered through skill development in orchard management and livestock training as well as vocational training as electricians, plumbers etc. for the newly reclaimed lands in Moghra. Local women who have broken through the restrictions placed on women will be hired by the project as Women's Development Officers.

45. **Enabling measures for poverty targeting and mainstreaming gender:** The project will sensitize and increase the capacity of MOA and DRC to work with women. It will also increase the capacity to develop participatory plans for rangeland management with poor smallholder livestock farmers. The poverty screening of households and workshops on Gender and Targeting will further help to sensitize MOA /DRC to gender and poverty targeting issues.

46. The **gender strategy** of the project will be sensitive to the specific nature of women's constraints in Matrouh and focus on affirmative action to increase their level of empowerment, well-being and visibility as development actors. The empowerment of women will be ensured through a range of strategies: (i) targets will be set for women's participation in all key activities with women and

women-headed households receiving priority; (ii) a gender and targeting action plan will be formulated at the implementation stage by the PMU with implementation partners and reviewed on a yearly basis; (iv) the terms of reference for staff and technical experts will include responsibilities for operationalizing the gender strategy of the project; (v) the project will be sensitive to arrangements required to enable women/girls to participate – such as arranging literacy, health and nutrition sessions as well as training in fig and olive harvesting at the cluster level given the limitations on women's mobility, providing incentives for one-room schools to be staffed by women, making the funding of health units and mobile units contingent on the provision of women staff (vi) the monitoring and evaluation framework will include indicators disaggregated by sex to track the project's performance in promoting women's empowerment in terms of their capacity-building and benefits. The Minimum Dietary Diversity for Women (MDDW) tool and key questions from the Women's Empowerment in Agriculture Index (WEAI) will also be incorporated (vii) DRC will be required to recruit 6 Women's Development Officers (ix) a Gender Specialist will be contracted under technical assistance by the PMU to conduct a gender assessment in year 2, 3, 4, 5 and 6 (ix) an NGO with experience in working with women will be recruited for assisting in implementation of Component 2 (x) any studies undertaken by the project will address gender issues and disaggregate data collection, analysis and findings by gender (xii) a detailed gender assessment of project activities will be conducted prior to the mid-term review (xiii) a poverty and gender specialist will be included in the yearly supervision missions, Mid-Term Review and Project Completion Mission.

Appendix 3: Country performance and lessons learned

Country Performance

1. Egypt is IFAD's largest recipient of financial assistance in the Near East and North Africa region. The organization has committed US\$392.7 million in loans to Egypt since 1981 to support agricultural development and reduce rural poverty, benefiting a large number of people. In total, IFAD has invested in 12 agricultural development programmes and projects designed in collaboration with smallholders, the government and other partners in Egypt. Eight of the projects have been completed, and four are on-going. Egypt has also benefited from a number of regional grants focused on soil and water management, gender mainstreaming, development of knowledge-sharing networks, and promotion of microfinance for poor rural people. IFAD's programme in Egypt has comprised two main themes and groups of activities: support for settlement in lands reclaimed from the desert in Lower (northern) Egypt and support for productivity improvement in the old lands in the Nile Valley and Upper Egypt.
2. IFAD's completed and ongoing projects have: (i) reached 1.3 million households or about 7 million poor rural people; (ii) reclaimed 447,000 feddan of land (188,000 ha); (iii) established and strengthened 800 WUOs, reaching more than 20,000 members; (iv) established and supported farmer marketing associations (FMAs), with 31,170 members (in addition to the ones being established by the Upper Egypt Rural Development (UERDP), PRIME and SAIL projects); (v) established and supported 37 CDAs as financial intermediaries to provide microfinance to end-users (in addition to 100 CDAs expected to be established by the PRIME and SAIL projects); (vi) extended loans to 100,000 beneficiaries for a total value of US\$66.4 million; (vii) established 33 schools (junior, primary and secondary) with a yearly intake of 14,560 students (under the West Nubaria Rural Development Project (WNRDP)); and (viii) rehabilitated 14 medical clinics and provided 126 medical caravans, benefitting some 43,600 people. □
3. Several completed IFAD projects demonstrate the impact that the projects have been able to secure for the target group in close partnership with the Government. The WNRDP and the UERDP have both shown significant and positive results. IFAD's interventions have resulted in: (i) an increase in smallholder incomes by 43 per cent for conventional export crops, and 63 per cent for organic horticulture products, through contract farming arrangements and establishment of FMAs. Further increases in household incomes have been achieved through the direct sale of produce by Farmer Marketing Associations. The WNRDP impact study also showed (i) significant decreases in irrigation costs by 25 per cent, through enhanced managerial capacity of WUO executive committees, conversion from diesel to electric pumping, and promotion of modern irrigation systems; (ii) 50 percent decreases in fertilizer use through drip irrigation; (iii) a 20-fold increase in the market price of land, due to improved infrastructure and access to services promoted by WNRDP. The project evaluation of UERDP reported that the main benefits achieved as a result of applying the new farming systems and cropping models included higher land and crop productivity and reduction in the costs due to more rationalized use of seeds, fertilizers and water.

Lessons learned

4. The lessons from the experience of IFAD's on-going and completed projects as well as its experience from its grant funded projects and the findings from the most recent Country Programme Evaluation (CPE) undertaken in 2016 by the Office of Evaluations have been considered in the current design. These lessons address the implementation arrangements, targeting, components, opportunities for policy dialogue and knowledge management.
5. Some of the important lessons that emerge from this analysis include the following: (i) Project Management arrangements within the MALR need to be strengthened as a lean PMU is economical but has trade-offs in terms of effectiveness; (ii) Use of existing institutions and implementation arrangements enhances the sustainability of project interventions and can expedite start-up; (iii)

Greater efficiency and effectiveness can be realized through focusing projects in a concentrated area and not spread them over a large geographic area; (iv) Greater support and funding is required for funding and support to capacity building; (v) dedicated resources and staff for women's participation ensures the likelihood of their inclusion in project activities; (vi) a multi-pronged strategy to address the exclusion of women is required through facilitating access to basic rural services, infrastructure and improved rural water supply; (vii) special strategy is required to include youth in a participatory manner in project activities; (viii) Sanitation and waste treatment has been insufficiently addressed in IFAD projects; (ix) Greater investment in rural institutions should be the key starting point for all project activities and should provide the anchor for all investments; (x) clear delineation between public, community and private goods for long-term sustainability; (xi) greater focus on linking farmers with markets through the use of specialist expertise as Government and NGO staff generally do not have the orientation or training for this purpose (xii) a pragmatic approach to policy engagement is more effective given high turnover of senior staff in the Ministries; (xiii) document lessons from both successes and failures to avoid repeating shortcomings or mistakes.

6. IFAD has also accumulated a range of lessons, which are very pertinent to the type of area that it will be focusing on in the current project. IFAD's experience in the new lands in the West Nubaria and SAIL shows that an integrated package of support is required to make projects effective in the new lands. Thus even if education and health are not strictly part of the normal IFAD package of support, without access to social sector services, newly emerging communities will not move into the new lands. Many new land developments, not only in Egypt, but in many other parts of the world have failed because of lack of support for basic services. Discussions with the youth representatives who had been allocated land in El Moghra stated that they needed support with access to potable water, emergency health care and road network. Providing these basic facilities expedites land reclamation and the establishment of strong rural communities that can focus on agriculture development.

7. The current design has also incorporated some of the key lessons from the Implementation Completion Report (ICR)⁹⁸ of the World Bank financed Matrouh Resource Management Project. The ICR rated the overall performance of the project as satisfactory and noted the positive impact of the project on water resource management, crop and livestock productivity as well as communal rangeland management. The ICR noted that the project was significantly delayed in getting off the ground and that its rural finance component was a failure. The lessons that it identified from its experience include the following; (i) multi-sectoral/multi-disciplinary approach in natural resource management and poverty alleviation projects is more likely to lead to achievement of objectives than the single-sector projects of the past and requires the use of multi-disciplinary teams; (ii) participatory project implementation requires flexible budgeting that is not constrained by predetermined outputs, but relies on a truly demand-driven identification of activities, in order for the participatory planning and implementation approach to be fully responsive to beneficiary demands; (iii) Given the time required for community-level discussion and negotiation to agree on beneficiary priorities, full-time dedicated and skilled staff should be assigned to interface with communities and support their process of organization; (iv) Rural credit programs, particularly in remote areas, require innovative mechanisms that adapt to constraints such as collateral, religious views to interest rate payment and need for credit delivery at lowest levels⁹⁹; (v) Targeting the poorest segments of the society can be a challenging process where communities have strong traditional structures, and requires time, clear monitoring mechanisms and strong engagement with the tribal organization; (vi) Community rangeland management may be a more suitable approach than activities targeting individual farmers, but requires more initial time to be invested in negotiation and conflict resolution.

⁹⁸ Implementation Completion Report (IDA-25040). Matruh Resource Management Project. June 3, 2003. World Bank.

⁹⁹ The Projects rural finance component was declared a failure and eventually cancelled.

Appendix 4: Detailed project description

1. The Promoting Resilience in Desert Environments (PRIDE) Project will consist of two main components which will include (i); Climate Resilient Livelihoods (ii) and Integrated Nutrition-Sensitive Investments.

Component 1: Climate Resilient Livelihoods

2. The Climate Resilient Livelihoods component will consist of four subcomponents; (i) Water for Agriculture and Watershed Management; (ii) Enhancing Connectivity; (iii) Livestock and Rangeland Development and (ii) Crop Production.

(i) Water for Agriculture and Watershed Management

3. **Water reservoirs for supplementary irrigation:** Along the coastal zone in the Matrouh Governorate, the incomes of the rural population come mainly from livestock and the arboriculture represented mainly by the olive and the fig trees grown in valley beds and depressions along the coast. As it is a semi-arid to arid region where rainfall varies from about 150mm-200mm near the coast to about 50mm inland, water harvesting is vital for human and animal consumption and crop production. Studies have shown that application of supplementary irrigation can appreciably increase crop productivity in these rain-fed areas and presents an important measure for adaptation to climate change¹⁰⁰. The project will invest in 500 water reservoirs with a capacity of 300m³. These reservoirs are critical for providing supplementary irrigation in an area where the rainfall pattern is very uncertain. A criteria has been developed for the allocation of the water reservoirs along the valley beds and other suitable locations (Appendix 2) and will be implemented along with the valley watershed development programme.

4. **Rehabilitations and development of the wadis** – One of the main sources of livelihood in the Governorate is the plantation of olives and fig trees in the valley beds, which relies on soil water retention in these water scarce areas. Households rely on levelling and contouring the wadi beds and constructing small dikes of slightly compacted soil of about 50 cm on the downstream limit of the family plot to retain water run-off, enable its infiltration into the soil for use by the crops. There are 218 wadis located in an area extending from Fouka to El Salloum on a distance of about 300 km. Among them more than 71 have already been partially rehabilitated. The project will assist in the rehabilitation of 100 existing or new wadis to enhance the area under cultivation. The average cost of equipping one km of a wadi with about 80 meters of average width (19 feddans) and about 13 to 14 weirs is about EGP 450,000 or about EGP 23,000 per feddan. The cost of rehabilitation is almost the same because it is similar work, but in more restricted spaces.

5. The technology for building the dikes has improved over time and the current technique will provide part of the dike with a weir formed of rock blocks to allow the water to pass to the next plot, thereby preventing damage to the dikes and the erosion of the plot. The rehabilitation process will use this technique to restore the wadis beds by replacing the still existing earth dikes by new masonry weirs in order to better retain the water and prevent soil erosion. The weirs will be constructed 50 cm higher than the soil behind it, in order to allow for proper water infiltration into the soil layer for trees and crops. The masonry weirs cross-sections selected will depend on the nature of the foundation grounds (erosion and bearing capacity) and on the height of the weir. The drawings will be supplemented by an explanatory and supporting note which specifies under what conditions each weir profile will be used. The layout and location of a dike or masonry weir are not always made according to the topography of the site or the longitudinal profile of the wadi, but also take into account ownership pattern. DRC has been implementing a well-developed methodology for the purpose which will be followed under PRIDE. A written document will be executed to clarify the arrangements. The weirs are located in a manner which allows clear delineation of land plots of each household to avoid any conflicts. To further ensure consensus, the establishment of the masonry weir will be undertaken in the presence of an agreement of all families possessing lands along the wadi. This procedure will be undertaken both for rehabilitation and new wadi development.

¹⁰⁰ Samiha A. H et al. Management of Climate Induced Drought and Water Scarcity city in Egypt. Pp 27-46. Rain Fed Areas in Egypt: Obstacles and Opportunities. May 2016.

6. **Development of New Valley beds or Wadis:** The project will also invest in developing new wadis. For the selection of new wadis, the following criteria will be adopted: (i) sufficient arable soil to fill the wadi bed, (ii) extent of erosion, (iii) extent of the watershed, (iv) the number of beneficiaries. The process that will be adopted for the new wadi development will include: (a) the choice of the masonry weirs axes in the presence of the different owners so that two successive weirs limit the land of the same family; (b) construction of the masonry weir at the required height according to the topography of the site; (c) The weir profile is chosen by the civil engineer according to its height and the nature of the foundation grounds; (d) The weir also includes the lateral walls to channel the flows; (e) For cost reasons, the masonry weir generally does not extend from bank to bank but occupies a large part of the central section of the wadi; (f) Back filling, by fertile soils and up to the desired elevation, of the space between two successive weirs; (g) The weir must be about 50 cm higher than the soil behind to allow water retention and deep infiltration (h) construction between the banks and the weir of the earthen shoulders (dikes) properly moistened and compacted; (i) The dikes must be higher than the weir to channel water to the discharge section of the weir and (j) The execution must ensure that the overflow section of the weir is perfectly horizontal and without depression in the middle which could favour the concentration of the flows in the center of the downstream plot.

7. **SIWA Drainage Study:** IFAD has undertaken several reviews of the irrigation and drainage issues in Siwa over the last six months and has also examined the previous studies on the subject. The rising levels of salinity and water logging pose a serious threat to agriculture in the Oasis. There is a range of options that were examined and discussed with the key stakeholders such as the Egyptian Public Authority for Drainage Projects (EPADP), the Chairman of the Groundwater Sector (GWS) and other officials of the Ministry of Water Resources and Irrigation (MWRI). The issue is extremely complex and needs further in-depth study to ensure that the solutions proposed are long-term and sustainable. Similar issues are beginning to emerge in the other oases in the New Valley Governorate such as Kharga and Farafra.

8. While there is considerable pressure to implement an immediate solution to the problems in Siwa, the project will finance a comprehensive analysis of the Siwa Oasis with a detailed feasibility study, engineering design and costed plans of the potential options. IFAD will finance the study under the PRIDE project and select an international firm on a competitive basis for the purpose. The MWRI and MALR will both be involved in the preparation of the study and the results will help in identifying the technical options, the institutional and policy changes regarding digging of new wells and the on-farm water management practices required. The study will be used for key policy dialogue with the Government and will be used as a prototype for Oases development in Egypt especially in the New Valley Governorate. ECDC will also be consulted for the use of the surplus drainage water for new land development envisaged as part of the 1.5 million feddan in Siwa in the next phase of the mega Government project.

9. **On-Farm Investments for Youth Companies in El Moghra:** The project will provide a limited amount of grants to youth groups to defray the initial capital cost of developing the new lands in El Moghra.¹⁰¹ While ECDC is making arrangements to enable the smallholders to access agriculture credit through the formal banking system, it is not yet clear how quickly or easily this will be accessible to them. The private sector is also expected to play a role in the provision of some inputs especially drip irrigation systems and saplings and recover the cost from future production. However, these efforts will need to be supplemented by the project. The costs that will need to be defrayed will typically include the development of the on-farm water management system including the installation of drip irrigation systems, the erecting of fences around the land perimeter to protect against sand dune encroachment, purchase of key inputs like saplings, fertilisers, etc.

10. The grants will be provided only to the youth companies on the new lands based on the following selection criterion; (i) The grants will be allocated on first come first serve basis to those with a signed contract with ECDC; (ii) the groups have developed and submitted a production plan to ECDC; (iii) groups will have to demonstrate that they have a well-defined financing plan that could include their own funds, loans and forward contracting with private sector; (iv) Only those groups will be eligible who have started

¹⁰¹ Some salt tolerant fodder species can be grown as annual crops and give relatively quick returns. However, the typical crops currently being grown such as Jojoba and pomegranates can take between 3 to 5 years for full maturity.

farming on the ground and expect to bring 70% of the land under cultivation; (v) the matching grants will be prioritized based on the number of shareholders within a group; (v) Equitability of shareholding will be given priority and groups where one member has more than 30% of the land will not qualify for the matching grant and (vi) a maximum of USD 5000 will be provided per shareholder in a group.

(ii) Enhancing Connectivity

11. Egypt has one of the lowest road network concentrations in the region¹⁰² with the Matrouh Governorate among the lowest areas of concentration within the country. The project will invest in the construction of 250 kilometers of feeder roads with the expectation that IFAD financing will cover 60 percent of total investment cost and GoE counterpart funding will cover the rest. The identification of the roads will be undertaken in close participation with local communities with the assistance of DRC. The identification of the roads will be undertaken in close participation with local communities with the assistance of DRC and the Master Plan prepared for the Moghra settlement by Refl El Masry The Department of roads and bridges in the Matrouh Governorate will prepare the design, BOQs, technical specifications and supervise the process jointly with the DRC civil engineers. The roads will follow the road design standard given in the Egyptian Code for the Work of Urban and Rural Roads.

12. The roads for the coastal areas will be selected based on the following criteria; (i) areas which have no previous road connection; (ii) No of households benefitting; (iii) areas which will benefit more based on reduction in costs of transporting water, animal feed, access to social sector services and access to trade and markets. The roads for El Moghra will be selected based on the following criteria; (i) the roads are in accordance with the Master Plan for the area; (ii) No existing source of financing is available; (iii) location will be based on areas where young farming companies have initiated farming activities; (iv) priority will be given to areas with the highest concentration of young groups.

(iii) Livestock & Rangeland Development

13. Livestock is a major source of income for the population of the project area There are 17,541 livestock breeders in the project Governorate possessing 485,298 sheep, 144,124 goats, 18,048 camels. Livestock production is vulnerable because of low production and the degraded condition of rangelands, the frequency and duration of drought episodes, and the high feed cost to maintain the herd through the summer and early fall or through the entire year in a dry year. This vulnerability could worsen as a result of the effects of climate change on the productivity of rangelands and in growing feed crops like barley. In addition, most of livestock owners have small herd size (depending on the district: 52% to 76% have less than 25 heads of small ruminants, 14% to 22% have 25 to 50 heads and only 7% to 15% have from 50 to 100 heads). The constraints to herd productivity include inbreeding and inadequate health and feeding practices.

14. In order to overcome some of these constraints, the sub-component will promote sustainable rangeland management and improved herd management practices to improve livestock productivity. Given the large expanse of rangelands in the area, the project will capitalize on IFAD's experience in several countries¹⁰³ to develop community rangeland management plans.¹⁰⁴ These plans will include a range of activities to improve rangeland regeneration processes and productivity, as well as improving perennial fodder productivity on cultivated barley fields, the project will work closely with local Mandoubs to establish community rangeland plans. DRC and participating communities will identify Terms of Partnership, which will specify the responsibility of individual households participating in the plans, overall community responsibility in supervision and monitoring and the role of DRC.

15. Within the framework of these plans, the project will in agreement with the communities, provide support to: i) 1000 individual smallholders to plant perennial fodder shrubs in alley cropping with barley on 15,000 Feddan; ii) 500 individual smallholders to adopt the practice of resting family rangelands on 50,000

¹⁰² Misr National Transport Study (MINTS). The Comprehensive Study on The Master Plan for Nationwide Transport System in the Arab Republic of Egypt. Technical Report No 1. JICA. March 2012.

¹⁰³ Examples of PDPEO I&II, and PDRTT in Eastern Morocco, PRODESUD in Southern Tunisia, and BADEA in Syria

¹⁰⁴ Lessons Learnt: Pastoralism Land rights and Tenure. Land Tenure Toolkit.

https://www.ifad.org/documents/10180/885a2f03_c359-4396-9b8b-94f4c2fd78af. IFAD October 2014.

Feddan; iii) communities to adopt the practice of resting community rangelands on 5,000 Feddan each; iv) resting small areas on community rangeland sites for seed production of native plant species to be utilized to aid regeneration of rested rangelands; v) DRC to produce fodder shrub seedlings to be used in alley cropping and to conduct periodic monitoring of rangeland condition; vi) training and exchange visits relevant to sustainable rangeland management, fodder shrub use, and harvesting of native plant seeds.

16. The project will support the smallholders to improve herd productivity through: i) effective production of improved breeds within the DRC station in Marsa Matrouh and distribution of local Barqi breed stud rams in order to overcome the constraint of inbreeding in small herds; ii) improving access to veterinary services by providing two mobile veterinary units; iii) improving feeding and herd management practices through training and exchange visits. The Project will support DRC in providing mobile veterinary services especially to farming communities in the hinterlands which do not have access to proper veterinary care and animal health services.

17. The farmer capacity to enhance the productivity of the small ruminant herds of sheep and goats will be undertaken through a breed improvement programme. DRC will implement a breed improvement plan in close collaboration with the smallholder farmers and private breeders. The project will provide 120 high quality stud rams of the Barqi and Damascus breed and feed resources to DRC. The breed improvement plan will entail the signature of a Terms of Partnership under which DRC will provide improved rams to selected communities, which agree to abide by the terms and conditions of partnership. The communities will oversee the agreement while individual farmers will implement the programme. The farmers will rent the rams from DRC and ensure their circulation within the smallholder farmers. The rams will be provided to participating communities and households just before the start of the mating season in May and returned at the end of each season. Each ram is expected to serve 33 ewes in each season. The payment for the use of the ram will be in the form of an off-spring from the improved breed. The combination of the improved project rams and those with the farming communities are expected to cover the entire small ruminant population over the seven-year project period. DRC will make a proper breed plan and include it in the PIM at the start of the project and develop suitable mechanisms to monitor and track progress.

18. In areas of new settlements such as El-Moghra, the project will assess the type of services required by the new settlers and discuss how best to organise these in discussion with the Livestock Department and other potential service providers who can also submit proposals in this regard. The project will provide technical assistance, training and support for livestock activities. Investment in aquaculture has proved to be a viable investment given the need to build sedimentation ponds to settle the excess iron in some of the wells in Moghra. Farmers have found that these ponds can provide an important source of income through fish farming and sale to the adjoining areas of Al Alamein. Some of the private sector farmers and companies which are currently located in Moghra have invested in appropriate livestock. Technical assistance will be provided to the farming communities to explore some viable livestock production activities.

(iv) Crop Production

19. Crop production subcomponent: Crop production subcomponent will consist of supporting farmers in the old lands along the coast as well as the new lands in El Moghra. The project will provide support in the following activities: (i) Rehabilitation of DRC Nursery (ii) Horticulture training (iii) establish research facilities in Moghra; (iv) support to farmers on new lands; (v) support farmers in accessing equipment; (vi) Provide processing facilities for farmers in Moghra (vii) Agriculture extension & dissemination; (viii) Exchange Visits (ix) Applied Research & dissemination (x) Water Quality Monitoring & Capacity Building and (xi) Laboratory and Technical Equipment for DRC.

20. The DRC nursery will be rehabilitated to produce certified olive and fig trees and to propagate promising species and varieties well adapted to the Matrouh rainfed agro-ecological conditions. The increase in production areas of figs and olives (wadi rehabilitation, land reclamation) will increase the demand of plants in Matrouh governorate. The nursery will provide the needed plants to the farmers at a competitive price. It will also provide virus free fig plants, virus being a concern for figs, and bacterial free olives plants, particularly *Xylella fastidiola* bacteria which is a serious threat to olives, first discovered in Italy

which is a main olive collaborator with Egypt. The nursery will also offer the opportunity to DRC to propagate and offer drought and saline tolerant varieties identified through varietal trials.

21. Horticultural training will reach a total of 5000 farmers and will comprise orchard management practices and improving the on-farm management practices. These practices will include soil tillage, mulching under tree canopy, annual forage crops mown in April to reduce water competition to trees while the remaining straw will play a role of total mulch to reduce water evaporation, organic manure or compost, which in addition will improve soil fertility and reduce salinity effect. Integrated Pest Management (IPM) techniques will be implemented to limit the use of pesticides and qualify the local farm produce to eventually receive certified labeling. Farmers will also receive training in the adequate use of pesticides in accordance with safety standards. Farmers will also be introduced to improved pruning techniques to increase yield. Training in harvesting techniques will improve substantially the fig and olive oil marketing value and improve farm income.

22. The new youth farming companies are expected to initiate their farming activities in Moghra within the next few months. Some of the shareholders have some previous experience of farming, while most have no direct experience. In any case, the farming conditions on the new lands are vastly different from those found in the Nile valley and all youth groups are likely to need technical assistance for initiating farming under the conditions found in Moghra. The land in El Moghra has not been previously cultivated. The soil is saline-sodic with high levels of salinity and iron content in the water. The success in Al Mogha depends on the proper choice of the most suited species and varieties tolerant to saline soils, effective saline water management and appropriate crop management practices. Some of the private companies, which have been farming here under Law 143¹⁰⁵ are choosing to plant jojoba because it is tolerant to salinity (up to 5000 ppm with no effect on yield) and commands a high market price. The current farming in the area is dominated by jojoba which is grown on almost 75% of the 27,000 feddans presently being cultivated here followed by minor crops such as olives (19%) olives and pomegranates (6%) and salt tolerant fodder trials.

23. The new farming communities will require training in the following; i) training and assistance in testing the water and soil quality and adapting their farming practices to the local conditions; ii) mitigation and remedial measures such as how best to remove the iron from the water and the type of irrigation system to install given that sprinkler irrigation systems may not be suitable because of the high risk of leaf burns to crops given the high levels of sodium and chloride in the water; iii) Irrigation water management techniques to minimize accumulation of salt and heavy metals in the soil; (iv) field management techniques for jojoba, olives and pomegranate, and other new and potentially interesting crops which are salt tolerant such as barley, caper, Ziziphus, Atriplex; v) assistance and training to youth companies in establishing varietal trials to demonstrate crop performance under different conditions. The Central PMU will invite proposals for the purpose from agencies such as ARC, DRC, the International Center for Bio-saline Agriculture (ICBA), private companies, etc.

24. The project will also provide support to farmer cooperatives and companies in accessing equipment and processing facilities as and when required to help them with the pruning, harvesting, sorting, grading and processing of their produce. This type of support is envisaged for the old lands as well as the new lands. This support will be provided to individuals, groups, cooperatives and companies. On the old lands or lands along the coast, tools will be provided to farmers for pruning, pest control and harvesting for improved orchard management and harvesting. On the new lands, this type of support may only be required a few years downstream when the crops begin to produce. Prior to providing the equipment, the cooperatives and companies will be provided training to ensure there are familiar with the technical and business management aspects of the technology. The project will facilitate linkages with private companies to ensure uptake of farm produce and linkages with markets. The selection of these cooperatives and companies will be on the basis of the number of members involved, their seriousness as demonstrated by their level of investment, stage of production, etc

25. While DRC is primarily a research institution and it has been able to test many varieties and species and farming practices suitable for desert environments, its capacity for dissemination and monitoring of

¹⁰⁵ Which allows farming in desert lands with the potential for claims to the land after a certain period.

adoption rates is not very strong. The project will assist DRC in strengthening the links between research and the farmers through expertise in technology transfer and dissemination of practical findings to farmers and strengthening its capacity for establishing a system for tracking adoption rates by farmers. It is expected that around 30 agriculture extension staff will be trained for evaluating new plant varieties and techniques and disseminating them. DRC will also be provided some assistance in undertaking applied research and agricultural extension programmes to address some specific field problems and production constraints farmers encounter. The sub-component will include dissemination of these new findings to farmers through transfer of technology through onsite visits and establishment of field schools.

26. Water Quality Monitoring & Capacity Building will be undertaken to assess the salinity levels in the water and soils. Plant analyses will be complementary to determine the mineral status in the plants and monitor the effect of salinity and other mineral nutrient on plant growth and development. The package will also help to monitor trends over time provide guidance on adequate corrective measures or practices. The system for monitoring water and soil levels will be provided to farmers in old and new lands and individual farmers, groups and companies will be trained to understand the readings and apply appropriate measures. DRC will also be provided laboratory and technical equipment analyses and tasks such as water and soil analyses, plant foliar analyses and weather forecast stations. Equipment will also be provided for the basic climate monitoring stations to be installed in selected project sites.

27. The project will support 40 DRC staff and farmers to undertake exchange visits with the aim to broaden the knowledge of the participants on issues such as water conservation, irrigation, crop management, related to successful achievements in rain-fed areas with scarce rainfall, either locally or abroad.

Component 2: Integrated Nutrition Investments

28. Given the socio-economic profile of the population in the Matrouh Governorate, particularly the situation of women and children, this component will promote the equality and empowerment of women in ways that help them improve nutrition for themselves, their children and their families by providing a comprehensive package which includes access to domestic water and sanitation, improved access to nutritious food, knowledge of feasible practices for improving nutrition, access to health and education services, as well as income generating opportunities for women. This component will consist of three sub-components: (i) Water for Health (ii) Empowerment of Women for Nutritional Change (iii) Social Infrastructure.

(i) Water for Health

29. The domestic water supply sub-component will increase the availability and consumption of drinking water, particularly for women and children who spend most of their time in the homestead. This will protect children and women from issues arising as a result of inadequate and unsafe water consumption (water-borne infections are one of the causes of malnutrition in children). It will result in saving of women's time and labour as they are responsible for looking after children if they fall ill and for fetching water from nearby wells. Women in women-headed households will especially benefit, as they have to fetch water themselves even if it is far from the homestead. With closer water supplies, women will have more time in the domestic setting, the extra time allowing them to better improve the overall health and nutrition of their families. Malnutrition in children is partly a function of infection mainly resulting from unsafe drinking water. Thus, having access to clean, nearby water sources empowers women through reducing their burden. It will also promote women's visibility and dignity, as these will be given in the name of the women of the household.

30. The project will provide 6000 cisterns (120 m³) and 500 reservoirs (150 m³) at the homesteads for the harvesting of rainwater. The project will also support the rehabilitation of 100 Roman Cisterns (500 m³) that are used for drinking water and water for livestock. The community is well-versed in the construction of these cisterns and reservoirs, as well as the rehabilitation of Roman cisterns. DRC has the capacity to implement the activities in this sub-component as they have managed and supervised it for different projects in the past. DRC will also be provided equipment to test the quality of the water.

31. In all communities, the poorest households, essentially those considered eligible for zakat, will be identified according to the criteria specified (Appendix 2): Once all the poorest households in the area have been served, in each district, DRC will plot the number of clusters across communities in the districts of Marsa Matrouh, El Negila, El Barrani, El Saloum, El Dabaa that are over 30 km inland and have poor access to water (over 25 km) sanitation and health. These will be ranked by remoteness with the most remote receiving top-priority for homestead cisterns. A scoring system will be used to rank beneficiaries within these regions (Appendix 2). The 100 Roman cisterns used for livestock and human use will be selected based on the following criteria:

- Only cisterns on common lands, with no cisterns on private lands selected for rehabilitation¹⁰⁶.
- Suitability of aperture and walls for rehabilitation¹⁰⁷
- Roman cisterns will be rehabilitated in the southern part of the project area which faces acute shortages of water.
- Cisterns that serve the remotest areas (over 30 kilometres) and/or the highest number of households will receive priority

32. The implementation of these water facilities will explore nutrition integration through transmitting key messages, Behaviour Change Campaign on health behaviour, especially the danger of deadly faecal-oral diseases for malnutrition and child mortality. At household level, more emphasis will be given on optimal hand washing, household level treatment and storage of safe drinking water, sanitation and food safety issues. Households will be reached through household visits.

(ii) Women's Empowerment for Nutritional Change

33. This subcomponent seeks to raise the nutritional status of households, particularly women and children through aggregating a number of interventions: increasing access to nutritious food through nutrition and livelihood packages and the cultivation of the Moringa tree, literacy classes, as well as a behaviour change campaign for increased awareness of health and hygienic practices around nutrition, water and sanitation. A customized and well-researched Behaviour Change Campaign (BCC) will be launched to support the changes in knowledge, attitude and practice required for Bedouin households, especially women and children, to benefit from project interventions. Electronic tablets will be used as a key channel to maintain quality of the BCC campaign across the board and provide women whose mobility is highly restricted with a window into the modern world. It will be implemented by an NGO. The same criteria that will be used to award cisterns will be used for this subcomponent.

34. **Nutrition & Livelihood packages** will comprise of poultry (chicken, ducks, etc.), pigeon and goat packages and handicraft support for 3000 women. The objective is to increase household consumption of meat / eggs and make a modest contribution to women's incomes in a desert environment in which women's livelihood opportunities are highly restricted. Beneficiaries will choose the package they want. The 100 goat packages will be limited to Siwa where fodder is available and alfalfa is an important crop. The 2600 poultry, pigeon and goat packages will include housing and feed and supplements for the first three months to help overcome the financial constraints that prevent poor households from owning these assets. In addition, the women will receive basic training in caring for the animals. The project will be responsible for periodic visits to the women to provide guidance on the health of the animals and administer required vaccines for the first year. The training and support for beneficiaries will take place under the guidance of a woman veterinary doctor. The project will also establish a helpline with a woman vet at DRC who can answer any questions that beneficiaries may have about their animals.

¹⁰⁶ These Roman cisterns will be selected in common lands. These are often used for grazing. The cisterns will serve the water needs of livestock and herders/ HHs

¹⁰⁷ Extensive damage to aperture and walls raises the cost much beyond EGP 60,000. In most cases, extensive damage (aperture opened due to top damage) implies the cisterns cannot even be rehabilitated.

35. In areas such as Siwa, where women are involved in a range of handicraft activities such as basket weaving, clay ovens, silver jewellery, date-honey, cloth weaving, 400 women will be supported in these activities to increase women's purchasing power and enable them to secure better nutrition, healthcare and education opportunities for themselves and their children. This support will include training, provision of equipment and support for marketing. However, this support will only be extended if a market-led approach can be taken or the beneficiary has already got access to a market, otherwise the budget will be used to provide nutrition packages. The Egyptian Italian Environmental Cooperation Project III (EIECP) is in the process of setting up a market led approach to handicraft development. If this approach is successful, PRIDE can use the same approach for its beneficiaries.

36. In addition to these packages, a more widespread nutrition sensitive intervention through women empowerment that will reach 6000 households will be the provision of the Moringa tree saplings (minimum of three per household), also known in Egypt as the Tree of Life. The Moringa plant is a nutrient dense tree, fast-growing, drought-resistant tree that grows even in marginal soils and with very little care.

Table 4.1. Nutrients in the Leaves of the Moringa Tree¹⁰⁸

Nutrient (per 100 gm)	Moringa Leaves	Other Foods
Vitamin A	6780 mcg	Carrots: 1890 mcg
Vitamin C	220 mg	Oranges: 30 mg
Calcium	440 mg	Cow's milk: 120 mg
Potassium	259 mg	Bananas: 88 mg
Protein	6.7 gm	Cow's milk: 3.2 gm

37. It has innumerable health benefits. Nearly all parts of this tree can be eaten and its leaves are an excellent source of vitamins, minerals, protein, amino acids and anti-oxidants. It is one of few vegetable sources of amino acids. It has been used in Asia and Africa to treat child malnutrition with positive results. Its seeds are also used to purify water. There are many ways to use the Moringa tree, its leaves, buds and drumsticks can all be used. Moringa recipes will be taught to the women to encourage its use. DRC will use its women field workers to explain the method for cultivating the Moringa tree, explain its benefits and ways in which it can be incorporated into the diet. This will be further reinforced through the behaviour change communication campaign. Other nutrition sensitive activities will include food demonstration and new recipe development using Moringa and animal protein foods; establishing mother-to-mother support groups on feeding and care practices; equipping mothers with the tools to prepare recipe from available food sources for adequate dietary intake at home.

38. The Moringa has already been successfully grown by DRC in its research stations in the project area. DRC will grow and distribute saplings of the Moringa tree to beneficiaries. The beneficiaries of these trees will be selected on the following basis: (i) women-headed households with children under-five in communities over 30 km will be the highest priority among those households who have been given cisterns in this project or previous projects (ii) next priority will be poor households over 20 kilometres inland using the scoring system developed for awarding cisterns. The overlap of beneficiaries of cisterns and Moringa trees is desirable as the project recognizes that the poorest households will need to benefit from multiple interventions if their nutritional status is to be improved.

39. Literacy classes will also be provided to 2000 young girls/women as improving literacy levels has potentially large social benefits, such as increase in women's empowerment, increased life expectancy, reduced child mortality and improved children's health. 109 Priority will be given to

¹⁰⁸ <http://www.treesforlife.org/our-work/our-initiatives/moringa/nutritional-information>

¹⁰⁹ UNESCO (2006), EFA Global Monitoring Report 2006: Literacy for Life.

household clusters with high levels of illiteracy and poor access to education services and a demand for literacy classes. These literacy classes will be six-months long and will provide an additional channel for the behaviour change communication campaign. The curriculum for the literacy courses will further reinforce the messages regarding improved health, nutrition and other behaviour change messages. Literacy classes with the integration of health-nutrition components will support women to improve their overall wellbeing as well as their family and children in particular. According to the World Bank (2016), such programme is essential in "the reduction of child and maternal mortality, improvement of child nutrition and health. The planned literacy classroom lessons will contain visual nutrition messages; assign nutrition education homework that women can do with their families.

40. **Behaviour change communication (BCC)** is an interactive process with community members to develop tailored messages and approaches using a variety of communication channels to develop positive behaviours; promote and sustain individual, community and societal behaviour change; and maintain appropriate behaviours. Effective BCC can increase nutrition knowledge, stimulate community dialogue (such as malnutrition risk factors, marginalized practices, cultural practices pertaining to feeding and nutrition), promote essential attitude changes, and improve skills and self-efficacy. A Behaviour Change Campaign for the project will be designed to ensure that Bedouin families derive the maximum benefit from the project interventions and improved access to water, sanitation, nutritious food and income is translated into an increase in the nutritional status of households, especially for women and children. This campaign will target a minimum of 3000 beneficiaries. The BCC will be based on formative research. The primary target group will be women and children. A secondary target group will be teachers and community facilitators who will function as channels for the campaign.

41. **Nutrition KAP in project baseline:** The project baseline survey will include questions on food knowledge, attitude and practices (KAP) for health and nutrition focussing on areas that will promote the effectiveness of project interventions. A nutrition specialist will prepare the questions to be included. The National Institute of Nutrition in Egypt, a semi-autonomous research institute under the Ministry of Health is well-positioned to provide technical input. Some of the areas to be explored include:

- WASH
- Breastfeeding and complementary feeding
- Child feeding practices
- Intra-household allocation of food
- Dietary diversity and meal frequency
- Perceptions & food myths

42. **Contracting Technical Expertise for the BCC campaign:** The responsibility for designing the BCC campaign will rest with the NGO hired to implement the nutrition component. The NGO will engage technical experts on nutrition and food research as well as expert on communication for the formative research and design of the BCC campaign.

43. **Formative research:** The technical specialist hired by the NGO will use the findings of the nutrition and food KAP survey as a basis for formulation of key messages and communication channels, development of behaviour change material. Methods for conducting formative research may include reviews of existing data, in-depth interviews, focus group discussions, observations, dietary recalls, recipe trials, Trials of Improved Practices (TIP), and positive deviance inquiry. TIPs is a highly recommended methodology for PRIDE as beneficiaries will be involved in interventions which will be new to them such as the cultivation and utilization of Moringa Tree and even sanitation facilities where none existed before. TIPs will enable PRIDE to learn from families, providers and communities what practices the program should promote, eliminate or modify; what are the most effective motivations and most significant barriers to new practices; what level of change in particular behaviours the program can expect; and in some cases, what level of health or nutrition impact the program can expect. TIPs will focus particularly on WASH, the utilization of the nutrition and livelihood packages,

the cultivation and utilization of the Moringa tree. As some project interventions have been implemented in this area by DRC, in depth-interviews and focus groups can be used to supplement TIPs and identify critical messages and behaviours around cisterns, sanitation facilities and pigeon towers.

44. **Design of BCC:** Based on findings of TIPs, the nutrition specialist will formulate the BCC campaign with specific nutrition objectives, desirable behaviours, channels and strategies. The specialist will then collaborate with the specialized design and communication firm hired to develop the materials for the BCC. As electronic tablets are to be used in this campaign this will include the development of material to be shown on the tablet in the form of animations, video clips etc., as well as any other material that may be considered appropriate. Once the material has been developed, it will be field-tested, not only with women but also with men who function as gatekeepers for any intervention involving women. The material will be finalized after it has been validated by beneficiaries.

45. **Implementation of the BCC:** the NGO will implement the BCC campaign targeting primarily women and children in beneficiary households and children in one-room schools. The target group will include beneficiaries of cisterns, sanitation facilities, Moringa tree and nutrition and livelihood packages. The NGO will hire women facilitators to visit household clusters for literacy training and for delivery of the nutrition messages with the electronic tablets and any other material or tools required to deliver face-to-face training sessions. Women facilitators and the teachers of the one-room classrooms will be trained to channel key messages to women and children. In addition, women development officers hired by DRC will also receive training as a channel for behaviour change communication campaign, particularly with regard to promoting positive behaviours concerning WASH and the cultivation and use of the Moringa tree.

46. Some exposure visits for women will also be undertaken, once sufficient confidence building has taken place, to handicraft exhibitions and to women groups in other parts of the governorate or country.

(iii) Social Infrastructure

47. This subcomponent will contribute to increasing access to health and education, particularly for women and children. The practice of open defecation is widespread leading to danger of deadly faecal-oral diseases, and compromising the health, dignity, and very often safety as well, of women and girls. Poor households are unable to afford latrines, with particularly dire health consequences for women. Therefore, a key intervention the project will make will be to provide 3000 latrines. Nutrition and health messages will be an integral part of the health, school and latrine facilities.. The BCC will support this intervention by promoting positive behaviour in this regard.

48. Households are often at distances of 30-50 km from health units and a combination of poverty and restrictive cultural norms, severely limits access of women and children to even basic medical services. In order to improve access to health, the project will build 3 health units and provide 5 mobile clinics. The Health department of the Governorate of Matrouh has agreed to run these facilities. However, these units will only be financed if the health department commits to provide women doctors and nurses for these units. These units will be built and run by the Department of Health. One of the mobile health units will be used for El Moghra to provide emergency health care to farming communities who move into the area. Over time, depending on need, one of the health units may also be established there if sufficient families move there within the project period.

49. The project will also invest in the education of children, particularly girls. Many girls are deprived of even a primary education due to the distance from schools and cultural norms which do not allow them to be taught by male teachers provided by the Governorate. The project will build 15 multi-grade schools and staff them with women teachers by providing special incentives. It will also build 3 high schools (11 room) as there is a paucity of high schools in the area. The education department in the Governorate of Matrouh has committed to taking over these facilities and operate them. While the education facilities are primarily designed for the settled communities in the areas

between Dabaa and El Salloum, and Siwa, one or two of the multi-grade schools and one high school may also be located in El Moghra if there is a need identified for these facilities in that area. This intervention has the opportunity of promoting nutrition outcomes through the integration of nutrition education and promotion of WASH activities.

50. **Employment of youth:** The project will provide young men training in the construction of cisterns, reservoirs, pruning of olives, date palms and figs, production of saplings and nursery management, watershed management and rangeland development. The project will assist DRC in recruiting young men to work on its research farms and in the implementation of project activities as apprentices. Those candidates who do well will be provided with kits and tools to enable them to generate an income through provision of services to the community. Similarly, the project will also explore opportunities for training youth for provision of the range of vocational skills required by investors and small holders on the newly reclaimed lands such as electricians, plumbers, pruners, harvesters, carpenters, construction workers, etc.

51. There is a possibility to integrate nutrition messages in the youth training through the use of Behaviour Change Communication (BCC) approaches to influence consumption of nutritious foods and diets, teach food safety issues. Integrating short, simple and tailored nutrition messages. This will involve training of trainers and provision of context specific messaging to meet individual participant's learning needs.

52. Technological innovations that will be included in the project will include (i) the use of electronic tablets for the dissemination of messages for women for behaviour change; (ii) MIS system which will be tablet based and will record a GIS referenced monitoring and evaluation system for greater transparency, accountability and accuracy; (iii) An android based system for tracking water quality; (iv); introduction of a range of solar and energy saving technologies in the new lands. A budget line is available for utilizing these technologies for the newly reclaimed land as appropriate.

53. **Integrated pathways for nutrition sensitive interventions:** The implementation of the proposed nutrition sensitive interventions will follow one or more integrated pathways described below which is developed based on the theory of change for nutrition outcomes.

54. The **first pathway (Water, hygiene and sanitation-WASH)** follows the assumption that the move towards improved nutrition is achieved through making visible the existing burden of diseases, such as the deadly faecal-oral diseases causing malnutrition and child mortality relates to the domain of water, hygiene and sanitation (WASH). The hypothesis is that when community members, particularly children, have lower exposure to diseases, their requirement for nutrients goes down. Along with the provision of safe water, community and household level WASH campaigns on safe disposal of human faeces, safe storage and treatment of water, hand washing, etc. will help in addressing the problem. Access to latrine and health facilities add up to the personal hygiene and well-being of women and children which in turn results in improved nutrition outcomes.

55. **The second pathway (women empowerment-income)** assumes that providing women with the opportunity and access to clean water is not sufficient. They also need to be able to make decisions about the use and management of resources. This pathway therefore stretches to address household income using livelihood packages, skill training, and decision-making within households, which may contribute to improved health and nutrition status indirectly. Also, women access to income will increase purchasing power for nutritious food and ultimately better consumption at individual and household levels.

56. **The third pathway (production-consumption)** combines the food availability and accessibility of nutritious food. With regards to accessibility, both men and women ought to decide how much household income is to be spent on food and non-food items; and how much to be sold and kept for home consumption. This pathway also involves the preparation and utilization/ consumption of food. It is mainly influenced by current customs, beliefs around the meaning of what constitutes nutritious foods; building awareness regarding dietary diversity. The challenges here is poor intra household distribution of food where those who prepare the food (women), need the power to make decisions

about food choices, how they prepare it and how to divide the food among household members. Therefore, adequate BCC combined with the capacity building of women will bring about improved KAP, the preparation, distribution and consumption of the available nutritious food.

Appendix 5: Institutional aspects and implementation arrangements

Participating Institutions

1. **Overall Structure:** PRIDE will be implemented through a two-tiered institutional structure at the Central and Governorate level. At the central level, the Ministry of Investment and International Cooperation will represent the Government of the Arab Republic of Egypt ("the Borrower") and the Ministry of Agriculture and Land Reclamation (MALR) will be the main implementing agency. At the Governorate of Matrouh level, the Desert Research Center will be the executing agency of the project. The two-tier institutional arrangement aims to lessen the approval layers for faster decision-making and consequently more efficient project implementation.
2. **The Ministry of Agriculture and Land Reclamation (MALR)** will be the lead implementing agency of the project on behalf of the government. MALR is the government agency responsible for formulating sector policies for promoting and upgrading Egyptian agriculture and implementing agricultural programmes and projects in the country. MALR has jurisdiction for providing a variety of agricultural services and regulate and supervise the activities of public and private entities involved in production and processing of agricultural products. The responsibilities of MALR for services and regulation are carried out at the Governorate level through the Governorate Directorates of Agriculture (GDA) and Governorate Directorate of Veterinary Services (GDVS), which are administratively responsible to the Governor but technically responsible to MALR. MALR has proved to be a capable partner that has in the past assumed the responsibility for project oversight and providing strategic guidance and facilitation in the implementation of strategic policy decisions.
3. **At the level of the Governorate of Matrouh:** The Desert Research Center (DRC) will be the key implementing partner at the Governorate level. During the design process IFAD and Government examined alternative options for the implementation arrangements of the PRIDE. The design process concluded that DRC is the most appropriate Implementing Agency for Matrouh activities, with implementation of specific components and activities outsourced to a large number and scattered groups of beneficiaries with the appropriate expertise and mandate. Selection of DRC is based on the (i) relevance of their mandate; (ii) previous experience in implementing similar donor projects; (iii) strong relationship with the targeted beneficiaries and (iv) technical and administrative staff of over 1000 in the country. Moreover, DRC has strong management structure and it has field presence in Matrouh Governorate.
4. DRC's main role is in applied and adaptive research for desert environments. The Center has been collaborating with both national and international organizations. At the International level DRC has had partnerships with the African Union, European Union, Italian Cooperation, the World bank, United States Department of Agriculture (USDA), United Nations Environmental Program (UNEP), Food & Agriculture Organization FAO, International Atomic Energy Agency, etc. DRC has a large staff at the DRC headquarters and its 8 Stations, and 5 Associated Units (Tissue Culture Lab, Geographical Information Systems (GIS), Satellite Receiving Station, Private Service Unit (PSU), and Library). The center constitutes of 32 Laboratories and 4 Major Divisions, 14 Departments. The Center will provide frequent support to Matrouh PMU through its in-house technical capacity.
5. Sustainable Resource Development Centre Matrouh (SRDCM). This Centre was established by the World Bank project. It will act as the PRIDE Management Unit and be responsible for the implementation of the project activities between Dabaa and EL Salloum. It will implement key project activities related to reservoirs for irrigated agriculture, wadi development, community range management, breed improvement and animal husbandry, horticulture, water quality monitoring, development of cisterns and reservoirs, etc. In addition, it will also be responsible for all investigations, surveys, research, development and design of water harvesting works and of watershed management works to be implemented under the project. The project will benefit from the

Training Centre that was established under the World Bank Project for all training events. While DRC has a staff of 230 in Matrouh, they have had limited resources to spend from the normal Government budget. Thus the DRC capacity to implement the project, procure and manage the financial resources, monitoring and engaging with women will be enhanced through technical assistance and field support and additional field staff.

6. **Sub regionals support Centres (SRSC).** Four SRSC's that were established Under the World Bank project, at Ras El Hikma, Marsa Matruh, Negila and Sidi Barrani will be used for the implementation of project activities. In addition, the project will support the establishment of a SRSC in Dabaa and a training centre in Siwa. Each SRSC will be headed by a Director responsible for coordinating Community activities and for overall administration of the activities of the centre. Each of the five centres will be staffed by Subject Matter Specialists (SMSs) in field crops, horticulture, livestock, range management, rural women extension specialist, a Community Liaison Coordinator, a water harvesting specialist, a watershed management specialist and a number of technicians to support all activities. The units will be strengthened by a number of technical staff either from the DRC Head Quarter or from Matrouh Governorate. At the technical level, each of the disciplines will coordinate its activities with its corresponding parent organization at the SRDCM level in Marsa Matrouh PMU.

Other Implementing Partners

7. **Agricultural Research Centre (ARC).** Under MALR, ARC is the principal organization responsible for technology generation and transfer for agriculture growth and development. It is one of the largest research organizations in the Middle East dedicated to research and development of agricultural sciences and has contributed significantly to Egypt's agricultural successes. ARC's major responsibilities are: (i) conduct applied and basic research to generate a continuous flow of technologies that help increase productivity and reduce production costs; (ii) transfer new technologies to the farming community through an effective extension service; and (iii) develop its human capacity and facilities to shoulder its responsibilities. Its achievements include new high yielding and early maturing varieties of wheat, maize, rice, etc.; improved agronomic and livestock management practices; and better food processing techniques. Research has been dedicated to solving problems within the overarching goal of maximizing the economic returns per unit of land and water. ARC's structure includes 16 research institutes, 13 central laboratories, 10 research stations, 36 commodity research stations including El-Qasr Research Station in Matrouh Governorate, 4 research/extension training centres and over 4,500 research and support staff.

8. **NGOs.** As DRC has limited capacity with respect to gender issues, PRIDE will contract a National/International NGO through a competitive process to undertake the overall responsibility for the activities targeted at women under the integrated nutritional change sub-component. The main criteria for selection of the NGO will be corporate capability, outreach in the project areas and past experience in community mobilisation with special emphasis on women, capacity building, support for incoming generating activities, social sector services particularly multi-grade schools and monitoring of behaviour change. There are several NGOs in the project area with the relevant expertise and capability.

9. **Governorate Level Coordination.** To ensure that Matrouh Governorate mobilises and develops the necessary capacity for the coordination and implementation of Project activities, a Governorate Project Coordination Committee (GPCC) will be established and chaired by the Governor to provide overall guidance to project implementation. The GPCC will review project progress against targets, assess management effectiveness, decide on corrective measures where appropriate, review lessons learned and good practices and review progress reports. It is expected that the Governorate of Matrouh will contribute to the project in terms of:

- Participate in the implementation of the project activities through its respective departments (Road Department, Health Department, Education Department, etc.).

- Secure the necessary land for the construction of schools, health centres and other social sector facilities.
- Ensure that all operational costs for the high schools and health units are assumed by the Government as soon as the facilities are completed;
- Ensure the availability of women doctors, nurses and health facilities for the project social sector services;
- Assign adequate number of technical staff to fill the gaps in the PMU.

Project Structure

10. **National Level:** The Ministry of Agriculture and Land Reclamation will be the lead agency responsible for the implementation of the project. The project will have a Project Steering Committee (PSC) at the National Level. It is expected that the MALR will activate the PSC prior to the initiation of operations on the ground. The PSC will have as its members the MALR, MIIC, the Ministry of Water Resources and Irrigation (MWRI), the Ministry of Health, Ministry of Education, Ministry of Environment, ARC, DRC, ECDC and a representative of the Governorate of Matrouh. The PSC will also include technical resource people to be nominated by the MALR. The PSC will meet at least once a year and provide guidance on key technical and programmatic aspects. The National Project Coordinator will be the Secretary of the PSC.

11. **Central Project Management Unit:** A Central Project Management Unit will be established in Cairo at the MALR and will assume the overall responsibility for the implementation of the project, on the ground. This PMU will provide the basis for establishing a consolidated approach to programme management for the country programme in the future. The staff in this unit will be competitively recruited from project resources and work on a full time basis in managing and supervising project activities. The CPMU will be staffed with a dedicated National Project Coordinator, financial, procurement and M&E specialists. Short term technical expertise will be recruited for areas such as gender, poverty targeting and environment. A project committee will be established for the screening and short listing of all proposals for the selection of services providers, social sector facilities and grants under the project. The project committee will be led by the MALR and include representation from MWRI, Ministry of Environment. The National Project coordinator will ensure that all proposals are screened and scored by this committee prior to their approval by the PSC.

12. The CPMU will be responsible for supervising DRC in the implementation of the activities in the coastal areas from Dabaa to El Salloum, recruitment and overseeing the work of service providers such as the third party organization undertaking the baseline and project completion surveys, the international firm to undertake the Siwa Drainage & Irrigation Feasibility Study, the recruitment and supervision of the NGO for undertaking project activities related to nutrition and women's empowerment activities. The PMU will provide quality assurance in all project activities and also oversee the use of high quality technologies, educational materials and best practices in the implementation of project activities.

13. The CPMU will be directly responsible for coordinating the activities related to Moghra. The CPMU will invite three types of proposals for the development of the new lands in Moghra. These proposals will include the following; (i) proposals to provide technical assistance and training to the youth companies in agriculture production and marketing; (ii) proposals for the provision of social sector services from line agencies and NGOs in the Matrouh Governorate which will include desalinization plants, roads, multi-grade schools and mobile health services and (iii) proposals from the youth companies or their association for provision of on-farm water management, sand dune structures and other initial investments on the land.

14. The agencies which will qualify for the submission of proposals for technical assistance and training will include those who have the skills to undertake this type of activity in the country such as ARC, DRC, ICBA, FAO and the private sector. The Department of Roads will submit proposals for roads in coordination with the ECDC, which has prepared a Master plan for the purpose. The

Department of Education, Health and NGOs can submit proposal for providing the desalinization plants, and social sector services such as mobile health units, multi-grade schools and high schools. However, only youth companies or their association will qualify for submitting proposals for grants to defray the initial capital cost of initiating farming activities or downstream processing and marketing activities.

15. The project activities will be based on an annual work plan. Coordination with the local line agencies of Agriculture, Livestock, Health and Education, Roads and bridges will be coordinated by the Central PMU. ECDC's role will be as a facilitator. ECDC has already allocated the land to 252 youth and small groups in El Moghra and provided wells for irrigation water. Its main role will be to ensure that there is water in the wells in the allocated lands which can be used for irrigation. ECDC will facilitate the PRIDE project implementation in the following ways; (i) share the data on the 252 groups of youth and smallholders who have been allocated the land in the project area; (ii) share the Master plan of El Moghra; (iii) shares studies on the water quality and quantity in the wells in El Moghra and (v) use its leverage to facilitate development by other line agencies; (vi) provide support to the farmers through access to credit and marketing services that it is arranging for the newly reclaimed lands and (vii) facilitate interaction between the private sector investors and youth companies.

16. **The Regional Project Management Unit (RPMU):** For the settled communities in Matrouh, between Dabaa and El saloum, the project activities will be implemented by the Sustainable Development Resource Centre for Matrouh (SDRCM) of the DRC which has previous experience of managing the World Bank and EU funded projects in the area. The RPMU will be led by the Project Director and will have overall responsibility for the day-to-day operations of the project in Matrouh. The other staff that the PMU will comprise of include a Deputy Director, M&E Specialist, Livestock Specialist, Horticulture Specialist, Rangeland Specialist, Gender Specialist, Procurement Officer, and Financial Management Specialist. This staff will be from the existing staff of DRC and will receive incentives to work on the project on a full time basis. In addition, DRC will competitively procure civil engineers (3), livestock specialists (3), horticulture specialists (3), gender specialists (5), drivers (6), nursery workers (3) and laboratory technicians (2) from the market. The staff will be assigned to the PMU or at the district level as required. The project will pay the salaries for these full time staff throughout the project period. The project will also obtain short-term technical assistance as and when required for reviewing environmental, social and climate change specialists to oversee implementation of the ESMF and manage the climate monitoring stations and nutritional impact of the project.

17. The project will use the existing five Sub-Regional Support Centres of DRC in each of the five districts and will establish an additional unit in El Dabaa. The staff already employed by DRC in these centres will work for the project on a part-time basis. They will maintain time sheets for the work that they undertake under the project and receive a stipend for the additional work. These units will be provided operational support for the implementation of project activities.

18. An NGO will be competitively recruited to implement the activities targeted at women under the empowerment for nutritional change sub-component. There are a few NGOs that have been active in Matrouh such as Misr El Kheir Foundation, Kenana, etc. In its first year the Central PMU will advertise for the services of a qualified NGO to implement the integrated nutrition components which will include literacy classes, nutrition packages, sanitation facilities, multi-grade schools, and behavior change campaigns for women.

19. **Framework Agreement and Protocols.** In order to facilitate the implementation of the project activities a Framework Agreement or Protocol will be signed between the PRIDE PMU and the respective ministry/entity (Ministry of Health or its representative in Matrouh, Road Department in Matrouh Governorate and General Authority for Educational Buildings) to implement project activities such as construction of health centres, construction of schools and construction of feeder roads. In which the respective ministry/entity declares its support to PRIDE objectives and commits to work together in helping the project realise these objectives. The agreement will include the responsibilities of each party during the implementation and arrangements for handing over, the responsibility for staff

for the schools, multi-grade schools, health units, mobile health services, etc. A sample of the Arabic version of the framework agreement is given as an attachment in the PIM at Appendix 11. The table below summarises the contribution of the Government and the PRIDE project to the different cost categories.

Table 5.1 Social Sector Facilities and Main Responsibility

Type	Infrastructure Costs	Staff	Operating Cost	Type of staff
High Schools	PRIDE	GoE	GoE	Teachers (women)
Multi-Grade Schools	PRIDE	PRIDE	PRIDE (7 years)	Teachers (women)
Health Units	PRIDE	GoE	GoE	Nurses and doctors (women)
Mobile health Clinics	PRIDE	GoE	PRIDE (7 years) ⁰	Nurses and doctors (women) except in Moghra where staff can be male.

Specific Implement Arrangements

20. **Wadis rehabilitation and development:** The wadis to be equipped will be identified in collaboration between the beneficiary communities and the Regional PMU (RPMU). The axes of the masonry weirs will be positioned in the presence of the farmers so as to have a single family between two weirs. When the axis is defined, the RPMU civil engineer will choose the cross-sectional profile that best suits the topography of the site. The construction will be entrusted to a locally recruited contractor who will hire labour locally, thereby generating additional income for the local households. The price of one cubic meter of masonry is agreed and the payments are made on the basis of each meter. The length of each weir is known in advance. A written contract is established between the RPMU and the informal entrepreneur. Payments will be made as the work progresses. The work will be supervised by a technician or a civil engineer of the RPMU.

21. **Siwa Irrigation & Drainage Study:** IFAD has prepared an initial TORs for the study. A specialised firm will be competitively recruited to undertake the study which will include a detailed study of the problem, presenting of options, engineering designs with an estimate of costs for each option. The selected firm will be hired in the first year and complete the study within six months. The firm will be given two months for an initial inception phase in which the scope of the work will be clearly elaborated, key deliverables identified and agreed with a clear time plan between the CPMU, MALR and MWRI, DRC and other key stakeholders such as the drainage authority, local farmers, etc. ECDC will also be consulted as it has plans to include Siwa in the second phase of the 1.5 million land reclamation project and the excess water from the salt lakes of Siwa could potentially be used for reclaiming new lands. The potential for using the Siwa study as a prototype for other oases will be elaborated. The CPMU will supervise the work and ensure its presentation to Government as well as initiate any policy dialogue that may be required for its proper implementation.

22. **Feeder roads:** The Roads and Bridges Department of the Governorate will assume the responsibility for the tendering for the roads in collaboration with DRC. The identification of the roads for the coastal areas will be made in close collaboration with the RPMU at DRC which will consult with local communities for the purpose and identify the roads based on the criteria established for the project. The roads assigned to El Moghra will be coordinated by the CPMU with ECDC which is preparing Master Plans for the site. The road design will be based on the standard set for rural roads by the Government. The Roads department will be responsible for estimating costs and preparing tenders on behalf of the CPMU and RPMU. The tender will be issued by the CPMU in Cairo and the RPMU for coastal areas. The Roads Department and the CPMU and RPMU will participate in the evaluation of the tenders and the selection of the contracting firm according to pre-established criteria specified in the invitation to tender. The department will monitor the work and the payments made by the CPMU upon satisfactory completion will be determined by the Roads Department. The roads will follow the selection criteria specified in Appendix 4.

23. **Management of homestead cisterns/ reservoirs:** Payment for these will be made in a phased manner. DRC will sign a Terms of partnership with the selected household which will specify the payment plan and the responsibility of each party. The selected household will dig the aperture in the site recommended by DRC technical staff; second, the DRC technical staff will verify the technical specifications of the aperture; The selected household will complete the work either itself or contract it out to a private contractor; After the completion of 50% of the work, DRC will make 50% of the payment, After completion of the work, DRC will make full payment upon verification of the completed works. After construction, the management of cisterns/ reservoirs is the responsibility of the individual beneficiary household. DRC will provide only technical advice as requested/ needed.

24. **Roads, schools and health units:** The technical services of each line Ministry are present at the level of each governorate to ensure the execution of the works within its mandate. The Ministry of National Education and those of the Ministry of Health will participate fully in the identification and designing of these facilities in collaboration with the CPMU. The RPMU will assist in the identification of the facilities for the settled areas of the Governorate while the CPMU will identify the needs for social services in El Moghra in discussion with the appropriate authorities as and when required. The Ministry of Education will take over the high schools as soon as they are constructed and the Ministry of Health will take over the management of the Health Units and the Mobile Health Units. Part of the costs of the mobile units will be provided by the project. A memorandum of understanding will be executed between the CPMU, RPMU and the Governorate line agencies for each of these facilities to identify the responsibility and role of each for operating, staffing and maintain the facilities.

Livestock and Rangeland Management

25. The Livestock and Rangeland Management Sub-component will be implemented by DRC. DRC's field offices will work closely with communities to develop the Community rangeland plans based on demand. DRC will work with the concerned communities using participatory land use planning methodologies, community land use plans to identify and geo-reference community rangeland sites to be rested for 2 to 3 years and those to be protected for seed production and to identify individual smallholders interested and willing to rest their family rangelands and those interested in alley cropping. Agreements will be signed between the project and community representatives defining the roles and responsibility of each party. The project will consider providing a matching compensation fund based on estimated production of the rangeland to be rested. This fund will be used in community investments or to hire guards or for other incentives as agreed by the community members with DRC. The community representatives will designate the land to be rested, supervise the guards and adopt sustainable rangeland practices on the rested site by respecting the carrying capacity and the recommended grazing period.

26. Agreements will also be signed between the project and individual livestock owners for: i) alley planting of fodder shrubs with barley. Since there are no private nurseries for fodder shrubs in the area, the project will support the DRC to establish the needed seedlings of fodder shrubs in its nursery. In addition, the project will provide incentives for planting and watering the fodder shrubs for the first two years of establishment. The DRC will monitor the condition of plantations; ii) resting family rangelands. The area to rest will be identified, geo-referenced and delineated by field signs. Compensation will be provided by the project as an incentive for the owner to adopt sustainable rangeland management and ensure that the rested site is guarded. The DRC will supervise the rested family rangelands. Monitoring of rangeland condition will be conducted in a participatory approach by DRC in association with community representatives or organizations. Training and exchange visits on sustainable rangeland management and on use of fodder shrubs will be organized by DRC, using local and international technical assistance.

27. In order to produce and distribute the Barqi stud rams, the project will provide support to DRC to establish a breeding station, purchase the initial herd, the feed, and the equipment to prepare feed mixes. The project will then distribute the stud rams to smallholders and to lead farmers on a rental basis during the breeding season in May each year. The cost of the rented ram will be recovered by requiring the lead or elite farmers to repay the project by giving one off-spring from the improved

breed. This arrangement suits the farmers as they do not have to bear the feed costs of the stud ram for the entire year. The project will provide 120 rams to DRC which will be replaced by DRC by selling those rams which are beyond their peak performance. The project, through DRC, will provide support to the smallholders and lead farmers interested in multiplying the animals further for distribution and sale to individual livestock owners. These 'breeders' will receive needed training, to be organized by DRC, in the animal breeding and husbandry best practices including animal health, nutrition and fattening, and herd management for the multiplication of the improved animals. Training to improve herd management will be undertaken by selecting interested candidates and using their farms as the location for farmers field schools (FFS). The project, through DRC, will apply improved practices of herd management in these farms which will then serve for training other smallholders. In order to improve the veterinary services provided to livestock owners, the PMU will develop a partnership with both DRC and the Directorate of Agriculture in Marsa Matrouh. The project will provide two veterinary mobile units and support for vaccines and medicines to be used at a reduced cost as incentives to improve herd management. These mobile units will be operated by DRC due to its more extensive outreach to inaccessible areas.

Crop Production: Training for capacity building

28. The training under the crop production component will consist of 5 different themes (soil management, water management, pruning, IPM and harvest). Each theme will be conducted for a day with 25 participants each, repeated over 5 working days in each of the 5 regional DRC centers. The expected beneficiaries will be at least 5000. The implementation of the course will be no more than 2 hours of theory in the classroom to clarify the content of the session and the rest of the day in the field as practical training. The successful candidates from the training courses will receive equipment to enhance orchard management. The equipment will consist of pruning shears, hand saws, mechanical saw, mechanical backpack pesticide sprayers, pesticide protecting suits, orchard ladders, plastic crates, harvest nets of 160 m² (8m x 20m), and mechanical battery operated hand harvester machine.

29. Training for DRC researchers and agriculture extension services of Matrouh Governorate will be proposed for 30 participants. The training will allow the beneficiaries to broaden their know-how on specific areas related to introduced species or varieties that have a strong potential to adapt to the harsh climate of Matrouh but not well known by the DRC researchers or the extension services, or to develop expertise on some issues specific to the Matrouh environment, such as dealing with water management and soil reclamation under arid and dry climates.

Rehabilitation of DRC facilities

30. Nursery facilities exist already at DRC in Matrouh. However, the greenhouses and glasshouses are old and most of the equipment is old and out of order. However, good infrastructure exists such as good quality land plots, running water, irrigation reservoirs, and water evacuation canalizations. Equipment needed will consist of plastic to rehabilitate plastic houses, soil heating system, mist system in the rooting plastic houses and in the propagation of field plots, rehabilitation of shading houses, virus free houses with insect proof nets, humidity and temperature sensors. Small equipment and chemical stocks (alcohol, phyto-hormones). A call for tender will be announced for nursery rehabilitation.

31. Applied research and dissemination section will need land plots rehabilitated to receive all vegetative material of introduced or native species and varieties to conduct adaptation and variety trials. Vegetative material will include (i) drought and salt tolerant species with either high nutritional value or high commercial value such as the Moringa trees, capers, large fruiting zyziphus, Barbary figs, and (ii) either local or introduced varieties of figs and olives with commercial interest such as figs for drying, high olive oil content or quality varieties, and local endemic varieties of figs and olives.

32. Equipment for laboratories for analyses of water, soil, plants, pesticides residues and contamination, insect and disease plant protection and weather stations will be purchased through proper procurement processes.

Integrated Nutrition Investments

33. As the integrated nutrition sensitive investments are multisectoral, the nutrition sensitive activities will be implemented in collaboration with a number of potential partners and actors. , TA will be engaged for facilitation and coordination of nutrition-sensitive interventions in PRIDE. All effort will be made to bring on board relevant partners (both government and NGOs) for each core nutrition sensitive intervention. For effective implementation of the integrated nutrition interventions, a stakeholder's consultative meeting will be arranged on coordination of activities, defining roles and responsibilities, and sharing best practices.

34. Under this component, nutrition interventions will be integrated at the household level to maximise impact as far as possible. Women who receive cisterns, will also receive sanitation facilities, Moringa trees, livelihood packages, literacy and health and nutrition training. The implementers/service providers and NGOs in this component will be contracted through competitive bidding by the central PMU. The NGO will undertake a mapping of household clusters and a poverty screening of villages and households in the project area according to the criteria specified for each activity. It will also field test and refine the criteria if required. It will provide the RPMU with a prioritized, geo-referenced list of beneficiaries for all the activities under this component. It will use the community representatives (Mandoub) nominated by the Council of Tribal Elders to work with DRC as a resource in this process. This will help to sensitize them to gender and poverty issues and facilitate the NGOs entry into communities.

35. **Cisterns:** The cisterns and reservoirs for water in the homestead will be implemented through DRC, based on their well-developed methodology in this regard. Local households are extremely skilled in this ancestral technology and will not require any additional technical skills. The modalities of construction have also been well established by DRC based on their past experience and will not need to be modified. The choice of the site will be made by the beneficiary and verified by the RPMU civil engineer who will verify that the site is composed of a thick robust rock slab. The cistern will be in the name of the women head of the household as a gesture to aid her sense of empowerment and self-worth and to point out that women can potentially be owners of assets. This will probably be one of the few things that women will ever own. The drilling of the rock slab that serves as a roof to the cistern will be made by the beneficiary, which represents the household contribution. The excavation of the cistern with a prefixed volume will be entrusted to the beneficiary or a contractor depending upon household preference. The payment will be made in stages and based on the volume of work carried out. The supervision of the work will be undertaken by the technician of the RPMU.

36. **Reservoirs:** For reservoirs with a capacity of less than 300 m³ constructed of masonry, the implementation procedure will be similar to that of cisterns. For large reservoirs, that can only be built in concrete, the design will be made by the civil engineer of the RPMU and the construction entrusted to a contractor selected by tender. The RPMU will supervise the work.

37. **Sanitation facilities (latrines):** The latrine will be in the name of the women head of the household to promote women's ownership, self-worth and visibility. The choice of the site will be made by the beneficiary and verified by the civil engineer of the NGO which will be implementing this component. The design of the latrine will be from among the standard designs and the construction of the latrine with a standard design will be entrusted to the beneficiary or a contractor based upon household preference. The payment will be made in stages and based on the volume of work carried out. The supervision of the work will be undertaken by the technician of the NGO with overall monitoring by the M&E Specialist of the RPMU and the district female staff of DRC.

38. The NGO will conduct a needs assessment to identify the location of one-room schools based on poverty and remoteness criteria, community willingness as well as a sufficient number of children in the catchment area. The NGO will design, build and run the multi-grade one room schools. The NGO will staff at least 50 percent of these schools with women teachers. The NGO will also organize literacy classes for women in the household clusters. It will also manage health and nutrition awareness training on electronic tablets. The content of the health and nutrition awareness training

will include key messages on health and nutrition, the use of the Moringa tree, the use and care of sanitation facilities, managing livelihood packages plus training videos for olive and fig harvesting. Each facilitator will have a set of tablets which will be taken from household cluster to cluster to educate women. These could be used for health awareness and literacy training. It will also be tasked to manage the formative research for the health and awareness training so that feasible health advice could be given to women. The research will use the Positive Deviance or Trials for Improved Practice approach. The NGO will contract in specialized technical assistance for the research, the formulation of a Behaviour Change strategy and the development of training material for tablets. The NGO will nominate a woman leader in each cluster to function as a point person and help organize women for literacy and health and nutrition awareness sessions.

39. **Schools and health units:** For the coastal areas from Dabaa to El Salloum, the RPMU will contact the technical department concerned to request assistance and define the terms of collaboration and compensation. The choice of the location of the building will be made on the advice of the population and in collaboration with the RPMU and the urban planning services if necessary. The technical department of the ministry concerned will be responsible for designing the building, estimating costs, preparing the tender documents and collaborating in the selection of the contracting firm. The tender will be launched by the RPMU. The department will control the execution of the works, Payments will be made by the RPMU after favourable opinion of the department. For El Moghra, the same procedure will be followed, except that the CPMU will invite proposals from the line agencies for El Moghra based on demand from the youth companies and in coordination with the ECDC. The responsibility for supervision and tendering for the works will be coordinated by the CPMU in this case.

40. An MOU between the PMU of PRIDE and the Health and Education department of the Matrouh Governorate will be signed under which PRIDE will build three high schools, three health units and finance 5 mobile clinics. DRC will tender and contract the design and construction of high schools and health units. The department of Health and Education will staff these units with additional incentives from PRIDE for women staff. The mobile health units will be staffed by women doctors and nurses and serve communities identified by the NGO as the most poor and remote with the least access to health services.

41. The identified beneficiaries of the livelihood packages will be consulted on the kind of livelihood packages they want. DRC will be in charge of conducting further trials on the Moringa tree and other plants that can grow in the desert and provide families with nutrition. The DRC will distribute Moringa saplings to women beneficiaries.

Eligibility Criteria for Specific Components

Reservoirs for Irrigation and Wadi Rehabilitation

42. The reservoirs for irrigated agriculture (300 m³) are designed to provide supplemental irrigation for increased crop production as a mitigation measure for climate induced droughts. The first preference for the location of reservoirs will be at the site of the wadis (to ensure sustainability of irrigated agriculture near wadis). Location of reservoirs along the wadis will be determined based on consultations with the tribes along the wadi.

- Out of the 500 reservoirs, 200 reservoirs will be reserved for the wadis to be rehabilitated by the project (2 per km across 100 km).
- 40% of the reservoirs (80 reservoirs) will be reserved for wadis with no crops.
- 60% (120 reservoirs) will be reserved for wadis with newly planted crops.
- Reservoirs will cover 10 feddan of irrigated land.
- 300 reservoirs will be reserved for newly planted orchards (started in the last 1-5 years), which are more susceptible to climate change/ variability in rainfall.

Criteria for selection of wadis to be rehabilitated

43. The Wadi selection will be based on a combination of socio-economic and technical criteria. As a first step, DRC will ensure that in beneficiary meetings with household representatives, all communities are informed of this opportunity for wadi development and the criteria for selection. DRC will solicit requests for reservoirs and wadi rehabilitation from all communities. The following criteria will be used to qualify requests:

- A signed agreement that all households along the wadi wish to participate
- Wadis with a minimum of 10-12 families per km
- Wadis with minimum length of 0.5 km

44. Those Wadis which meet these criteria, will then be ranked with the highest number of households receiving the highest priority. If there are several wadis with the same number of households and project funds are insufficient to cover the demand, remoteness from a town centre can be used with the wadi furthest away getting the highest ranking.

45. Management of wadis and reservoirs for irrigation: DRC will formalize MOUs/ agreements with communities who benefit from the wadi rehabilitation and the reservoirs for irrigation. Agreements will be signed with a representative from each family benefiting from 0.5 km of the wadi rehabilitation (approx. 5-6 families). Individual farmer names will also be included in the agreements. The daily management of the length of the wadi and the reservoir will be the responsibility of the families in 0.5 km stretches (5-6 families).

Homestead cisterns/ reservoirs

46. The selection criteria for homestead cisterns and water reservoirs designed primarily for domestic use primarily as a source of drinking for households, livestock and to water any plants around the homestead will be based on the following criteria.

47. **District and Community Level Allocation:** All communities will be eligible for homestead cisterns. However, as El Negila and Barrani are the two poorest districts, each will have a 25% share of the 6500 homestead cisterns and reservoirs. The rest of the districts will be allocated around 16% each. This may vary depending on the presence of households in these areas who meet the specified criteria.

48. Beneficiaries will be selected on the basis of socio-economic criteria. Cisterns/reservoirs will then be located where it is feasible to build them. The final allocation is based on the type of soil and rock formation, the characteristics and extent of the water catchment area, the topography and characteristics of the landscape. DRC will determine whether to construct a cistern (rocky soil) or reservoir (soft soil), the use of instruments/ tools for construction, etc.

49. DRC will take a number of steps to ensure that these beneficiaries are identified in a fair and transparent manner. Meetings will be held in the project with household representatives to inform households about project interventions and criteria for selection. Google earth will be used to plot the clusters of households in a given area and the cisterns already provided through other projects will be pinpointed on this map and submitted to the PMU.

50. Contributions from the beneficiaries are only in terms of labour (opening of the aperture), ensuring that poorer HHs also have the capacity to construct cisterns/ reservoirs.

51. **Household Level Allocation:** In all communities, the poorest households, essentially those considered eligible for zakat, will be identified according to the following criteria and served: (i) women-headed (this includes women who are single, divorced or widowed as well as households in which adult men are unable to earn due to age or any kind of disability) (ii) households with no land and no livestock (iii) households with no member employed (this does not include engagement in handicraft or casual wage labour.) Households that have already received a cistern under any other project will not be eligible.

52. A preliminary list of beneficiaries fitting this profile can be taken from the Mandoubs. However, each beneficiary will be visited, verified and geo-referenced by DRC's M&E team (men and women). During a visit to a cluster, the M&E team will hold a meeting with men and women separately to ascertain that all the households that meet the selection criteria in that given community have been included. Any households left out of the Mandoub list will be included. Beneficiaries data will be entered in the project's MIS with their geo-coordinates. Over the course of the project the M&E team will visit each cluster to collect geo-reference data on the poorest and poor households.

53. Once all the poorest households in the area have been served, in each district, DRC will plot the number of clusters across communities in the districts of Marsa Matrouh, El Negila, El Barrani, El Saloum, El Dabaa that are over 30 km inland and have poor access to water (over 25 km) sanitation and health. These will be ranked by remoteness with the most remote receiving top-priority for homestead cisterns. The following scoring system will be used to rank beneficiaries:

Table 5.2: Scoring System for Ranking Beneficiary Households

Indicator	Score
Ownership of livestock (Number)	
None	10
20 or less	8
50 or less	5
Over 50	3
Number of under-five children	
Over 5	10
Up to 5	5
None	3
Ownership of Land (Feddan)	
Under 5 feddan	10
Between 5.1 to 10	5
Over 10 feddan	3
Off-Farm Employment (Number Employed Off-Farm Full Time)	
None	10
Between 1 and 2	5
Above 2	3
Disability	
More than 1	10
None	3

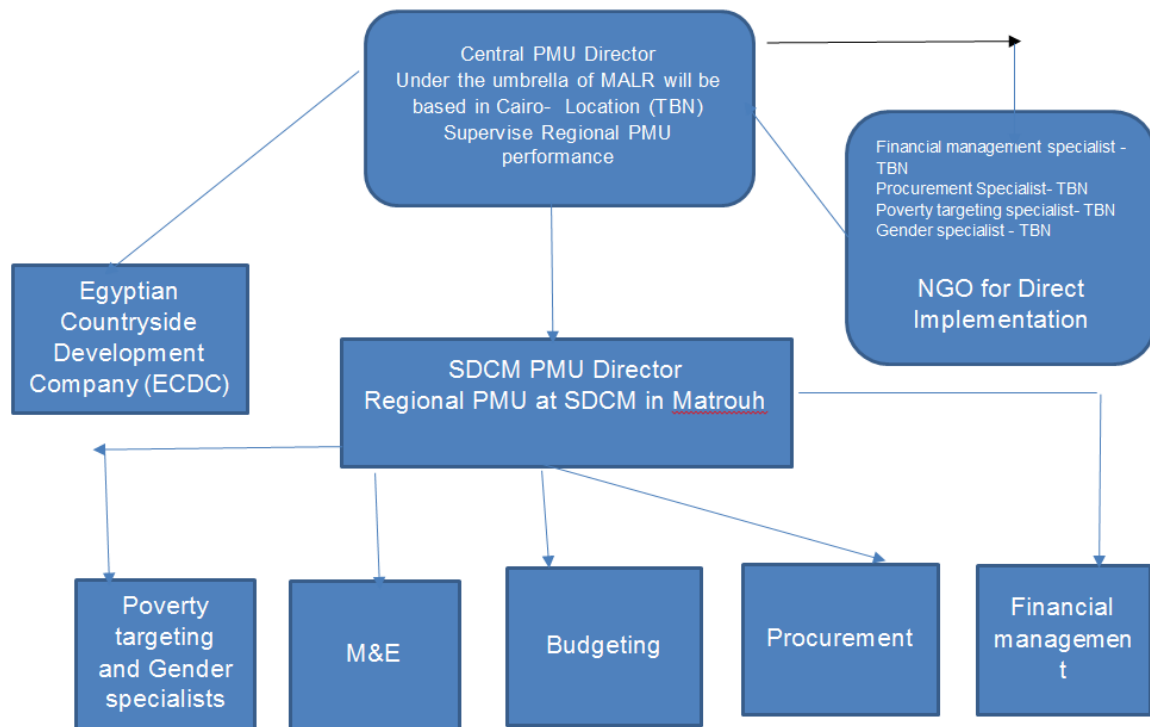
54. Beneficiaries will be given priority based on the score they receive in descending order. Those with the highest score will get the service first. All households in a given household cluster who meet the criteria will be served.

55. **Roman Cisterns(500 m3 for livestock/ human use):** The 100 Roman cisterns used for livestock and human use will be selected based on the following criteria: (i) Only cisterns on common lands, with no cisterns on private lands selected for rehabilitation.¹¹⁰ (ii) Suitability of aperture and walls for rehabilitation.¹¹¹ The cisterns that can be rehabilitated will be in the southern part of the project area which faces acute shortages of water. Cisterns that serve the remotest areas (over 30 kilometres) and/or the highest number of households will receive priority.

¹¹⁰ These Roman cisterns will be selected in common lands. These are often used for grazing. The cisterns will serve the water needs of livestock and herders/ HHs

¹¹¹ Extensive damage to aperture and walls raises the cost much beyond EGP 60,000. In most cases, extensive damage (aperture opened due to top damage) implies the cisterns cannot even be rehabilitated.

Figure 1. PMU Organizational Chart



Appendix 6: Planning, M&E and learning and knowledge management

Introduction

56. This appendix covers three inter-related aspects to be integrated in the programme management unit (PMU) for the project at the central and the regional PMU levels: (a) monitoring and evaluation (M&E), (b) planning, and (c) knowledge management. The M&E system and processes will be built around the following key principles:

- **Focusing on the main objectives/ goals of the project:** Building resilience through the ability to manage and adapt to climate change and through increased food security and nutrition outcomes.
- **Building on community-based and participatory processes:** The M&E system will build on participatory community practices, planning and evaluation.
- **Focusing on outcome and impact measurement:** Besides the regular collection of output-level data, the project will emphasise the measurement of outcome-level results and the use of these assessments in learning, accountability and guiding project orientation.

57. The appendix builds on the relevant latest resources in IFAD, including: (i) the latest version of IFAD's Results and Impact Management System (RIMS, the latest version approved by IFAD's Executive Board in April 2017), (ii) the best practices and principles outlined in the Evaluation Manual developed by the Independent Office of Evaluation (IOE, current version of 2015), and (iii) IFAD's Knowledge Management Strategy. It also builds on the latest relevant corporate priorities and commitments and best practice related to evaluation and surveys. The principles and processes outlined in this appendix are aligned with the priorities identified for PRIDE during the design process. This appendix also responds to the latest country strategy and programme evaluation conducted in Egypt, in particular the recommendations on M&E and the need for disaggregated data.

58. As per IFAD's Development Effectiveness Framework (approved by the Executive Board in December 2016), and in line with global best practices, the planning and M&E activities and Knowledge Management should have the following objectives:

- Strengthening the focus on results through the project cycle;
- Enhancing self-evaluation and learning for results;
- Fostering the use of evidence in project management.

59. Therefore, activities planned to examine all three aspects should have a clear eye on achieving and measuring results, on identifying failures or constraints and taking appropriate and swift corrective action, and on learning that could be used to scale up achievements in the project or across development interventions of partners.

60. The M&E officer in the Central PMU in Cairo and officers in the regional PMU at DRC will be primarily responsible for M&E and knowledge management. The Central PMU in Cairo will appoint one M&E Officer, and there will be three district-level officers (two covering Matrouh DRC activities and one for the new lands). For the new lands, the M&E unit will also coordinate with the M&E unit in the Egyptian Countryside Development Company (ECD/ El Reef El Masry) to obtain data on the newly settled youth and smallholder groups. The women officers being recruited for the regional PMU at the SDRCM will also be responsible for monitoring and reporting on women's activities. These reports will be assimilated by the M&E officers at the regional and Central level for integrating into all project reports.

Monitoring and Evaluation

61. The project monitoring and evaluation system and processes will be established and managed in accordance with established IFAD procedures by the project team with support from IFAD. The Logical Framework provides indicators for implementation along with their corresponding means of verification. These will form the basis on which the Monitoring and Evaluation (M&E) system will be built (which could also include an extended/ more comprehensive list of indicators). The M&E processes and systems will be in line with IFAD and global best practices. Selected indicators have already been included in the design report/Logical Framework. Indicators in this appendix and the logical framework have been chosen in alignment, to the extent feasible, with IFAD's RIMS framework, with the latest version available at <https://webapps.ifad.org/members/eb/120/docs/EB-2017-120-R-7-Rev-1.pdf>. The final indicators will be defined in the start-up workshop using the Logical Framework. For any future iterations, the PMU should select SMART indicators (specific, measurable, attributable, reliable and time bound) relevant to the local context and Logical Framework.

62. The Desert Research Centre already has a well-functioning M&E system *at the output level*, with clear quantitative measurement of outputs produced by previous projects. All activities and infrastructure developed under previous interventions have also been mapped in the DRC Geographic Information System (GIS) (including dikes and wadis constructed under the previous World Bank-financed Sustainable Development Centre for Matrouh Resources). These existing strengths will be built on during project start-up and implementation, extending the M&E system to cover the whole project.

63. **Structure:** The M&E system will have a three-level structure, consisting of output monitoring, outcome monitoring and impact evaluation. **Outputs** generated by the project are the direct products, capital goods or services which result from a development intervention promoted by the project. **Outcomes** are the likely or achieved short-term and medium-term effects of an intervention's outputs. **Impacts** are the positive and negative, long-term effects produced by a development intervention, directly or indirectly, intended or unintended. See below for monitoring/ evaluation at the different levels. .

64. **Output monitoring (RIMS first level)** is concerned primarily with the monitoring of input delivery, activity implementation and output achievements that can help the PMU to continually take timely decisions and self-evaluate progress. This will be done at all levels; by the community representatives, M&E team, PMU, and implementing partners. AWPBs will provide the targets for first level monitoring. The M&E officers will ensure real time tracking of the implementation of the activities and associated outputs and should be calculated taking into consideration the period from 1st January to the 31st December of a given year. Results from outputs will feed into the MIS/ planning tool.

65. **Outcome assessments (RIMS second level) cover Outcomes**, that are the medium-term effects of the outputs produced by the Project. The purpose of monitoring the outcome is to inform Project management of the mid-term results of Project initiatives, identify the most successful implementation experiences as well as the setbacks that have hindered the achievement of expected objectives. The project outcomes, which also include RIMS indicators, could be assessed from the third year or the Project (to allow for consolidation of changes at the outcome level) and should be reported to IFAD either on an annual or biannual basis, depending on the type of indicator and the methodology employed. Outcome indicators will be collected through focus groups, in-depth interviews, participatory assessments, studies/surveys in the target areas. The methodologies employed will be participatory, building on the system of community representatives, and will reflect the preferences and feedback of communities being served by the project (DRC has experience in conducting participatory rapid rural appraisals, which were implemented during the World Bank financed Matrouh Resource Management Project). At the outcome level, the Project Start-up Workshop will also review and adopt, if feasible, IFAD's Annual Outcome Survey methodology (to be shared by IFAD country team at the time of the Project Start-Up workshop), and integrating the key outcomes in the Log-Frame.

66. Annual outcome surveys, including outcomes relating to gender mainstreaming/ women's empowerment will be conducted from the fourth year onwards and continued in year 5 and year 6. In year 7 key elements of the outcome surveys will be integrated into the completion impact survey.

67. **Impact assessments** will cover *Impacts*, the changes that are logically expected to occur by the end of the project (with some impact indicators taking longer to be visible, and most apparent only in the long-term or post-completion). Impact assessment will primarily be done through a baseline survey to be conducted at project start-up and a completion impact survey to be conducted at project completion (the baseline survey will also provide baseline data for some key outcome indicators identified in the Logical Framework). The Baseline Survey will be conducted during the first year of the Project and immediately after the Project Start-up Workshop. The final evaluation including a household survey will precede the Project Completion Mission and will measure the impact of the Project throughout the course of its implementation.

68. The baseline survey will be conducted with a two-stage sampling approach: first stratified by agro-ecological zones in the Matrouh coastal area and the new lands, but within the agro-ecological zone, households to be selected through simple random sampling. (Stratification could also be done by project intervention type, but the segregation by intervention type will overlap closely with agro-ecological zones; the detailed sampling framework will be developed during the survey.) For Moghra, the only HHs sampled will be from among the youth groups (who are the primary target group of the project in Moghra). The completion survey will adopt the same sampling framework and the questionnaire to ensure comparability.

69. With regard to selection of a control group, it was decided not to conduct the survey across a control group. Based on the discussions with DRC, the project will cover almost all communities in a certain agro-ecological zone (e.g. all rural communities in the rain-fed areas in Matrouh or in Siwa Oasis). And for the new lands in Moghra, the project will include all the smallholder households and youth groups covered by the project. Therefore, the scope for selecting a comparable sample of households/ communities that do not receive project services as a control group is limited (the agro-ecological zones are unique, and it will be difficult to find a control group in a different agro-ecological zone in Egypt with similar attributes). The analysis will focus on before and after analysis of the farming households.

70. In terms of questionnaire development, the standard IFAD RIMS survey will not be used and will instead be adapted to the context. For example, the assets that can be measured to distinguish between HHs at different poverty levels vary from most IFAD project regions. The surveys will be aligned with the key priorities of the project. These include: climate resilience, nutrition-sensitive activities and gender mainstreaming. Therefore the surveys will integrate elements of:

- The RIMS impact survey, to be adapted for the context (based on a participatory approach to questionnaire and survey development, especially to determine the assets that most accurately determine/ reflect poverty levels).
- For climate resilience, the Multi-dimensional Poverty Assessment Tool (MPAT) will be used, in particular component 11 on adaptation and resilience with regard to climate change.
- For nutrition and food security, the project will integrate elements of the FAO Dietary Diversity Score (to assess HH level food security) methodology. The dietary diversity assessment will be done through the Minimum Dietary Diversity for Women (MDDW) tool.
- For gender mainstreaming, key questions from the Women's Empowerment in Agriculture Index (WEAI) will be adopted.

71. In addition, the baseline survey will also be used to collect data on the technical components. Therefore, it will cover both the results at the household/ community level and the baseline data for technical components. This will include geo-referencing current and existing infrastructure, including

water cisterns, reservoirs and roads, so that the project could use clear criteria to determine the locations of new infrastructure.

72. Management Information System (MIS): The Project will be assisted in the development of a Management Information System (MIS) with IFAD support. The system will be designed based on the requirements identified in the Logical Framework and in keeping with IFAD RIMS requirements and the guidance provided by the technical divisions of IFAD on M&E. The system will have the capacity to provide gender-disaggregated data on all key indicators. In addition, and in line with recent IFAD corporate priorities, the M&E system will also capture all people-specific indicators disaggregated by age to capture the engagement of youth in the project. With regard to the MIS, NEN will also introduce DRC to the 'NEN Planner', an MIS tool currently being developed in-house to facilitate the management of AWPBs, annual progress reports and RIMS reporting.

73. Geographic Information System (GIS): The Desert Research Centre already has a GIS. This has been used to map interventions under previous projects including the recent EU-financed project. The GIS will enable the presentation of data in an interactive geographical interface. A GIS mapping survey will be conducted in the first year. This will track the existence of infrastructure (wadi) and homestead water-related infrastructure (cisterns, reservoirs). The same database will be used to update information on project interventions across communities, including the provision of nutrition and livelihood packages. The project will introduce direct input through tablets to be employed to update the GIS system and M&E database. Twenty-five tablets for the project areas (purchased at USD 200 per tablet, with the distribution to be shifted depending on project progress) will be purchased for real-time updates on HH characteristics, project output delivery and quality, beneficiary feedback and outcomes.

74. The overall objectives of the survey and tracking are to: (a) provide an overview of the project, including the various components and interventions; (b) provide synthesized reports and graphical elements (charts and maps) on the various activities of the Programme including investments per community, status of infrastructure completed, (c) provide updates on various project outcomes through the life of the project: geophysical (e.g. land cover, water resources availability, etc.), infrastructure (e.g. schools, health centre, roads, cisterns, reservoirs, etc.), and demography (population, poverty, etc.); and (d) provide objective elements in defining the priority list of areas to be targeted by the Programme.

75. GIS up-gradation as part of the GIS mapping exercise: An initial activity related to the development of the package for the tablets will be implemented in the first project year. The development of the customised input and user interface will include, but not limited to:

- The characteristics and results to be inputted in the interface/ GIS system
- Definition of user rights across the system: This will include defining and assigning rights for read/ view rights (only inputting data or viewing data), edit/ update rights, approval rights (the central M&E officer/ project coordinator/ CPM), administration rights (assigning rights to other users, by the central M&E officer)
- Alignment and harmonization with other systems: The system will be able to export data and results to Excel/ SPSS/ other common data management softwares. It should be able to also export to Google Maps/ ArcMap
- System requirements: The system will have a light system requirement so that computers/ PCs in project areas without high capacity can also access and use the system.

76. Reporting processes will capture data periodically from different sources and stakeholders about project interventions, which are consolidated at different levels, processed, analyzed, classified and presented into customized tables that are used for the preparation of different reports namely: (i) monitoring reports (including RIMS/ upgraded versions of RIMS or the Online Logframe currently being developed in IFAD), (ii) progress reports (iii) financial reports; (iv) audit reports; and (v) completion reports. This set of reports constitutes the minimum reporting requirements.

77. Updated IFAD reporting systems, including the Online Log-frame, currently being developed in IFAD, will be introduced to the project as they are finalised and rolled out (as per IFAD corporate plans, all new projects will eventually feed in their key RIMS and M&E data into the Online Log-Frame).

78. Project external monitoring will comprise: annual IFAD supervision; Mid Term Review; ad hoc thematic/diagnostic assessments; yearly audits; and the Project Completion Evaluation and Survey/ Project Completion Report. Annual reports and significant outcome/ impact level reports will also be shared with the Project Steering Committee.

79. The M&E Officer will be responsible for managing the M&E system and ensuring the timely and accurate production of all reports. The M&E Officer will also be responsible for organizing the baseline and impact assessment survey. The M&E unit at the CPMU and RMPU will develop formats, questionnaire and other data collection tools that will be used to identify baselines and progress during the course of the Project.

80. **Start-up Workshop:** A start-up workshop will be organized in the first project year to establish planning, financial management, governance, procurement, M&E, project organizational and operational modalities, technical specifications and processes (as part of the PIM development process).

81. **Mid-Term Review:** A mid-term review will be carried out towards the end of the Project's third year/ fourth year. The review will cover, among other things: (i) physical and financial progress as measured against AWPBs; (ii) performance and financial management of contracted implementing partners; (iii) an assessment of the efficacy of technical assistance and capacity building activities; (iv) an assessment of the relevance, efficiency, effectiveness, sustainability and impact achieved by the project approaches; and (v) recommendations related to any strategic changes to be made to the project to achieve its development objectives, if needed.

82. **Final Evaluation/ Project Completion Report:** An independent Final Evaluation will take place within the last six months prior to the project completion date, and will focus on the same issues as the mid-term evaluation, and will include the *completion survey*. The Final Evaluation will also provide recommendations for follow-up activities. The evaluation will feed into the Project Completion Report (PCR), and will be undertaken by a neutral agency with no previous involvement in Project implementation.

83. During the final year of Project implementation, as part of the preparation of the IFAD-required Project Completion Report, the M&E data collected over the Project implementation period will be used as part of a thorough assessment of project achievements.

84. A completion mission and review exercise will be conducted at project completion, with a final PCR to be submitted by the PMU to IFAD no later than 6 months after project completion as per IFAD guidelines. Results achieved by the project at both outcome and impact levels will be reflected in the report. The PCR will also include lessons learned that could be incorporated into future project/ country programme design in Egypt or globally. The PCR will review the relevance, effectiveness, efficiency sustainability and impact achieved by the project. Additional evaluation criteria will include gender equality and women's empowerment, innovation potential for scaling up, adaptation to climate change, and targeting. The assessment of project achievements will be in line with IFAD's project completion guidelines and the IOE Evaluation Manual (current/ latest version available at <https://www.ifad.org/documents/10180/bfec198c-62fd-46ff-abae-285d0e0709d6>).

85. After project completion, the MALR will nominate a focal point for any communication/ liaison regarding the completed project. If the project is chosen for a Project Performance Evaluation (PPE) conducted by IFAD's Independent Office of Evaluation (IOE), the focal point and former Project Manager will ensure that data, information, stakeholder contacts and interviews are available for the IOE team.

Planning

86. The planning structure and processes of the project will ensure realistic targets are established, these are met, and mid-course corrective action taken during implementation if evidence and reports indicate that the project is not on course in terms of approach or progress.

87. **Planning instrument/ AWPB:** Annual Work Plans and Budgets (AWPB) and corresponding Procurement Plans (see Appendix on Procurement) will be the project's principal planning instruments. The purpose of the AWPB is to provide the PMU with a timetable for implementation of a set of scheduled activities, together with their respective budgets/inputs. AWPBs are formulated taking into account the Project Design Report, supervision report recommendations and legal agreements, contract and management agreements of service providers and participating partners, M&E and results targets, procurement plans and timelines and development priorities of target communities. Activities should have clear financial allocations, which will be the basis for release of funds and for financial control. The AWPB will also reflect the phasing of the project between the DRC areas and the new lands.

88. The AWPB is an essential covenant in the legal Financing Agreement; failure to prepare it on a timely basis may lead to delay or suspension of fund disbursement by IFAD. The first AWPB will be prepared, together with the Procurement Plan for the first 18 months of the project and be presented for discussion during the start-up workshop for submission to IFAD for no objection. The elaboration of the following AWPBs will be prepared, discussed and approved no later than thirty days before the beginning of the financial year covering the AWPB.

89. **Processes:** To allow full participation of the project stakeholders, the process of AWPB preparation will start with a consultation at different levels: with the target communities/ community representatives, partner institutions (including MALR and MIIC), implementing partners and then be consolidated at the PMU level.

90. In particular, PRIDE annual planning will build on existing participatory approaches: with local communities developing the local community action plan, an annual M&E plan, analysis of problems and constraints at the level of the community, proposed solutions and a community action plan. The AWPB will be translated into a project level action plan.

91. The results of the action plan will be consolidated in the Annual Project Progress Report. Annual Stakeholder Review and Planning Workshops will review the Annual Project Progress Reports and provide inputs to the project's AWPBs for the succeeding year, thus closing a circle of participatory, demand-driven and forward-looking planning and implementation. The AWPB will be a living document, with any failure to achieve monthly/ quarterly results triggering discussions and corrective actions. Any failure to meet targets in a quarter by more than 30% will trigger a CPMU and RPMU discussion and a report to the IFAD Country Office on proposed corrective action.

92. The AWPB will also be aligned with the results framework of the project, with key activities and outputs aligned with the key results outlined in the Logical Framework and in the annual RIMS report to be submitted to IFAD (all supervision missions will also ensure updated RIMS and results reporting as annexes to the supervision reports). The AWPB will outline activities by the key project sub-regions: (a) rest of Matrouh Governorate (including both the coastal areas and the Siwa Oasis), and (b) Moghra.

93. The project will conduct, at its onset, a **Start-up Workshop**, with the aim of sensitizing and training project partners, PMU staff and other potential implementing partners. At this workshop, time will be allocated to familiarize all participating partners with the planning and annual work plan process as well as the monitoring and evaluation system. A special session will be included in the start-up workshop on M&E to brief participants about the project Logical Framework, progress reporting and evaluation arrangements. A session will also be held to familiarize the participants with IFAD's RIMS system, performance based contracting system and key performance indicators regarding the sustainability and effectiveness of water harvesting and management processes and

infrastructure, enhanced crop and livestock production, and improved awareness of and access to social services.

94. **Responsibility:** In terms of responsibility, the project M&E officer will be primarily responsible, under the guidance of the project coordinator, for updating and finalizing the AWPB. Inputs will be submitted by technical specialists/ component heads on the respective components.

Knowledge Management

95. Given the alignment of PRIDE in the national development priorities and the role of knowledge management in improving water harvesting/ management practices, crop/ livestock production practices, gender-sensitive and nutrition mainstreaming measures, and the crucial role of knowledge collection and dissemination to develop a prototype for Oases development and support the 1.5 million feddan initiative to reclaim new lands, the dissemination of project experiences and results to stakeholders and other development partners will be crucial.

96. The PMU (in particular the M&E officer) will engage in relevant platforms and forums to improve information flow among actors. This will enable dissemination (and learning) in terms of innovations and best practices. To the extent feasible, the PMU will ensure dissemination of best practices to other rural development projects in Egypt, to policy makers and other development partners. To the extent possible, and as feasible, such exchanges will feed into country-level policy engagement (to be facilitated through the Project Steering Committee/ MALR) or into other regional forums. Where applicable, regional knowledge networking will be supported to build and share approaches, tools, methodologies, technologies and best practices. Any activities related to international knowledge exchanges will be aligned with the objectives of IFAD's Approach to South-South and Triangular Cooperation (approved by the Executive Board in December 2016):

- SSTC objective 1: Share relevant rural development solutions and knowledge, and promote investments among developing countries.
- SSTC objective 2: Establish and support partnerships and other forms of collaboration for improved rural livelihoods.

97. In terms of operational details, the project will package and disseminate information to the respective stakeholders in the appropriate formats (e.g. brochures, studies, articles, newsletter, and internet). The Project Steering Committee will have the responsibility for identifying the policy lessons and ensuring that these are communicated appropriately. Innovations and best practices at village level will be documented for the purpose of replication and scaling-up. Farmers/ livestock owners with innovations and best practices will be used as mentors for other farmers in order to accelerate the scaling-up and replication of those innovations.

98. Knowledge management and communication will be a shared responsibility. The overall responsibility will belong to the Project Director and the M&E Officer. Service providers will have a key responsibility for sharing lessons learnt during the Project through preparation of special case studies and Learning Notes. All activities related to KM should also be aligned with IFAD's Knowledge Management Strategy, available at <https://www.ifad.org/documents/10180/ad197dcd-93f9-4e50-ab3d-d773619a89e5>.

99. During the final year of PRIDE implementation, as part of the preparation of the IFAD-required Project Completion Report/Impact Assessment, the M&E data and KM products collected over the Project implementation period will be used as part of a thorough assessment of Project achievements.

Appendix 7: Financial management and disbursement arrangements

Financial Management Risk Assessment

1. A comprehensive financial risk assessment has been carried out for the proposed Project. Inherent, country and entity weaknesses and strengths are detailed below. Financial management arrangements at the Central and Regional Project Management Units have also been assessed. The inherent financial management risk and country risk after the implementation of mitigation measures is rated as Medium.
2. Transparency International's Corruption Perception Index ranked Egypt 108 of 176 countries in 2016, with a score of 3.4 in 2016, down from 3.6 in 2015. The latest PEFA assessment for Egypt was carried out in 2009 but not publically available. No further financial management assessment was carried out since then. However, in the Country Partnership Framework for the Arab Republic of Egypt for the period FY 2015-2019, the World Bank (WB) assessed the country fiduciary risk as substantial and stated that the use of funds may not achieve sufficient value for money with integrity, due to deviations from transparency caused by weak practices and unclear accountability.
3. Further, the African Development Bank's (AfDB) Country Strategy Paper 2015-2019, identified public financial management (PFM) issues which require improvements such as: (i) accelerating the reform on the medium-term and program budgeting; (ii) approving budget laws and annual audited final accounts by a Parliament instead of the Head of the State; (iii) introducing recurrent and capital ceilings in the budget circular to spending agencies for a better alignment to strategic objectives; and, (iv) and extending treasury single account (TSA) coverage while reducing various bank accounts.
4. The Government Financial Management Information Systems, an important aspect of the PFM reform, is being implemented but slowly. Two charts of accounts are used in parallel, one for budget preparation and the second for recording actual transactions. A separate e-payment system is functioning but only available for payments of salaries. The Law relating to accounting and reporting needs to be updated to align with the gradual adoption of accrual basis accounting and compliance with IPSAS. The internal control arrangements (segregation of duties, ex-ante control, supervision from the Financial Controller, etc.) are set up inside the Accounting Units for execution of the public expenditures, but the absence of an internal audit function for ex-post control is noticeable.
5. With regards to the external audit duties and activities, the Accountability State Authority (ASA) that acts as the Supreme Audit Institution of Egypt, conducts financial, compliance and performance audits of all the entities using public resources. The ASA audit reports are not published, as the legal framework has not yet been updated. However, the GOE has made significant strides in improving fiscal transparency after the 2011 Revolution by adopting provisions in the new Constitution to strengthen independence and transparency of the supreme audit institutions and by making the budget publicly available through publishing a citizens' budget in 2014 and 2015. In addition, the GOE has recently finalized the Manual of Procedures of the Internal Financial Control, clarifying and standardizing the financial controls for each category of expenditure. There are at least twelve anti-corruption authorities in Egypt and the GOE has in place an anti-corruption strategy serving as a roadmap for the authorities on anti-corruption issues. There is a draft code of conduct in place as well as a whistle-blower mechanism, but these are yet to be adopted. The GOE is in the process of finalizing the PFM reform Agenda, creating a PFM Coordination Committee to perform effective monitoring of implementation progress and drafting a revised procurement law.
6. The e-system for payments has been recently expanded recently to cover all types of payment from the public budget.
7. Challenges for the financial management of this Project lie in the coordination between the multiple actors involved e.g. Central and regional PMUs; and Service providers/NGOs which will be

responsible for the implementation of different activities. This is also the first time for IFAD to partner with the Desert Research Center which has a capacity in term of financial management. While the World Bank funding was substantial, the donor agencies providing funds in the last few years such as EC and Italian Cooperation have been relatively small.

8. The inherent financial management risks for the PRIDE project and proposed mitigating actions are detailed in Appendix 7.2 below.

Financial management and disbursement arrangements

(i) Financial management organization and staffing

9. A CPMU will be established within MALR in Cairo by a ministerial decree and will have the overall responsibility for the management and monitoring of the project. CPMU key staff will be competitively hired, from within MALR or local market whose terms of reference will be approved by IFAD prior to the recruitment process. The finance related staffing and management structure will comprise of Financial Manager - Chartered Accountant/Certified Public Accountant, with at least ten years of experience in financial management, preferably including experience of public sector accounting and experience with international development partners. In the event that the appointed finance manager is a government employee, he or she should be fully dedicated to the project.

10. A regional PMU will be created within the Sustainable Development Centre for Matrouh Resources (SDCMR) of the Desert Research Center (DRC) in Matrouh governorate. The Regional PMU staffing will comprise of at least three accountants which will be seconded as full time staff from the existing SDCMR's accounting team, and will be supported and trained through a part time qualified Finance Management Specialist on consultancy basis, with sound experience on the financial management of internationally funded projects.

11. As a condition of disbursement, the CPMU shall have been established and key staff hired and in place before disbursements begins.

12. Service providers/NGOs are being hired for the implementation of certain activities under PRIDE. The following criteria will be assessed to ensure that each service provider/ NGO has sufficient financial management capacity. This assessment will be carried out by the CPMU Financial Manager or the Financial Management Specialist of the Regional PMU.

13. Detailed job descriptions will be available for all staff and will be included in the PIM. Competitively recruited staff will be hired with annual contracts renewable on satisfactory performance. Changes to seconded staff may be at the request of IFAD or GoE with agreement from the other.

Table 7.1: Checklist for assessing financial management capacity of service providers/NGOs

Requirement	Met?	
	Yes	No
• Reliable accounting records which adequately address the project requirements		
• Effective budgeting and budgetary controls to ensure realistic budgets and avoid budget overruns		
• Proper cash management system to ensure receipts are promptly and accurately accounted for and banked intact		
• Adequate segregation of duties to ensure effective internal controls and record reconciliations, including timely bank and cash reconciliations		
• Cash requirements forecasts and timely submission of replenishment requests to avoid project delays		
• Proper payment controls to ensure adequate verification and avoid multiple payments of invoices		
• Adequate document filing and storage system to support audits and references		
• Consistency in recording and classifying of accounting transactions to facilitate efficient data consolidation		
• Established mechanism to safeguard financial and physical assets		
• Timely preparation and submission of periodical project reports (financial as well physical progress)		
• Independent and external auditing arrangements for project funds		
• Proven financial accountability to external stakeholders		
• Financial regulations and procedures documented to facilitate independent reviews and provide reference material for staff		

14. The following sections set out the scope of FM activities. Appendix 7.3 lists the roles of the implementing units in carrying out the various tasks.

(ii) Budgeting

15. All Project activities will be included in an Annual Work Plan and Budget (AWPB) that will indicate what activities and expenditures will be implemented by CPMU and Regional PMU, and the extent to which budgeted expenditures are intended to be financed from each financing source (IFAD Loan, IFAD Grant, counterpart funds and beneficiaries contribution). Budgets will be presented in a format that presents the amounts quarterly and each financier separately. Budget initiation will begin at the field level based on beneficiaries needs. Regional PMU will submit the AWPB to CPMU. CPMU will ensure that all budgets are prepared in a consistent and timely manner for submission to the Project Steering Committee and IFAD. AWPBs, once approved, will be available to all Project parties. To ensure transparency, Project related documentation will be stored by CPMU on a single cloud storage site with access to all staff. Regional and Central PMU will ensure that sources needed from counterpart funds are included in the submission of the annual government budget.

16. The accounting system will include a module that will allow for budgeting to facilitate tracking of actual against budgeted expenditures and to facilitate course corrections for variations from the budget.

(iii) Disbursement arrangements and flow of funds

17. The Project will use available disbursement methods of replenishment, reimbursement and direct payments. It is expected that most expenditures will be through the designated accounts using the imprest mechanism. The ceiling authorized allocation will be based on budgets for six months.

18. Withdrawals from the IFAD financing in respect of expenditures for start-up costs incurred before the satisfaction of the general conditions precedent to withdrawal shall not exceed an amount of USD 400,000. These funds are intended to cover the recruitment of CPMU key personnel and their salaries for four months, and incentives and salaries for SDCMR/DRC staff as applicable (USD 105,000); technical assistant for SDCMR (USD 40,000); the purchase and installation of an

appropriate accounting software and MIS system (USD 105,000); purchase of basic equipment such as computers, photocopier and printers (USD 105,000); and preparation of the Project Implementation Manual (USD 45,000).

19. Replenishment Applications prepared by the CPMU for the entire project will be submitted to IFAD through IFAD Client Portal (ICP), at a minimum every quarter or when 30% of the designated account has been utilized for eligible expenditures, whichever occurs earlier. Details regarding the designated account allocations and SoE thresholds will be given in the Letter to the Borrower/Recipient.

20. The Funds Flow arrangements to meet eligible project expenditures are as follow, (and set out in a chart in Appendix 7.1 below).

- Two Designated Accounts in EUR or USD (one for the Loan and one for the Grant) will be held at the Central Bank of Egypt from which drawdowns will be made to the Egyptian Pound operational accounts.
- Project Operational Account A in Egyptian Pound will be opened and managed by the CPMU, shall receive funds transferred from the Loan Designated Account.
- Project Operational Account B in Egyptian Pound will be opened and managed by the CPMU, shall receive funds transferred from the Grant Designated Account.
- Project Operational Account C in Egyptian Pound will be opened and managed by the Regional PMU in Matrouh, shall receive funds transferred from the Loan Operating Account managed by CPMU.
- Project Operational Account D in Egyptian Pound will be opened and managed by the Regional PMU in Matrouh, shall receive funds transferred from the Grant Operating Account managed by CPMU.
- CPMU will ensure timely transfer of funds to the Regional PMU based on six months cash forecast against the approved AWPB; subsequent transfers are to be made once 75% of the immediate instalment and 100% of the earlier instalment are utilised.
- Regional PMU in Matrouh will be responsible for advances and expenditures for activities to be implemented by the regional PMU and as identified in the approved AWPB.
- All bank accounts in the project will have at least two authorised signatories. All payments will be by bank transfers or checks, except petty cash expenditures which should kept to minimal.
- Government cash contribution will be made available in advance on quarterly basis for the project and payment will be executed through e-payment system.
- Transfers of funds to service providers/NGOs will be made to the designated account opened specifically for PRIDE related interventions. Transfers for each agreement will be made will be based on the Implementation Plans (IPs) which are part of the Financing Agreement signed with NGOs/services providers. The first instalment to NGOs will be released as per IP in advance. Release of subsequent instalments will be subject to acceptable quarterly narrative and financial reports.
- Flow of funds and accounting treatment of the match grants by beneficiaries will be documented in the PIM.
- In-kind government and beneficiaries contribution and will be included within budgets and captured in the expenditures recorded.

(iv) Internal Controls

21. Sufficient staffing at the CPMU and the Regional PMU in Matrouh will allow for appropriate segregation of duties to ensure that the following tasks are separated between staff:

- custody of assets;

- authorization or approval of related transactions affecting those assets;
- recording or reporting of related transactions;
- compliance with applicable IFAD and national rules and procedures;
- timely and relevant financial reporting; and
- automated controls built into the computerized accounting system, along with adequate backup procedures.

22. The signatories of MoF Controllers assigned to the Accounting Units in MALR and SDCM are mandatory as a second signatory on all payments (bank and cash).

23. All internal control mechanisms will be detailed within the financial management manual to be prepared before implementation begins. Test of internal controls will be performed by an internal auditor/firm hired in the mid-term of the implementation; the ToR will be cleared by IFAD. Additionally the external audit will report any internal control weaknesses within the Management Letter.

(v) Accounting systems, policies and procedures

24. The CPMU will procure and install accounting software with multi-currency tracking and reporting, and multiple location installation and consolidation ability (like TOMPRO); the ToR will be cleared by IFAD. The accounting system will include a budgeting module, procurement and reporting module and will have the capability to generate WAs automatically. The installation of an accounting system and training on the software will be provided by the supplier to all finance staff and other users of the system which will be a disbursement condition. The data will be backed up on a hard disk on a daily basis.

25. All accounting policies and procedures, related to the Project will be clearly documented in the financial management manual, (part of the PIM). The preparation of the PIM will be a condition for disbursement and will have to be designed in a manner that is simple and succinct to all. It is recommended that an audit firm familiar with donor procedures are hired to prepare the FM Manual for the Project.

26. The Project will adopt International Public Sector Accounting standards (Cash basis).

27. The CPMU will record the transfer to the Regional PMU as a cash in transit, and Regional PMU through double entry will close the cash in transit account, and book the fund as cash in hand/bank. The Regional PMU will record all expenditures as they are incurred.

28. Beneficiary and government contributions in kind will be recorded under a separate fund set up within the accounting system and will be disclosed in the notes to financial statements.

(vi) Financial reporting

29. The CPMU will prepare monthly financial reports for the dissemination to the project management in Cairo and Matrouh level and the steering committee. These will be consolidated further into quarterly unaudited financial reports to be submitted to IFAD. The financial Statements will be in formats acceptable to IFAD and samples of the same will be available within the Financial Management Manual. It is expected that the financial reports will provide information to management, IFAD and related parties to facilitate decision-making processes.

30. NGO/service providers will be required to submit simplified quarterly financial report as stated above, and in addition to audited financial reports to Central and Regional PMU as applicable for validation.

31. The CPMU will consolidate its accounts for the entire Project and produce audited financial statements in line with IFAD's General Conditions, will be submitted to IFAD within four months of the end of the fiscal year. The financial Statements will be prepared in accordance with international public sector accounting standards (cash basis).

(vii) Internal Audit

32. As the internal audit function as per modern internal audit practices does not exist within the Egypt context, and given the complexities and risks arising from the wide geographical spread of Project activities, the various implementation parties proposed, a risk-based internal audit will be carried out by a qualified internal auditor/firm hired by the CPMU at the mid-term of the Project to evaluate/review the effectiveness of internal controls, risk management and governance, the economical and efficient use of project resources, the reliability and integrity of financial information, the achievement of operational/physical targets, and the project's compliance with the financing agreement and applicable rules and regulations.

33. Internal audit reports will be made available to MALR, the Project Steering Committee, Central and Regional PMU and external auditors.

(viii) External Audit

34. The MALR, through the CPMU, will appoint an independent auditor to audit the accounts of the entire Project on an annual basis, following the international auditing standards. The Terms of Reference for the audit will be cleared by IFAD on an annual basis. The performance of the auditor will be reviewed every year to confirm whether the auditor will be reappointed. An annual audited financial statement together with a management letter on audit observations on internal controls will be submitted to IFAD no later than 6 months after the end of the fiscal year. i.e. by 31 December of every Project year. To ensure that audit reports are submitted to IFAD within the deadline, engagement of the auditor will commence four months before the end of each fiscal year. The Project will also be subject to audit by the ASA. The audit reports issued by ASA will be made available to IFAD and supervision missions as well as the appointed private external audit firm.

(ix) Anticorruption and Good Governance Framework

35. The primary responsibility of detecting fraud and corruption lies with the borrower. However, IFAD applies a Zero Tolerance Policy towards fraudulent, corrupt, collusive or coercive actions in projects financed through its loans and grants. "Zero Tolerance" means that IFAD will pursue all allegations falling under the scope of this policy and that appropriate sanctions will be applied where the allegations are substantiated. IFAD will take all possible actions to protect individuals who help reveal corrupt practices from reprisals and individuals or entities subject to unfair or malicious allegations. Given IFAD's Zero Tolerance described above, it is important that the staff and all stakeholders of the Programme are familiar with IFAD's as well as national anticorruption policies and whistle blowing procedures. The IFAD anticorruption policy is available on the IFAD website at www.ifad.org/governance/anticorruption/index.htm). The IFAD website also provides instructions on how to report any alleged wrongdoing to the Office of Audit and Oversight (<http://www.ifad.org/governance/anticorruption/how.htm>).

(x) Taxation

36. As per IFAD policy, IFAD cannot be utilized for the payment of Taxes. Ministry of Planning in close collaboration will MALR will allocate on a yearly basis, and as part of the investment budget of MALR, the required resources to cover the indirect taxes such as Value Added Tax, customs and duties in relation all goods, works and services procured under this project. Consequently, MALR will be responsible for making payment/settlements of these taxes to the Tax and Custom Authorities through the e-payment system; and also for ensuring that supporting documents and reports are kept securely readily available.

(xi) Financial Management Supervision and Implementation Support

37. Based on the risk assessment, the supervision and implementation support plan for PRIDE project will include:

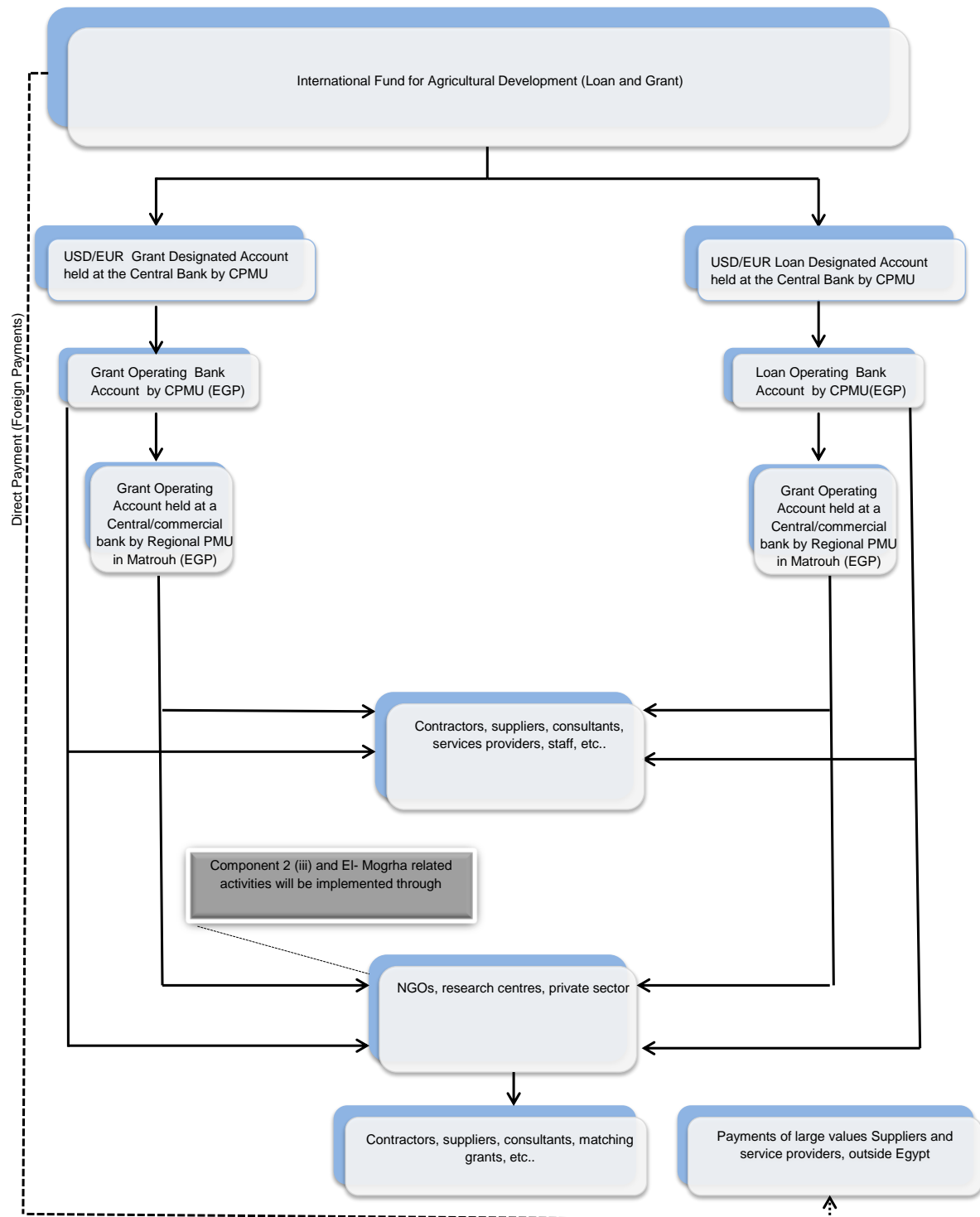
- Full training of Finance unit staff as part of the project start-up workshop.
- Participation of Finance unit staff in workshops or training sessions organized by IFAD.

- Review of the FM staffing as well as FM arrangements in the procedures manual, including relevant guidelines and procedures with regard to all activities.
- One full fiduciary review (as part of a supervision mission) and at least one follow-up/implementation support mission each year, including updating of the financial management risk assessment.
- Refresher training to finance staff as required, as part of the supervision or implementation support missions.
- Desk reviews of periodic progress reports, interim financial reports and annual financial statements prepared by CPMU.
- Desk reviews of internal audit reports and annual (external) audit reports and management letters.
- Follow-up on work performed and recommendations issued by the Internal Auditor and the external auditors.

Table 7.2: Summary of actions needed to mitigate FM risks

	Action	Responsible party/person	Target date/Covenants
1	Establishment of CPMU by a ministerial decree	MALR	Disbursement condition in the Financing Agreement
2	Recruitment of key staff of CPMU.	MALR/DRC	Disbursement condition in the Financing Agreement.
3	Accounting software installed at Central and Regional PMU, and users are trained on the system.	CPMU	Disbursement condition.
4	Project Implementation Manual (including formats for all transactions).	CPMU	Disbursement condition.
5	Internal auditor/firm to be hired in mid-term. ToR to be cleared by IFAD.	PMU	Mid-term of the project implementation.

Appendix 7.1: Flow of funds



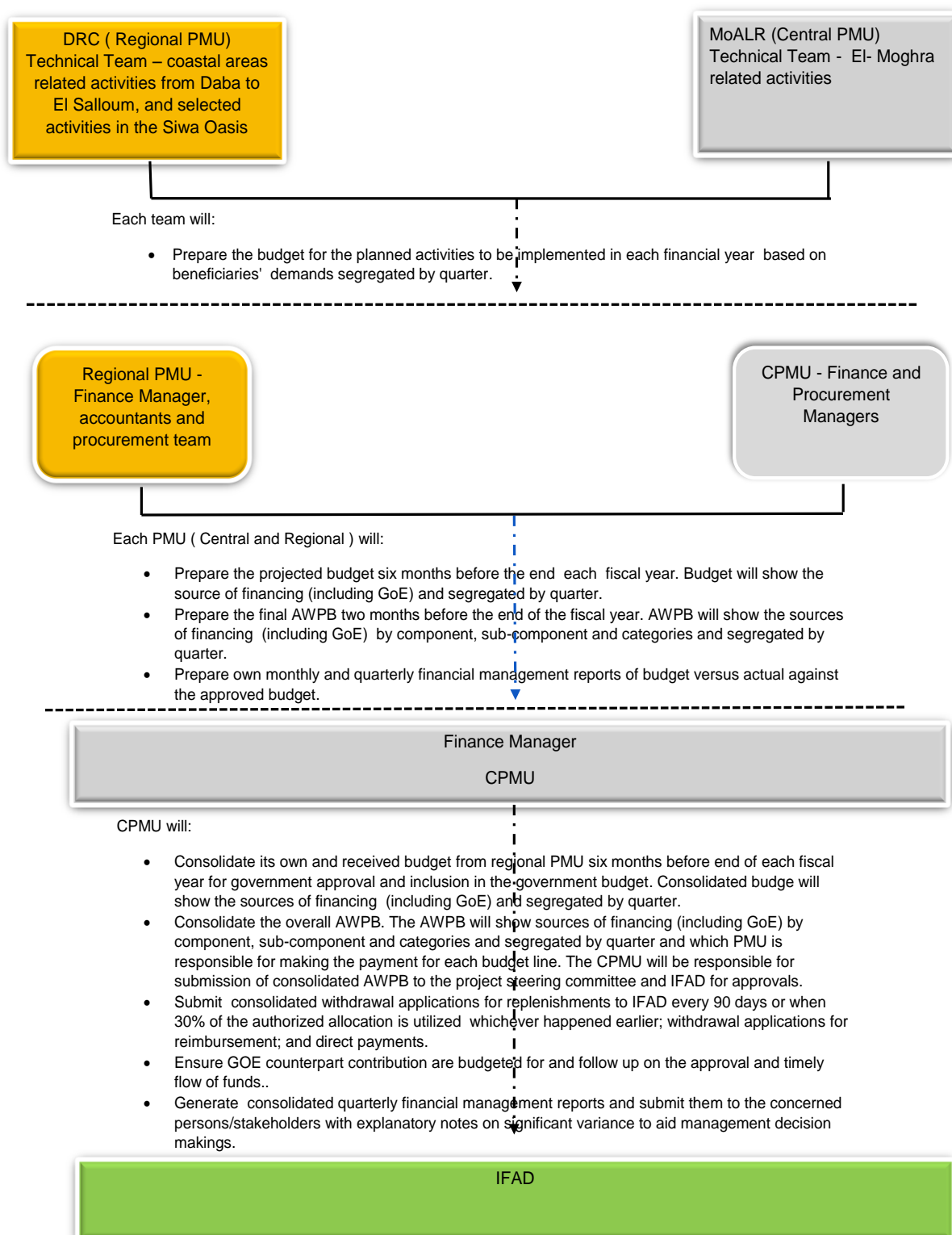
Appendix 7.2: Summary of financial management risks and mitigating actions

FM risk category	Initial risk rating	Proposed FM risk mitigating measures	Residual risk rating
A. Inherent Risks			
Country Level. 1. Transparency International rating deteriorated slightly dropped in 2016 compared to previous two years of 2015 and 2014, with a score of 3.4. 2. Economy of Egypt is suffering currently from relatively high inflation.	Medium	N/A	Medium
Entity and Programme design. 1. First time that IFAD will work with DRC. 2. Programme spread over dispersed localities within Matrouh Governorate. 3. Implementation will happen at the village levels through public and private service providers and NGOs.	High	a) CPMU will be established with MoALR in Cairo through a ministerial decree and staff will be hired on a competitive basis. b) Regional PMU will be established in SDCMR of DRC in Matrouh for implementation and will be allocated key staff for the implementation of this Project. c) Measures for assessment of service providers and NGOs have been put in place in the implementing arrangements to ensure that FM risk is controlled.	Medium
B. Programme Control Risks			
1. Organization & Staffing. a) Adequate qualified staff, with prior knowledge of donor procedures, are difficult to find within MoALR and DRC. b) Project Organizational structures created within MoALR and SDCMR of DRC are significantly influenced by the Ministry/DRC.	High	a) Criteria for staff is prior experience on donor funded projects financial management and disbursement. b) Semi Independent Central and Regional PMUs. c) Recruitment of key CPMU staff is a disbursement condition. d) Staff ToR to be cleared by IFAD before recruitment. e) Finance Manager at CPMU to be recruited competitively and Regional PMU finance team will be supported through an experienced part time qualified FM consultant. All contracts to be performance based. f) Overall coordination will be within the ToR of the Financial Manager at the CPMU.	Medium

<p>2. Budgeting.</p> <p>a) Project budget will follow a bottom up approach; however capacity at the beneficiary and Regional PMU levels in creation of a budget is weak.</p> <p>b) Lack of knowledge of IFAD procedures.</p> <p>c) Too many layers within the budget creation and approval process.</p> <p>d) Overruns and unrealistic budgets.</p>	High	<p>a) Budget coordination will remain with the CPMU in Cairo.</p> <p>b) Regional PMU will receive technical assistance to ensure that the budgets are prepared in a realistic and appropriate manner.</p> <p>c) Training will be provided to all staff – including procurement and subject specialists on the preparation of budgets.</p> <p>d) Budgets to include all sources of financing separately and to show estimates by quarter.</p> <p>e) CPMU will present to the PRIDE Steering Committee and IFAD and ensure that timelines are maintained.</p> <p>f) Interim financial reports prepared by Regional PMU and CPMU and consolidated by CPMU, showing progress against budgets to be submitted to IFAD quarterly.</p> <p>g) IFAD office in Egypt and FMD will provide implementation support on processes and procedure as required.</p> <p>h)</p>	Medium
<p>3. Funds Flow & Disbursements</p> <p>a) Limited abilities to forecast fund use leading to slow disbursement.</p> <p>b) Management of funds between the CPMU and regional PMU could result in liquidity issues, delayed fund flow and disbursement because of the multi-layer structure.</p> <p>c) Counterpart funds may not flow to the Project, per the commitment, which will impact and increase the risk on special account funds, which could be utilized in lieu of counterpart funds.</p> <p>d) Implementation delays due to lack of knowledge of IFAD procedures.</p>	High	<p>a) Budgeting issues will be mitigated, thereby facilitating the forecast of funds utilization.</p> <p>b) Clearly detailed fund flow arrangements and continuous follow-up of the same within the first year of implementation to ensure any course corrections will be made to mitigate risk of liquidity problems.</p> <p>c) CPMU will maintain control of funds disbursed to Regional PMU, based on levels of approved AWPB i.e. every six month in advance.</p> <p>d) Counterpart funds will be included in the budget which will be submitted to GoE relevant ministries for consideration and approval prior to the annual budgeting process.</p> <p>e) GoE funds should be made available to the project account every quarter for spending through e-payment system.</p> <p>f) Training will be provided to all staff, including senior managers involved in the project management, on IFAD financial management and disbursement procedures.</p> <p>g) A mid-year follow up on implementation will be conducted in the first year to ensure that things are on track.</p> <p>h) Financial implementation manual will be a condition for disbursement and knowledge of the same will be mandatory for all staff involved in finance.</p>	Medium

4. Internal Control. a) Weak control structures magnified with vast distances between Central and Regional PMU and number of parties will be involved in the implementation of the project (NOGs and private sector.). b) Remoteness of villages where expenditures are going to take place.	High	a) An internal auditor /firm will be hired in the mid-term of the project implementation. ToR to be cleared by IFAD. The role will be: to ensure controls (as defined in the manual) are in place at Central and Regional PMU levels; to test the functioning of the controls; report control weaknesses; and recommend corrections. b) M&E function established with Central and Regional PMU will play a role in ensuring that funds are used for the intended purposes.	Medium
5. Accounting Systems, Policies & Procedures. a) Manual or Excel based accounting prevails. b) Policies and procedures are created but are not adhered to by accounting staff. c) Lack of consistency with different layers within the Project structure in application of accounting policies and procedures.	High	a) Procurement and installation of an accounting system linking the central PMU and Regional PMU, and allowing for consolidations, on which training will be mandatory, will be a disbursement condition. b) Financial manual will be a disbursement condition. c) All finance staff will be required to take and pass IFAD's e-learning on financial management. d) Internal control mitigation measure (in 4 above) will ensure that consistency is maintained for application of policies and procedures.	Medium
6. Reporting & Monitoring. a) Unable to produce financial management reports. b) Linkages through all levels to ensure that funds are properly tracked recorded and reported. c) Periodic monitoring of financial reports does not exist. d) No structure in place for the contract-based service providers or NGOs to report periodically.	High	a) Accounting software to be able to produce financial reports. b) Training to be provided to staff and contract-based providers on accounting system and IFAD's reporting requirements. c) Reporting and monitoring requirements will be detailed within PIM and as a deliverable within the contracts with contract providers/NGOs.	Medium
7. Internal Audit. a) Ex ante check of each transaction, therefore the true nature of the function does not exist.	High	a) Private internal auditor will be hired by CPMU at mid-term of the project implementation, to cover the entire project at center, regional and field levels.	Medium
8. Auditing a) Private external auditors do not comply with IFAD Audit Guidelines and TORs. b) Late submission of final audit reports.	Medium	a) Hold an information/dialogue session with appointed private auditor and invite auditor for FM training events to ensure that IFAD requirements are fulfilled; and FMD to clear TOR on annual basis. b) CPMU will ensure timely procurement and appointment of the project external audit firm to allow for the firm to schedule the project to meet audit delivery time-frame.	Low
Project Fiduciary Risk at design: OVERALL FM RISK	HIGH		MEDIUM

Appendix 7.3: Financial management organisation



Appendix 8: Procurement

1. **Procurement Regulations applicable to PRIDE:** IFAD's procurement guidelines specify that national procurement systems will be used under the conditions that the systems are assessed as satisfactory or better. The Project will adopt the Egypt Public Procurement and Disposal Act 2015, the Public Procurement Regulations (to be issued soon), and the IFAD Procurement Guidelines 2010. National systems will apply to all procurement except international competitive bidding (ICB) for contracts above an agreed threshold. The IFAD guidelines state that ICB procurement will follow the procedures recommended by the World Bank. Egyptian national procurement systems can be relied upon to undertake procurement below the agreed ICB thresholds.
2. **Governance.** With regards to procurement conducted through IFAD-funded Projects in Egypt, the overall assessment is partially satisfactory with a number of areas requiring improvement. In establishing the procurement mechanisms under the proposed project, the procurement processes will be strengthened. In accordance with the Business Anti-Corruption Portal of the Global Advisory Network (GAN) Integrity Solutions, Legislation, Corruption in the form of active and passive bribery is covered by the Egypt Penal Code. Egypt ratified the United Nations Convention Against Corruption (UNCAC).
3. With regards to procurement conducted through IFAD-funded projects in Egypt, the overall assessment is moderately unsatisfactory due to the following anomalies:
 - *Planning, execution and monitoring of procurement projects* and activities are usually not handled in a timely manner. This culminates in delays in the bidding, evaluation and negotiation, and ultimately contract management.
 - *Tender/Bidding documents:* Delays in preparation and finalisation of the bidding documents are caused by various factors, including production of over- or under-specified equipment of the requisitions and user units, incompleteness of terms of reference of the requisitions, absence or incompleteness of qualification and evaluation criteria and frameworks, inconsistencies in use of procurement methods, and evidently low capacity and/or performance of project procurement staff. There is some difficulty with the use of the Shopping method and its bidding document, the Request for Quotation. Also, there is a latent misunderstanding and resultant misuse of consulting services procurement – the documents, the methods, the evaluation, and what to negotiate or not to negotiate.
 - *Evaluation process* needs to be considerably strengthened and improved. Following from the incomplete evaluation criteria in the bidding documents, the evaluation processes are neither consistent nor effective and the use of inappropriate evaluation criteria. It is also clear that the coordination of consensus evaluation is an issue, with evaluation reports being submitted even where the individual scores are markedly disparate.
 - *Contract Administration and Management:* Due to the lack of competence, Contract management is considered one of the major challenges facing the implementation of IFAD-funded projects in Egypt.
4. The review of the procurement system in the Desert Research Center, one of the lead implementing agencies, indicated that the procurement capacity is inadequate, mainly due to lack of experience in procurement due to limited funds being provided to it. Common areas of weakness in procurement arrangements include: (a) the need for improvement of procurement practices; (b) weak capacity at all levels; (c) Instructions to bidders, qualification, evaluation, award criteria, and contract management are not sufficiently clear; (d) the contract conditions can be improved to achieve a more equitable balance between employer and contractor/supplier. A major shortcoming that leads to awarding contracts to non-performing contractors/suppliers is not applying a post-qualification process on the nominated contractor/supplier for award. These shortcomings will be addressed by developing and implementing a procurement procedures manual and Standard Bidding Documents (SBDs), as

part of the PIM. The SBD evaluation criteria will ensure that contracts/suppliers are awarded only to bidders who meet the minimum financial and technical qualifications.

5. **Overall Procurement Risk:** The overall procurement risk is “High” on account of inherent weaknesses, particularly those associated with inadequate procurement capacity at central and local levels. The following additional measures will be implemented to minimize procurement risk: (i) integrating procurement planning as part of the budgeting process and using procurement plans as a management tool for allocating responsibilities, improving accountability, and monitoring procurement performance; (ii) recruiting or seconding a qualified and experienced procurement officer at the central level to among other regular functions, effectively monitor contracts and undertake post-procurement evaluations to strengthen systems, enhance performance, and measure improvement; (iii) establishing and maintaining a structured and effective filing and records management system, and allocating adequate and secure office space for filing; (iv) preparing a detailed procurement procedures manual for use at the central and local levels; (v) using the project website to proactively disclose procurement information. Attachment 8.1 summarises the procurement risk and mitigation measures.

6. Borrower/recipient officials engaged in procurement activity will have to undertake the following key tasks;

- Maintain and enhance the reputation of the borrower/recipient country by:
 - Maintaining the highest standards of honesty and integrity in all professional relationships;
 - Developing the highest possible standards of professional competence;
 - Maximizing the use of IFAD funds and other resources for which they are responsible for the purposes for which these funds and resources were provided to the borrower/recipient country; and
 - Complying with both the letter and the spirit of:
 - The financing agreement;
 - The laws and regulations of the borrower/recipient country;
 - Accepted professional ethics; and
 - Contractual obligations;
- Declare any personal interest that may affect, or might reasonably be deemed by others to affect, impartiality in any matter relevant to their duties (conflict of interest). In a situation of this nature, the official concerned should not participate in any way in the procurement process, to avoid mis-procurement; and
- Respect the confidentiality of information gained in the course of duty and not use such information for personal gain or for the unfair benefit of any bidder, supplier or contractor. Information given in the course of their duties shall be true, fair and not designed to mislead.

7. The Standard Bidding Documents (SBD) will be developed by the lead implementing agency to be used for undertaking procurement under this Project and consistency with IFAD Procurement Guidelines should be ensured. Concepts relating to Accountability, Competition, Fairness, Transparency, Efficiency, Effectiveness & Economy and Value for Money contained in IFAD's Procurement Guidelines and which are central to IFAD's Procurement Philosophy are discussed below.

8. The Procurement Process involves the purchasing, acquiring, hiring or obtaining of goods, works and services by any contractual means and can be defined in more detail as procurement of goods, procurement of works and procurement of services. The procurement cycle consists of General Procurement Notice, Tender Document Preparation, Pre-Qualification, Advertisement, Receipt of Tenders, Public opening of Tenders, Evaluate of Tenders, Award of Contract, Issue of Work Order or Purchase Order and Performance of contract.

9. Each Annual Procurement Plan will identify procedures, which must be implemented by the Borrower in order to ensure consistency with the IFAD Procurement Guidelines. IFAD may require

that all bidding documents and contracts and other records for procurement of goods, works and services financed by the Loans/Grants are:

- (i) Available for full inspection by the Fund of all bid documentation and related records;
- (ii) Maintained for five years after the closing date of the financing; and
- (iii) IFAD may also require that the Project cooperate with agents or representatives of the Fund carrying out an audit or investigation into procurement issues.

10. IFAD's review of and no objection to procurement plans is compulsory under all financing agreements directly supervised by IFAD. There will be a similar agreement for PRIDE.

11. IFAD monitoring and review to ensure that the procurement process is carried out in conformity with IFAD procurement Guidelines and with the agreed procurement plan, IFAD will review arrangements for procurement of goods, works and services proposed by the borrower/recipient, including:

- Contract packaging;
- Applicable procedures and procurement methods;
- Bidding documentation;
- Composition of bid evaluation committees;
- Bid evaluations and award recommendations; and
- Draft contracts and contract amendments.

12. The extent to which these review procedures will be applied to the current project will be contained in the letter to the borrower/recipient and the procurement plan. For full details on the review processes, refer to the Procurement Handbook.

13. **Post-review:** All other contracts will be subject to post-review and may be subject to procurement audit by the Fund. The Project staff will maintain accurate records of all procurement activities and documents related to the Project. The procurement files will be maintained for review by IFAD supervision missions and independent audits. The Project staff will also consolidate procurement activities into quarterly and annual progress reports.

14. **Ex post review:** The Project will retain all documentation up to five years after the closing date of the financing for examination by IFAD or by independent auditors. This documentation includes, but not be limited to, the signed original contract, the evaluation of the respective proposals and recommendation of award.

15. **Mis-procurement:** IFAD will not finance expenditures for goods, works or consulting services that have not been procured in accordance with IFAD Procurement Guidelines and the financing agreement. In such cases, IFAD may, in addition, take other remedial action under the financing agreement, including cancellation of the amount in question from the loan and/or grant account by declaring it ineligible. Even if the contract was awarded following IFAD's "no objection" statement, the Fund may still declare mis-procurement if it concludes that this statement was issued on the basis of incomplete, inaccurate or misleading information furnished by the borrower/recipient, or that the terms and conditions of the contract had been modified without IFAD's approval.

16. The Project will contribute to building up the in house procurement capacity of the Ministry of Agriculture and Land Reclamation and Desert Research Center, instilling best practices and the required approach and methodology, and monitoring the timeliness and quality of the process. IFAD plans an intensive training programme at start-up to familiarise PRIDE staff with IFAD Guidelines. The effectiveness of procurement will be assessed during supervision and alternate arrangements put in place if necessary.

17. **Institutional arrangements.** PRIDE will be implemented under a two-tiered institutional arrangement, namely at the central, subnational levels. At the central level, central PMU (CPMU) will be established within Ministry of Agriculture and Land Reclamation (MALR). At subnational level,

Desert Research Center will establish a PMU at Matrouh Governorate at the SRDCM. With regard to procurement management, staff with required qualifications and experience will be assigned from the implementing agencies or recruited from the market. With additional TA to strengthen procurement capacity, the institutions can undertake implementation, facilitation, and coordination of the project with reduced risk.

18. At the central level, the CPMU anchored in the MALR will be responsible for implementing procurements for activities in Moghra. At Matrouh Governorate level, the PMU to be established within the DRC will spearhead execution of procurement activities for the coastal areas and in Siwa. To enhance the procurement capacity at the PMUs, the PRIDE will provide short-term training in IFAD procurement procedures (works, goods, and consultants) during project implementation. Subsequently, regular procurement clinics will be held to deepen PMU procurement capacity.

19. The two PRIDE PMUs will be responsible to manage and oversee overall Project-related procurement including International Competitive Bidding (ICB), National Competitive Bidding (NCB) procurements and selection of consultants for larger consultancy contracts as well as National Shopping, though it will require extensive support. The majority of the procurement activities under PRIDE will be small in nature and value, with substantial community participation; relatively few high-value/specialized procurement packages will attract ICB. Rather, most will be within the thresholds of NCB, national shopping (quotations) and community procurement. Appropriate thresholds that can maximize the efficiency of procurement implementation but contain the governance risks will be specified in Letter to the Borrower (LTB).

20. Establishment of a PRIDE Special Procurement Committees (SPC). An ad-hoc Committee will be established by DRC in order to i) fast track each step of PRIDE procurement processes; ii) monitoring on the overall procurement processes of the Project putting in place corrective actions when needed; iii) Guide PRIDE in planning procurement processes and in preparing procurement documentation in order to assure the right timing of the processes and that tender documents are accurately prepared; iv) follow up on the requests of No Objections to avoid delays in treatment. The committee will be chaired by the DRC Vice President and the membership shall be as follows:

- DRC-PMU Director
- Financial Controller
- Procurement Officer
- Head of Project Components
- M&E Officer
- Representative of Legal Unit of DRC

21. **Procurement Methods:** The methods which are permitted for the procurement of works and goods are: a) international competitive bidding (ICB), b) limited international bidding (LIB) or restricted tendering, c) national competitive bidding (NCB) or open tender, d) international or national shopping or requests for quotations, e) direct contracting, f) procurement from United Nations agencies, and g) procurement with community participation.

22. The methods which are permitted for the procurement of consulting services are: a) quality and cost-based selection, b) quality based selection, c) selection under a fixed budget, d) selection based on consultant' qualifications, e) least cost selection, f) single-source selection, and g) selection of individual consultants.

23. For each contract to be financed by IFAD proceeds, the types of procurement methods, estimated cost, prior review requirements and time-frame will be agreed between the Project and IFAD respectively in the Procurement Plan.

24. IFAD financed procurement of works, goods and consultancy services. While eventually the specific thresholds for procurement financed under the Project will be stipulated in the Letter to the Borrower, the recommendations are the following:

- Works estimated to cost more than USD 1 Million equivalent will be procured through International Competitive Bidding (ICB) method using the World Bank's applicable Standard Bidding Documents (SBDs). Works estimated between USD 25,000 and USD 1 Million equivalent will be procured through the National Competitive Bidding (open tender). While works estimated below USD 25,000 will be procured through National Shopping (request for quotations) or Community Participation. Direct contracting will have to be identified and approved by IFAD in advance for those cases which justify use of such method.
 - Goods estimated to cost more than USD 200,000 equivalent per contract will be procured through the International Competitive Bidding (ICB) method using the World Bank's applicable SBDs. Goods estimated to cost between USD 25,000 and USD 200,000 equivalent per contract will be procured through National Competitive Bidding (open tender). Goods estimated to cost less than USD 25,000 equivalent per contract will be procured through the Shopping methods (request for quotations). Direct contracting will have to be identified and approved by IFAD in advance for those cases which justify use of such method.
25. **Consultancy services.** Quality and Cost Based Selection will be the standard method applied unless otherwise approved. The following thresholds and processes will apply: i) International Request for Proposal (RFP)– for contracts with a value of USD 100,000 equivalent and above; ii) National Request for Proposal (RFP) – for contracts with a value of less than USD 100,000 equivalent and more than USD 10,000 equivalent. Contracts with a value of USD 10,000 equivalent or below, or procurement of individual consultancy or Technical Assistance services, will be based on National Shopping (request for quotation).
26. **Non-Consultancy services.** The following thresholds and processes will apply: i) Request for Quotations using NCB (open tender) method – for contracts with a value above USD 10,000. Contracts with a value of USD 10,000 equivalent or below, will be National Shopping (request for quotation from predetermined shortlist).
27. However, these financial thresholds may be adjusted as appropriate, with prior IFAD approval, depending of the nature of the assignment. And the method of procurement to be followed will be pre-determined in each approved annual procurement plan.
28. **Prior Review Thresholds:** For the purposes of Appendix I, paragraph 2, of IFAD's Procurement Guidelines, the following shall be subject to prior review by the Fund. These thresholds may be modified by the Fund during the course of Project implementation.
29. First five contracts for goods and equipment undertaken by each of the CPMU and PMU, and thereafter, award of any contract for goods and equipment estimated to cost USD 50,000 equivalent or more;
30. First five contracts for works undertaken by each of the CPMU and PMU, and thereafter, award of any contract for works estimated to cost USD 50,000 equivalent or more;
31. First five contracts for consultancy services undertaken by each of the CPMU and PMU, and thereafter, award to a firm of any contract for consultancy services estimated to cost USD 25,000 equivalent or more;
32. First five contracts for non-consultancy services undertaken by each of the CPMU and PMU, and thereafter, and thereafter, award to a firm of any contract for non-consultancy services estimated to cost USD 10,000 equivalent or more;
33. First five contracts for individuals undertaken by each of the CPMU and PMU, and thereafter, award to an individual of any contract for consulting services estimated to cost US\$ 5,000 equivalent or more;
34. Award of any contract through direct contracting, single source selection, including selection of United Nations' agencies, irrespective of the amount. Furthermore, for consultancy services, all Terms of Reference, Short-listing (if applicable) and draft contracts will be subject to IFAD prior review.

35. The afore mentioned may be modified from time to time as notified by the Fund to the Borrower.

36. **Synchronization of civil works.** Contracts for civil works will be based on unit costs and bills of quantities. Once the tender documents are finalised, they should be submitted to IFAD for prior review. IFAD will commission an engineering consultant to review them prior to issuing its observations and/or clearance.

37. **Performance based contracts:** For Contracts, MoU and Framework Agreements between CPMU/RPMU and the Service Providers, it is suggested that performance-based contracts in the delivery of hardware and software goods and services will be adopted. Such contracts will focus on outputs and outcomes of service provision, with clear milestones, with triggers for contract extension linked to achievements. There will be no automatic extensions in time or scope. All contracts, MOUs and Framework Agreements will include the payment schedules with performance incentives and penalties, monitoring and quality assessment, and value-for-money assessment. They will also define the key responsibilities of the partners at national and field levels, and will be jointly monitored and supervised. This is not dissimilar to current government personnel procedures which incorporate performance based assessment.

38. **Service Providers:** The Project will be managed by the CPMU/RPMU and implemented by contracted service providers on performance related contracts. Service providers will include: (i) preselected public institutions (such as Ministry of Health or its representative in Matrouh, Road Department in Matrouh Governorate and General Authority for Educational Buildings) who may have the status of Project Parties and be required to ensure that procurement actions undertaken by them and financed by IFAD or Government be undertaken in compliance with the stipulated procedures of IFAD and Government; and (ii) non-preselected civil society or private sector entities such as NGOs that will participate in the implementation of project activities and consultancy firms. Service providers not pre-selected will be procured on the basis of IFAD procurement guidelines.

39. **Register of Contracts:** Procurement carried out at regional level will be recorded and registered against the Procurement Plan. In addition, all contracts, with or without prior IFAD approval, will be listed in the Register of Contracts maintained by the procuring entity with the dates of approval as provided by IFAD. When a contract is amended, the amendment will be recorded in the Register of Contracts. If a contract is cancelled or declared ineligible for financing by IFAD, this information will be written in the Register of Contracts. As this register facilitates the review and approval of payment requests on contracts, it is to be updated and submitted to the IFAD country programme director on a quarterly basis. The sample form to be used and instructions are detailed in Annex 6 of IFAD's Loan Disbursement Handbook. It will also be necessary that the CPMU/RPMU prepare annual statistics disaggregated by type and methods of procurement, for the overall procurement transactions carried out for the Project.

40. **Issuing the Bidding documents:** All bidding documents for the procurement of goods, works and services will be prepared by the procurement officers with the support of the technical expert(s), who will supply specifications, terms of reference, Bills of Quantities, etc. as required.

Draft 18 months Procurement plan

41. Accurate and realistic planning and prioritization of needs is an essential prerequisite to effective procurement and a key tool for monitoring Project implementation. At the time of negotiation of each project, the borrower/recipient, in consultation with IFAD, must establish an 18-month procurement plan, which must include, as a minimum the following. A draft procurement plan has been made and is available as part of the design report.

Reference	A unique reference for the procurement contract
Description	A description of the procurement contract
Estimated cost	This is the base cost and the expected physical and price contingencies for the procurement item.
Number of Packages	An estimate of the expected economical packages for the procurement items.
Procurement Method	The method of procurement as per the IFAD guidelines.
Start Date	The date the procurement has to be planned, including initial stages of establishing detailed requirements, preparation of bidding documents and gaining all the necessary approvals as Public Procurement Act.
Bid Opening Date	The expected date for opening of the bids.
Domestic Preference	Domestic preference will be applicable for all ICB contracts.
Prior Review	Transaction will be subject to prior review by IFAD in accordance with the provisions of the Procurement Guidelines.

Attachment 8.1: Summary of Procurement Risk Factors and Recommended Remedies

Overall Procurement Risk – HIGH. The overall procurement risk is “High” on account of inherent weaknesses, particularly those associated with inadequate procurement oversight systems at national and local levels. Summary of the Procurement Risk Factors and Recommended Remedies are presented in the table below.

Risk	What can happen	Remedial actions (Recommendations)
In some cases, procuring entities issue tender notices, receive, and evaluate bids and award contracts without ensuring whether or not funds are actually available for contractual payments.	Payment delays lead to lack of trust by potential bidders who do business with the state, causing lack of competition.	Integrating procurement planning as part of the budgeting process and using procurement plans as a management tool for allocating responsibilities, improving accountability, and monitoring procurement performance.
The available expertise at PE does not meet the need for specialised procurement knowledge.	The general quality and timeliness with which the agency handles each phase of the procurement cycle will be negatively affected.	Recruiting a qualified and experienced procurement officer at the central PMU and seconding qualified staff at DRC-PMU to carry out procurement activities. As an initial mitigation measure, the thresholds for IFAD review to the procurement decisions were brought down to lower levels to ensure that the project are handling procurement activities appropriately that can be amended later on based on the performance of the PMUs.

Technical specifications are ambiguous; requirements are unclear and unrealistic such as requirement of delivery completion time that bidders cannot meet and frequently absence of qualification and experience requirements.	Bids are based on poor quality; and cheap goods, works, and workmanship are offered by unqualified and inexperienced bidders.	Train staff in preparing clear technical specifications. Create and maintain a database of sample specifications and prepare standard technical specifications for items procured frequently. In addition, long term technical assistance will be provided to help in developing STB, drafting professional technical specifications and TORs
Continue using point system for the evaluation of works and goods procurements.	Bidders are disqualified on flimsy and inappropriate grounds	A simple pass or fail system should be adopted.
The architecture of the complaint review system is not efficient	The fairness of the system of review is negatively perceived by potential users	The bidding documents should include clear provisions on the complaint mechanism
PE recordkeeping practices remain poor.	Contracts admiration, management and audits will become inefficient.	Establish central procurement filing system including all related documents and allocate adequate and secure office space for filing.
Frequently bidders have very short bid preparation time.	Limited participation of potential bidders, leading to higher prices and loss of economies.	In addition to the compliance with minimum time offered by the law, the procuring entity should consider the complexity of the transaction and extend the time accordingly.
The available expertise at PE with regard construction management not meet the standard level	Acceptance of low quality works in relation to the expenditure.	Hiring qualified civil engineers to ensure the quality of civil works.

Appendix 9: Project cost and financing

Introduction

1. This appendix covers the project costs and financing plan for the PRIDE project and also describes the assumptions underlying them and sets out the basis and details of the estimated project costs.

Project Costs and Financing

2. PRIDE is financed over a seven-year period, and it is assumed to start in the second semester of 2018. Costs have been estimated on the basis of prices prevailing during project design in July 2017.

- Physical and price contingencies. A physical contingency of 5% has been applied to civil works to take into account the uncertainty of the exact implementation quantities while price contingencies have been applied on all costs.
- Inflation. Inflation in Egypt has been driven mainly by the impact of the currency float and the imposition of VAT at 14%, which replaced the general sales tax of 10% used up to September 2016. However, following an inflation slowdown in month-on-month terms — from over 4% in January to 1.7% in April - the Economist Intelligence Unit suggests that the inflationary surge may be coming to an end. The forecast sees an average inflation rate to ease from 17.2% in 2018 to 8.4% in 2021¹¹². For the purpose of this analysis, a gradual inflation decrease – from 17% to 8.4 % has been applied. For foreign inflation, an average inflation of 1.8% has been retained.
- Exchange rate. An exchange rate of LE 18 to the USD has been used. The Egyptian pound has declined heavily against the US dollar in the last year. The exchange rate appears to have stabilised for the time being. The foreign exchange share was included for most of the goods, material and equipment imported to Egypt, e.g. sensitive to the fluctuation of exchange rate.
- Taxes and duties. Part of the Government contribution will be the exemptions from taxes and duties on all project inputs that involve funding from IFAD loans. The estimate of taxes and duties was based on the rates in effect prevailing at the time of the design. In conformity with the principle that no taxes or duties will be financed out of the proceeds of the IFAD loan/grant, any future changes in tax legislation will have to apply to the project.
- The items to be imported for the project attract import and excise duties of varying proportions, and a value-added tax (VAT) of 14% is levied on all imported goods. Taxes on civil works are considered at 19%, as per the latest information collected from the tax system.

Project costs

3. The total project costs including physical and price contingencies are estimated at US\$ 81.59 over the entire implementation period. Project costs by components are summarized in Table 9.1, while a complete set of project summary tables and detailed costs tables are presented in Attachments 1 and 2 of this appendix.

4. Project costs by components. Project investments are organized into two major components: (i) Climate Resilient Livelihoods (52% per cent); (ii) Integrated Nutrition Investments (39% per cent of the costs); and (iii) Project management (9% of the costs). A summary breakdown of the project costs by components is shown below in Table 9.1.

¹¹² Economist Intelligence Unit, Egypt Country Report, July 2017.

Table 9.1. Project costs by component

<p style="text-align: right;">Egypt Promoting Resilience in Desert Environments Project Components by Year -- Totals Including Contingencies (US\$ '000)</p>								
Totals Including Contingencies								
	2018	2019	2020	2021	2022	2023	2024	Total
A. Climate Resilient Livelihoods								
1. Water for Agriculture and Watershed Management	3 525	1 613	2 047	2 469	2 657	2 710	2 046	17 066
2. Enhancing Connectivity	408	7 127	7 287	-	-	-	-	14 822
3. Livestock & Rangeland Development	121	565	330	1 317	260	265	245	3 104
4. Crop Production	1 029	2 171	2 714	713	611	305	-	7 543
Subtotal	5 083	11 476	12 378	4 498	3 528	3 281	2 291	42 535
B. Integrated Nutrition Investments								
1. Water for Health	938	2 709	4 242	3 883	2 929	59	-	14 760
2. Nutrition Enhancement & Education	836	739	1 474	1 493	1 524	1 046	519	7 631
3. Social Infrastructure	302	3 978	2 330	1 344	385	391	397	9 129
Subtotal	2 075	7 426	8 047	6 721	4 838	1 495	916	31 520
C. Project Management	2 499	793	1 181	849	833	806	582	7 544
Total PROJECT COSTS	9 658	19 695	21 606	12 069	9 199	5 583	3 790	81 599

5. Project financing. As shown in table 9.2, the total project costs of US\$ 81.59 million will be financed by an IFAD loan of US\$ 61.87 million and an IFAD grant of US\$1 million. The Government contribution will be approximately US\$ 13.95 million, of which US\$ 7.6 million will be in-kind contribution¹¹³ for the use of its staff and facilities in the project area and US\$ 6.35 million will be in terms of income foregone and cash contribution for taxes. The rates and amounts of the taxes and duties in the project costs presented below are defined only to determine the Government contribution and to value the total project cost. Beneficiaries will US\$ 4.77 million as their in-kind contribution for labour in selected project activities such as 20% of the cost of cisterns, reservoirs, sanitation facilities, community rangeland development, etc. The proposed financing plan is summarized in Table 9.2 below.

Table 9.2. Project financing

Egypt Promoting Resilience in Desert Environments Components by Financiers (US\$ '000)										
	IFAD		IFAD Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Climate Resilient Livelihoods										
1. Water for Agriculture and Watershed Management	15 427	90.4	-	-	1 357	8.0	282	1.7	17 066	20.9
2. Enhancing Connectivity	7 626	51.4	-	-	-	-	7 196	48.6	14 822	18.2
3. Livestock & Rangeland Development	2 615	84.2	-	-	217	7.0	272	8.8	3 104	3.8
4. Crop Production	6 356	84.3	-	-	-	-	1 187	15.7	7 543	9.2
Subtotal	32 023	75.3	-	-	1 574	3.7	8 938	21.0	42 535	52.1
B. Integrated Nutrition Investments										
1. Water for Health	11 962	81.0	-	-	2 670	18.1	128	0.9	14 760	18.1
2. Nutrition Enhancement & Education	6 478	84.9	346	4.5	-	-	806	10.6	7 631	9.4
3. Social Infrastructure	6 289	68.9	-	-	527	5.8	2 313	25.3	9 129	11.2
Subtotal	24 730	78.5	346	1.1	3 196	10.1	3 247	10.3	31 520	38.6
C. Project Management	5 118	67.8	654	8.7	-	-	1 772	23.5	7 544	9.2
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

6. **Expenditure and disbursement accounts.** The Project will be rolled out through the central Project Management Unit - which will manage and coordinate the flow of funds and the expenditures incurred on account of the project activities. Financial management and procurement procedures are described in Appendices 7 and 8. A summary of the total costs by expenditure accounts per year is shown in table 9.3 and a summary of the total costs by disbursement accounts and financier is presented in table 9.4.

¹¹³ In kind-contribution in the

Table 9.3. Expenditure accounts by financier

Egypt Promoting Resilience in Desert Environments Expenditure Accounts by Financiers (US\$ '000)										
	IFAD		IFAD Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs										
A. Consultancies /a	2 898	66.2	940	21.5	-	-	537	12.3	4 376	5.4
B. Goods & Services	12 685	87.0	60	0.4	217	1.5	1 611	11.1	14 573	17.9
C. Trainings & Workshops /b	4 261	90.8	-	-	-	-	430	9.2	4 691	5.7
D. Civil Works	33 201	71.4	-	-	4 553	9.8	8 723	18.8	46 478	57.0
E. Grants	5 153	100.0	-	-	-	-	-	-	5 153	6.3
Total Investment Costs	58 199	77.3	1 000	1.3	4 770	6.3	11 301	15.0	75 271	92.2
II. Recurrent Costs										
A. Salaries and Allowances	2 610	50.5	-	-	-	-	2 558	49.5	5 167	6.3
B. Operating costs /c	1 063	91.5	-	-	-	-	98	8.5	1 161	1.4
Total Recurrent Costs	3 672	58.0	-	-	-	-	2 656	42.0	6 328	7.8
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

/a It includes Technical assistance and studies

/b It includes meetings

/c including maintenance

Table 9.4. Disbursement accounts by financier

Egypt Promoting Resilience in Desert Environments Disbursement Accounts by Financiers (US\$ '000)										
	IFAD		IFAD Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Consultancies	2 898	66.2	940	21.5	-	-	537	12.3	4 376	5.4
Goods, Services	12 685	87.0	60	0.4	217	1.5	1 611	11.1	14 573	17.9
Grants_DA	5 153	100.0	-	-	-	-	-	-	5 153	6.3
Workshops & Trainings	4 261	90.8	-	-	-	-	430	9.2	4 691	5.7
Civil Works	33 201	71.4	-	-	4 553	9.8	8 723	18.8	46 478	57.0
Salaries and Allowances	2 610	50.5	-	-	-	-	2 558	49.5	5 167	6.3
Operating costs /a	1 063	91.5	-	-	-	-	98	8.5	1 161	1.4
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

/a including maintenance

Attachment 9.1: Summary cost and financing tables (US\$)

Table	Description
1	Components by Financier
2	Expenditure Accounts by Financier
3	Expenditure Accounts by Components - Base Costs
4	Expenditure Accounts by Components - Totals Including Contingencies
5	Project Components by Year -- Base Costs
6	Project Components by Year -- Totals Including Contingencies
7	Expenditure Accounts by Years -- Base Costs
8	Expenditure Accounts by Years -- Totals Including Contingencies
9	Disbursement Accounts by Financiers
10	Disbursements by Semesters and Government Cash Flow

Egypt
Promoting Resilience in Desert Environments
Components by Financiers
(US\$ '000)

	IFAD		IFAD_Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
A. Climate Resilient Livelihoods										
1. Water for Agriculture and Watershed Management	15 427	90.4	-	-	1 357	8.0	282	1.7	17 066	20.9
2. Enhancing Connectivity	7 626	51.4	-	-	-	-	7 196	48.6	14 822	18.2
3. Livestock & Rangeland Development	2 615	84.2	-	-	217	7.0	272	8.8	3 104	3.8
4. Crop Production	6 356	84.3	-	-	-	-	1 187	15.7	7 543	9.2
Subtotal	32 023	75.3	-	-	1 574	3.7	8 938	21.0	42 535	52.1
B. Integrated Nutrition Investments										
1. Water for Health	11 962	81.0	-	-	2 670	18.1	128	0.9	14 760	18.1
2. Nutrition Enhancement & Education	6 478	84.9	346	4.5	-	-	806	10.6	7 631	9.4
3. Social Infrastructure	6 289	68.9	-	-	527	5.8	2 313	25.3	9 129	11.2
Subtotal	24 730	78.5	346	1.1	3 196	10.1	3 247	10.3	31 520	38.6
C. Project Management	5 118	67.8	654	8.7	-	-	1 772	23.5	7 544	9.2
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

Egypt
Promoting Resilience in Desert Environments
Expenditure Accounts by Financiers
(US\$ '000)

	IFAD		IFAD_Grant		Beneficiaries		The Government		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Investment Costs										
A. Consultancies /a	2 898	66.2	940	21.5	-	-	537	12.3	4 376	5.4
B. Goods & Services	12 685	87.0	60	0.4	217	1.5	1 611	11.1	14 573	17.9
C. Trainings & Workshops /b	4 261	90.8	-	-	-	-	430	9.2	4 691	5.7
D. Civil Works	33 201	71.4	-	-	4 553	9.8	8 723	18.8	46 478	57.0
E. Grants	5 153	100.0	-	-	-	-	-	-	5 153	6.3
Total Investment Costs	58 199	77.3	1 000	1.3	4 770	6.3	11 301	15.0	75 271	92.2
II. Recurrent Costs										
A. Salaries and Allow ances	2 610	50.5	-	-	-	-	2 558	49.5	5 167	6.3
B. Operating costs /c	1 063	91.5	-	-	-	-	98	8.5	1 161	1.4
Total Recurrent Costs	3 672	58.0	-	-	-	-	2 656	42.0	6 328	7.8
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0

/a It includes Technical assistance and studies

/b It includes meetings

/c including maintenance

Egypt
Promoting Resilience in Desert Environments
Expenditure Accounts by Components - Base Costs
(US\$ '000)

	Climate Resilient Livelihoods										
	Water for Agriculture and Watershed Management				Integrated Nutrition Investments				Physical Contingencies		
	Enhancing Connectivity	Livestock & Rangeland Development	Crop Production	Water for Health	Nutrition Enhancement & Education	Social Infrastructure	Project Management	Total	%	Amount	
I. Investment Costs											
A. Consultancies /a	2 280	405	-	205	-	392	-	1 010	4 292	-	-
B. Goods & Services	-	-	2 562	3 442	1 015	4 343	1 445	999	13 807	-	-
C. Trainings & Woskshops /b	-	-	342	1 482	-	2 397	-	188	4 409	-	-
D. Civil Works	8 500	13 222	-	2 118	12 329	-	5 504	547	42 221	4.8	2 010
E. Grants	4 769	-	-	-	-	-	-	-	4 769	-	-
Total Investment Costs	15 549	13 627	2 904	7 247	13 344	7 131	6 949	2 745	69 498	2.9	2 010
II. Recurrent Costs											
A. Salaries and Allow ances	-	-	-	-	-	-	1 520	3 325	4 845	-	-
B. Operating costs /c	-	-	-	-	-	-	-	1 100	1 100	-	-
Total Recurrent Costs	-	-	-	-	-	-	1 520	4 425	5 945	-	-
Total BASELINE COSTS	15 549	13 627	2 904	7 247	13 344	7 131	8 469	7 169	75 442	2.7	2 010
Physical Contingencies	425	661	-	5	616	-	275	27	2 010	-	-
Price Contingencies											
Inflation											
Local	6 052	4 249	777	1 373	5 535	2 283	2 180	876	23 325	-	-
Foreign	199	1	82	90	12	147	10	29	571	-	-
Subtotal Inflation	6 251	4 250	859	1 463	5 547	2 431	2 190	905	23 896	-	-
Devaluation	-5 159	-3 716	-659	-1 172	-4 748	-1 931	-1 805	-558	-19 749	-	-
Subtotal Price Contingencies	1 092	534	200	291	799	499	385	347	4 147	2.6	107
Total PROJECT COSTS	17 066	14 822	3 104	7 543	14 760	7 631	9 129	7 544	81 599	2.6	2 117
Taxes	282	2 352	248	1 005	128	806	1 070	457	6 348	2.5	161
Foreign Exchange	3 584	179	1 267	1 690	457	2 224	394	1 056	10 851	-	

\a It includes Technical assistance and studies

\b It includes meetings

\c including maintenance

Egypt
Promoting Resilience in Desert Environments
Expenditure Accounts by Components - Totals Including Contingencies
(US\$ '000)

	Climate Resilient Livelihoods								
	Water for Agriculture and Watershed Management	Enhancing Connectivity	Livestock & Rangeland Development	Crop Production	Integrated Nutrition Investments				Total
					Water for Health	Nutrition Enhancement & Education	Social Infrastructure	Project Management	
I. Investment Costs									
A. Consultancies /a	2 297	408	-	211	-	395	-	1 065	4 376
B. Goods & Services	-	-	2 738	3 642	1 042	4 677	1 469	1 007	14 573
C. Trainings & Woskshops /b	-	-	367	1 565	-	2 560	-	200	4 691
D. Civil Works	9 616	14 414	-	2 126	13 718	-	6 011	593	46 478
E. Grants	5 153	-	-	-	-	-	-	-	5 153
Total Investment Costs	17 066	14 822	3 104	7 543	14 760	7 631	7 480	2 865	75 271
II. Recurrent Costs									
A. Salaries and Allow ances	-	-	-	-	-	-	1 649	3 518	5 167
B. Operating costs /c	-	-	-	-	-	-	-	1 161	1 161
Total Recurrent Costs	-	-	-	-	-	-	1 649	4 679	6 328
Total PROJECT COSTS	17 066	14 822	3 104	7 543	14 760	7 631	9 129	7 544	81 599
Taxes	282	2 352	248	1 005	128	806	1 070	457	6 348
Foreign Exchange	3 584	179	1 267	1 690	457	2 224	394	1 056	10 851

/a It includes Technical assistance and studies

/b It includes meetings

/c including maintenance

Egypt
Promoting Resilience in Desert Environments
Project Components by Year -- Base Costs
(US\$ '000)

	Base Cost							
	2018	2019	2020	2021	2022	2023	2024	Total
A. Climate Resilient Livelihoods								
1. Water for Agriculture and Watershed Management	3 450	1 520	1 890	2 240	2 360	2 360	1 729	15 549
2. Enhancing Connectivity	405	6 611	6 611	-	-	-	-	13 627
3. Livestock & Rangeland Development	120	550	314	1 228	238	238	216	2 904
4. Crop Production	1 029	2 136	2 586	665	559	274	-	7 247
Subtotal	5 004	10 818	11 401	4 133	3 156	2 871	1 945	39 328
B. Integrated Nutrition Investments								
1. Water for Health	886	2 561	3 849	3 449	2 549	50	-	13 344
2. Nutrition Enhancement & Education	829	720	1 404	1 393	1 393	937	456	7 131
3. Social Infrastructure	286	3 748	2 136	1 218	361	361	361	8 469
Subtotal	2 001	7 029	7 389	6 059	4 303	1 348	817	28 945
C. Project Management	2 470	774	1 113	797	767	730	520	7 169
Total BASELINE COSTS	9 475	18 620	19 902	10 989	8 226	4 949	3 281	75 442
Physical Contingencies	118	593	687	277	195	70	68	2 010
Price Contingencies								
Inflation								
Local	443	3 698	6 580	4 296	3 981	2 340	1 986	23 325
Foreign	18	50	90	114	104	126	70	571
Subtotal Inflation	461	3 748	6 670	4 409	4 085	2 466	2 057	23 896
Devaluation	-397	-3 266	-5 654	-3 607	-3 307	-1 903	-1 616	-19 749
Subtotal Price Contingencies	64	482	1 016	803	778	563	440	4 147
Total PROJECT COSTS	9 658	19 695	21 606	12 069	9 199	5 583	3 790	81 599
Taxes	892	2 270	2 070	570	277	176	92	6 348
Foreign Exchange	2 368	1 907	1 899	1 686	1 205	1 211	576	10 851

Egypt
Promoting Resilience in Desert Environments
Project Components by Year -- Totals Including Contingencies
(US\$ '000)

	Totals Including Contingencies							
	2018	2019	2020	2021	2022	2023	2024	Total
A. Climate Resilient Livelihoods								
1. Water for Agriculture and Watershed Management	3 525	1 613	2 047	2 469	2 657	2 710	2 046	17 066
2. Enhancing Connectivity	408	7 127	7 287	-	-	-	-	14 822
3. Livestock & Rangeland Development	121	565	330	1 317	260	265	245	3 104
4. Crop Production	1 029	2 171	2 714	713	611	305	-	7 543
Subtotal	5 083	11 476	12 378	4 498	3 528	3 281	2 291	42 535
B. Integrated Nutrition Investments								
1. Water for Health	938	2 709	4 242	3 883	2 929	59	-	14 760
2. Nutrition Enhancement & Education	836	739	1 474	1 493	1 524	1 046	519	7 631
3. Social Infrastructure	302	3 978	2 330	1 344	385	391	397	9 129
Subtotal	2 075	7 426	8 047	6 721	4 838	1 495	916	31 520
C. Project Management	2 499	793	1 181	849	833	806	582	7 544
Total PROJECT COSTS	9 658	19 695	21 606	12 069	9 199	5 583	3 790	81 599

Egypt
Promoting Resilience in Desert Environments
Expenditure Accounts by Years -- Base Costs
(US\$ '000)

	Base Cost							Foreign Exchange		
	2018	2019	2020	2021	2022	2023	2024	Total	%	Amount
I. Investment Costs										
A. Consultancies /a	3 405	328	140	123	123	86	86	4 292	43.9	1 882
B. Goods & Services	1 392	3 383	3 262	2 398	1 324	1 324	723	13 807	43.6	6 013
C. Trainings & Workshops /b	212	701	1 172	1 040	988	247	49	4 409	-	-
D. Civil Works	3 380	12 870	13 746	5 546	3 909	1 410	1 360	42 221	-	-
E. Grants	200	500	700	1 000	1 000	1 000	369	4 769	50.0	2 385
Total Investment Costs	8 589	17 783	19 020	10 107	7 344	4 067	2 587	69 498	14.8	10 280
II. Recurrent Costs										
A. Salaries and Allowances	485	721	765	765	765	765	578	4 845	-	-
B. Operating costs /c	401	116	116	116	116	116	116	1 100	-	-
Total Recurrent Costs	886	837	882	882	882	882	695	5 945	-	-
Total BASELINE COSTS	9 475	18 620	19 902	10 989	8 226	4 949	3 281	75 442	13.6	10 280
Physical Contingencies	118	593	687	277	195	70	68	2 010	-	-
Price Contingencies										
Inflation										
Local	443	3 698	6 580	4 296	3 981	2 340	1 986	23 325	-	-
Foreign	18	50	90	114	104	126	70	571	100.0	571
Subtotal Inflation	461	3 748	6 670	4 409	4 085	2 466	2 057	23 896	2.4	571
Devaluation	-397	-3 266	-5 654	-3 607	-3 307	-1 903	-1 616	-19 749	-	-
Subtotal Price Contingencies	64	482	1 016	803	778	563	440	4 147	13.8	571
Total PROJECT COSTS	9 658	19 695	21 606	12 069	9 199	5 583	3 790	81 599	13.3	10 851
Taxes	892	2 270	2 070	570	277	176	92	6 348	-	-
Foreign Exchange	2 368	1 907	1 899	1 686	1 205	1 211	576	10 851	-	-

/a It includes Technical assistance and studies
/b It includes meetings
/c including maintenance

Egypt
Promoting Resilience in Desert Environments
Expenditure Accounts by Years -- Totals Including Contingencies
(US\$ '000)

	Totals Including Contingencies							
	2018	2019	2020	2021	2022	2023	2024	Total
I. Investment Costs								
A. Consultancies /a	3 431	337	147	132	135	96	98	4 376
B. Goods & Services	1 402	3 472	3 420	2 564	1 440	1 466	809	14 573
C. Trainings & Workshops /b	214	720	1 230	1 116	1 081	275	56	4 691
D. Civil Works	3 517	13 795	15 152	6 244	4 492	1 653	1 626	46 478
E. Grants	202	513	735	1 072	1 094	1 116	420	5 153
Total Investment Costs	8 765	18 837	20 683	11 128	8 241	4 606	3 009	75 271
II. Recurrent Costs								
A. Salaries and Allow ances	488	738	800	816	831	846	649	5 167
B. Operating costs /c	404	120	122	125	127	130	133	1 161
Total Recurrent Costs	892	857	922	941	958	976	781	6 328
Total PROJECT COSTS	9 658	19 695	21 606	12 069	9 199	5 583	3 790	81 599

\a It includes Technical assistance and studies

\b It includes meetings

\c including maintenance

Egypt
Promoting Resilience in Desert Environments
Disbursement Accounts by Financiers
(US\$ '000)

	IFAD		IFAD_Grant		Beneficiaries		The Government		Total		For.	Local	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Exch.	(Excl. Taxes)	Taxes
Consultancies	2 898	66.2	940	21.5	-	-	537	12.3	4 376	5.4	1 919	1 919	537
Goods, Services	12 685	87.0	60	0.4	217	1.5	1 611	11.1	14 573	17.9	6 355	6 631	1 587
Grants_DA	5 153	100.0	-	-	-	-	-	-	5 153	6.3	2 576	2 576	-
Workshops & Trainings	4 261	90.8	-	-	-	-	430	9.2	4 691	5.7	-	4 261	430
Civil Works	33 201	71.4	-	-	4 553	9.8	8 723	18.8	46 478	57.0	-	42 782	3 695
Salaries and Allow ances	2 610	50.5	-	-	-	-	2 558	49.5	5 167	6.3	-	5 167	-
Operating costs /a	1 063	91.5	-	-	-	-	98	8.5	1 161	1.4	-	1 063	98
Total PROJECT COSTS	61 871	75.8	1 000	1.2	4 770	5.8	13 957	17.1	81 599	100.0	10 851	64 400	6 348

/a including maintenance

Egypt
Promoting Resilience in Desert Environments
Disbursements by Semesters and Government Cash Flow
(US\$ '000)

	Financing Available			Total	Costs to be Financed by Government		
	IFAD	IFAD Grant	Beneficiaries		Project	Cumulative	
	Amount	Amount	Amount		Costs	Cash Flow	Cash Flow
1	3 801	253	188	4 241	4 829	-587	-587
2	3 801	253	188	4 241	4 829	-587	-1 175
3	6 891	50	332	7 273	9 847	-2 574	-3 749
4	6 891	50	332	7 273	9 847	-2 574	-6 323
5	7 676	51	608	8 336	10 803	-2 467	-8 790
6	7 676	51	608	8 336	10 803	-2 467	-11 257
7	4 915	53	576	5 544	6 034	-490	-11 747
8	4 915	53	576	5 544	6 034	-490	-12 238
9	3 782	54	416	4 252	4 600	-348	-12 586
10	3 782	54	416	4 252	4 600	-348	-12 934
11	2 322	36	131	2 490	2 791	-302	-13 235
12	2 322	36	131	2 490	2 791	-302	-13 537
13	1 548	3	134	1 685	1 895	-210	-13 747
14	1 548	3	134	1 685	1 895	-210	-13 957
Total	61 871	1 000	4 770	67 641	81 599	-13 957	-13 957

Attachment 9.2: Detailed Project costs (US\$)

Table	Description
1.1	Water for Agriculture and Watershed Management
1.2	Enhancing Connectivity
1.3	Livestock & Rangeland Development
1.4	Crop Production
2.1	Water for Heath
2.2	Nutrition Enhancement & Education
2.3	Social Infrastructures
3	Project Management

Arab Republic of Egypt
Promoting Resilience in Desert Environments (PRIDE)
Final project design report
Appendix 9: Project cost and financing

Egypt
Promoting Resilience in Desert Environments
Table 1.1. Water for Agriculture and Watershed Management
Detailed Costs

I. Investment Costs	Unit	Quantities								Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024	Total		2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
A. Reservoirs for irrigate Agriculture 300m2	no.	60	60	70	70	80	80	80	500	12,000	762	776	926	946	1 103	1 125	1 148	6 785	CW	IFAD (80%), BEN (20%)
B. New /old rehabilitation of w adi development kms	km	10	12	14	16	16	16	16	100	25,000	264	323	386	450	460	469	478	2 831	CW	IFAD (100%)
C. Siw a Drainage Study	lumpsum										2 297	-	-	-	-	-	-	2 297	CONS	IFAD (100%)
D. Grants for new lands	per year										202	513	735	1 072	1 094	1 116	420	5 153	GRANTS	IFAD (100%)
Total											3 525	1 613	2 047	2 469	2 657	2 710	2 046	17 066		

Egypt
Promoting Resilience in Desert Environments
Table 1.2. Enhancing Connectivity
Detailed Costs

	Unit	Quantities								Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Other Accounts		
		2018	2019	2020	2021	2022	2023	2024	Total		2018	2019	2020	2021	2022	2023	2024	Total	Expenditure Account	Disb. Acct.	Fin. Rule
I. Investment Costs																					
A. Feeder Roads in Matrouh	km	-	75	75	-	-	-	-	150	44,444	-	4 276	4 372	-	-	-	-	8 648	CW	CW_DA	IFAD (100%)
B. Feeder Roads in Matrouh (GoE)	km	-	50	50	-	-	-	-	100	44,444	-	2 851	2 915	-	-	-	-	5 766	CW	CW_DA	GOVT
C. Design & supervision costs	lumpsum	1	-	-	-	-	-	-	1	355,556	408	-	-	-	-	-	-	408	CONS	CONS_DA	IFAD (100%)
Total											408	7 127	7 287	-	-	-	-	14 822			

Egypt
Promoting Resilience in Desert Environments
Table 1.3. Livestock & Rangeland Development
Detailed Costs

	Unit	Quantities								Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024	Total		2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
I. Investment Costs																				
A. Community rangeland management	no	-	5	5	5	5	5	5	30	33.333	-	171	175	179	182	186	190	1 083	G&S	IFAD (80%) , BEN (20%)
B. Rangeland seed collection	no	-	-	1	2	-	-	-	3	9.444	-	-	11	23	-	-	-	34	G&S	IFAD (100%)
C. Purchasing of high quality rams	no	120	-	-	-	-	-	-	120	360	50	-	-	-	-	-	-	50	G&S	IFAD (100%)
D. Implementation of breeding plan	per year										22	23	23	24	24	25	-	142	G&S	IFAD (100%)
E. Veterinary mobile health unit	No.	-	2	-	-	-	-	-	2	83.333	-	195	-	-	-	-	-	195	G&S	IFAD (100%)
F. Operational cost of health unit	per month	-	72	72	-	-	-	-	144	800	-	67	69	-	-	-	-	136	G&S	IFAD (70%)
G. Crop and livestock on new lands	lumpsum	-	-	-	1	-	-	-	1	850.000	-	-	-	1 039	-	-	-	1 039	G&S	IFAD (100%)
H. Training programme on livestock development	training	1	1	1	1	1	1	1	7	42.857	49	50	51	52	53	55	56	367	T&W	IFAD (100%)
I. Equipment for feed mix	lumpsum	-	1	-	-	-	-	-	1	50.000	-	59	-	-	-	-	-	59	G&S	IFAD (100%)
Total											121	565	330	1 317	260	265	245	3 104		

Arab Republic of Egypt
Promoting Resilience in Desert Environments (PRIDE)
Final project design report
Appendix 9: Project cost and financing

Egypt
Promoting Resilience in Desert Environments
Table 1.4. Crop Production
Detailed Costs

	Unit	Quantities							Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024	Total	2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
I. Investment Costs																			
A. Rehabilitation of DRC nursery	per year	-	1	-	-	-	-	-	1	80.000	-	103	-	-	-	-	103	CW	IFAD (100%)
B. Nursery operational costs	per year	-	-	-	-	-	-	-	-	17	18	12	-	-	-	-	47	G&S	IFAD (100%)
C. Horticulture training	module	-	1 500	1 500	1 000	1 000	-	-	5 000	250	439	449	306	312	-	-	1 505	T&W	IFAD (100%)
D. Research facilities in Moghra	centre	-	-	-	-	-	-	-	-	1 012	1 012	-	-	-	-	-	2 023	CW	IFAD (75%)
E. Support to farmers on new lands	lumpsum	-	-	-	-	-	-	-	-	-	234	239	244	250	254	-	1 222	G&S	IFAD (100%)
F. Support to farmers for equipment	module	-	5	5	5	-	-	-	15	8.000	-	47	48	49	-	-	144	G&S	IFAD (100%)
G. Processing facilities for youth & small farmer companies in Moghra	module	-	-	1	-	-	-	-	1	1.500.000	-	-	1 795	-	-	-	1 795	G&S	IFAD (100%)
H. Agricultural extension & DRC training in dissemination	participants	-	10	20	20	-	-	-	50	1.000	-	12	24	24	-	-	60	T&W	IFAD (100%)
I. Exchange visits	participants	-	-	10	10	10	10	-	40	4.000	-	-	48	49	50	51	198	G&S	IFAD (100%)
J. Applied research & dissemination	lumpsum	-	1	-	-	-	-	-	1	180.000	-	211	-	-	-	-	211	CONS	IFAD (100%)
K. Water quality monitoring & capacity building	per year	-	-	-	-	-	-	-	-	-	39	39	40	-	-	-	118	G&S	IFAD (100%)
L. Laboratory and technical equipment for DRC	lumpsum	-	-	-	-	-	-	-	-	-	59	60	-	-	-	-	118	G&S	IFAD (100%)
Total											1 029	2 171	2 714	713	611	305	-	7 543	

Egypt
Promoting Resilience in Desert Environments
Table 2.1. Water for Health
Detailed Costs

	Unit	Quantities							Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024	Total	2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
I. Investment Costs																			
A. Cisterns homestead 120 m3	No.	300	600	1 800	1 800	1 500	-	-	6 000	1.666	529	1 078	3 305	3 376	2 871	-	11 160	CW	IFAD (80%), BEN (20%)
B. Reservoirs homestead 150m3	No.	80	120	200	100	-	-	-	500	4.000	339	517	882	450	-	-	2 188	CW	IFAD (80%), BEN (20%)
C. Roman cistern rehabilitation 500m3	No.	20	20	15	15	15	15	-	100	3.333	71	72	55	56	57	59	370	CW	IFAD (100%)
D. Desalinization plants for new lands	Lumpsum	-	-	-	-	-	-	-	-	-	-	1 042	-	-	-	-	1 042	G&S	IFAD (100%)
Total											938	2 709	4 242	3 883	2 929	59	-	14 760	

Arab Republic of Egypt
Promoting Resilience in Desert Environments (PRIDE)
Final project design report
Appendix 9: Project cost and financing

Egypt
Promoting Resilience in Desert Environments
Table 2.2. Empowerment for Nutritional Change
Detailed Costs

	Unit	Quantities								Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024	Total		2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
I. Investment Costs																				
A. Nutrition & livelihood packages	w omen HH	400	600	600	600	600	600	600	4 000	667	306	468	479	489	499	509	519	3 271	G&S	IFAD (100%)
B. Nutrition supplement plants	trees	-	1 200	1 200	1 200	1 200	1 200	-	6 000	50	-	70	72	73	75	76	-	367	G&S	IFAD (100%)
C. Health & nutrition aw areness	No	-	-	1 000	1 000	1 000	-	-	3 000	400	-	-	479	489	499	-	-	1 467	T&W	IFAD (100%)
D. Literacy classes for women	w omen	250	350	350	350	350	350	-	2 000	500	126	180	184	188	192	195	-	1 064	T&W	IFAD (100%)
E. Trainings for community facilitators	person	15	15	20	-	-	-	-	50	500	9	9	12	-	-	-	-	29	T&W	IFAD (100%)
F. Support to communities on new lands	lumpsum	-	-	-	-	-	-	-	-	-	-	-	237	242	247	252	-	978	G&S	IFAD (100%)
G. Exchange visits	person	-	20	20	20	20	20	-	100	500	-	12	12	12	12	13	-	61	G&S	IFAD (100%)
H. Support to NGO for behaviour change management	lumpsum	1	-	-	-	-	-	-	1	343.500	395	-	-	-	-	-	-	395	CONS	IFAD_GRANT (100%)
Total											836	739	1 474	1 493	1 524	1 046	519	7 631		

Egypt
Promoting Resilience in Desert Environments
Table 2.3. Social Infrastructure
Detailed Costs

	Unit	Quantities								Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024	Total		2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
I. Investment Costs																				
A. High schools /a	school	-	2	1	-	-	-	-	3	333.333	-	855	437	-	-	-	-	1 292	CW	IFAD (100%)
B. Multigrade one-room schools	school	-	8	7	-	-	-	-	15	15.000	-	154	138	-	-	-	-	292	CW	IFAD (100%)
C. Health units /b	no.	-	2	1	-	-	-	-	3	333.333	-	855	437	-	-	-	-	1 292	CW	IFAD (100%)
D. Mobile health clinics & mobile lab /c	no.	-	5	-	-	-	-	-	5	138.889	-	813	-	-	-	-	-	813	G&S	IFAD (100%)
E. Sanitation facilities for women	No	300	900	900	900	-	-	-	3 000	800	302	924	944	965	-	-	-	3 135	CW	IFAD (80%), BEN (20%)
F. Design & supervision costs	lumpsum	-	1	-	-	-	-	-	1	73.333	-	86	-	-	-	-	-	86	G&S	IFAD (100%)
G. Incentives & transportation for women teachers to remote areas /d	per year	-	-	-	-	-	-	-	-	-	-	70	100	100	100	100	100	570	G&S	IFAD (100%)
Total Investment Costs											302	3 757	2 057	1 065	100	100	100	7 480		
II. Recurrent Costs																				
A. Personnel & Costs for Schools and Health Units																				
High School personnel & other costs	Persons year	-	-	-	-	-	-	-	-	-	27	42	43	44	45	46	246	SA_RC	GOVT	
Multigrade school personnel and operating costs	per year	-	-	-	-	-	-	-	-	-	37	71	72	74	75	77	406	SA_RC	IFAD (100%)	
Health unit personnel	Person year	-	24	24	24	24	24	24	144	2.222	-	55	56	57	58	60	347	SA_RC	GOVT	
Mobile health units personnel	Person Year	-	60	60	60	60	60	60	360	1.667	-	103	105	107	109	112	650	SA_RC	GOVT	
Total Recurrent Costs											-	222	274	280	285	291	297	1 649		
Total											302	3 978	2 330	1 344	385	391	397	9 129		

ia Government to provide all running costs and salaries

ib Government to provide all running costs and salaries

ic Government to provide all running costs and salaries

id Calculation based on a total of 30 teachers (2 per school). Amounts will be negotiated during implementation.

Arab Republic of Egypt
Promoting Resilience in Desert Environments (PRIDE)
Final project design report
Appendix 9: Project cost and financing

Egypt
Promoting Resilience in Desert Environments
Table 3.1. Project Management
Detailed Costs

	Unit	Quantities							Total	Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)								Expenditure	
		2018	2019	2020	2021	2022	2023	2024			2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule
I. Investment Costs																				
A. Equipment																				
MIS System & Istallation	no.	1	-	-	-	-	-	-	1	60.000	69	-	-	-	-	-	69	G&S	IFAD_GRANT (100%)	
Accounting system	no.	1	-	-	-	-	-	-	1	30.000	34	-	-	-	-	-	34	G&S	IFAD (100%)	
Vehicles 4X4 (DRC) /a	vehicle	18	-	-	-	-	-	-	18	32.000	662	-	-	-	-	-	662	G&S	IFAD (100%)	
Vehicles 4X4 (central PMU) /b	vehicle	2	-	-	-	-	-	-	2	32.000	74	-	-	-	-	-	74	G&S	IFAD (100%)	
Minibus (DRC) /c	vehicle	1	-	-	-	-	-	-	1	30.000	34	-	-	-	-	-	34	G&S	IFAD (100%)	
Truck (DRC) /d	vehicle	1	-	-	-	-	-	-	1	25.000	29	-	-	-	-	-	29	G&S	IFAD (100%)	
Computers	no.	30	-	-	-	-	-	-	30	1.000	34	-	-	-	-	-	34	G&S	IFAD (100%)	
Laptops	no.	7	-	-	-	-	-	-	7	1.500	12	-	-	-	-	-	12	G&S	IFAD (100%)	
Printers	no.	12	-	-	-	-	-	-	12	500	7	-	-	-	-	-	7	G&S	IFAD (100%)	
Photocopier	No	9	-	-	-	-	-	-	9	5.000	52	-	-	-	-	-	52	G&S	IFAD (100%)	
Subtotal											1 007	-	-	-	-	-	-	1 007		
B. DRC Centres																				
DRC Centre in Daba (TSU)	centre	1	-	-	-	-	-	-	1	190.000	239	-	-	-	-	-	239	CW	IFAD (100%)	
Upgrading of DRC centre in Siwa	centre										-	-	354	-	-	-	354	CW	IFAD (100%)	
Subtotal											239	-	354	-	-	-	-	593		
C. Meetings and workshops																				
1. Project launch & other workshop	event	2	2	2	2	-	-	-	8	15.000	30	31	31	32	-	-	-	125	T&W	IFAD (100%)
D. M&E studies																				
Baseline study	baseline	1	-	-	-	-	-	-	1	100.000	115	-	-	-	-	-	115	CONS	IFAD (100%)	
PIM development	manual	1	-	-	-	-	-	-	1	40.000	46	-	-	-	-	-	46	CONS	IFAD (100%)	
GIS mapping	study	1	-	-	-	-	-	-	1	50.000	57	-	-	-	-	-	57	CONS	IFAD (100%)	
Outcome surveys/mid-term	workshop	-	-	-	1	1	1	-	3	20.000	-	-	-	24	25	25	75	T&W	IFAD (100%)	
Impact assessment	study	-	-	-	-	-	-	1	1	60.000	-	-	-	-	-	-	78	CONS	IFAD (100%)	
Targeting & gender assessment	study	-	-	1	-	-	-	-	1	15.000	-	-	18	-	-	-	18	CONS	IFAD (100%)	
Audit	audit	-	1	1	1	1	1	1	6	10.000	-	12	12	12	12	13	74	CONS	IFAD (100%)	
Subtotal											218	12	30	37	37	38	91	463		
E. Technical Assistance																				
Technical assistance (DRC) /e	persons/month	18	17	17	17	17	11	-	97	5.445	113	108	111	113	115	76	637	CONS	IFAD_GRANT (100%)	
ESFM assessment	persons/month	-	1	1	1	1	1	1	6	5.445	-	6	7	7	7	7	40	CONS	IFAD_GRANT (100%)	
Subtotal											113	115	117	120	122	83	7	677		
Total Investment Costs											1 607	157	533	189	160	121	98	2 865		

Arab Republic of Egypt
Promoting Resilience in Desert Environments (PRIDE)
Final project design report
Appendix 9: Project cost and financing

Egypt
Promoting Resilience in Desert Environments
Table 3.1. Project Management
Detailed Costs

	Unit	Quantities							Total	Unit Cost (US\$)	Totals Including Contingencies (US\$ '000)							Expenditure			
		2018	2019	2020	2021	2022	2023	2024			2018	2019	2020	2021	2022	2023	2024	Total	Account	Fin. Rule	
II. Recurrent Costs																					
A. Central PMU																					
Project Director	person.month	12	12	12		12	12	12	84	3,000	36	37	38	39	39	40	41	270	SA_RC	IFAD (100%)	
Financial Management Specialist	person.month	12	12	12		12	12	12	12	2,000	24	25	25	26	26	27	27	180	SA_RC	IFAD (100%)	
Procurement Specialist	person.month	12	12	12		12	12	12	-	2,000	24	25	25	26	26	27	-	153	SA_RC	IFAD (100%)	
M&E Specialist	person.month	12	12	12		12	12	12	12	2,000	24	25	25	26	26	27	27	180	SA_RC	IFAD (100%)	
Subtotal											109	111	113	116	118	121	96	783			
B. DRC (PMU)																					
1. Salaries																					
Project Director /f	person.month	12	12	12		12	12	12	6	78	2,500	30	31	31	32	33	33	17	208	SA_RC	GOVT
Deputy Director /g	person.month	12	12	12		12	12	12	6	78	2,000	24	25	25	26	26	27	14	166	SA_RC	GOVT
M&E Specialist /h	person.month	12	12	12		12	12	12	6	78	1,200	15	15	15	15	16	16	8	100	SA_RC	GOVT
Livestock Specialist /i	person.month	12	12	12		12	12	12	6	78	1,200	15	15	15	15	16	16	8	100	SA_RC	GOVT
Horticulture Specialist /j	person.month	12	12	12		12	12	12	6	78	1,200	15	15	15	15	16	16	8	100	SA_RC	GOVT
Rangeland Specialist /k	person.month	12	12	12		12	12	12	6	78	1,200	15	15	15	15	16	16	8	100	SA_RC	GOVT
Gender Specialist /l	person.month	12	12	12		12	12	12	6	78	1,000	12	12	13	13	13	13	7	83	SA_RC	GOVT
Procurement Specialist /m	person.month	12	12	12		12	12	12	6	78	1,500	18	18	19	19	20	20	10	125	SA_RC	GOVT
Financial Management Specialist /n	person.month	12	12	12		12	12	12	6	78	1,500	18	18	19	19	20	20	10	125	SA_RC	GOVT
Civil Engineers /o	person.month	36	36	36		36	36	36	18	234	1,000	36	37	38	39	39	40	20	250	SA_RC	IFAD (100%)
Subtotal											197	201	205	210	214	218	111	1 357			
C. Incentives to DRC staff (central lev																					
1. Project Director (incentives)	person.month	12	12	12		12	12	12	6	78	380	5	5	5	5	5	5	3	32	SA_RC	IFAD (100%)
2. Deputy Director (incentives)	person.month	12	12	12		12	12	12	6	78	330	4	4	4	4	4	4	2	27	SA_RC	IFAD (100%)
3. M&E Specialist (incentives)	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
4. Livestock Specialist (incentives)	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
5. Horticulture Specialist (incentives)	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
6. Rangeland Specialist (incentives)	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
7. Gender Specialist (incentives)	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
8. Financial Management Specialist (inc	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
9. Procurement Specialist (incentives)	person.month	12	12	12		12	12	12	6	78	222	3	3	3	3	3	3	2	18	SA_RC	IFAD (100%)
Subtotal											27	28	29	29	30	30	15	188			
D. DRC District level staff																					
1. Salaries																					
Livestock Specialists /q	person.month	36	36	36		36	36	36	18	234	300	11	11	11	12	12	12	6	75	SA_RC	IFAD (100%)
Horticulture Specialists /r	person.month	36	36	36		36	36	36	18	234	300	11	11	11	12	12	12	6	75	SA_RC	IFAD (100%)
Gender Specialists /s	person.month	60	60	60		60	60	60	30	390	300	18	18	19	19	20	20	10	125	SA_RC	IFAD (100%)
Drivers /t	person.month	72	72	72		72	72	72	36	468	160	12	12	12	12	13	13	7	80	SA_RC	IFAD (100%)
Nursery workers /u	person.month	36	36	36		36	36	36	18	234	110	4	4	4	4	4	4	2	27	SA_RC	IFAD (100%)
Technicians for laboratories /v	person.month	24	24	24		24	24	24	12	156	160	4	4	4	4	4	4	2	27	SA_RC	IFAD (100%)
Subtotal											59	60	62	63	64	66	34	409			
E. Incentives to DRC District level sta																					
1. Incentives to two o DRC livestock spei	person.month	24	24	24		24	24	24	12	156	115	3	3	3	3	3	3	2	19	SA_RC	IFAD (100%)
2. Incentives to two current DRC hort	person.month	24	24	24		24	24	24	12	156	115	3	3	3	3	3	3	2	19	SA_RC	IFAD (100%)
3. Incentives to 13 DRC drivers /z	person.month	156	156	156		156	156	156	78	1 014	60	9	10	10	10	10	10	5	65	SA_RC	IFAD (100%)
4. Incentives to other DRC staff	per year										50	70	70	70	70	70	70	470	SA_RC	IFAD (100%)	
Subtotal											65	85	86	86	86	87	78	573			
F. Government part-time staff time from D																					
	per year										30	31	31	32	33	33	17	208	SA_RC	GOVT	
G. Operating costs																					
Car fuel and maintenance	lumpsum										69	70	72	73	75	76	78	513	OM	IFAD (100%)	
Travel /aa	day	2 880	2 880	2 880		2 880	2 880	2 880	2 880	20 160	16,67	48	49	50	51	53	54	55	360	OM	IFAD (100%)
Office supplies and stationery	lumpsum										287	-	-	-	-	-	-	-	287	OM	IFAD (100%)
Subtotal											404	120	122	125	127	130	133	1 161			
Total Recurrent Costs																					
											892	636	648	661	673	685	484	4 679			
Total																					
											2 499	793	1 181	849	833	806	582	7 544			

Appendix 10: Economic and Financial Analysis

Overview

1. PRIDE will be implemented in the Matrouh Governorate and will include specific interventions for the coastal areas from Dabaa to El Salloum, selected activities in the Siwa Oasis and El Moghra in the Al Alamein District. The development goal of the project will be to reduce poverty and enhance food and nutrition security in rural areas through remunerative, sustainable and resilient livelihoods. The development objectives of the project will be to build the resilience of poor rural households to the harsh climate conditions in the Matrouh Governorate by improving their productive capacities, assist communities to enhance the productive potential of the newly reclaimed lands and assist women and children from poor households to improve their nutritional and socio-economic profile.
2. A financial and economic analysis was undertaken to assess the financial and economic impacts of the project on direct beneficiaries and on the society as a whole. In order to represent the project financial benefits, six financial models and two social models have been prepared. The financial and social models have also been used as building blocks for the economic analysis.
3. Benefits are expected to derive from (i) reduction in the water deficit in the area by at least 20% or 845,000 cubic meters; (ii); rehabilitation of old and new wadis and reservoirs, mostly benefiting figs and olives plantations; (iii) provision of 250 kilometres of rural roads; (iv) improvement in the vegetative and regeneration capacity of rangelands; (vi) increase in livestock productivity through improved animal husbandry and veterinary assistance; (vii) supporting families in newly reclaimed lands to initiate crops and production activities, such as jojoba and aquaculture; (viii) introduction of a range of new technologies to improve the system of water quality monitoring and management; (ix) nutrition packages for women, which will contribute to improving women's quality of diets as well as to generate an additional source of income for them; (xii) increase in sanitation facilities, access to school facilities and health facilities for 15,000 women annually.
4. Number of beneficiaries. The total number of households receiving services promoted or supported by the project is 36,000 circa, or 216,250 circa people. About 116,400 of them are expected to be women. A summary of the total number of households by component and activity is shown in Table 10.1 below. As explained in the economic analysis section, in order to conservatively calculate the project economic internal rate of return (ERR) and to take into account any unforeseeable events, the final economic aggregation considers beneficiaries' adoption rate of 85%.

Table 10.1. Expected total number of households and beneficiaries by component

Estimated no. of beneficiaries by component and activities				
Component 1: Climate Resilient Livelihoods	Notes	HHs	People	Women
<i>Reservoirs for Irrigated Agriculture</i>	500 reservoirs	500	3000	
<i>Wadi Development</i>	1900 feddans	2000	12000	
<i>Feeder Roads /a</i>	250 km	10200	61200	
<i>Rangeland and livestock development</i>		7159	42954	
<i>Horticulture Training</i>		2000	12000	1000
<i>Cooperative Management</i>				
<i>On farm water management (Moghra)</i>		4284	25704	
Component II: Integrated Nutrition Investments				
<i>Domestic Water Supply</i>	845,000 m3	6500	39000	
<i>Nutrition supplementation g Pigeon Towers & Poultry</i>				4000
<i>Nutrition Supplementation (homestead plants)</i>		1000	6000	5000
<i>Income generation</i>				400
<i>Health & Nutrition Awareness</i>		1000	6000	3000
<i>Literacy Classes</i>				2000
<i>Formal Schools</i>	3	1000	6000	330
<i>Multi-grade schools</i>	15			225
<i>Health Units Services</i>	3			22500
<i>Mobile Health Units</i>	5			75000
<i>Sanitation Facilities I</i>		400	2400	3000
Total		36,043	216,258	116,455

/a 150 km of roads are financed by the IFAD loan and 100 km by the GoE.

Financial Analysis

5. The primary objective of the financial analysis is to determine the financial viability and incentives of the target group for engaging in the project activities, by examining the impact of project interventions on, cash flow, family labour and net incomes. Based on field visits, consultations with the Desert Research Centre (DRC), and discussions with beneficiaries, 8 illustrative financial and social models were prepared to demonstrate the financial viability of the investments. Three crop models on 1 feddan each were developed to show the profitability of investing in wadis and reservoirs rehabilitation with enhanced productivity and production of: (i) olives with investment in wadis and reservoirs, (ii) figs with investment in reservoirs, (iii) and enhanced olives with investment in reservoirs. Three HHs models were developed to show benefits to (i) HHs receiving nutrition packages - pigeon HHs model -, (ii) HHs benefiting from rehabilitated rangelands and improved small-ruminant productivity – goat and sheep HHs model -, (iii) HHs living in the Moghra area, who will benefit from improved water quality and management and technical assistance and extension services to increase crop productivity – Moghra HHs model with jojoba and aquaculture. Also two social models were developed¹¹⁴ to estimate benefits from the rehabilitation of (i) cisterns at homestead, reservoirs and roman cisterns at the homestead¹¹⁵, and (ii) from the construction of 250km of roads. A cash-flow analysis was carried out to present the “with” and “without” project analysis. All models form the building blocks for the economic analysis.

6. **Key assumptions.** The following information gathered during the design mission has been used to set up the analyses: (i) interviews with potential beneficiaries, including people already living in Moghra, (iii) mission and agricultural and livestock experts' estimates, (iii) information from similar

¹¹⁴ Described in the economic analysis section

¹¹⁵ Total of 845,000 m3

projects implemented by DRC. In particular, information on labour and input requirements for various operations, capital costs, prevailing wages, yields, farm gate and market prices of commodities, and transport costs were collected. Conservative assumptions were made both for inputs and outputs in order to take account of possible risks. Key assumptions made were as follows:

- **Exchange rate.** The exchange rate used in the analysis is fixed at 1 USD = 18 LE.
- **Prices.** The financial prices for project inputs and products were collected in the field by the design team. Prices used represent estimates of the average seasonal prices and the analysis is carried out using constant prices.
- **Labour.** Family labour has been valued both in financial and economic analysis. It has been assumed that both family labour and hired unskilled labour are priced at LE 150 per day, which is the prevailing market rate in rural areas.
- **Opportunity cost of capital.** A discount rate of 11% has been used in this analysis to assess the viability and robustness of the proposed investments. The selected value is calculated by taking into account actual market interest rates on loans¹¹⁶ and the discount rate calculated by the Economist Intelligence Unit, (EIU).

7. **Crop models representing investments in wadi and reservoirs.** The water harvesting and watershed management sub-component of PRIDE will undertake watershed development on 100 kms of new and old wadis to bring around 1900 feddans under improved watershed management where mainly figs and olives are grown. About 1100 feddans are expected to directly benefit from reservoirs to provide supplementary irrigation for crops. Three models have been developed to represent the benefits generated by investing in reservoirs and wadis. All models present a scenario with project intervention (WP) and a scenario without project intervention (WOP). Increase in yields is expected due to (i) increased water availability and (ii) improved crop management skills thanks to technical support provided by the project.¹¹⁷ The average yields considered in the WOP of the models are average yields that would have been achieved over a period of 20 years¹¹⁸ and without wadis/reservoirs rehabilitation and improved technical assistance. As shown in the cash flow analysis at the end of each model, the reservoirs and wadis investments are financed by the project.

- **Olive crop model with investment in the wadi and the reservoir (1 feddan).** The WP scenario is developed over 25 years, and it assumes that trees are newly planted¹¹⁹. Because olives are expected to increase revenue more than figs¹²⁰, the trend is expected to be that new plantations by the wadis will mainly be olives. The main investment is made on year 1 and it is estimated at about LE 45,000 per feddan. After the 10th year, olive trees achieve full production. However, yearly fluctuations of bearing fruits and possible climate change effects are also taken into account in the model. The model's main output is olive oil. Self-consumption¹²¹ is also considered in the model, assuming that in the WP farmers will become more commercial and therefore will increase the quantity of olive oil sold vs the quantity kept for self-consumption. Overall, the model shows that the investment per feddan is profitable (NPV Le 3,954, IRR 12%, B/C 1.1). Average net income is Le 8,600 per feddan.
- **Olive crop model with investment in the reservoir (1 feddan).** The WP scenario is developed over 25 years, and it assumes that trees are three years old¹²². The investment in the reservoir is made on year 1 and it is estimated at LE 21,600 per feddan. After the 7th year, which would be the 10th year of the trees' life, full production is achieved. However, yearly fluctuations of bearing fruits and possible climate change effects are also taken into account. As in the previous model, the main output considered in this model is olive oil. Self-consumption is

¹¹⁶ Economist Intelligence Unit, Egypt Country Report, July 2017.

¹¹⁷ Sub-component 1.4

¹¹⁸ Starting, as in the WP, with newly planted olive trees.

¹¹⁹ Assumptions made following field visits in the project area.

¹²⁰ Farmers seem preferring them, mainly because olive oil is more profitable than figs

¹²¹ <https://www.oliveoilmarket.eu/trends-in-world-olive-oil-consumption-ioc-report/>

¹²² Assumptions made following field visits in the project area.

considered in this model too. Overall, the model shows that the investment is profitable (NPV Le 20,178, IRR 20%, B/C 1.6). Average net income is Le 10,800 per feddan.

- **Figs crop model with investment in the reservoir (1 feddan).** This model relies on the same assumptions made for the olive crop model described in the previous paragraph. It has been developed to show the profitability of another common crop in the same area and with the same investment. All profitability indicators are positive although returns per feddan are lower than in the olive model because olives are processed and sold as olive oil (NPV Le 3,529, IRR 14%, B/C 1.3). Average net income is Le 6,300 per feddan).

8. **Moghra HH model – jojoba and aquaculture.** As explained in Appendix 4, PRIDE will assist the newly settled youth and small farmer groups in El Moghra to increase crop productivity¹²³ by: (i) providing them with technical assistance and extension services; (ii) promoting interventions that will reduce salt and iron contents in the irrigation water, which if maintained at the current level will cause yield decrease in the long-run; and (iii) investing in efficient on-farm management infrastructures, such as drip irrigation systems¹²⁴. It is expected that PRIDE's investment in Moghra will be a valid incentives to encourage young people to invest in the new land; therefore, one of the project benefits is also expected to be an increase in the youth's resettlement rate in Moghra.

9. The Moghra HH model model presents a situation WOP and a situation WP, both developed over a period of 20 years and on 10 feddans, which is considered the average cultivable land size for young people moving to Moghra. In both scenarios, it is assumed that young people will plant jojoba trees, which will start bearing fruits from year 5 and will reach full production on year 10. During the first 6/7 years of jojoba production, households are expected to have additional sources of income¹²⁵. In the WP, the additional source of income is represented by aquaculture through the construction of a small pond, which benefits will be two-fold: (i) by raising local buri fish in the pond, the additional income would be about LE 60,000 per year¹²⁶; and (ii) the pond's naturally fertilized water¹²⁷ could be used to irrigate jojoba and therefore decrease the cost of fertilizers.

10. From year 10 on, yearly yields keep increasing regularly in the WP while, in the WOP, they start a gradual decrease because: (i) in the WP, farmers will access improved and more frequent technical assistance; (ii) PRIDE will improve water quality by reducing the quantity of iron and salt in it, which is the main cause of yields reduction after year 10.

11. Considering that, in both the WOP and WP, young people are expected to invest in Moghra, a cash flow analysis is carried out in both scenarios. The WOP cash flow analysis shows that the investment is entirely financed by the households' own savings¹²⁸. On the other hand, the WP shows that the youth will also be able to access a project grant¹²⁹ to support investments in efficient on-farm management infrastructures, such as a drip irrigation system. Grants will not be accessible to all HHs in Moghra. Households not accessing grants are expected to self-finance the investment in Moghra land, as per the WOP. Nonetheless, they will directly benefit from PRIDE's intervention in improved technical assistance and improved water management. All profitability indicators are positive, as per the following summary.

¹²³ Crops in this area may be for example jojoba, pomegranate or olives. Because farmers have mostly expressed interest in it, and currently this is the most cultivated crop in the area, the Moghra model is based on jojoba.

¹²⁴ For this kind of investment, the project will provide a total of \$ 5.3 million Grants (grants will not cover all direct project beneficiaries in Moghra but only a part of them).

¹²⁵ E.g. Following interviews with potential beneficiaries and private companies working in Moghra, additional sources of income may be to be employed as workers on other people's lands or by the companies.

¹²⁶ Considering an average of 20,000 buri fish per year, which will be both self-consumed and sold by the HH.

¹²⁷ Fertilized by the fishes.

¹²⁸ Through private companies, young people have facilitated access to loans. Some of them receive family's economic support.

¹²⁹ No. of grants and amounts to be defined during implementation.

Return to family labour*	4 501
*consider full development year family labour requirements	
Discount rate	11%
NPV @ 0.11	809 283
IRR	58%
NPVb	1 202 365
NPVc	267 310
B/C ratio	4.5
Switching values Benefits	-78%
Switching values Costs	350%

12. **Goat and sheep HH model.** This model presents a situation WP and a situation WOP. The number of small-ruminants heads per HH is on average 25. Benefits are expected from: (i) increasing small-ruminants productivity through improved animal husbandry and veterinary services; (ii) improved rangeland management that allows obtaining, within the farm, an increased quantity of fodder that will be used to feed the animals. In the WP, animal physical parameters and assumptions (e.g. mortality rate) are therefore improved in order to reflect improved husbandry and access to veterinary services. The main investment included in the model is the rangeland rehabilitation, calculated at LE 15,000 per household. Overall the model proves to be profitable, as per the following summary:

Return to family labour*	794
*consider full development year family labour requirements	
Discount rate	11%
NPV @ 0.11	27 780
IRR	42%
NPVb	379 951
NPVc	179 988
B/C ratio	2.11
Switching values Benefits	-53%
Switching values Costs	111%

13. **Pigeon HH model (nutrition package).** Component 2 of the project will seek to raise the nutritional status of households, particularly women and children, through integrating a number of interventions that will increase access to nutritious food and increase awareness for improved choices in nutrition. Households, and more precisely women, will receive a nutrition and livelihood package that will provide access to protein rich diets through providing pigeon towers¹³⁰ with 50, 6 months old, pigeons pairs. The package will also include vaccination for the first year and pigeon feed for the first three months, which will encourage pigeons to come back to the tower. The main investment, including the tower, pigeons, feed and vaccination for the first year is about Le 13,600. Women will also receive trainings and technical assistance that will ensure continuity after the first year. The WP shows that: (i) households self-consume most of the pigeons and therefore improve their nutrition, and (ii) considering the high re-productivity rate of pigeons, households are also able to sell some of them (net income is estimated at Le 4,000 per year on average). The WOP is represented by an existing source of income (Le 12,000¹³¹ per year) that households will keep during the WP. All profitability indicators are shown to be positive as per the following summary:

Return to family labour*	507
*consider full development year family labour requirements	
Discount rate	11%
NPV @ 0.11	13 386
IRR	49%
NPVb	51 031
NPVc	37 645
B/C ratio	1.36
Switching values Benefits	-26%
Switching values Costs	36%

¹³⁰ Pigeon towers will be with 500 holes. Packages could also be for goats or poultry. The EFA takes pigeon as a representative example.

¹³¹ Expected yearly income of households receiving nutritious packages.

14. In brief, the financial analysis of all proposed models shows acceptable results and suggests project activities are worthwhile to undertake:

Table 10.3. Summary of HH models results

HH models	Net income after labour		NPV @ 11% Le	IRR	B/C
	WOP	WP			
	Le				
Moghra (Jojoba and aquaculture_10 feddan)	639 500	856 683	809 283	58%	4.5
Goat and sheep /b	28 187	35 936	27 780	42%	2.1
Pigeon_nutrition package /a	12 000	16 730	13 386	49%	1.4

/a This model includes an additional source of income considered in both the WP and WOP scenarios.

/b average 25 heads per HH

Economic Analysis

15. The objectives of the economic analysis are: i) to examine the overall project viability; ii) to assess the project's impact and overall economic rate of return; and iii) to perform sensitivity analyses to assess the benefits from a broad welfare perspective and incorporate the risks into the analysis.

16. **Key assumptions.** The physical inputs and production established in the financial analysis provided the basis to determine the viability of the project investment in terms of opportunity costs and quantifiable benefits to the economy as a whole. The estimate of the likely economic returns from project interventions are based on the following assumptions:

- Project life has been assumed at 20 years;
- Project inputs and outputs traded are valued at their respective economic prices, and goods are expected to move freely within the project area in response to market demand;
- The social discount rate adopted for this analysis is 10% and it has been chosen by taking into account the average deposit interest rate in Egypt¹³² since 2015 (7.4%), the average lending interest rate (12.7%), and the average discount rates calculated by the EIU between 2015 and 2016 (9.9%).

17. **Project economic costs and benefits.** The economic analysis includes the investment and incremental recurrent costs of the project components. The project financial costs have been converted to economic values by removal of price contingencies, taxes and duties. In order to avoid double counting, the final aggregation considered only those costs that were not included in the financial models.

18. **Benefits estimation deriving from enhancing connectivity and improved water access investments.** Two economic models have been developed to assess the economic benefits deriving from (i) 250 km of roads construction, (ii) construction and rehabilitation of homestead cisterns and reservoirs for increasing households' access to drinking water. The benefits are gradually incorporated in the models starting from the first year after the investments take place.

19. **250 km of roads construction.** The investment for constructing 250 km of roads is about USD 14.4 million. Both quantifiable and unquantifiable benefits are generated by roads construction, as follows:

- Savings of about 40% on the cost of water per tank. Following discussions with previously constructed roads' beneficiaries and based on the per capita amount of water needed per day¹³³, it is estimated that households currently purchase on average 60 m3 of water per year and that the cost of water will decrease by about 30%.

¹³³ http://www.who.int/water_sanitation_health

- **Savings on transportation costs for going to the market.** It is assumed that farmers go to the market on average once per week. With good roads, the transportation cost per trip decreases by approximately 30%.
- It is estimated that around 8,100 households will benefit from 10% reduced post-harvest losses of agricultural outputs, like figs and olives due to the timely access to markets.
- Many social immeasurable benefits can be generated by roads. Among them, the quality of people's life can generally improve by facilitating their physical access to public services, such as hospitals, schools or markets.
- The following table summarizes the economic profitability indicators of the road model:

Le		
Discount rate	10%	
NPV @ 0.1	162 377 249	
IRR	23%	
NPVb	411 470 427	
NPVc	193 154 763	
B/C ratio	2.13	
Switching values Benefits	-53%	
Switching values Costs	113%	

20. **Construction and rehabilitation of homestead cisterns and reservoirs for increasing households' access to drinking water.** This model assumes that at least 845,000 m³ of water will be saved every year after the construction or rehabilitation of cisterns and reservoirs. Consequently, it is estimated that the yearly savings will be about LE 77.7 million or USD 4.3 million, considering an average cost of water of LE 100 per m³. The total project investment is estimated at USD 13.7 million. Beyond the economic measurable benefits, this investment generates several social benefits: (i) the HHS' quality of life would be significantly enhanced by increasing access to drinking water at any time of the day, (ii) hygienic conditions would improve, (iii) illnesses would decrease, and (v) some plants like the Moringa could be grown and watered in the backyard so as to improve nutrition. The following table summarizes the economic profitability indicators of the model:

Le		
Discount rate	10%	
NPV @ 0.1	258 785 678	
IRR	31%	
NPVb	485 347 572	
NPVc	173 712 275	
B/C ratio	2.79	
Switching values Benefits	-64%	
Switching values Costs	179%	

21. **Benefits Estimation.** The incremental benefits stream comprises the economic net values of all developed models¹³⁴. These benefits are then aggregated by the number of households that are estimated to uptake each activity or by the number of feddans that are specifically expected to benefit from reservoir and wadi rehabilitation. The analysis considers beneficiaries' adoption rate of 85%.

Table 10.3. Households and feddans phasing in by activity
(table used for economic aggregation)

	Households' phasing in by activity							Total HHs
	PY1	PY2	PY3	PY4	PY5	PY6	PY7	
Phasing in %	85%	85%	85%	85%	85%	85%	85%	
Adoption rate 85%	340	510	510	510	510	510	510	3400
Pigeon HH model	146	364	546	728	728	728	401	3641
Moghra HH model		1 034	1 034	1 034	1 034	1 034	1 034	6 207
Goat_sheep HH model								
No. of feddans by crop phasing in								
Olives with reservoir_1 feddan	85	92	108	116	123	123	123	770
Figs with reservoir_1 feddan	36	40	46	50	53	53	53	330
Olives with reservoir and wadi_1 feddan	209	228	266	285	304	304	304	1900

22. **Economic Pricing.** Economic pricing has been based on the following assumptions:

- The opportunity cost of labour is set at 131 LE/day, or 87.1% of financial cost of labour, which is justified given rural unemployment rate at 12.9%¹³⁵;
- Economic prices have been calculated for main outputs and inputs¹³⁶, starting from FOB or CIF prices for main importable and exportable goods. Average conversion factors (CF) of 0.9 and 0.92 have been applied to convert respectively tradable outputs and inputs' financial prices to economic prices.
- The shadow exchange rate (SER) has been calculated at 1 USD = 18.71 LE;
- The Shadow Exchange Ratio Factor (SERF), used to obtain economic costs, has been calculated at 1.04.

23. **Economic Rate of Return.** The overall economic internal rate of return (EIRR) of the project is estimated at 20% for the base case. The net present value (NPV) of the net benefit stream, discounted at 10%, is USD 51.3 million. Table 10.4 below shows a summary of the total economic benefits, total economic costs and incremental cash flow by year.

Table 10.4. Summary of economic analysis

	Total Benefits USD '000	Total Costs USD '000	Cash flow USD '000
Y1	-2109	8643	-10752
Y2	-9862	8007	-17869
Y3	-10628	5593	-16221
Y4	-1205	3980	-5185
Y5	2611	3050	-439
Y6	8179	2333	5846
Y7	11029	1397	9632
Y8	16542	200	16342
Y9	19000	200	18800
Y10	21120	200	20920
Y11	22801	200	22601
Y12	24247	200	24047
Y13	25582	200	25382
Y14	26334	200	26134
Y15	26452	200	26252
Y16	26468	200	26268
Y17	26484	200	26284
Y18	26441	200	26241
Y19	26487	200	26287
Y20	26475	200	26275
NPV@10%	51 304		
IRR	20%		

24. **Sensitivity Analysis.** In order to test the robustness of the above results, a sensitivity analysis was carried out; the outcomes of which is presented in table 10.5 below The sensitivity analysis investigates the effect of fluctuations in project costs, project benefits, and delays in implementation

¹³⁵ Egypt Country Report, July 2017 prepared by the Economist Intelligence Unit

¹³⁶ Or for similar outputs inputs, depending on the availability of CIF prices.

on the NPV and ERR. It shows the economic impacts of a decrease in project benefits – up to -50% – on the project viability. Similarly, it shows how the economic viability of the project will be affected by an increase of up to 50% in project costs, and by a one to three-year delay in project implementation. Furthermore, switching value benefits and switching value costs indicate that the project would still be feasible if benefits decreased up to -66% or costs increased up to +197%.

25. The analysis confirms that the economic viability of the project remains attractive as a positive NPV and ERR above 10% are preserved in each case analyzed.

Table 10.5. Sensitivity analysis

Assumption:		Related Risk	ERR	NPV US\$
Project base case			20%	51 304 496
Decrease in project benefits	-20%	Low uptake of project activities. Market/price fluctuations. Delays with trainings/TA/extension services in place. Proper use of skills acquired in trainings.	18%	35 833 208
	-30%		17%	28 097 564
	-50%		14%	12 626 276
Increase in project Costs	20%	Market/price fluctuations (changes in market demands). Procurement risks.	18%	46 094 107
	30%		17%	43 488 913
	50%		16%	38 278 524
Delays in project implementation	1 year	Delays in having the Project approved by all parties. Any other unforeseeable event.	18%	36 787 094
	3 years		14%	18 376 666

26. **Other unquantifiable economic and social benefits.** The project will also invest in several social infrastructures, such as schools, hospitals or latrines that will generate many unquantifiable benefits and positive externalities. Among the many, it is foreseen that social infrastructures investments will lead to increased households' hygiene, decreased households' illnesses, increased life expectancy rate, and increased literacy rate in the project area.

Annex A to Appendix 10

List of prices

Prices used in crop/livestock/activity budgets (LE)			
Item	Unit	Financial	Economic
<i>Outputs:</i>			
Olive oil	l	55	82.9
Fig	kg	4.50	4.1
Pigeon	head	22.00	19.9
Jojoba	kg	75.00	67.8
Buri fish	kg	20.00	18.1
Lambs	head	2 700	2 439
sheep	head	2 100	1 897
Goat	head	1 500	1 355
<i>Inputs:</i>			
Olive tree seedlings	no.	2.00	1.8
fertilizer	per feddan	2 000	1 831
pesticides	per feddan	1 500	1 380
Harvesting boxes	box	50	46
Harvesting nets	box	20	18
Transportation	box	400	352
Pigeon tower	no.	10 000.00	9 200.0
Pigeon pairs (for starting up	pair	60.00	55.2
Pigeon feed	per month	100.00	92.0
Pigeon - vaccination	per year	300.00	276.0
Well	per feddan	1 000.00	920.0
Drip irrigation	per feddan	5 000.00	4 600.0
Wind protection	per feddan	2 000.00	1 840.0
Seedlings	tree	10.00	9.2
Land preparation	per feddan	4 000.00	3 484.0
Pond	lumpsum	10 000	9 200.0
Electricity for irrigation	per feddan	6 000.00	5 520.0
Transportation jojoba	kg	1.00	0.9
Baby fish for the pond	per 1000	120.00	110.4
Additional feed for fish	per month	3 000.00	2 760.0
Fish boxes	60kg box	40.00	36.8
Ice for the boxes	block	20.00	18.4
fertilizers - fodder	lumpsum	3000	2 746
pesticides - fodder	lumpsum	500	460
Tractor (hs rent) - fodder	hs/year	1500	1 307
Seedlings for fodder crops	unit	2	2
Veterinary services - small r	visit	70	61
Vaccination - small ruminar	unit	30	28
Transport to the market - srr	rent	150	138
Supplementary food - small	tn	1500	1 380
Labour	person.day	150	131
Monthly additional source olerson.mont		3000	2 613

Appendix 11: Draft project implementation manual

Annotated Table of Contents

1. The PRIDE Project Implementation Manual (PIM) should be prepared as a living document with the following Table of Contents to guide the PMU and ensure timely implementation on ground. The PIM provides procedural details and guidance to facilitate proper implementation of the Project. The following table indicates the content and preparation status of various chapters of the PIM.

Chapter 1: PROJECT FRAMEWORK

Introduction and background (One Page)

2. Describe the purpose and objectives of PIM, mention who are going to use this PIM, indicate the advantages of using PIM. Please state that **PIM is a dynamic document and it should be updated as when required by the PMU staff.**

Project Summary (about 6-10 pages)

3. Briefly describe the background to the project.
4. Describe the project area, target groups and project goals and objectives;
5. Describe the project components, their phasing and financing plan; outline the risks and mitigation measures;
6. Indicate expected project outputs and outcomes. Describe the exit strategy of the project;
7. Include a matrix to show selection criteria for project interventions with columns: type of intervention; facilities offered, targeting criteria, role of local community, NGOs, CPMU, DRC-PMU and Project Partners in the selection and identification of target activities and beneficiaries, etc.
8. Attach Project Log-frame at the end of this Chapter for clarity.

Chapter 2: ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES.

9. Briefly describe coordination and management arrangements, project steering committees, and their roles and functions, coordination arrangements at grassroots levels, organisation structure of CPMU and DRC-PMU, staffing plan, roles and responsibilities, terms of reference and procedures for recruitment of staff building on those provided in appendix 5. Also indicate the need for gender balance in staff structure etc.
10. Arrangements for implementation of project interventions, agencies responsible for the implementation of various project components and subcomponents, etc.
11. Develop and provide a matrix with following columns: project intervention, coverage, implementation responsibility, procurement, timeline and schedule of implementation, etc.

Chapter 3: FINANCIAL MANAGEMENT (*to be extracted from LTB*)

12. Introduction regarding the purpose of this section.
13. Project costs and financing arrangements;
14. Describe in brief the flow of fund mechanism;
15. Describe type of accounts: designated account, project account, subproject account etc and their operations;
16. Specify the mechanism for internal control;
17. Describe the disbursement procedures and withdrawals (to be obtained from the Letter to the Borrower and its attachments)
18. Include checklist for sending withdrawal application;

19. Describe the financial reporting requirements;
20. Describe audit procedures and arrangements in place for conducting effective audit for each year and also describe arrangement for internal audit and its procedures;
21. Indicate a list of registers and records to be maintained at CPMU and DRC-PMU office such as contract record, contract monitoring form etc.

Chapter 4: PROCUREMENT PROCEDURES

22. Describe general conditions of procurement and methods of procurement Regulations;
23. Describe the procurement methods in detail and as applicable to PRIDE;
24. Describe the procurement Cycle - Main Steps
25. Describe approval procedures and appropriate authorities; review mechanisms: prior and ex-post review; review of pre-qualification bidders or tenders; describe the procurement committees at different level and thresholds for approvals at different level;
26. Attach the revised 18-month procurement plan at the end of the chapter;

Chapter 5: MONITORING AND EVALUATION.

27. Purpose of M&E and the key pillars to build an effective M&E system for PRIDE Project;
28. Project M&E framework: (i) first level output monitoring; (ii) second level outcome monitoring and (iii) third level impact evaluation;
29. Indicators for output monitoring;
30. Indicators for outcome monitoring;
31. Indicators for impact evaluation;
32. Impact assessment indicators and anchor indicators – which have also been included at the impact level of PRIDE Logical Framework;
33. PRIDE M&E PLAN with cost estimate for each activity;
34. Reporting and communication: annual reports, RIMS survey reports.
35. Attachments: RIMS indicators for PRIDE

Chapter 6: GUIDELINES FOR PREPARING ANNUAL WORK PLAN AND BUDGET

36. Purpose and objective of this section
37. General introduction on the preparation of AWP&B
38. Review of formats used by ongoing project
39. All annual plans can be prepared based on the concept of result-oriented approach. This can be effectively done using both Cost Tables and Project Log-frame. The result-oriented AWP&B will typically have the following elements:
 - Objective and expected result of component
 - Indicators for monitoring and RIMS
 - Quarterly targets for implementation (physical)
 - Appraisal Target (physical)
 - AWP&B Target (physical)
 - Unit cost for the proposed activity
 - Achievements by Appraisal estimates and Annual Plan estimates
 - Budget estimates by Appraisal and Annual plan

- Financing rule
- Budget Category

40. Key Tools for the preparation of AWP&B are: project Log-frame, detailed cost table, AWP&B template, financing plan, financing rules in the procurement methods, Finance Agreement, last project progress report.

Chapter 7: GUIDELINES FOR THE INVESTMENTS IN PROCESSING FACILITIES FOR YOUTH & SMALL FARMER COMPANIES IN THE NEW LANDS

41. Purpose and objective of this section will be identifying the criteria for the selection of all types of infrastructure and provision of in kind grants to enterprises and individuals.

**Chapter 8: GUIDELINES FOR THE IMPLEMENTATION OF SUB-COMPONENT 2.2
EMPOWERMENT FOR NUTRITIONAL CHANGE**

42. An NGO would be competitively recruited to implement the activities targeted at women under the empowerment for nutritional change sub-component, Purpose and objective of this sub-component, the qualifications and procedures for NGO to implement the activities should be described clearly.

KEY ANNEXES

- Project Log-frame, updated
- RIMS Indicators
- Template for AWPB
- TOR for CPMU, DRC-PMU staff
- Procurement Plan
- Sample form for contracts register
- Sample form for contracts monitoring form
- Staff and community training programme/Calendar
- Indicators for output, outcome and impact monitors
- Any other

Appendix 12: Compliance with IFAD policies

Policy	Alignment with IFAD Policy
IFAD Strategic Framework 2016-2025: « Enabling Inclusive and Sustainable Rural Transformation »	<p>IFAD's fifth Strategic Framework covers the period 2016-2025, serving as an overarching policy guideline to provide direction to IFAD's work, and as a key instrument for consolidating IFAD's development effectiveness. It responds to the new global environment and positions IFAD to play a crucial role within it –by enabling the transformation of rural areas in a manner that is both more inclusive and sustainable. The framework has three strategic objectives:</p> <p>1. SO1: Increase poor rural people's productive capacities – investing in rural people to enhance their access to and control over assets and resources. PRIDE will increase the rural people's access to water and knowledge to improve productivity and production of crops and animals, enhancing their incomes.</p> <p>2. SO2: Increase poor rural people's benefits from market participation –improving the engagement of poor rural people in markets for goods, services and wage labour. PRIDE will enhance participation of local farmers in remunerative markets through improve road connectivity and supply of both animal and crop products.</p> <p>3. SO3: Strengthen the environmental sustainability and climate resilience of poor rural people's economic activities. Recognizing the key importance of environmental and social sustainability to ensure improved livelihoods, PRIDE has integrated a variety of activities that will enhance the resilience of the rural poor that include: improved water supply for both domestic and agriculture use, enhancing capacity of women to improve food security and nutrition at household level and access to basic social services such as education and health. Climate resilience will be increased by promoting access to education, health and alternative income generating activities particularly for women and youth.</p>
Principles of Engagement	<p>The current project is well aligned to meeting its overall goal and is well aligned with its five principles of engagement namely that IFAD-supported programmes will consistently aim to target and benefit the largest number of poor rural people possible, empower them socially and economically, and promote gender equality. IFAD will place a premium on innovation, learning and scaling up of successes and, in the process, leverage effective and efficient partnerships where comparative advantages are exploited for greater impact.</p>
Country level policy engagement	<p>IFAD promotes policy engagement in projects in order to reach two main objectives: (i) help create an enabling environment for implementation and achieving the project's impact, and (ii) help create the conditions for a large number of rural populations to out of poverty. It is a key element of the scaling up agenda. IFAD's role is not intended to advocate for specific policy outcomes; it is rather to assist Governments to use the project experience in the design or reform of policies, and to facilitate dialogue among national stakeholders on key policy issues. Recognizing this role and the need for policy engagement, PRIDE's approach to developing project activities will assist in developing a policy engagement agenda in rural development in desert conditions, irrigation and drainage systems rehabilitation, wadi development and rainwater harvesting.</p>

Private Sector Strategy	IFAD's Private Sector Strategy (2011) and the IFAD toolkit on Public-Private-Producer Partnerships in Agricultural Value Chains (2016) provide guidance on IFAD's engagement with the private sector. While PRIDE will not be directly promoting 4Ps, its work with a government promoted youth settlement scheme that promotes linkages with the private sector in agri-business development that ensures that larger private sector companies are interested in working with smallholder farmers.
Targeting policy	IFAD's poverty targeting implementation guidelines updated in January 2013 were completed for the Project and a poverty targeting checklist is included as Annex 2. The current project takes cognisance of the fact that poor rural people are in the front line of climate change impacts; the ecosystems and biodiversity on which they rely are increasingly degraded. Special criteria to define the poor have been specified for all key interventions based on the local context in terms of ownership of assets particularly land, trees and livestock. These have been detailed in full in the PDR
Gender equality and women's empowerment policy	IFAD's gender sensitive implementation guidelines updated in January 2013 were completed for the Project and a gender checklist is included as Annex 3. The project has not only mainstreamed gender but has made specific provisions to ensure that more than 50% of the beneficiaries of the project are directed towards women. The project will also strengthen the capacity for participation of women through a host of strategies such as female field staff, recruitment of NGO experienced in dealing with women and specific budget lines for interventions targeted at women.
Climate Change Strategy	IFAD's climate change strategy ¹³⁷ recognizes that the speed and intensity of climate change are outpacing the ability of poor rural people and societies to cope. The project incorporates IFAD's assessment that climate-related risks, and potential opportunities, can be addressed more systematically within its projects and policy advice.
Rural finance policy	IFAD's Rural Finance Policy (2009) has six guiding principles to be applied at the micro, meso and macro levels: (i) support access to a variety of financial services; (ii) promote a wide range of financial institutions, models and delivery channels; (iii) support demand driven and innovative approaches; (iv) encourage –in collaboration with private sector partners –market-based approaches that strengthen rural financial markets, avoid distortions in the financial sector and leverage IFAD's resources; (v) develop and support long-term strategies focusing on sustainability and poverty outreach; and (vi) participate in policy dialogues that promote an enabling environment for rural finance. PRIDE has no direct intervention in rural finance, opting to link beneficiaries with existing programmes in the IFAD portfolio, whenever there is need.

¹³⁷ Climate Change Strategy. IFAD, May 2010.

Appendix 13: Contents of the Project Life File

- 43. Annex 1: SECAP Review Note
- 44. Annex 2: Poverty Check List
- 45. Annex 3: Gender Checklist
- 46. Annex 4: ESMF Annotated Outline
- 47. Annex 5: List of People Met.

ANNEX 1: SECAP REVIEW NOTE

Major landscape characteristics and Issues

Socio-cultural context

1. The Matrouh Governorate is one of the largest governorates of Egypt, with a total area of 166,000 square kilometres and a population of roughly 450,000 people. The governorate extends over 450 kilometres along the Mediterranean coast from Alexandria in the east to the Libyan border in the west. Most of the population in Matrouh depend on agriculture for their livelihoods. The agriculture is largely rainfed, consisting of livestock (sheep and goats) and, increasingly, tree crops (figs, olives and dates) with some cereals (barley and wheat) used as fodder for livestock. With the limited rainfall, less than 20 percent of the land is arable, which consists of some 120,000 feddans of orchards and some 150,000 feddans of barley. About 43 percent of the area is dense to medium rangeland and about 38 percent is very sparse rangeland. The number of ruminants in Matrouh has markedly declined from about one million to currently less than 500,000 heads as a result of the severe degradation of the rangelands.
2. The proposed project would support interventions along the coastal areas, in the existing oasis of Siwa and on the newly reclaimed lands in El Moghra. In the coastal areas, the population depends heavily on livestock, figs and olives for their income. With agriculture being largely rainfed, harvests can vary from year to year depending on the precipitation. The topography inland from the coast consists of dry streambeds or wadis, which channel rainfall to the sea and suffer severe soil erosion when rainfall is heavy. The rangelands inland are severely degraded from overgrazing of livestock resulting from the settlement of the Bedouins, who moved their animals from area to area in the past. This has contributed to the decline in livestock noted above. In Siwa, which is known for its historic and cultural significance, the population depends on the cultivation of dates and olives for their livelihoods. Siwa has been recognized internationally for its date production. Recent investments in eco-tourism in Siwa have not really improved the incomes of the smallholder farmers. The new lands in El Moghra were used for grazing by the Bedouin communities in the past but will be reclaimed for agricultural production under the Government of Egypt's land reclamation program.
3. The population of the Matrouh consists of some 60,000 households, 24,000 of which are considered rural, with an average household size of six persons. The population along the coastal areas was traditionally Bedouin nomads, but they have settled into dispersed communities in recent decades. The Bedouin population is composed of six main tribes, which can be further divided into sub-tribes. There are about 40 sub-tribes in the project area. The sub-tribe is the social unit of most importance in dealing with the government. Each sub-tribe is further divided into clans. The sub-tribe has well established and recognized rights over its cultivated area, watersheds and rangelands and any new land brought under cultivation is managed based on this well-established system of use and proprietary rights. Siwa, on the other hand, is inhabited by some 30,000 people who belong to a very distinct Berber community with a unique culture and a distinct language spoken by the Berber called Siwa "Amazigh". The reclaimed lands in El Moghra will be allocated through a lottery by ECDC to new investors and small farmers (approximately 4,200 households) who will settle there and cultivate various agricultural crops. Largely uninhabited, these lands lack basic social services (schools, health services), which the project will provide through the social infrastructure sub-component.

Natural resources and NRM

4. The Desert Research Center (DRC) has documented the state of the natural resources along the Matrouh coast in what was the project area of the World Bank project Matrouh Resources Management Project (MRMP). The area covers 320 km of coastline from Ras El Hekma to El Salloum at the Libyan border and extends inland up to 60 km. The project areas now include 60,000 feddans

of reclaimed lands in El Moghra, which is located on the northeastern side of the Qattara Depression. The state of water, plant and soil resources in this area can be summarized as follows¹³⁸:

- Water resources. With no surface water sources and little rainfall, the coastal area suffers from severe water scarcity. At the time of the NRMP (2003), the World Bank estimated that per capita water availability in Egypt had already dropped below the scarcity level of 1,000 m³ per capita/year and would drop to 670 m³ per capita/year by 2017. (I could not find a current estimate.) Average rainfall is low at 140 mm per year and water management practices are generally poor, with low water use efficiency and a lack of technologies for water harvesting. In Siwa, water is not scarce but abundant from underground springs and wells. But, the uncontrolled drilling of wells and over-use of water has led to drainage problems, waterlogging of soils and increasing salinity of the water. In El Moghra, where the water will also be derived from wells, the groundwater drawn from shallow aquifers is highly saline and the water table has declined in recent years as a result of accelerated land reclamation in the West Delta. It has a sizeable lake containing brackish water, salt marshes and a swamp with reeds.
- Plant resources. The coastal area's vegetative cover has been steadily degrading over the years as a result of harsh climate conditions and uncontrolled animal grazing. The coastal rangelands have suffered from overgrazing of livestock and poor rangeland management. In Siwa, there is no land for rangeland but thousands of hectares under date and olive cultivation. The die back of some of these olive trees has been blamed on the waterlogging or the salinity of the water used for irrigation. In El Moghra there is very little vegetative cover as a result of overgrazing and increasing desertification. Plant species are limited by the moisture content and salinity of the soil.
- Soil resources. The coastal area has witnessed severe land degradation in terms of water and wind erosion, loss of soil fertility resulting in low productivity and increasing soil salinity. As noted above, in Siwa the drainage problems and waterlogging of soils are the major threat to date palm cultivation. The soils in El Moghra are mostly coarse loamy sand, with little organic content and fertility insufficient for cultivation of crops.

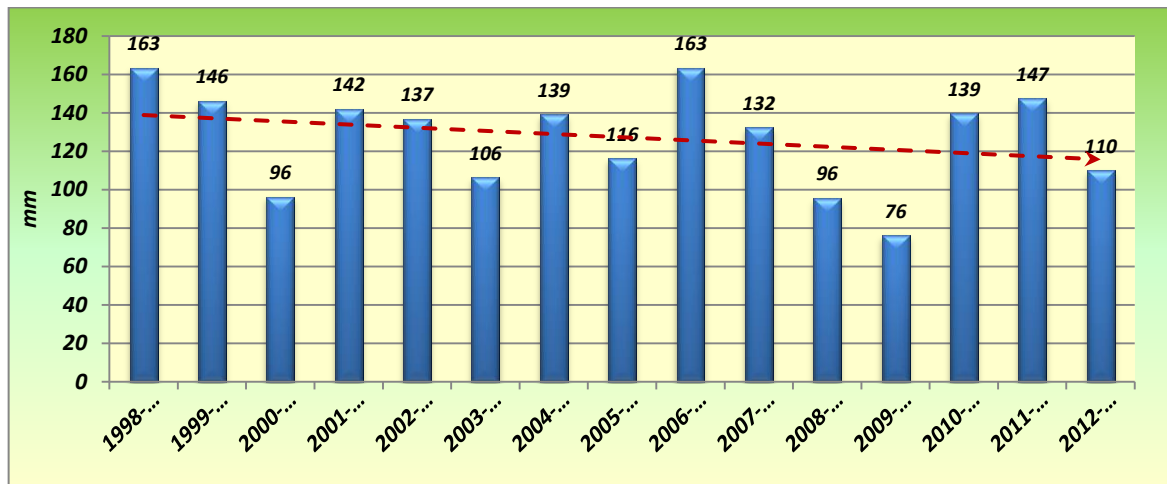
Climate

5. The Matrouh Governorate lies in the Mediterranean coastal belt of Egypt and has a winter rainfall (Mediterranean regime), with the rainy season extending from November to April. Average annual rainfall ranges from 100 to 150 mm per year. The DRC indicates that average annual rainfall along the project area is 140 mm per year (see figure below). The coastal area is characterized by dry Mediterranean climate conditions, with average high and low temperatures of 18.1 and 8.1°C in the winter and 29.2°C and 20°C in summer seasons, respectively. The coastal area has the highest average wind speed in Egypt in the winter which can reach 18.5 Km/h and drops gradually inland.¹³⁹

¹³⁸ The description of the state of resources in El Moghra is drawn from a DRC report – Tentative Summary and Conclusion of Moghra Oasis Project for Future Development.

¹³⁹ Egyptian National Action Program to Combat Desertification, Desert Research Center, Ministry of Agriculture and Land Reclamation, 2005.

Average annual rainfall along coastal area from 1998-2012 (DRC)



6. The **Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)**¹⁴⁰ includes a report on Egypt that concludes that Egypt is one of the African countries that could be vulnerable to water stress under climate change. The report indicates that the water used in 2000 was estimated at about 70 km³, which is already far in excess of the available resources. A major challenge is to close the rapidly increasing gap between the limited water availability and the escalating demand for water from various economic sectors. The rate of water utilisation has already reached its maximum for Egypt, and climate change will exacerbate this vulnerability. Furthermore, agriculture consumes about 85 percent of the annual total water resource and plays a significant role in the Egyptian national economy, contributing about 20 percent of GDP. More than 70 percent of the cultivated area depends on low-efficiency surface irrigation systems, which cause high water losses, a decline in land productivity, waterlogging and salinity problems. Moreover, unsustainable agricultural practices and improper irrigation management affect the quality of the country's water resources. Reductions in irrigation water quality have, in their turn, harmful effects on irrigated soils and crops.

Key Issues

7. Adaptation to climate change. The Government of Egypt recognizes the grave risks to the country posed by anticipated climate change impacts in the next decades, especially to the rural poor and marginalized smallholder farmers in regions like Matrouh. The **IPCC Report on Africa** (2014) contains a number of ominous findings on the effects of climate change for Egypt in terms of temperature, precipitation and availability of water (see box below).¹⁴¹ The Government has demonstrated its commitment to addressing these risks by ratifying the relevant international conventions (the United **Nations Framework Convention on Climate Change** (UNFCCC, 1992), the **United Nations Convention to Combat Desertification** (UNCCD, 1995), and following up on its commitments under these conventions with various strategies and action programs.¹⁴² Many of the interventions in the proposed project would support the Government of Egypt in carrying out its recommended actions under these national strategies and plans.

¹⁴⁰ Fourth Assessment Report of the Intergovernmental Panel on Climate Change (2014).

¹⁴¹ Climate Change 2014: Impacts, Adaptation, and Vulnerability. Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

¹⁴² National Action Program to Combat Desertification (2005), Egypt's National Strategy for Adaptation to Climate Change (2011) and the Third National Communication under the UNFCCC (2016).

8. Findings of IPCC Report on Africa (2014)
<ul style="list-style-type: none"> - Mean annual temperature rise over Africa, relative to the late 20th century mean is likely to exceed 2°C. - A reduction in precipitation is likely over Northern Africa. - Climate change will amplify existing stress on water availability in Africa. - Climate change will exacerbate vulnerability of agricultural systems, particularly in semi-arid areas. - Progress achieved on managing risks to food production from current climate variability will not be sufficient to address long-term impacts of climate change. - Conservation agriculture provides a viable means for strengthening resilience in agroecosystems.

Potential project's social, environmental, and climate change impacts and risks

Key potential impacts

9. Although the specific interventions of the project have not been fully defined, in terms of location and type, at this detailed design stage, the project's various components, sub-components and activities have been identified and their impacts and risks can be reviewed for purposes of this SECAP Review Note. As is to be expected, the project's various interventions would have both potential positive (or beneficial) and negative (or adverse) social and/or environmental impacts, as well as climate change and/or other risks. The table contained in **Annex A** presents an overview of these impacts and risks.

10. As the table indicates, the bulk of the proposed project's social and environmental impacts are expected to be beneficial. The organizing principle connecting all of the proposed project's activities and impacts is building the resilience of the communities in the project areas to the harsh conditions in which they find themselves today and to the even harsher conditions they are likely to face in the future as a result of climate change. Building this resilience is anchored on (i) securing climate resilient livelihoods to increase incomes and improve food security and (ii) ensuring resilient households to enhance the overall health and well-being of families, including women and children, in the project areas.

11. As indicated in the table in **Annex A**, increasing farm incomes and improving food security are the common social benefits found in all of the activities of the first component, whether making investments in water harvesting, wadi development and rural roads or providing support for livestock and rangeland development and crop production. And, the environmental benefits derived from these activities are equally important in terms of water resources management, rangeland conservation and good agricultural practices (including water-use efficiency and integrated pest and crop management). Any potential adverse impacts and risks are expected to be minor and site-specific in nature and thus readily remedied by appropriate preventive actions and/or mitigation measures, many of which are identified in the table. A number of IFAD's **SECAP Guidance Statements**¹⁴³ address the issues raised by these project activities and identify actions and measures to avoid, minimize or mitigate their impacts.

12. In the same vein, enhancing the overall health and well-being of families is the common social benefit that connects all of the activities of the second component, whether making investments in domestic water supply, improving household nutrition, diversifying livelihoods for women, providing basic social infrastructure for communities or providing employment training for youth. Any environmental benefits from these activities are secondary; any adverse social or environmental impacts or risks are expected to be minimal. As with the first component, any such impacts will be remedied by preventive actions and/or mitigation measures as appropriate.

13. As described in **V. Recommended Features** below, the project will establish an Environmental and Social Management Framework (ESMF), early in project implementation, to ensure routine review of activities involving potential adverse impacts, particularly construction of dams, roads, schools,

¹⁴³ Agrochemicals, Fisheries and Aquaculture, Livestock and Range Resources, Water, Small Dams and Rural Roads.

health units, latrines; conversion of grazing lands to agriculture; drilling of wells, withdrawal of groundwater, etc. This review would allow appropriate preventive actions and mitigation measures to be determined on a site-specific basis before the infrastructure interventions would be undertaken and on a periodic review basis for the other project activities.

Climate change and adaptation

14. As described in **1. C. Climate** and **D. Key Issues** above, the project areas are expected to experience adverse climate change impacts in the coming decades, ranging from sea level rise along the Mediterranean coast to decreasing and more erratic precipitation with increasing temperatures over the areas. These climate change impacts will make the already harsh conditions for humans, animals and agriculture in the project areas even more harsh, putting additional stress on the water-stressed natural resource base and the human and animal populations that depend on it. Egypt's **Third National Communication under the UNFCCC** (2016) characterized the vulnerability of the agricultural sector to climate change based on the following major negative impacts anticipated in the coming decades: (i) the expected rise in temperature and change of its seasonal pattern would lead to decreasing productivity of some crops and livestock, as well as a change in environmental agricultural zones; (ii) marginal agricultural areas would be negatively affected, and desertification rates would increase; (iii) higher temperatures would increase water evaporation and water consumption; (iv) socio-economic effects, including migration of labour from marginal and coastal areas; and (v) the probable rise in sea level, with its negative effects on coastal areas, tourism and agricultural land.¹⁴⁴

15. Project activities such as water harvesting and wadi water management, rangeland restoration with native species, farming with good agricultural practices (no tillage, groundcover, water-use efficiency) and promotion of drought-resistant, salt-tolerant species and varieties are intended to build climate resilience in communities in the project areas and represent important climate adaptation measures consistent with those identified by Egypt's **National Strategy for Adaptation to Climate Change and Disaster Risk Reduction** (2011). The National Strategy identifies water harvesting as a key adaptation measure (Maximum utilization of rainfall and flash flood water") and recommends (i) construction of dams and reservoirs to collect water and use it for drinking or agriculture directly, or for storage in groundwater reservoirs; (ii) using modern techniques in the field of water harvesting, such as remote sensing and geographic information systems, (iii) avoiding the risks that may result from flash floods through mapping risk assessments for each area, and taking the appropriate precautions to avoid potential risks). It also identifies measures for climate adaptation of plant and livestock production based on expansion of genetic diversity of plant and animal varieties available to farmers: (i) introduction of breeding programs for important plant varieties of field and horticultural crops that are capable of adapting to the expected changes in climate indicators, and relying on biodiversity to improve livestock production against climate change, especially in terms of species, and the extent of their adaptability to climate change.¹⁴⁵ The more recent **Third National Communication under the UNFCCC** (2016) mirrors the National Strategy in recommending climate adaptation measures for water resources management and agricultural production.¹⁴⁶ There remain other climate adaptation measures the project should implement, as suggested in the table in Annex A, in order to anticipate and prepare for extreme climate events, such as flash floods in the wadis, extended periods of drought, etc.

¹⁴⁴ Third National Communication under the UNFCCC (2016), p. 131.

¹⁴⁵ Egypt's National Strategy for Adaptation to Climate Change and Disaster Risk Reduction (2011), pp. 84-87.

¹⁴⁶ Third National Communication under the UNFCCC (2016), pp. 128-140.

Environmental and social category

16. The proposed project should be classified **Category B** under IFAD's SECAP, as a small-scale, rural development project with no potentially significant adverse social or environmental impacts. Any adverse project impacts would be minor and site-specific in nature and could readily be remedied by appropriate preventive actions and/or mitigation measures. Moreover, the potential social and environmental benefits of the project's interventions, in terms of alleviating poverty and enhancing food security, conserving fragile natural resources and building resilience to climate change impacts in project areas more than outweigh any potential adverse impacts resulting from them. These benefits would be directly derived from the project's investments in irrigation supply wells, water harvesting and wadi management infrastructure, promotion of rangeland restoration and good agricultural practices, support for improved nutrition for families and alternative livelihoods for women, and expanded access to social services for households in the project areas.

17. The project would incorporate environmental and social review procedures in order to identify and address any potentially adverse, site-specific impacts resulting from project infrastructure investments, e.g. feeder roads in remote areas, check dams in wadis, irrigation supply wells in El Moghra, schools, health units, etc. These review procedures will ensure that project interventions comply with IFAD's **Natural Resources Management, Climate Change and Land Policies** and relevant **Guidance Statements** (as cited above), as well as with the relevant laws and policies of the Government of Egypt. To that end, the project would be reviewed by the Ministry of Environment's Egyptian Environmental Affairs Agency pursuant to its **Guidelines of Principles and Procedures for Environmental Impact Assessment** under **Environment Law No. 4** of 1994.

Climate risk category

18. The proposed project's **Climate Risk Classification** is **Moderate** according to IFAD's SECAP climate risk classifications. The project's interventions would not be expected to increase the vulnerability of target populations and resources to climate hazards. On the contrary, the project would actually strengthen resilience to climate change impacts in the project areas. Because of the desert and oasis locations of its project areas, the project recognizes that its interventions are vulnerable to climate change impacts and climate-related hazards. Climate trends in recent decades and future climate scenarios for the Matrouh Governorate indicate the vulnerability of the project's wadi management, horticulture and rangeland activities to climate hazards (flash floods in the wadis, extended periods of drought). Expected decreases in precipitation and shortening of growing seasons in the rainfed areas of Matrouh would threaten the cultivation of both tree crops and cereals, and increases in temperature in the Siwa oasis would jeopardize date palm production. Many of the project's interventions already represent climate adaptation measures, e.g. water harvesting and wadi water and soil retention infrastructure, restoration and management of rangelands with native fodder species, promotion of good agricultural practices and research on drought-resistant and salt-tolerant varieties for crop production. The project would also investigate incorporation of additional actions, consistent with measures identified in **Egypt's National Strategy for Adaptation to Climate Change** (2011) and its **Third National Communication under the UNFCCC** (2016).

Recommended features of project design and implementation

Mitigation measures

19. Since the specific location, design and other characteristics of project interventions remain to be determined, the project would establish an Environmental and Social Management Framework (ESMF) to review, on a case-by-case basis, site-specific project interventions with any potential adverse social or environmental impacts (including impacts on physical cultural resources). This review would employ a standard checklist to identify potential impacts or climate risks and recommend appropriate preventive actions or mitigation measures to address such impacts. Not all of the project's activities would have to undergo this ESMF review process. It is aimed at those project interventions, or sub-projects, involving construction of rural roads, water management infrastructure

and other civil works (latrines, health units, schools). The table below identifies the sub-projects that are the primary targets of the ESMF review process.

Project Component/Sub-component	Sub-projects subject to ESMF Review
1. Climate Resilient Livelihoods	
- Water for Agriculture and Watershed Management	Cisterns, reservoirs, check dams and other water/silt retention structures; irrigation supply wells
- Enhancing Connectivity	Rural roads
- Livestock and Rangeland Development	Aquaculture systems
2. Integrated Nutrition Investments	
- Water for Health	Cisterns, reservoirs, Roman cisterns*
- Women's Empowerment for Nutritional Change	Pigeon towers*
- Social Infrastructure	Latrines, health units, schools

* Given the small scale and minimal impact of these sub-projects, the project would determine whether they require ESMF review.

20. As noted above, the potential adverse impacts and risks of these sub-projects are expected to be minor and site-specific in nature and thus readily remedied by appropriate preventive actions and/or mitigation measures. Some of the potential adverse impacts and corresponding measures are identified in the table in **Annex A** of this Review Note and in relevant **SECAP Guidance Statements**. The ESMF would also specify public disclosure requirements for project activities and sub-projects and establish (or build on existing) local grievance mechanisms for addressing, in a timely and fair manner, potential conflicts/concerns raised by project-affected people.

Multi-benefit approaches

21. The potential project has been designed to take advantage of multi-benefit approaches. All of the activities of the first component, whether making investments in water harvesting, wadi development and rural roads or providing support for livestock and rangeland development and crop production, are intended to produce social benefits by increasing farm incomes and improving food security, while at the same time providing significant environmental benefits in terms of expanded ecosystem services resulting from wadi development and rangeland management, water resources conservation and management, and good agricultural practices (including water-use efficiency and integrated pest and crop management) used in crop production. Among the technological innovations the project will provide is the introduction of a range of solar and energy-saving technologies in the new lands of El Moghra.¹⁴⁷

Incentives for good practices

22. The potential project has built in a number of incentives to promote good practices among smallholder farmers in the project areas. The investments in water harvesting infrastructure and wadi development would provide strong incentives for the smallholders to engage in sustainable tree and horticultural crop production on the improved lands; increased fodder crop production as a result of these investments would also relieve pressure on already degraded rangelands and support better management of these lands for livestock grazing purposes. In addition, the project would seek to promote innovative ideas for communal rangeland management, such as establishing a compensation fund for smallholders participating in communal rangeland management efforts or leveraging project investments as incentives for proper management.

¹⁴⁷ This may permit the use of renewable energy for pumping irrigation water (the project may benefit from an AfDB feasibility study for this purpose).

Participatory processes

23. The potential project would build on the well-established participatory processes used along the Mediterranean coast of Matrouh, by the World Bank MRMP and other projects, to help the regional PMU make decisions with respect to project interventions. Under these processes, communities or tribal areas in the wadis assumed responsibility for planning managing, implementing, and evaluating their activities. Local communities analyzed their problems, developed an annual plan to manage efforts to address them, performed monitoring and evaluation, and prepared a community action plan and budget. The communities elected a representative to serve as the point of contact between the community and the project. This representative participated in the decision-making with respect to the type and location of project interventions or activities and ensured the approval and commitment of the wider community in these decisions. These processes have proven successful in the past in making decisions with respect to investments in water harvesting infrastructure and wadi development and they would be critical to development and implementation of the community rangeland management plans and village land use plans that would be proposed under the project. Finally, these participatory processes would be key to avoiding potential conflicts in participating communities over allocation of resources, for example, conflicts over land ownership, between upstream/downstream water users in the wadis, over communal rangelands, etc.

Analysis of Alternatives

24. The “no action” alternative to the proposed project would leave the coastal communities and the oasis of Siwa with no assistance in facing their current environmental and social challenges, i.e. the scarcity of water resources along the rainfed coast and the waterlogging and increasing salinity of groundwater in Siwa, the continuing degradation of rangelands in the coastal areas and the lack of access to basic social services in many of the communities. It would leave the newly reclaimed lands in El Moghra without assistance in converting to agricultural production. With the impacts of climate change likely to increase these challenges in the coming years, this alternative was ruled out. Another alternative considered would have put the proposed project areas in two separate Egyptian governorates, Matrouh Governorate in the north and New Valley Governorate in the south. After the detailed design mission visited both governorates in May 2017, it recommended focusing the project on Matrouh Governorate, where it could effectively utilize the full IFAD allocation and also include an additional area of new lands made available as part of the Government’s 1.5 million feddans project for youth and smallholders. The GOE accepted the mission’s recommendation, which resulted in the present project.

Institutional analysis

Institutional framework

25. The Ministry of Agriculture and Land Reclamation (MALR) would be the lead agency responsible for project management. The overall responsibility for implementation of the project on the ground would be assumed by a Project Management Unit (PMU), which would be established in Cairo at the MALR. It would be staffed with a dedicated project director and financial, procurement, M&E and poverty targeting and gender specialists. The Central PMU in Cairo would supervise DRC in implementation of project activities in Matrouh on the old lands and be directly involved in the implementation of the newly reclaimed lands in El Moghra in coordination with Egyptian Countryside Development Corporation (ECDC). In the project areas, the project activities for the rain-fed areas of coastal Matrouh would be implemented by the Sustainable Development Centre for Matrouh (SDCM) of the DRC, which has previous experience managing the World Bank project in the area. The project would use the existing four Extension and Support Units of DRC at the district level and would establish an additional unit in Daba. These units would be provided operational support for implementation of project activities. The DRC’s capacity to implement the project, procure and manage the financial resources, monitor and engage with women would be enhanced through technical assistance and field support. An NGO would be recruited to implement the activities targeted at women. An environmental specialist for the project, who would perform the ESMF reviews and

ensure compliance with IFAD and Egyptian environmental policies, would either be designated from DRC staff in Matrouh or recruited for this purpose by the DRC. Similarly, a social specialist would be designated (in coordination with the poverty and gender specialists) to work closely with the environmental specialist in overseeing implementation of the ESMF and compliance with relevant social policies.

26. The programme for the new lands in El Moghra would be coordinated by the central PMU, which would work in close collaboration with ECDC. The PMU would provide technical resources and training for the youth and smallholder farmers on the new lands and would also provide support for implementation of the technical packages. Coordination with the local line agencies of Agriculture, Livestock, Health and Education, Roads and Bridges, and Environment would be coordinated by the PMU. ECDC's role would be simply as a facilitator. It would acquire legal land titles and allocate the land to investors, youth and small groups through a public ballot of all applicants who meet the required criteria. ECDC would ensure clear land title and provision of water and other facilities. ECDC has already allocated the land to 252 youth and small groups in El Moghra and provided wells for irrigation water.

Capacity building

27. The proposed project would incorporate capacity building, training and study tours in each of the sub-components in order to ensure adequate capacity in DRC staff and among local beneficiaries to undertake the activities included in the project. An overview of this capacity building as it relates to social and environmental issues follows:

Component 1: Climate Resilient Livelihoods

- Water for Agriculture and Watershed Management. This sub-component would include capacity building on the latest climate-smart techniques for water harvesting and storage and on sustainable management approaches to watershed development, including watershed management plans, erosion prevention practices, water-user agreements (among upstream-downstream users) and techniques for improving water-use efficiency in the watersheds.
- Enhancing Connectivity. This subcomponent would include capacity building required to ensure that the rural road construction would maximize the use of climate-smart location, design and construction measures, minimize land owner conflicts and avoid any physical or economic displacement.
- Livestock and Rangeland Development. This subcomponent would include capacity building on development of community rangeland management plans, climate-smart techniques for restoring the regenerative capacity of rangelands, good practices for managing the size of herds grazing on restored rangelands (taking into consideration the carrying capacity of the rangeland), and participatory land-use planning methodologies for developing village land-use management plans.
- Crop Production. This sub-component would include capacity building on orchard management (including soil and water management, integrated pest and plant management, pruning and harvesting), soil and water monitoring and leaf analysis, and the best techniques for performing soil and water monitoring with new technologies and laboratory equipment.

Component 2: Integrated Nutrition Investments

- Water for Health. This sub-component would include capacity building for women on the construction, management and maintenance of cisterns, reservoirs and Roman cisterns used for domestic water purposes.
- Women's Empowerment for Nutritional Change. This sub-component would include capacity building for women on family nutrition, basic literacy and various livelihoods (including pigeons, poultry, goats and handicrafts).

- **Social Infrastructure.** This sub-component would include capacity building for women on maintenance of latrines and personal hygiene and health, and training for young men on construction of cisterns and reservoirs, pruning of olives, date palms and figs and watershed management and rangeland development. It will also include training for properly managing project interventions with waste management implications, such as aquaculture and health units.

28. Part of the capacity building for the regional PMU would be the designation (or recruitment) and training of environmental, social and climate change specialists, based in Matrouh, who would oversee implementation of the project's ESMF. The ESMF would ensure that project interventions, particularly the water harvesting infrastructure and other civil works (roads, schools, health units and latrines), would comply with IFAD's SECAP and Guidance Statements, as well as Egyptian laws and policies. The training provided for the environmental, social and climate change specialists would be targeted at the specific project impacts and risks identified in Annex A below and in the ESMF. It would also involve ensuring the awareness and effective application of the full range of IFAD's environmental and social safeguards, as set out in relevant IFAD strategies/policies, SECAP requirements and Guidance Statements (agrochemicals, fisheries and aquaculture, livestock and range resources, water, small dams, physical cultural resources and rural roads).

29. The DRC already has proven capacity in development and management of climate resilient technologies. Under the project, DRC will also be building their capacity in El Moghra and will develop sustainable climate-resilient technologies for the youth groups there.

Additional funding

30. The proposed project has made no plans to obtain additional funding at this point.

Monitoring and Evaluation

31. As described in **Appendix 6: M&E, Planning and Learning and Knowledge Management**, the proposed project's monitoring and evaluation system and processes would be established and managed in accordance with established IFAD procedures by the project team with support from IFAD. The Logical Framework provides indicators for implementation along with their corresponding means of verification. These would form the basis on which the Monitoring and Evaluation (M&E) system would be built, which could also include a more comprehensive list of indicators. With regard to the indicators, draft indicators are already included in the design report and Logical Framework; the final indicators would be defined in the start-up workshop using the Logical Framework and the indicators highlighted in **Attachment 1 to Appendix 6** as the starting point.

32. In terms of M&E system implementation, the proposed project is expected to establish a PMU, based in MALR, in Cairo, with overall responsibility for project coordination, including M&E. Under the supervision of the central PMU, a regional PMU would be established in the DRC in Matrouh, while the central PMU would directly implement activities, including M&E, for the new lands in Moghra and Siwa. The DRC in Matrouh already has a well-functioning M&E system at the output level, including the use of a Geographic Information System (GIS), providing clear quantitative measurement of outputs produced by previous projects in the area.

33. **Attachment 1: Key Outcome and Impact Sheet to Appendix 6** includes a number of draft indicators for some of the social and environmental outcomes/impacts of project interventions (e.g. percentage of households reporting: increased asset ownership, increased resilience to climate change, improved access to water, improved access to schools, health units, markets). It also includes indicators for the project's adaptation measures for enhancing climate resilience, such as improved land management: hectares under climate resilient practices, households reporting adoption of climate-smart technologies, increased availability of water for small-holder agriculture, percentage of households reporting new technologies/inputs. As noted above, these draft indicators represent a starting point for M&E, to which the project may wish to add specific indicators with respect to climate

resilience in livestock and crop production, e.g. number of households with improved breeds of sheep, number of hectares of more climate-tolerant varieties of cereals.

34. In addition to the above M&E system, the proposed project would introduce water/soil quality and climate monitoring in the DRC in Matrouh. The DRC does not currently have the capability to perform basic water quality monitoring, even for the water for domestic use to be made available to households under the project. Such monitoring is critical in order to ensure the quality of drinking water. Nor does the DRC have the capability to perform soil quality monitoring necessary for determining the fertility, organic content, salinity, etc. of the agricultural soils along the Mediterranean coast. In order to introduce this monitoring, the project would provide mobile water quality monitoring equipment for determining drinking water quality and the necessary laboratory equipment to DRC's laboratory to perform additional water quality and soil monitoring. Finally, the DRC does not currently have the capability to perform basic climate monitoring along the coastal area or in Siwa nor is it able to obtain reliable data from other sources. These data would allow the DRC to analyze trends in climate conditions (precipitation, temperature) and provide such climate information to local farmers and shepherds. To correct this situation, the project would provide simple climate monitoring stations, one for each of the coastal districts, Siwa and El Moghra, to gather climate data over the life of the project.

Further information required to complete screening, if any

35. No additional information is required to complete screening.

Budgetary resources and schedule

36. The detailed design mission produced an indicative budget for the proposed project, which included a line for the recruitment and training of an environmental specialist in the regional PMU for the life of the project and an allocation for purchasing laboratory equipment for the DRC laboratory (mobile water quality monitoring equipment, water/soil monitoring equipment for the fixed laboratory and basic climate indicator monitoring equipment for six-eight stations in the project areas). The final budget for these items will be determined during the final design mission in July 2017.

Record of consultations with beneficiaries, civil society, general public etc.

37. The IFAD team, during its May and July 2017 design missions in Egypt, met with the full range of proposed project stakeholders, including GOE officials, development partners, non-governmental organizations (NGOs) and potential beneficiaries of the proposed project in the various project areas.

38. In Cairo members of the team met with officials of the Ministry of Agriculture and Land Reclamation, Dr. Hesham Allam, Supervisor of Foreign Agricultural Relations, and the Ministry of International Cooperation, Eng. Khaled Rashad, both before and after the mission, to discuss the objectives of the mission and report on its findings and recommendations. While in the field visiting the various proposed project sites in Matrouh and New Valley Governorates, the team was accompanied by the Dr. Naiim Moselhy, President of the Desert Research Center, and his deputy, Dr. Abdallah Zaghloul, Vice President for Research Projects and Stations. In Matrouh the IFAD team environmental specialist met with various environmental and climate change officers, Drs. Ashraf El Sadek, Abdalsamad Aldabaa, and Ahmed Imam, all of whom are based in the DRC's Matrouh office, and in Siwa with Dr. Atef Adel Rady Salama, Director of the Siwa Station.

39. In Matrouh Governorate, the IFAD team visited various proposed sites along the Mediterranean coast in the districts of Ras El Hekma (Wadi Beharey, Wadi El Hafian), Marsa Matrouh, El Negella and Sidi Barrani (Wadi Sakher). In each of these districts the team met in tent consultations with 30 to 50 local farmers/herders, men and women) and their tribal leaders. The consultations were facilitated by the DRC team and the IFAD team broke up into small groups to discuss the various issues the locals raised and the team wanted to hear from them on. In most cases, the local communities were well prepared for the IFAD visit and presented a list of their needs, from water harvesting/wadi management support to assistance with water logging/drainage problems, support for livestock and

crop production to schools and health units. Many of these proposals could be accommodated in the proposed project. In New Valley Governorate, local officials and the DRC organized similar site visits with local farmers.

40. In El Moghra, the team met with ...

Annex A

Overview of PRIDE Impacts and Risks

Project Components, Sub-components	Beneficial impacts	Adverse impacts	Climate and Other Risks	Measures for Prevention, Mitigation
1. Climate Resilient Livelihoods				
(i) Water for Agriculture and Watershed Management				
Construction of cisterns and reservoirs for harvesting water for crops, construction/ rehabilitation of check dams for development of wadis; conversion of grazing land for agriculture, drilling wells for irrigation (El Moghra)	Improved management of water for agriculture and livestock, reduction of erosion and soil degradation, increased farm incomes and food security; expansion of agricultural lands, improved supply of water for irrigation purposes	Dam construction-related impacts, construction wastes, reduced water for downstream users; loss of Bedouin grazing lands, excessive withdrawal of groundwater	Unknown water quality, downstream water user conflicts, dam washout in extreme climate event (flash flood); desertification, reduction of water table	Dam construction due diligence, water quality monitoring, water user agreements, ensure climate event planning; agreements with Bedouin herders, regulation of withdrawals, monitoring of water table
(ii) Enhancing Connectivity				
Rural roads in remote areas of Matrouh	Increased access to markets and social services (education, health); increased farm incomes, food security and welfare	Road construction-related social and environmental impacts, soil erosion	Landowner conflicts, physical resettlement, economic displacement, road damage in extreme climate event (heavy rainfall)	Negotiate landowner agreements, avoid any resettlement or displacement issues, ensure climate event planning

(iii) Livestock and Rangeland Development				
Community rangeland management planning, incentives for management, breed improvement, mobile veterinary services, rangeland management training, support for aquaculture in El Moghra	Increased fodder produced by rangelands and fodder crops for livestock, improved animal health, improved rangeland and aquaculture management, increased farm incomes and food security	Increased herd size beyond carrying capacity for restored grazing land and fodder crops, increased demand for water, water pollution from aquaculture	Overgrazing on newly restored rangelands, loss of fodder crops, rangelands and aquaculture in extreme climate event (drought)	Participatory rangeland management plans, sustainable community management of rested rangelands, aquaculture pollution prevention, rangeland management training, ensure climate event planning (early warning system)
(iv) Crop Production				
DRC nursery support, farmer training on soil, water and pest management, support for farmer cooperatives, applied research for desert crop varieties, water and soil monitoring, leaf analysis	Increased crop production, better agricultural practices, effective cooperatives, improved drought-resistant/salt-tolerant species and varieties, improved monitoring capacity, increased farm incomes and food security,	Increased agricultural expansion onto rangelands, increased demand for irrigation water, increased soil salinity, reduction in yields	Inappropriate cropping for water/soil conditions, loss of trees due to increased soil salinity, loss of arable land, loss of agricultural production in extreme climate event (drought)	Limitations on agricultural expansion, training on appropriate cropping, ensure climate event planning (early warning system)
2. Integrated Nutrition Investments				
(i) Water for Health				
Construction of cisterns and reservoirs, rehabilitation of Roman cisterns for domestic water supply	Increased water supply for domestic purposes, improved health, hygiene and welfare of women and children		Unknown water quality, health risks, improper maintenance	Water quality monitoring, proper maintenance training for domestic water supply

(ii) Women's Empowerment for Nutritional Change				
Packages for improving nutrition (awareness raising, training, planting vegetable gardens and Moringa trees) and diversifying livelihoods for women (keeping pigeons, poultry and goats, making handicrafts)	Increased awareness of and access to improved nutrition and health among women, increased diversity of livelihoods for women, improved incomes and food security, improved soil fertility from pigeon, poultry and goat droppings/waste, reduction in hunting of migratory birds	Contamination of domestic water supply by animal droppings/ waste	Increased demand for water for domestic plants and animals, loss domestic plants and animals in extreme climate event (drought)	Training in managing domestic plants and animals, particularly around domestic water supply; ensure climate event planning (early warning system)
(iii) Social Infrastructure				
Construction of latrines, health units (fixed and mobile) and schools for women and girls	Improved personal hygiene, expanded health services, increased educational opportunities for women and girls; improved chances for increasing farm incomes and food security	Construction-related social and environmental impacts, construction wastes	Contamination of surface or groundwater sources of domestic water supply	Due diligence in location, design and construction of latrines, health units and schools
Youth employment training for young men	Improved employment opportunities for young men, increased incomes and food security			

Annex 2: IFAD's targeting policy - checklist for design

Updated January 2013

	Design
1. Does the main target group - those expected to benefit most- correspond to IFAD's target group as defined by the Targeting Policy (poorer households and food insecure)?	YES. The main target group for MNVRIDP is poor women and men living in scattered settlements in ARID areas and in NEWLY Reclaimed lands
2. Have target sub-groups been identified and described according to their different socio-economic characteristics, assets and livelihoods - with attention to gender and youth differences? (matrix on target group characteristics completed?)	yes – Target group characteristics have been described in APPENDIX 2 with attention to differences in Gender and Youth
3. Is evidence provided of interest in and likely uptake of the proposed activities by the identified target sub-groups? What is the evidence? (matrix on analysis of project components and activities by principal beneficiary groups completed?)	YES - evidence of interest is based on consultations with the target group during field visits. details of activities for project beneficiaries in Annex 2.
4. Does the design document describe a feasible and operational targeting strategy in line with the Targeting Policy, <i>involving some or all of the following measures and methods:</i>	
4.1 Geographic targeting – based on poverty data or proxy indicators to identify, for area-based projects or programmes, geographic areas (and within these, communities) with high concentrations of poor people	PRIDE would be implemented in six districts (marakiz) of Matrouh Governorate: Marsa Matrouh, El Negila, El Barrani, El Saloum, El Dabaa and Siwa. Only two of these districts, Marsa Matrouh and Dabaa, have urban centres and these urban areas would be excluded. The forty villages are all arid, rain-fed areas.
4.2 Direct targeting - when services or resources are to be channelled to specific individuals or households	yes
4.3 Self targeting – when goods and services respond to the priority needs, resource endowments and livelihood strategies of target groups	yes
4.4 Empowering measures - including information and communication, focused capacity- and confidence-building measures, organisational support, in order to empower and encourage the more active participation and inclusion in planning and decision making of people who traditionally have less voice and power	yes
4.5 Enabling measures –to strengthen stakeholders' and partners' attitude and commitment to poverty targeting, gender equality and women's empowerment, including policy dialogue, awareness-raising and capacity-building	yes
4.6 Attention to procedural measures - that could militate against participation by the intended target groups	yes

4.7 Operational measures - appropriate project/programme management arrangements, staffing, selection of implementation partners and service providers	yes
5. Monitoring targeting performance. Does the design document specify that targeting performance will be monitored using participatory M&E, and also be assessed at mid-term review? Does the M&E framework allow for the collection/analysis of sex-disaggregated data and are there gender-sensitive indicators against which to monitor/evaluate outputs, outcomes and impacts?	yes

Annex 3: IFAD's key features of gender-sensitive design and implementation

Updated January 2013

	Design
1. The project design report contains – and project implementation is based on - gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each project activity from the gender perspective to address any unintentional barriers to women's participation.	<i>Yes - the project would be sensitive to arrangements required to enable women to participate – restrictive gender norms mean that women's mobility is restricted to the household clusters they live in – as such project interventions aim to deliver awareness raising, literacy at the doorstep and improve the conditions under which women live by providing water and sanitation facilities and livelihood packages</i>
2. The project design report articulates – or the project implements – actions with aim to: Expand women's economic empowerment through access to and control over productive and household assets;	<i>As the project is working in an area where the highly restrictive gender norms severely limit women's engagement in productive employment, the project is focusing first on increasing women's access to basic human rights – water, sanitation, literacy, nutrition and health. In some pockets, such as Siwa Oasis, there is a possibility of increasing women's nutritional status and economic empowerment through supporting crafts that have a market. The project would have some impact on women's economic empowerment through the livelihood packages which would result in women owning pigeons, chickens and goats – even if the income generated would be very limited. Similarly, even the giving of cisterns and sanitation facilities in women's name in such circumstances does make women feel empowered (as shared during field visits)</i>
Strengthen women's decision-making role in the household and community, and their representation in membership and leadership of local institutions;	<i>The provision of livelihood packages and where possible support for crafts would possibly have some impact on decision-making at the household level. The norms are too restrictive to allow for community level decision-making. However, the project would nominate women leaders in household clusters to affirm women's leadership role in a culturally acceptable form.</i>

Achieve a reduced workload and an equitable workload balance between women and men.	<i>Yes. Women are responsible for fetching water from nearby sources and women in women-headed households are responsible for fetching water even from distant sources. increased supply of water at the homestead would reduce their burden. It is also envisioned that improved diets through the provision of nutrition packages, the Moringa tree and the BCC campaign will reduce disease and save women's time as they are the primary care-givers.</i>
3. The project design report includes one paragraph in the targeting section that explains what the project will deliver from a gender perspective.	Yes
4. The project design report describes the key elements for operationalizing the gender strategy, with respect to the relevant project components.	Yes
5. The design document describes - and the project implements - operational measures to ensure gender- equitable participation in, and benefit from, project activities. These will generally include:	Yes
<i>Allocating adequate human and financial resources to implement the gender strategy</i>	Yes
<i>5.2 Ensuring and supporting women's active participation in project-related decision-making bodies and committees</i>	Yes
<i>5.3 Ensuring that project/programme management arrangements (composition of the project management unit/programme coordination unit, project terms of reference for staff and implementing partners, etc.) reflect attention to gender equality and women's empowerment concerns</i>	Yes
<i>5.4 Ensuring direct project/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited</i>	Yes
<i>5.5 Identifying opportunities to support strategic partnerships with government and others development organizations for networking and policy dialogue</i>	Yes
6. The project's logical framework, M&E, MIS and learning systems specify in design – and project M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific indicators on gender equality and women's empowerment.	Yes

Annex 4

Environmental and Social Management Framework for PRIDE

Annotated Outline

Executive Summary – a concise summary of the ESMF, its requirements and processes

1 Introduction – description of the project, objectives of the ESMF and methodology for its preparation

1.1 Background – overview of origins and need for project, previous projects in project areas

1.2 Rationale and Objectives of ESMF – need for ESMF, objectives of ESMF

1.3 Methodology for Preparation of ESMF – approach to preparation of ESMF, collaboration with GOE

1.4 Stakeholder Consultations – consultations during project preparation, consultations on ESMF

1.5 Disclosure of ESMF – process for public disclosure of ESMF

2 Project Description

2.1 Project Areas – description of three project areas: Matrouh coastal area, Siwa and El Moghra oases

2.2 Project Objectives – description of project objectives set out in design report

2.3 Project Components – description of project components, sub-components and activities

3 Policy, Legal and Institutional Framework for Environmental Management in Egypt

3.1 Policies and Strategies – description of relevant environmental and social policy documents

3.2 Legal Framework – description of Environment Law and other relevant legislation

3.3 Institutional Framework – description of Ministries of Agriculture and Environment, EEAA

3.4 IFAD Safeguard Policies – description of SECAP, NRM and climate change policies

3.5 Differences between IFAD and GOE Policy Requirements – gap analysis of IFAD and GOE requirements

3.6 International Treaties and Conventions – description of relevant environmental treaties and conventions

4 Environmental and Social Setting – overview of environmental and socio-economic issues

4.1 Matrouh Coastal Region – description of water management and social conditions in coastal area

4.2 Siwa Oasis – description of irrigation water management and social conditions in oasis

4.3 El Moghra Oasis – description of water management in newly reclaimed lands and social conditions in new communities of oasis

5 Stakeholder Consultations

5.1 Background and Rationale – description of objectives and benefits of stakeholder consultations, number, location and participation in consultations

5.2 Issues Discussed during Consultations – description of issues raised by various stakeholders

5.3 Perceived Impacts of the Project – description of positive and negative impacts discussed, other issues raised

5.4 Summary of Outcomes of Consultations – description of outcomes achieved as a result of consultations, changes/improvements made to planned project activities

6 Potential Environmental, Social and Climate-Related Impacts and their Mitigation

6.1 Components with Potential Environmental and Social Consequences – description of project components, sub-components and activities with potential impacts, procedures for screening and review of sub-projects and activities with potential adverse impacts (using checklists by type of sub-project or activity)

6.2 Identification of Preventive Actions and Mitigation Measures – description of appropriate actions and measures to prevent and/or mitigate potential adverse impacts (using table of typical actions/measures to consider by type of sub-project or activity)

6.3 Preparation of Environmental and Social Management Plan (ESMP) – description of preparation of site-specific ESMP (including timeline and budget for actions to be taken) to ensure implementation of actions/measures at project site

6.4 Role of Project Management Unit (PMU) in ESMF Process – description of responsibility of PMU staff in overseeing ESMF process, from screening and reviewing sub-projects, identifying appropriate actions/measures to be taken, inspecting site to ensure implementation of actions/measures

7 Climate Risk Assessment

7.1 Introduction – description of purpose and process for IFAD's climate risk assessment requirement

7.2 Climate Risk Analysis – description of key considerations, risk classification and analysis

7.3 Climate Risk Resilience Measures – description of risk resilience measures incorporated into project design and implementation

8 Environmental and Social Management Framework Procedures

8.1 Overview – overview of the ESMF procedures for ensuring risk prevention/mitigation

8.2 ESMF Process – description of the process for screening and reviewing project activities, identifying appropriate preventive actions and/or mitigation measures, and ensuring effective implementation

8.3 Disclosure of ESMPs – description of the requirements for disclosure of the ESMPs prepared for sub-projects and activities

8.4 Grievance Redress Mechanisms – description of mechanism(s) to allow affected stakeholders to express grievances for project activities

8.5 Environmental and Social Monitoring – description of routine monitoring to be performed based on environmental and social indicators, compliance with ESMP requirements

8.6 Quarterly and Annual Reviews – description of periodic reviews of ESMF implementation, monitoring results, etc.

8.7 Reporting – description of periodic reporting on results of quarterly and/or annual reviews and environmental and social monitoring

8.8 Summary of ESMF Processes and Responsibilities – overview of roles and responsibilities, ESMF processes, and expected outputs and outcomes from ESMF implementation

9 Capacity Building

9.1 Existing Capacity – description of needs assessment of management/technical capacity to implement the ESMF

9.2 Training Topics – description of training needs identified in the needs assessment

9.3 Target Audience – description of intended audience for training in PMU, local communities, other stakeholders

9.4 Training Approach – description of approach to be taken in providing training to the intended audience

9.5 Technical Assistance – description of any technical assistance needed in providing the ESMF training

9.6 ESMF Implementation Budget – estimate (broken down by activity) of the budget necessary for effective implementation of the ESMF

Tables (indicative examples)

Table on Environmental Policies and Laws applicable to PRIDE

Table on EEAA EIA Guidelines of Relevance to PRIDE

Table on Comparison of MOE and IFAD Requirements

Table on International Environmental Treaties and Conventions

Table on Community Consultations

Table on Typical Environmental and Social Impacts of Project Activities

Table on Typical Preventive Actions and/or Mitigation Measures for Adverse Impacts

Table on Screening Checklist

Table on Climate Risk Screening

Table on Typical Performance Monitoring Indicators

Table on Typical Results Monitoring Parameters

Table on ESMF Processes and Responsibilities

Table on ESMF Implementation Budget (USD)

Annexes (indicative examples)

Annex for References

Annex for Screening Checklists

Annex for Guidelines for a Pesticide Management

Annex for Guidelines for Small Dam Safety

Annex for List of Persons Consulted

Annex for Minutes of Community Consultations

Annex 6: Mainstreaming Nutrition

Introduction

1. **Background:** Egypt is IFAD's largest recipient of financial assistance in the Near East and North Africa and was one of the first countries to receive IFAD financing (IFAD, 2017). PRIDE aims at supporting agriculture and poverty reduction, overcoming poverty and achieve food and nutrition security through remunerative, sustainable and resilient livelihoods of poor rural households to the harsh climate conditions in the Matrouh Governorate. The component 2 of this project proposed integrated nutrition sensitive investment in the governorate through promotion of the equality and empowerment of women and providing a comprehensive package which includes access to domestic water and sanitation; access to basic social services (such as health, education); and income generating opportunities for women.

2. **Food and Nutrition situation:** With a population size of about 95 million, Egyptian agriculture provides livelihoods for 55 percent of the population and directly employs about 30 percent of the labour force (IFAD, 2017). Since the year 2011, right after the revolution, poverty increased by nearly 40 percent with the Upper Egypt having the highest poverty rate, at 51.5 percent of the population. Most of the rural poor people live in Upper Egypt, where there are higher rates of illiteracy and infant mortality, less access to safe water and sanitation and more underweight children. The World Food Program (2016) estimated that close to 14 million Egyptians suffered from food insecurity in recent years. The current high rate of malnutrition among both mothers and children is mainly attributed to inability to have adequate and nutritious food due to rising poverty.

3. Malnutrition among children in Egypt is manifested in different forms, including undernutrition, micronutrient deficiencies, overweight and obesity. According to UNICEF (2014), Egypt is one of the 20 countries in the world with the highest number of children suffering from chronic malnutrition or stunting (manifested by being too short for their age). The rate of stunting among children under five years of age is above the World Health Organization (WHO) "high" range of 30-39. Over half of children under five were estimated to suffer from anaemia, classified as a "severe public health problem" by the WHO. The UNICEF fact sheet for Egypt (2016) reported that 76 percent of children under the age of 2 are not being fed according to the minimum standards for Infant and Young Child Feeding for diet diversity and meal frequency. Only one in five children under age 2 received vitamin A and less than 10 percent received iron supplementation. This was a decline from the 45% observed in 2005. With regards to women, the pattern of consumption for vitamin A rich food was similar to that of children which resulted in significant unfavourable pregnancy outcomes. The situation becomes even worse in rural areas, especially in poor communities of the Matrouh Governorate. Youth suffer from both forms of malnutrition which is also reflected in relatively high rates of overweight and obesity. In 2014, 36 percent of adolescent girls aged 15- 19 were overweight or obese, compared to 29 percent of boys of the same age group.

4. The causes of nutritional problems in Egypt are function of many factors ranging from lack of **adequate** income, high food prices and low local agricultural production to poor dietary practices due to lack of awareness, inadequate health advice, adoption of Western diets high in refined carbohydrates, saturated fats and sugars, as well as a more sedentary lifestyle.

5. **Food practices and dietary patterns:** The majority of energy supply for Egyptians is derived from carbohydrates, fats and protein. Cereals represent the main source of energy, providing about 52 percent of the total energy (WFP, 2011). Relatively little is consumed in terms of **vegetables** and fruits, meat and dairy products. Wheat is a key staple food crop in Egypt consumed mainly as bread. It provides on average, one third of the daily caloric intake of consumers and 34 percent of the daily protein consumption (WFP, 2011; FAO, 2008). In Matrouh governorate, the food practices and dietary pattern is a bit different. Rice, bread, lentils and beans are the most common staple foods with poor consumption of vegetables and fruit. Chicken is best eaten once a week and mutton is relatively luxury food item eaten only during the major festivals. Pigeons are an important source of protein for those who can afford to keep pigeon towers. There are potentials for consumption of vegetables from

the market if income is improved with support on nutrition messaging and behaviour change communication (BCC).

6. **National policies and strategies on nutrition:** In recognition of its nutritional challenges, Egypt developed a 10 year Food and Nutrition Policy and Strategy (2007 – 2017). As a response to food security challenges in Egypt, the government spends large amounts on subsidy and social safety net programmes. The Food ration and subsidy programme, for instance, aimed at improving household food security and prevent malnutrition and chronic energy deficiency through a monthly ration of sugar, tea, oil, lentils, broad beans, rice and macaroni that meets a significant proportion of the family's needs.

7. There are also programs designed to improve the nutritional status and prevent diet-related NCDs using multiple strategies such as through the use of health facilities, schools, non-**governmental** organizations (NGOs) and the media with the aims of increasing the population's awareness of the programme, enhancing its knowledge and modifying its nutritional behaviors; nutrition capacity building for health providers, physicians, nurses and community workers' specialized clinics for nutrition referrals. The national programme for supporting breastfeeding practices addresses exclusive breastfeeding for the first six months of age, continuing breastfeeding up to two years of age, and healthy complementary feeding practices.

8. There is also a national programme for improving the nutritional status of school-age children which **implemented** school feeding programmes to enhance schoolchildren's physical and mental development. The program provides Iron-fortified biscuits, Pie Programme, cooked meals, and cold/dry meals for different target groups. The MOHP has a program of vitamin A supplementation for new mothers and for babies through Primary Health Care Facilities.

9. In addition to the main government programs and strategies, some international organizations and NGOs implement their own framework supporting the government efforts. For example, WHO is working with the government of Egypt to address major challenges in nutrition through implementing strategic interventions, such as flour fortification, salt reduction, harmful fat replacement, and implementing an iodine national assessment survey (WHO, 2017). UNICEF's nutrition interventions focus primarily on the first 1,000 days window of opportunity starting from the time of conception until a child's second birthday. The Ministry of Health and Population (MoHP) developed an operational model for implementing the first 1,000 days protocol for early detection and prevention of child malnutrition. World Food Programme has contributed to improving nutritional status through capacity building in a form of Training of Trainers (TOT) for professionals from selected line ministries.

Integrated Nutrition-Sensitive Investment

Detailed description of nutrition objectives, key activities and approaches

10. The component 2 of the project entirely devoted to promote integrated nutrition-sensitive investments (US\$ 31.52) through a comprehensive package which includes access to domestic water **and** sanitation and access to basic social sector and income generating opportunities for women for improving nutrition. The nutrition-sensitive interventions (US\$ 7.631Million) integrated in the three sub-components are: (i) Water and sanitation for good nutrition and health (ii) Empowerment of Women for Nutritional Change, and (iii) Social Infrastructure.

i) Water and sanitation for good nutrition and health

11. The objective of this intervention is to improve nutrition through availability/access of safe drinking water and sanitation. One of the most critical problems in Egypt in general and in Matrouh Governorate in particular, is water for both animals and humans. The fact that mobility of women and girls in the project areas are highly restricted to the homestead, except to collect water and firewood, improving access to water at household level will have significant positive implications to themselves and their families. According to UNICEF, malnutrition in children is partly a function of infection mainly resulting from unsafe drinking water.

12. Under an integrated nutrition sensitive investment, focus should be on increasing availability and **accessibility** of safe drinking water. With closer water supplies, women will have more time in the domestic setting, the extra time allowing them to better [improve the overall health and nutrition](#) of their families; and gives them more opportunities to engage in other work for extra income to improve livelihood of their families.

13. This intervention included three key activities, namely, rehabilitation of Roman Cisterns (between 500 to 1000 cm³) for both humans and livestock; construction of new cisterns (120 cm³) at household level; provision of water reservoirs at the homesteads for the harvesting rainwater. The benefits will be maximized through provision of sanitation infrastructure to reduce risk of waterborne and vector-borne disease. In the context of resource poor communities, water and sanitation interventions prevent and reduce malnutrition by reducing faecal ingestion, which causes intestinal infections.

14. The key messages in the Behaviour Change Campaign/Communication will focus on health behavior, especially the danger of deadly faecal-oral diseases leading to malnutrition and child mortality; safe disposal of human faeces; protect children from soil and animal faeces; safe **storage** and treatment of water. At household level, more emphasis should be given to optimal hand washing, household level treatment and storage of safe drinking water, sanitation and food safety issues. Households will be reached through household visits.

ii) Empowerment of Women for Nutritional Change

15. Food and nutrition security has become the top on the agenda of the Egyptian government after the 2011 revolution (WFP, 2016). The objective of this intervention is to improve the nutritional status of households, particularly women and children.

16. The **implementation** plan for this nutrition intervention includes four separate, but interrelated, activities:

- **Support on the production of nutritious foods (Moringa tree) for home consumption and sale:** The main purpose of this activity is to promote improved, diverse and culturally acceptable nutritious family diets. Households, women in particular, will have access to nutrient rich food at household level. The activity will involve promotion of an important plant, Moringa tree (rich in micronutrient) for household consumption and for income generation. The field experiences of the design team suggest that there are limited options for home gardening due to chronic water shortages in the project area. Moringa tree is the suitable option for homestead food production with its advantages of growing in water deficit areas.
- While efforts should be made to assess other additional trees/plants with nutritional values, the production of Moringa should continually be supported by regular extension services and incentives. The extension activities, among other things, will entail provision of moringa seedling, training on planting techniques and other related assistances.
- Aligned to the above production intervention, other household level activities will be undertaken which includes food demonstration and new recipe development using moringa and animal proteins; establishing mother-to-mother support groups on feeding and care practices: equipping mothers with the tools to prepare recipe from available sources for adequate nutrition at home; build on indigenous knowledge; integrate nutrition messaging: increase the role of women and children in decisions concerning household meal planning and consumption.
- **Nutrition packages for poor households:** Provision of pigeon towers, poultry and goat packages (only for Siwa Oasis) has the potential to address household and individual nutrition if they are accompanied by regular extension services. The assumption here is that women/households will get the opportunity to consume some of it, and sell the remaining to generate their own income and purchase vegetable and fruits from the market. This is one of the best ways available in the project area to enable households to diversify their diet.

- **Provide skill training for women (in hand crafts, poultry) :** This activity primarily aims at enabling women to generate income and build assets, enhance their decision making power over household resources. With the integration of nutrition messaging, this activity aims to substantially improve—increasing purchasing power for nutritious food and ultimately better consumption at individual and household levels.
- **Conduct a KAP survey on household and women empowerment and nutritional issues:** The baseline survey will be conducted to ascertain information on prevailing nutrition knowledge, attitudes and practices (KAP), to guide nutrition messaging/education, nutrition-sensitive interventions and benchmark data for tracking progress on nutrition outcomes. Also, the baseline information will provide the space to reaching out to the vulnerable groups as well as appropriate selection of nutrition message and food commodities during designing BCC strategy. Some of the core issues the KAP survey will address includes, but not limited to, level of knowledge on food preparation, benefits of good nutrition, consequences of malnutrition, food safety, personal hygiene, water and sanitation, attitudes such as food habits, food taboos and cultural constraints, community perceptions and deviant behaviours on food consumptions; practices such as child feeding practices, dietary practices using the standard FAO measuring tools, child meal frequency. The KAP survey should be conducted by well-experienced NGOs or consultants during the project baseline study before PRIDE implementation.

iii) Social Infrastructure

17. The objective of this intervention is to improve nutrition through provision of basic services, livelihood packages and promotion of technological innovations. There are three key nutrition sensitive activities proposed to be integrated in this intervention:
18. **Activities to improve nutrition in schools:** The successive DHS data for Egypt show that both under and over nutrition (obesity) are prevalent among school children in Egypt. Young adults tend to be affected largely by over nutrition. It's well established that obesity is a risk factor for many diet related disorders (non-communicable diseases, NCDs) which accounts for significant deaths. School based nutrition interventions such as nutrition messages are expected to contribute to the overall efforts of promoting optimal nutrition among children and youth. The selection of target schools would give consideration to prevalence of malnourished and poor children and poor school attendance.
19. To meet this objective, approaches to be used may include, nutrition education and awareness-raising, partnering with mothers to provide their children with adequate nutrition at home Classroom lessons on nutrition can be supported by asking parents to send healthy snacks to school; offer nutrition education and seminars, assign nutrition homework that students can do with their families.
20. For more effective implementation of the aforementioned activities, the key implementers **and other** partners (see Table A) should begin with conducting a situation analysis and reviewing existing guidelines followed by review, develop and implement nutritional guidelines for the target schools. Mobilize nutrition stakeholders' (such as FAO and relevant government ministries) commitment towards sustaining the programmes and mainstream basic nutrition training in these schools.
21. The project planned to construct schools, health units and latrines targeting 3000 households, and support the provision of literacy classes to women (Targeting 2000 women). Nutrition and health messages will be an integral part of the health, school and latrine facilities. Some possible ways to address nutrition issues using these facilities is through establishing a WASH program hygiene committee or health clubs to connect community and schools: apply interactive approaches using diverse and informal, but interactive approaches, such as drama and songs at village gatherings. Critical WASH interventions in conditions of poor sanitation that will improve nutrition status are those that remove faeces from the domestic environment and support and promote hand washing with soap. In conditions of good sanitation, the availability of improved water becomes more important.

22. Literacy with health-nutrition components allows women to improve their futures and the future of their communities. According to [the World Bank \(2016\)](#), such program is essential in "the reduction of child and maternal mortality, improvement of child nutrition and health. The women's literacy program, planned for 2000 women, should start with identification of non-literates through a snap shot survey and their learning needs followed by provision of instructional training for trainers in functional Literacy, integration of certain nutrition messages using tablets or other technological innovations will have added values.

23. The planned literacy classroom lessons will contain visual nutrition messages and assign nutrition homework that women can do with their families. Successful completion of the training should enable learner to read and comprehend texts (such as newspaper headings, road signs, etc). It also enables them to apply writing skills and do simple computation. A certificate should be issued to every learner at the end of the program. In order to make such program more effective in motivating parents to go through a literacy class is to have their child teach them to read and write.

24. **Improve nutrition through support on the youth livelihood:** The nutrition component of the project included support of youth training in the construction of cisterns, reservoirs, pruning of olives, date palms and figs, production of saplings and nursery management, watershed management and rangeland development) for 1000 youth. The implementation of this intervention will make use of several approaches. Integration of nutrition awareness and messages during the capacity building for service providers. As the service provider would be responsible for the implementation of some nutrition activities, the group should benefit from nutrition training. The group need to be composed of women and youth. Target selection will take into consideration the gender-age mix and will be done by DRC in consultation with PMU. The implementing body (NGOs) will present a detail work plan at the planning stage.

25. Integrating short, simple and tailored nutrition messages should involve context specific messaging to meet individual participant's learning needs. This approach can also include community level awareness campaign for sensitization and behaviour change communication through radio/TV program, drama, and songs.

26. **Promotion of technological innovations for improved nutrition:** A variety of apps relating to diet, nutrition, and weight control are available from major smartphone platforms such as iPhone, Android, Nokia, and BlackBerry. Common techniques include providing feedback, goal-setting for healthy eating, healthy cooking, grocery or restaurant decision making, self-monitoring of energy and nutrient intake, weight tracking, and planning social support and change (Azar et al, 2013). PRIDE proposed android based system for tracking water quality for improved health and nutrition; (6000 households).

27. Taking into consideration the fact that large proportion of women in the Matrouh governorate are not able to read and write, it is important to use more visual and simple nutrition focused communication messages. Tablet applications should be made available for literate women in Arabic languages which are widely spoken in the governorate. Topics may include health eating, the value of nutrition, feeding practice, proper hygiene practices, low cost nutritious food preparation, the importance of using sanitary and the preparation of safe drinking water and preventive healthcare measures like maintenance of personal hygiene, and other related nutrition-health based information. These apps can also be used in the women literacy program for promoting health eating.

28. As transmitting nutrition messages through such technologies need care and a certain standard of expertise, the PMU should arrange experienced research centers around the world working on similar interventions. For example, there are some successful experiences from Pakistan (White Rice Communication) which is a specialized behaviour centred design and communication agency focusing on changing human behaviour in traditional communities.

Operational plans

29. **Implementing partners and actors:** As the integrated nutrition sensitive investments are multisectoral, the nutrition sensitive activities described above will be implemented in collaboration with a number of potential partners and actors under the coordination of a dedicated nutrition expert at Programme level if possible. Alternatively, TA or consultancy can be engaged for facilitation and coordination of nutrition-sensitive interventions in PRIDE. All effort will be made to bring on board relevant partners (both government and NGOs) for each core nutrition sensitive intervention. For effective implementation of the integrated nutrition interventions, a stakeholder's consultative meeting will be arranged on coordination of activities, defining roles and responsibilities, and sharing best practices.

30. The implementation will begin with capacity building training of the extension workers and other implementers focusing on how all dimensions of the implementation including target selection of vulnerable groups, service provision, appropriate selection of nutrition messages for a particular circumstances, reporting and M & E of progresses. There will be at least one nutrition focal person in the implementing NGOs who will be tasked with the responsibilities of regular tracking and documentation of progress on nutrition in order to integrate mitigation measures. The expert will also ensure that documentations on nutrition outcomes are well linked to the program progress report. The M & E personnel at PMU and DRC will be tasked to report on the progresses on the implementation of nutrition interventions by monitoring the periodic reporting of the focal persons in the respective NGOs.

31. **Making Behavioural Change Communication (BCC) a prime strategy:** Behavior change communication (BCC) is an interactive process with community members to develop tailored messages and approaches using a variety of communication channels to develop positive behaviors; promote and sustain individual, community and societal behavior change; and maintain appropriate behaviors. Effective BCC can increase nutrition knowledge, stimulate community dialogue (such as malnutrition risk factors, marginalized practices, cultural practices pertaining to feeding and nutrition), promote essential attitude changes, and improve skills and self-efficacy. In this integrated nutrition sensitive investment, the BCC may follow the following key steps:

- **Defining Target Group for nutrition sensitive interventions:** Given the clear project goal of PRIDE, accurate selection of the target groups is a priority. One way of doing this may require stakeholders' meeting to be held at the planning stage to obtain guidance and commitments to the process and to develop coordination mechanisms. The primary targets for PRIDE nutrition component are women, children under five and youth. The secondary target population could include school teachers, health workers, service providers and other implementers of the nutrition sensitive investment.
- **Conduct situational analysis:** The use of Behavioral Change Communication (BCC) should start from a snap shot situation analysis (see KAP baseline survey under objective 2) to effectively identify positive and negative nutrition, the locally available resources for addressing the problems, barriers to and facilitators of improved behavior adoption, and the communications channels for reaching the target. Methods for conducting such formative research may include reviews of existing data, in-depth interviews, focus group discussions, observations, dietary recalls, recipe trials, market surveys, trials of improved practices, and positive deviance inquiry. Messages to be promoted should be specific, with clear and practical instructions; should be based on a few recommendations rather than too much information; promote behaviors that are culturally acceptable and feasible; promote locally available and affordable foods; be motivating and show the benefits of adopting behaviors; and suggest ways of overcoming constraints. Messages and communications materials and channels should be developed in collaboration with beneficiaries during formative research. Influential community members and family decision-makers should be considered when developing messages, as caregivers will be more likely to accept and use practices if they are supported at the community and household levels.

- **Setting communication objectives:** is an important step in planning nutrition education and communication programmes. According to Valdecanas (1991), the objectives should be stated in terms of the participants' desired behavioural outcomes, that is, there must be agreement among the participants on the problem to be addressed, the need for change, the need to take action to prevent or reduce the problem, the strategy by which the change can take place, and the indicators by which such change could be recognized. The following are some common behavior change objectives:
 - i) Increase knowledge of nutritious food, their sources and benefits to the health and wellbeing
 - ii) Improve attitudes about feeding and diet through changes in food customs and habits.
 - iii) Increase demand for information and services pertaining to nutrition and health eating.
 - iv) Increase household preparation of acceptable diet using either kitchen garden or purchase.
- **Develop a socially and culturally appropriate communication strategy (messages and themes):** consisting of approaches, messages, and methods. Approaches chosen are those appropriate for each group. These could be a combination of any of the following: individual, group, or mass approaches using information, education/training, motivation, entertainment or advocacy. Messages vary according to the kinds of behaviour-change specified in the objectives, the available resources and services, technologies, other relevant information, participant needs, and method of delivery. The nutrition message should consist of carefully crafted information that is targeted at specific population groups, and designed in such a way that it meets BCC objectives and to stimulate discussion and action. The BCC uses all available and potential communication approaches, resources, techniques, channels and methods. As the BCC is not a mere information campaign, it should establish itself around a long-term programme using several IEC tools such as appropriate printed materials like brochures, pamphlets, posters, leaflets, and flyers; radio spots; video and other audio-visual materials. It is important to think about how particular channels can help achieve particular goals. Each medium has its own advantages and disadvantages, so that each may be best suited to a particular circumstance. For this, training of key implementers to enable them acquires the necessary skills for the delivery of services is a prerequisite. This may be followed by a pretest before using the nutrition message/ materials.
- **M & E:** The monitoring and evaluation will be the integral part of the BCC. Monitoring will be an integral part of the ongoing management of communication which focuses on the process of implementation. For effective monitoring of the BCC strategy, it is necessary to establish effective information-gathering systems including reports, site visits and reviews of materials, conducting periodic focus-group discussions and in-depth interviews can also help checking effective BCC programmers.
- **Indicators:** Measurable indicators will be selected for tracking progress along the impact pathways.
 - i) **Goal:** % of HHs reporting increased food security as measured by **Food Insecurity Experience Scale (FIES)**¹⁴⁸. (baseline-0, midterm-30%, at completion-60%)
 - ii) **Development Objective:** % of HHs reporting improved meal frequency (baseline-0, midterm-30%, at completion-60%)
 - iii) **Outcome indicators:**

¹⁴⁸ FIES consists of eight questions regarding people's access to adequate food: 1) You were worried you would not have enough food to eat?; 2) You were unable to eat healthy and nutritious food?; 3) You ate only a few kinds of foods?; 4) You had to skip a meal?; 5) You ate less than you thought you should?; 6) Your household ran out of food?; 7) You were hungry but did not eat?; 8) You went without eating for a whole day?

- 1) % of households reporting good dietary diversity (≥ 5 food groups out of 12). Baseline (0); midterm (20% increase) and at completion (50 % increase);
 - 2) % of women reporting good dietary diversity (≥ 5 food groups out of 10) (baseline-0, midterm-20% increase, at completion-50% increase).
 - 3) % of children under five with good diet diversity score (≥ 4 food groups out of 7). (baseline-0, midterm-20% increase, at completion-50% increase).
- iv) **Output indicators:**
- 1) # of Household receiving WASH messages Baseline (0); midterm (5000) and at completion (10,000);
 - 2) # of women provided with targeted support to improve their nutrition (nutrition packages): Baseline-0, midterm -1,600 and at completion- 4000 women
 - 3) # of school receiving nutrition message (Baseline 0, midterm 12 and at completion 18 schools).
 - 4) # of women receiving nutrition messages through tablet device (baseline-0, midterm-20, at completion-40%).

Description of the nutrition outcome pathways

32. The pathways indicated in fig 1 below is developed based on the theory of change for nutrition **outcomes**, and contains three main pathways through which PRIDE nutrition sensitive interventions can influence nutrition outcomes (i.e. improving the nutritional profiles of women, children and youth).

33. The first pathway (Water, hygiene and sanitation-WASH) follows the assumption that women are responsible for fetching water, and are also in-charge of preparing family meals. Also the move towards improved nutrition is achieved through making visible the existing burden of diseases, such as the deadly faecal-oral diseases causing malnutrition and child mortality relates to the domain of water, hygiene and sanitation (WASH). The hypothesis is that when community members, particularly children, have lower exposure to diseases, their requirement for nutrients goes down. Along with the provision of safe water, community and household level WASH campaigns on safe disposal of human faces, safe storage and treatment of water, hand washing. etc. will help in addressing the problem. Further, the investment in school will create opportunities for more girls to get access to education, thereby improve their life style including health and nutrition. Access to the latrine and health facilities add up to the personal hygiene and well-being of women and children which in turn results in improved nutrition outcomes.

34. The second pathway (women empowerment-income) assumes that providing women with the opportunity and access to clean water is not sufficient. They also need to be able to make decisions about the use and management of resources. This pathway therefore stretches to address household income using livelihood packages, skill training, decision-making within households, which may contribute to improved health and nutrition status indirectly. Also, women access to income will increase purchasing power for nutritious food and ultimately better consumption at individual and household levels. With regards to accessibility, both men and women ought to decide how much household income is to be spent on food and non-food items; and how much to be sold and kept for home consumption. These decisions are directly influenced by the roles they are expected to perform, availability of food items on the market, which household member decides how income is spend? What percentage of income is spent on food and on non-food items?

35. The third pathway (production-consumption) combines the food availability and accessibility of nutritious food. In order to prepare nutritious meals, the food needs to be available in the household at affordable prices in local markets. This pathway also involves the preparation and utilization/ consumption of food. It is mainly influenced by current customs, beliefs around the meaning of what constitutes nutritious foods; building awareness regarding dietary diversity. The challenges here is poor intra household distribution of food where those who prepare the food (women), need the power to make decisions about food choices, how they prepare it and how to divide the food among household members. Therefore, adequate BCC combined with the capacity building of women will

bring about improved KAP, the preparation, distribution and consumption of the available nutritious food.

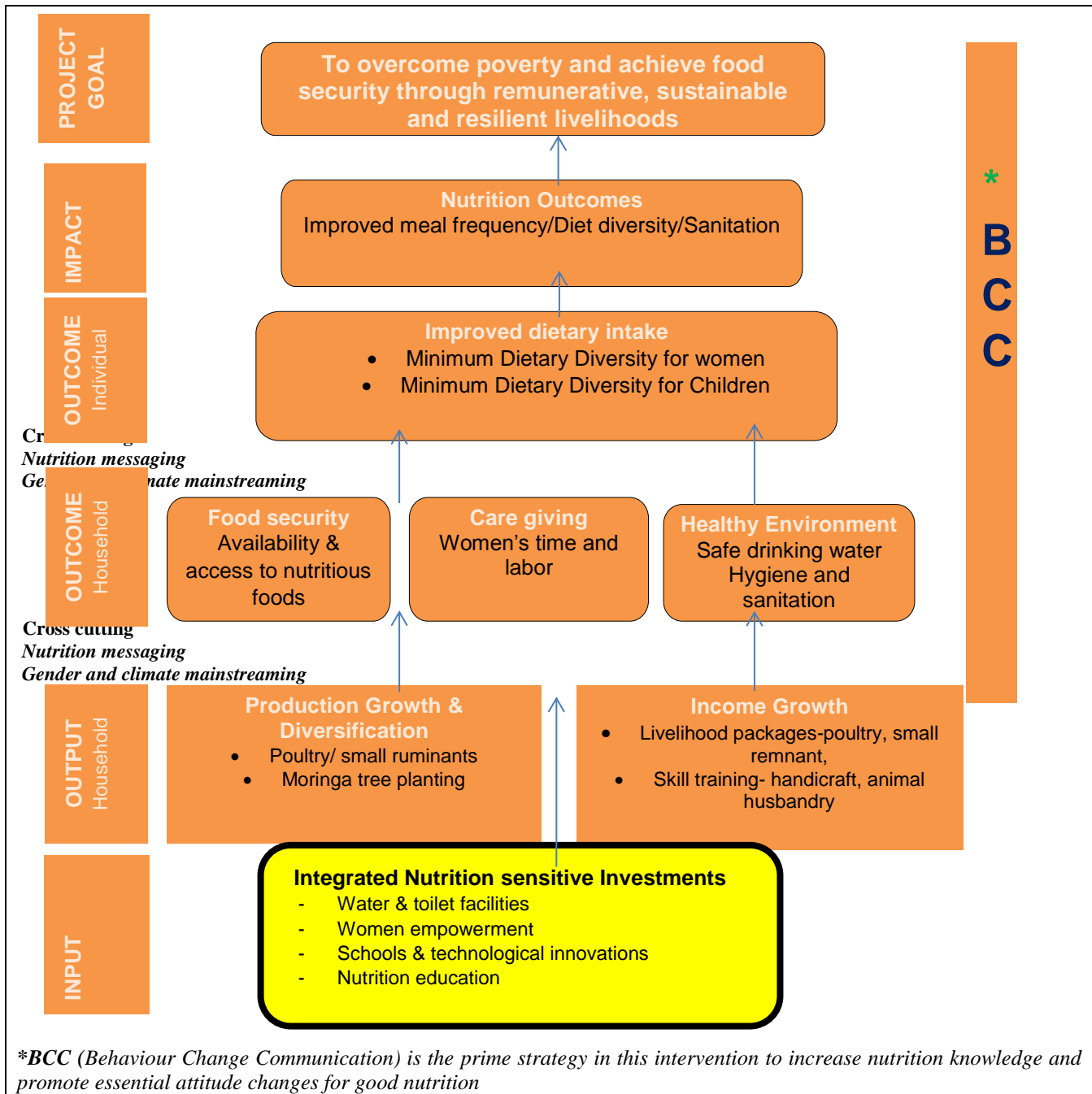


Table: Implementation plan for Integrated Nutrition Investments - (component 2) PRIDE, Egypt: Strategic areas of focus, key interventions/ actions, indicators and targets (USD 24.18 mn)

Integrated Nutrition Investments	Nutrition Objectives	Interventions	Nutrition focused Indicator	Indicator target			Implementers		Nutrition Activities and implementation approach	Cost per sub component
				Baseline	Mid term	End	Lead	Other		
Water and sanitation for good nutrition and health	1.1 To improve nutrition through availability/access of safe drinking water and sanitation	Rehabilitation of Roman Cisterns (between 500 to 1000 cm ³) for both humans and livestock	# of community receiving nutrition message	0		100	MALR	NGOs	Conduct nutrition messaging and sensitization sessions through regular community campaign. The key messages should focus on health behavior, especially the danger of deadly faecal-oral diseases for malnutrition and child mortality.: (Safe disposal of human faces; protect children from soil and animal faces ; safe storage and treatment of water)	
		Providing new cisterns (120 cm ³) at household level	# of household receiving nutrition message	0		6000	MALR	NGOs	Promotion of optimal hand washing, household level treatment and storage of Safe drinking water, sanitation and food safety issues. Approaches ranges from house to house visit to individual counselling.	
		Provide water reservoirs at the homesteads for the harvesting rainwater	# of household receiving nutrition and health message	0		700	MALR	NGOs	The same as above	
		Provide sanitation infrastructure at schools to reduce risk of waterborne and vector-borne disease;	# of schools receiving nutrition messages	0		30	MALR	NGOs	Provide WASH messages; Life skills-based hygiene education and child participation: use children as vehicle to transmit information to parents: Engaging families and communities ensures that children apply their knowledge at home.	

Empowerment of Women for Nutritional Change	2.1 To improve the nutritional status of households, particularly women and children	Support on backyard and community gardening for the production of nutritious foods for home consumption and sale	# of women engaged in home gardening	0		5000	MALR	.	The food commodities to be promoted would take into consideration the nutritional gaps such as micronutrient deficiency eg.Introduction of Moringa tree and traditional nutrient dense foods. Promote improved diverse and culturally acceptable nutritious family diets; Food demonstration and new recipe development; establishing mother-to-mother support groups on feeding and care practices, : equipping mothers with the tools to prepare recipe for adequate nutrition at home. Build on indigenous knowledge; and practical nutrition education;	
			# of women and children reporting minimum dietary diversity	0		5000				
			# of new recipes developed	0		10				
		Provide women access to agricultural inputs and extension services as incentive for growing Moringa tree	# of nutrient rich food commodity being promoted	0		5	MALR	NGOs	Use agricultural extension and communication approaches coupled with nutrition education.	
		Provide livelihood packages (pigeon towers, poultry, goat packages) for poor households	# of households involved in the package	0		3000	MALR	NGOs and local consultants	Approach could include Capacity building for service providers and beneficiaries on nutrition, including communication and advocacy skills	
		Provide skill training for women (in hand crafts, poultry , animal husbandry..)	# of women involved and certified with skill(s)	0		400	MALR	NGOs and local consultants	Same as above Nutrition sensitization and awareness raising sessions towards participants	
		Conduct a KAP survey on household and women	# of women involved in	0		1500	MALR	NGOs and	Promote nutrition education to be informed by results of KAP survey	

Social Infrastructure to promote SDGs	3.1 To promote nutrition in schools	empowerment and nutritional issues.	the survey					consultants	(women and households)	
		Promote nutrition education in schools to influence health eating among youth (girls and boys)	# of youth involved in the nutrition education program	0		3000	MALR	NGOs	classroom lessons on nutrition can be supported by asking parents to send healthy snacks to school; invite parents and other family members to periodically eat with their children ,attend exhibitions of student nutrition projects , offer nutrition messages and assign nutrition education homework that students can do with their families.	
	3.2 To improve nutrition through access to health and education, particularly for women and children	Support on access to latrines, health units, and schools.	# of women and children involved	0		3000	MALR	NGOs	Establish a WASH program hygiene committee or health clubs to connect community and schools: apply an interactive approaches using diverse informal, but interactive approaches, such as drama, songs, street shows..	
		Support the provision of literacy classes to women	# of women participated in the program	0		2000	MALR	NGOs	Provide literacy classroom lessons containing visual nutrition messages; assign nutrition education homework that women can do with their families.	

		Provide livelihood packages (pigeon towers, poultry, goat packages) for poor households	# of households involved in the package	0		3000	MALR	NGOs and local consultants	Approach could include Capacity building for service providers and beneficiaries on nutrition, including communication and advocacy skills	
		Provide skill training for women (in hand crafts, poultry, animal husbandry..)	# of women involved and certified with skill(s)	0		400	MALR	NGOs and local consultants	Same as above Nutrition sensitization and awareness raising sessions towards participants	
	3.3 To improve nutrition through promotion of technological innovations	Support of mobile banking and mobile marketing technologies for the newly reclaimed lands	# of women and men having access to mobile banking and marketing facility.	0		10,000	MALR	NGOs	Integrating short, simple and tailored nutrition messages which involves context specific messaging to meet individual participant's learning needs,	
		the use of electronic tablets for the dissemination of messages for women for behaviour change	# of households owning electronic tablets.	0		6000	MALR	NGOs	Similar to the above but related to electronic tablets. Include survey to track progress on nutrition outcomes	
		An android based system for tracking water quality for improved health and nutrition;	# of households owning the facility.	0		6000	MALR	NGOs	Similar to the above but related to water issues. Include survey to track progress on nutrition outcomes	
	3.4 To improve nutrition through gender issues and climate resilience behavior.	<ul style="list-style-type: none"> - Safeguarding and increasing women's access to, and control over, incomes and other resources -Increasing women's involvement in decision making in production process. - Increasing women's participation in livestock production and assets 	# of women and youth involved	0		6000	MALR	NGOs	Use gender focused behavior change communication and community reflection methods ;	

Annex 6: List of People Met

PRIDE Final Design Mission 12 – 27 July 2017

Ministry of Investment and International Cooperation

Mr. Reda Bibers, Chief of International Finance Section
Eng. Khaled Rashad, General Manager, Regional Financial Institutions & IFAD Focal Point
Ms. Randa Mahmoud Hamza, Senior Adviser, Policy/Thematic/Sectoral Evaluation
Ms. Sally George, Senior Adviser, Projects/Programme, MOE

Ministry of Agriculture and Land Reclamation

Eng. Sayed Hussein, Director of International Funding Department
Dr. Yousseif Khamis, Assistant of Foreign Agriculture Relations
Ms. Fatma El Zahraa, International Funding Department
Mr. Sharif Aleithi – Head of finance and administration Sector
Mr. Ahmed Mustafa – GM for local and international financing
Mr. AbdulMoneam Ramzi Atia – head of Central Administration of Financial Affairs
Ms. Safa – General Manager of Accounting Unit of MoALR (MoF Controller)

Ministry of Finance

Mr. Emad Awad – First Deputy Minister and Head of Accounting Sector and Accounting Units

State Accountability Authority

Ms. Amani Abdulwahed – Head of SAS office in MoALR

World Bank

Mr. Mohamed Yahya Abdulkarim – Financial Management Specialist (through phone call)

African Development Bank

Dr. Yasser H. Elwan, Senior Engineer (Water/Irrigation)

WHO

Dr. Ayoub Aljawaldeh, Regional Adviser, Nutrition Health Protection and Promotion

FAO

Mr. John Rhodes, Consultant

UNICEF

Ms. Aliaa Hafiz, Head of Nutrition Unit

World Food Programme (WFP)

Ms. Nourane Khaled, Business Support Assistant
Ms. Ithar Khalil

ILO

Mr. Peter Van Rooij, Irector, Director
Ms. Amal Mowafy, Chief Technical Advisor

Desert Research Center (DRC)

Dr. Naiim Moselhy, President of the DRC
Dr. Abdalla Zaghloul, Vice President of the DRC

Gamal Ezzaldin – General Secretary of the DRC

Mahmoud AbdulAmir- General Manager for the DRC Affairs

Wajeeh Nosir – MoF Controller and Head of the DRC Accounting Unit

Egyptian Countryside Development Company (ECDC)

Eng. Atter Ezzat Hannoura, Chairman, CEO

Mr. Tarek Abdou, Chief Operations Officer

Dr. Ahmed El Ezaby, Technical Director

Eng. Acer Zaghloul, Project Director

Group of Youth

6 Group of Youth (13 person)

Misr El Kheir Association (NGO)

Mr. Moustafa Morgan, Senior Officer Formal Education

Ms. Suzan Bibawi, TVET Education

Mr. Osama Zain

Mr. Ahmed Ali, Income Generating Projects Manager

Ms. Reham Ellaithy, Senior International Organizations Officer

Mr. Aly Fathy, Integrated Projects & Social Survey Senior Manager

Mr. Walid Ahmed, Senior Manager Education Quality Assurance and Access

Ms. Perihan Abou El Ela Senior External Relations Manager

National Nutrition Institute

Prof. Afaf Abdelfatah Tawfik, Director

Cultivating New Frontiers in Agriculture (CNFA)

Mr. Luke Ryba, Program Development Officer

Ms. Azza Kandel, Consultant

Matrouh Governorate:

Marsa Matrouh City

Maj. Gen. Alaa Fathi Abu Zaid, Governor of Matrouh

Dr. Hamdi Abdelaziz, Coordinator of the International Projects in Matrouh

Dr. Ahmed El Kot, Director of SDCMR

Dr. Ashraf El Sadek, Director of the Applied Research Center

Mr. Gomaa Anwar, Head of the monitoring and evaluation unit

Ms. Kariman Anas, Manager of Gender unit

Mr. Sherif Soliman, Financial Department

The Accounting Unit Team (7 persons)

Ms. Sabra – MoF Controller and Head of SDC Accounting Unit

Eng. Mohamed Ahmed El Ashry, Director of Roads and Transport Directorate

Eng. Saber Arafa Ahmed, Roads and Transport Directorate

Eng. Waleed El Sayed, Horticulture Specialist

Eng. Fouad Sawar, Head of the Horticulture Research Unit

Eng. Araby Mansour, Head of the Soil and Water Unit

Eng. Abdel hameed Israfel, Head of the Rangeland Research Unit

Dr. Abdel-Samad El Dabaa, Head of the GIS unit

Dr. Ahmed Imam, Head of the Biological Agriculture Unit
Mr. Hussein Moftah Abdelsalam, General Manager, Agricultural Directorate
Mr. Essam Mahmoud, Procurement Manager, DRC
Mr. Hamdy Abdel Aziz, Project Coordinator
Mr. Mostafa Mousa Rashid, CEO of Rams Community Development
Mr. Mohamed Mashry Hemida, Livestock Breeder in Negila
Mr. Bashier Nagy Soliman, Livestock Breeder in Negila
Ms. Asmaa Abdall Ragab, Vet Researcher, DRC
Dr. Ibrahim Mohamed El Demirdash, Manager, Primary Health Care

Misr El Kheir Association (NGO)

Eng. Mohamed Hegazy, Matrouh Executive Manager
Ms. Reem Mostafa Mohamed, Administrative Officer

Moghra City

Mr. Reda Elsayed Mohamed Gaballah, Head of Alamein District
Mr. Esmail M. Ahmed, Chairman, Elmasriah Elkhaliefia Co., for Desert Soils Reclamation
Mr. Elsayed Hegazy, Vice President, Elmasriah Elkhaliefia Co., for Desert Soils Reclamation
Mr. Amr Saad, Chairman, GOgreen for Agricultural Investment and Development Company
Mr. Mohamed Nabil, Marketing Manager, GOgreen for Agricultural Investment and Development Company
Eng. Hassan Aly Hussein Omara, Manager of the Agricultural Department, Alamein
Eng. Morkek Abdelsalam Morkek, Agricultural Directorate, Alamein
Sheikh Salah Sowaied, Leader of Trips