

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department





## Map of the Project Area



## Abbreviations and Acronyms

<b>AIF</b>	Agriculture Infrastructure and Facilities
<b>AWPB</b>	Annual Work Plan and Budget
<b>Bappenas</b>	National Planning Agency
<b>Bappeda</b>	District Planning Unit
<b>BPK</b>	National Audit Agency
<b>COSOP</b>	Country Operating Strategy
<b>CPE</b>	Country Programme Evaluation
<b>DA</b>	Designated Account
<b>Demplot</b>	Demonstration Plot
<b>Dinas Pertanian</b>	District Department of Agriculture
<b>DGAIF</b>	Directorate General, Agriculture Infrastructure and Facilities
<b>DSC</b>	Design Supervision Consultants
<b>EFA</b>	Economic and Financial Analysis
<b>FFS</b>	Farmer Field School
<b>GAP</b>	Good Agriculture Practices
<b>GDP</b>	Gross Domestic Product
<b>GMP</b>	Good Manufacturing Practice
<b>GOI</b>	Government of Indonesia
<b>ha</b>	Hectare
<b>ICT</b>	Information Communication Technology
<b>IsDB</b>	Islamic Development Bank
<b>IFAD</b>	International Fund for Agriculture Development
<b>IFR</b>	Internal Finance Report
<b>IPDMIP</b>	Integrated Participatory Development and Management of Irrigation Sector Project
<b>IRF</b>	Integrated Risk Framework
<b>ISFD</b>	Islamic Solidarity Fund for Development
<b>KM</b>	Knowledge Management
<b>km</b>	Kilometre
<b>KUBE</b>	<i>Kelompok Usaha Bersama</i> - Joint Business Group which aims to empower poor communities
<b>M&amp;E</b>	Monitoring & Evaluation
<b>MFI</b>	Microfinance Institution
<b>MoA</b>	Ministry of Agriculture
<b>NGO</b>	Non-Government Organization
<b>NOL</b>	No Objection Letter
<b>NTB</b>	Nusa Tenggara Barat
<b>O&amp;M</b>	Operations and Maintenance
<b>PIM</b>	Project Implementation Manual
<b>PIU</b>	Project Implementation Unit
<b>PMU</b>	Project Management Unit
<b>PPP</b>	Public Private Partnership

<b>PRA</b>	Participatory Rural Appraisal
<b>READ SI</b>	Rural Empowerment and Agricultural Development Programme Scaling-up Initiative
<b>SECAP</b>	Social and Environment and Climate Assessment Procedures
<b>SME</b>	Small Medium Enterprise
<b>TOC</b>	Theory of Change
<b>UPLANDs</b>	The Development of Integrated Farming Systems in Upland Areas
<b>UNDP</b>	United Nations Development Programme

## Executive Summary

**Strategic Context.** Indonesia is a fast-growing, lower middle income country with the fourth largest population in the world. Its population of 262 million people are spread over a large archipelago comprising 17,508 islands. The people of Indonesia comprise of over 300 ethnic groups who speak more than 600 languages.

Steady economic growth has led to significant poverty reduction, but more recently the pace of poverty reduction has slowed, remaining at around 11% since 2014. More than 25.9 million Indonesians still live below the poverty line. Furthermore, another 29% of the population remain vulnerable of falling into poverty, as their income is only marginally above the national poverty line, leaving them extremely vulnerable to shocks, such as illness, extreme weather events or price volatility. Out of a population of 262 million, more than 100 million Indonesians still live in or at risk of poverty. Pronounced regional disparities exist, with the highest poverty rates in Eastern Indonesia. However densely populated Java hosts the largest numbers of poor. Poverty in Indonesia is more pronounced in rural areas and farming households are 3.5 times more likely to be poor than non-farming households. Inequality is seen as the key threat to Indonesia's continued development.

While the overall contribution of the agricultural sector to GDP has reduced to 13% due to structural transformation, it remains the main source of income for one third of the population and employs 32% of the labour force. Limited education, declining land holding sizes, complex and insecure tenure arrangements together with low access to appropriate technologies, infrastructure, financial services and input and output markets, result in sub-optimal use of the already small landholdings and lead to low labour productivity. Malnutrition remains stubbornly high. In fact, the prevalence of stunting (height for age) among children under five years of age has risen slightly from 36.8% in 2007 to 37.2% in 2013. Economic losses due to stunting and malnutrition are estimated to be 2-3% of Indonesia's GDP. Public awareness of this issue is low and requires a renewed focus.

**Rationale.** The transformation of the agriculture sector is a key priority for the Government of Indonesia to meet its ambitious national development goals and to respond to a growing urban consumer class's increasing demand for diversified food. The need to increase agricultural productivity in order to feed a growing population increases demand for agricultural land and innovative agricultural approaches. As competition for land increases and productivity stagnates in low-land areas, increasingly, the Government of Indonesia sees considerable potential in increasing diversified agricultural production in uplands areas.

To date, uplands agriculture has received limited attention and investment. Indonesian agricultural development has mostly focused on low irrigated land to support food production (rice and secondary crops) and food security (rice and palawija crops). Intensive long term investment has been afforded to irrigation and infrastructure to support the development of low land irrigated paddy. Paradoxically, the overall dimension of agricultural upland area is larger than the available irrigated paddy land area, and has strong potential for developing commercial crops such as horticulture, tree crops, and livestock. Utilized upland agricultural land – excluding shifting cultivation land - occupies about 11.5 million hectares, or 46.5% of total utilized agriculture land. The Ministry of Agriculture estimates that there is an additional 24 million hectares of upland agricultural land that could be put into production if sustainable upland approaches, models and incentives were available.

Today, many poor and marginalized smallholders in upland farming locations are challenged with sloping land and poorer quality soils contributing to low productivity. Further, a lack of knowledge of sustainable agriculture practises, including failing to cultivate with proper contours, lack of terracing, widespread use of slash and burn agriculture, limited understanding and use of soil moisture conservation techniques all contribute to soil erosion and high sedimentation in the waterways. Access to inputs including agriculture extension and financial services in upland areas are limited, leaving these smallholders with very limited support to enhance their productivity. Upland areas play an important role for water conservation and ecosystem preservation. The upland and lowland ecosystems are intricately connected, and land use problems of the former affects the latter seriously. The increased uptake of agriculture activities in upland areas in response to increasing demand for higher value agricultural products may exacerbate issues of soil and water conservation and result in a loss of biodiversity in uplands, while in the lowlands, rivers and irrigation schemes are being damaged due to increased run-off and siltation.

A new innovative approach is required to create synergies between uplands and lowlands as both production areas have a role in contributing to national food security, with lowlands being the major rice production areas and the uplands producing a wider range of crops (including fruits) and livestock. Upland agricultural farming systems require modernization and investment that prevents soil erosion, improves fertility and addresses water scarcity through water conserving techniques and technologies. Indonesia's 26 million smallholder farmers in upland areas need to be equipped with specific knowledge to promote sustainable natural resource management practices and ensure financially sustainable livelihoods.

**Theory of Change.** In line with the national government priorities to reduce economic disparity, promote food and nutritional security, as well as improving farmers' welfare, the project's theory of change is based on the assumption that by creating and enabling environment and by provisioning targeted support, upland smallholders will be able to increase their productivity, build sustainable livelihoods and create stronger linkages with national and export markets, and ultimately transform rural upland areas.

Smallholder farmers in the uplands of Indonesia generally have good resource potential and a demonstrated willingness to produce marketable surpluses that would increase their incomes and reduce poverty. There is a strong demand for diversified higher value crops, however, supply chains are underdeveloped and sustainable commercial relationships have failed to emerge. Smallholders face a number of technical and organizational constraints that keep them from realising their potential, while off-takers face other constraints that keep them from sourcing from upland areas. Investment in ensuring a more enabling environment for effective business relationships with better access to improved inputs, technologies, and public and private sector investment in market infrastructure, has great potential for increasing the income levels of upland smallholder farmers.

Considering the need to expand agricultural productive land in Indonesia in order to feed a growing population, and the under-utilization of available uplands agricultural land, the development of upland areas has large potential for economic development and closing inequality gaps. Capitalizing on these still underdeveloped areas is a high national developmental priority, but must to be done in a sustainable manner in order to avoid a negative impact on fragile natural resources.

The UPLANDS theory of change recognizes that in order to effectively support smallholders in overcoming their constraints to improving productivity, an integrated approach will be required. The project will invest in a range of complementary activities to address some of the most common problems encountered in upland farming in the selected commodities. UPLANDS offers an opportunity to fostering an innovative nationally replicable approach.

**Alignment and harmonization.** UPLANDS aligns with key national policies related to food sovereignty, reducing poverty in urban and rural areas, reducing economic inequality, decreasing underdeveloped villages, and key sectoral priorities related to increasing land availability and utilization, improving agricultural infrastructure and facilities, developing and expanding logistics of seed, strengthening farmer institutions, agricultural finance, bio-industry and bio-energy, and the marketing of agricultural products. UPLANDS will directly contribute to Indonesia's pursuit of the Sustainable Development Goals related to SDGs 1, 2, 10, 12, and 15. Furthermore, UPLANDS is closely aligned with IFAD's 2016-2025 Strategic Framework and its 2016-2019 Indonesia Country Strategic Opportunities Programme, which both aim at promoting sustainable and inclusive rural transformation.

**IFAD11 Mainstreaming Priorities.** UPLANDS contributes to the following IFAD11 mainstreaming priorities: (i) climate: through integrating climate change adaptation practices and focussing on strengthening smallholder climate resilience; (ii) gender transformation: through enhanced targeting strategies for women and men to ensure the inclusion of marginalized women, men and youth, and the economic empowerment of women at household and community levels; (iii) mainstreaming nutrition: through pursuing an evidence-based nutrition sensitive value chain approaches and ensuring the increased availability of nutritious foods; and, (iv) youth: through creating incentives for youth engage in the UPLANDS and by facilitating employment and entrepreneurship opportunities specifically targeted to young women and men.

**Target Area.** The project will target seven provinces: Banten, West Java, Central Java, East Java, West Nusa Tenggara, North Sulawesi, and Gorontalo. Districts were selected based on criteria that included prevalence of poverty, local demand and agricultural potential. Villages were selected based on: (i) concentration of farmers engaged in the production of selected commodities; (ii) potential for agricultural intensification and market access; (iii) private sector engagement; and (iv) contiguity of project villages. There are approximately 61 sub-districts and 248 villages targeted in the selected districts.

**Target Groups.** The main target group will be economically active smallholder farmers (men and women) in upland areas, poor and marginalized subsistence farmers, and women processors and youth. Women and youth will be mainstreamed in project activities as producers and processors, as well as for specifically targeted activities.

**Project Goal and Development Objective.** The overall goal of the project is to reduce poverty and enhance food security in upland areas through remunerative, sustainable and resilient livelihoods. The project would aim to increase agricultural productivity and farmer's incomes in upland areas through the development of land and water infrastructure, introducing modern agricultural cultivation techniques and sustainable integrated agricultural management systems. The development objective of the project is to increase smallholders' agriculture productivity, incomes, livelihoods and resilience in the targeted uplands.

The project will contribute to three specific outcomes that are in line with the strategic objectives of IFAD, IsDB and Government; (i) increase in poor rural people's productive capacities; (ii) increase poor rural people's benefits from market participation and (iii) increase in Government capacity for modernizing agriculture and promoting sustainable rural transformation.

**Components.** The Project consists of three components: (i) Infrastructure Development for Productivity Enhancement & Resilience Building; (ii) Agribusiness Development & Livelihood Facilitation; and (iii) Strengthening Institutional Delivery Systems.

- **Component 1: Productivity Enhancement and Resilience-Building.** The expected outcome of this component is 30,000 smallholder farmers are able to increase their productive capacities, by: (i) promoting sustained adoption of improved inputs, technologies or practices; and (ii) assisting farmers to improve soil and water conservation approaches to reduce the risk of erosion and landslides. This component has two sub-components designed to invest in the productive potential and resilience building of smallholder farming households in upland areas: (i) Land Development and Infrastructure; (ii) Production and Farm Management.
- **Component 2: Agri-business and Livelihoods Facilitation** The expected outcome of this component is increased farmer's incomes from enhanced post-harvest, marketing, and access to financial services. It has four sub-components designed to invest in the productive potential and resilience building of farming households in upland areas: (i) Farmer Institutional Development; (ii) Marketing Infrastructure and Equipment; (iii) Strengthening Market Linkages and Alliances; and (iv) Access to Financial Services.
- **Component 3: Strengthening Institutional Delivery System.** The expected outcome of this component will be the enhanced delivery of UPLAND services and adaptive research. It will focus on ensuring the provision of stronger institutional and technical capacity to deliver project outcomes. It has two sub-components: (i) capacity building for Ministry of Agriculture and decentralized partners; and (ii) Adaptive research. The component will also benefit from additional support from the IsDB's Reverse Linkage initiative, a south-south and triangular cooperation approach that links an executing agency (e.g. Ministry of Agriculture) with a Centre of Excellence (CoE) from another of the IFAD/IsDB member country to support technology transfer around post-harvest handling, value addition and market access.

**Implementation Arrangements.** UPLANDS will have a strong management foundation at all project institutional levels (national, provincial, district/ sub-district, village) The project will be executed by the Directorate General of Agricultural Infrastructure and Facilities within the Ministry of Agriculture; where a Project Management Unit will be embedded within the Directorate for Agricultural Irrigation. The PMU will be supported by participating Provincial Governments (Provincial PEMDA), who will assist with the coordination of the 14 Project Implementation Units (PIU) at the district level. PIUs will be embedded within the respective district Dinas Pertanian (District Agricultural Agency).

**Project cost and financing.** The total project costs, including physical and price contingencies, duties and taxes, are estimated at US\$ 151.655 million over a five-year implementation period. The project will be financed by: (i) Islamic Development Bank – US\$ 70 million loan (46.2%) and US\$0.50 million grant (0.3%) of total cost; (ii) IFAD - US\$50 million (33.0%); (iii) Private sector - US\$24,000 (0.016%); (iv) Government of Indonesia – US\$ 17.1 million (11.3%); and (v) Beneficiaries - US\$ 14.0 million (9.3%).

**Benefits.** A total of 250,000 people will directly and indirectly benefit from this investment. Project value chain activities are expected to generate direct benefits for 30,000 rural households in the project areas through engaging in value chain activities, accruing from: (i) increases in productivity and production areas in selected commodities; (ii) reduction in post-harvest losses and increase in market share; (iii) reduced price vulnerability due to greater market access; (iv) better access to crop inputs, seasonal finance, technical support and improved on farm infrastructure; (v) improved food and nutrition, security, resilience and enhanced farmer institutional capacity and private sector linkages; (vi) increased economies of scale for smallholders by through access to post-harvest and logistics and distribution systems; (vii) increased agricultural enterprises accessing domestic and international export markets; and (viii) provision of local infrastructure.

**Risks.** A number of risks have been identified and mitigation measures integrated within the investment design. These include: (i) limited implementation capacity; (ii) geographical and logistical challenges deriving from connectedness of uplands areas; (iii) market access and limited interest of private sector partners and financial institutions to engage in uplands areas; (iv) limited entrepreneurs and off-takers; (v) elite capture of project benefits; (vi) access to land; (vii) limited synergies between ministries. A risk monitoring framework will be monitored during implementation through continuous supervision and implementation support.

**Social, Environmental and Climate Classification.** A preliminary social, environmental and climate screening of the project interventions has been carried out incorporating the respective requirements of IFAD, IsDB and the Government of Indonesia. The project is categorized as Category B. The Islamic Development Bank will adopt IFAD safeguards and in parallel a preliminary screening of the project in relation to the Government environment regulations has been carried out.

**Financial Management.** The project's financial management arrangements will harmonize with national systems related to budgeting, flow of funds, and auditing. The Ministry of Agriculture, through the Directorate General of Agricultural Infrastructure and Facilities will have overall accountability for the project, including fiduciary aspects. The project will use Government's On-Granting mechanism to finance activities at decentralized district levels.

**Procurement.** The procurement of goods, works and services financed or administered by IFAD will be undertaken in accordance with the Government of Indonesia's National Procurement Laws and Regulations (Perpres 54/2010, Perpres 70/12, Prepres 84/2012 and Prepres 4/2015) and their amendments, to the extent that they are consistent with IFAD's Project Procurement Guidelines.

**Sustainability.** In line with Government's request to develop a replicable model, and in line with the fragile social and environmental context within upland areas, project activities have been designed to establish sustainable mechanisms to ensure continued benefits following project completion. Main features of the project approach that will contribute to this include:

- *Enhancing natural resource management and smallholder resilience.* Uplands are fragile agro-ecological environments and vulnerable to climatic variability. Ensuring that smallholders and project extension workers have the capacity to promote climate-smart sustainable agricultural practices will be a core project strategy to promote sustainability.
- *Smallholder farmer capacity.* Intensive capacity building of targeted smallholder farmers will be pursued to ensure the necessary technical skills and adoption of new technologies.
- *Government institutional capacity.* The project will ensure support to strengthen local government agencies capacity for enabling and facilitating the promotion of farmer-based agribusiness organization and management, and the replication of farmer-based agribusiness models.
- *Access to finance.* Access to finance is limited in rural areas. Strengthening financial literacy, access to rural financial services, and ensuring that rural enterprises have access to capital will be a core project strategy.
- *Market linkages and alliances.* Ensuring all elements of production, post-harvest processing and marketing are based on market demand to ensuring adequate investment returns will be a key focus to ensure sustainable value chain development.

**Scaling up.** Given the importance of the agricultural sector for fostering inclusive economic growth, food and nutritional security, and reducing vulnerability and inequalities; together with the recognized potential for replicating and scaling up a new approach to uplands agricultural development, the project is expected to benefit from a conducive political and institutional environment to provide a framework for scaling up. Key elements to facilitate replication and scaling up will include: (i) a solid M&E and KM system allowing to track achievements, document approaches and outcomes and disseminate them to relevant stakeholders; (ii) commitment from the national government to support the project to scale up in new geographic areas based on results; (iii) implementation through existing organisations that will mainstream successful instruments into their regular systems and operations; (iv) involvement of key policy makers at national and provincial levels in implementation and through evidence-based policy dialogue; (v) multi-stakeholder partnerships at the provincial and national level, which will disseminate knowledge on project achievements and advocate central and local authorities for policy changes; and (vi) strengthened national and provincial capacities.

## 1. Context

### A. National context and rationale for IFAD involvement

#### a. National Context

1. Indonesia is the largest archipelago-state in the world comprising 17,508 islands, of which approximately 6,000 are inhabited. Indonesia emerged as an independent sovereign state on 17th August 1945 and its current population is estimated at 265.9 million. More than 25.9 million Indonesians still live below the poverty line and approximate 100 million Indonesians, mainly in rural areas, remain vulnerable of falling into poverty.
2. Indonesia is a lower-middle income country (as per World Bank classification). The country's GDP per capita has steadily risen, from US\$857 in the year 2000 to US\$3,847 in 2017. Indonesia is classified as Medium Human Development country with Human Development Index (HDI) ranking of 116 out of 189 countries in 2017, which improved from an HDI ranking of 124 in 2011. With regards to sectoral contribution to GDP, based on the CBS data of 2017, the Service sector contributes 57% to GDP driven mainly by Construction (11%), Large and Retail Trade (14%), Transportation and Warehousing (6%), Information and Communication (4%), and Financial and Insurance Services (4%); the Industry sector contributes 21%, Mining sector 8%, and Agriculture sector 14%. Major industries include (i) food and beverage industry, (ii) coal, oil and gas refinery industry, (iii) metal goods industry; computers, electronic goods, optics; and electrical equipment, (iv) transportation equipment industry, (v) chemical, pharmaceutical and traditional medicines industry, and textile and apparel industry. Major agricultural products include palm oil, rice, tea, coffee, spices, and rubber. The country has a large domestic market with rich natural resources base and huge potential to improve its economic performance.
3. In terms of economic growth, Indonesia has achieved remarkable prosperity over the past decade, achieving over 5% economic growth per annum from 2007-2017. The current national government has set a further ambitious plan to achieve 8% economic growth by 2019, although the country is currently facing rising fiscal and current account deficits that are expected to improve in the coming years. The current high inflationary pressure is expected to ease in the near future.
4. Indonesia's agricultural sector remains an important segment of the Indonesian economy employing 32% of the labour force contributing 13.5% of GDP. Agriculture is a priority for the newly re-elected Government as it seeks to achieve ambitious equitable economic growth and poverty reduction targets and meet the food and nutritional security needs of a growing population. The growth potential of the sector has historically been hindered by a low productivity, shortage of arable land, poor infrastructure and connectivity, limited access to finance, and low capture of value addition.
5. Indonesia has made significant progress in poverty reduction, reducing the poverty rate by more than half since 1999, to 9.82% in 2018. In 2018, the number of poor people (population with per capita expenditure per month below the Poverty Line) in Indonesia reached 25.95 million people (9.82%), decreasing significantly as compared to condition in 2008, at 15.42%. However, poverty and inequality are critical issues facing the country, despite declining unemployment rates. While the poverty rate declined by 1% annually from 2007 to 2011, since 2012 poverty reduction has declined by an average of 0.3 percentage points per year. However, more than 100 million Indonesians are still just above the poverty line and remain highly vulnerable to shocks and are at risk of poverty.
6. Indonesia is classified as a Medium Human Development country with a Human Development Index (HDI) ranking of 113 out of 188 countries in 2016 (UNDP). Indonesia's Human Development Index of 0.689 remains below the average for the East Asia and Pacific Region. Rising inequality, with an increase in the Gini Coefficient from 0.36 in 2005 to 0.38 in 2018, is threatening to regress poverty reduction. Inequality is seen as the key threat to Indonesia's continued development and political stability. Rural poverty remains higher across the country than urban areas (2008: urban poverty rate 7.02%, rural poverty 13.2%). Farming households are 3.5 times more likely to be poor than non-farming households – with upland rural poverty rates even higher. Poor education, declining land holding sizes, complex and insecure tenure arrangements together with a lack of appropriate technologies, infrastructure, rural finance and input and output markets, result in sub-optimal use of small landholdings and lead to low labour productivity.
7. Upland rural areas in Indonesia have a higher incidence of poverty than the national average (12.83% vis. a vis 9.82% in 2018), as well as a higher concentration of vulnerable people. Smallholder farmers, who constitute a significant share of the above-mentioned segments, face critical constraints that are typical of the farming system in the Uplands, which prevent them from making a sustainable and significant improvement in their livelihoods and well-being.
8. The triple burden of under/mal/over-nutrition in Indonesia entails high social, human capital and economic costs. It is estimated that 37.2% of children under the age of five are stunted in the country and that public awareness of this issue is low. Stunting and malnutrition are estimated to result in an annual 2-3% loss of GDP. Indonesia has traditionally paid more attention to the indicator of severe underweight to determine the country's state of nutrition. By this measure the prevalence of severe underweight is just 5.4% in children under five-years. However, the fact that 8.4 million children (37.2%) of children under five are stunted should be of greater concern, given its enduring consequences. The causes and contributing factors of malnutrition are complex. Traditional customs influence maternal and early child nutrition, and social norms dictate that many women marry while still very young. These dynamics contribute to the high incidence of low-birth rates.
9. The Government of Indonesia recognizes the importance in its National Financial Inclusion Strategy, under which the Government aims to achieve 75% financial inclusion by 2019. Currently, only 36% of all adults have access to an account with a registered financial service provider, compared to an average 69% in the region. Currently, there is a large gap between supply and demand of financial services in Indonesia, particularly in rural areas. The majority of rural producers remain excluded from formal financial services with most farmers accessing credit through informal channels. Only 5% of lending currently is allocated to the agricultural sector that contributes 15% of GDP with large parts of that financing going to commercial plantations. Where bank credit is available, for example through programmes such as the KUR programme, it generally requires collateral – this is often a problem for the 90% of Indonesian smallholders who do not have formal title to their land.

10. As the Indonesian population increases, there is a corresponding rising demand for agricultural land that is forcing many poor, more marginalized smallholder farming families to move to upland farming locations, resulting in loss of biodiversity in uplands while in the lowlands, rivers and irrigation schemes are being damaged due to increased run-off velocity which in turn increases siltation in irrigation and hydro-power schemes. The upland and lowlands ecosystem are intricately connected. The lowlands are the major rice production areas while the uplands produce a wide range of crops (including fruits) and livestock. There are opportunities to improve both upland productivity and environmental sustainability. The GOI sees considerable productive potential in introducing upland crops with strong market potential – including food and horticulture crops and livestock.
11. While low land areas in Indonesia have received significant investment, particularly for irrigation, upland areas have largely been overlooked despite there being the availability of more agricultural land. Currently, most utilized agricultural land in Indonesia is located in upland areas<sup>[1]</sup>. Agricultural uplands are distributed across the archipelago, with most available land area located in East Java, Lampung, Central Java, North Sumatra, Central Kalimantan, and West Java. Based on the Central Bureau of Statistic of Indonesia, utilized agriculture upland area (dry field/garden, excluding shifting cultivation land) occupies about 11.5 million hectares (2016), or 46.5% of total utilized agriculture land in Indonesia. Irrigated wetland (lowland) occupies about 19% total utilized agriculture land and non-irrigated wetland occupies 14%.
12. In addition to having low fertility, generally dry land has steep slopes, and shallow soil depths, which are mostly found in mountainous and hilly areas. Upland farmers generally have less access to extension and training compared to wetland farmers - because the widespread belief is that the uplands do not support agricultural production potential as compared to low land irrigated land. However, upland areas have considerable untapped potential for developing commercial crops such as horticulture and tree crops, and livestock. There are ready opportunities to improve soil and water conservation by improving the understanding of contour cultivation, terracing and soil moisture conservation techniques. Increasing the production of upland horticulture and livestock crops requires investment that prevents soil erosion, improves fertility and deals with water scarcity through water conserving techniques and technologies – thus increasing the productive potential and incomes of upland farmers. This requires investments in farmer organizations, physical infrastructure, post-harvest facilities and linkages with markets.
13. The Government of Indonesia recognizes the importance in its National Financial Inclusion Strategy, under which the Government aims to achieve 75% financial inclusion by 2019. Inclusive financial systems are a key ingredient for equitable economic growth, enhanced productive capacity and poverty alleviation. Besides the Regional Development Banks (Bank Pembangunan Daerah), the Indonesian state-owned bank, Bank Rakyat Indonesia (BRI) through its village units (unit desa) by far has the largest outreach in rural areas to more than 40 million rural micro savers and more than 6 million rural micro borrowers. However, despite the rapid development of Indonesia's financial sector overall and a vast range of rural finance products, service delivery and business models, increasingly use of technology and a pretty conducive legal and regulatory environment in recent years, it is estimated that less than half of the population have access to banking services, particularly in the rural areas. In 2014, only 5.88% of the total bank lending benefitted agriculture with most allocated to larger commercial plantations. Despite the rapid growth of the microfinance sector, the majority of smallholder farmers do not have access to formal finance due to inappropriate financial products, outreach, financial literacy and conditionality. At the same time, Indonesia is known for its history as "living laboratory" that has created numerous types of village savings and loan self-help groups, group lending, accumulated savings and credit associations, cooperatives, linkage banking, rotating savings and credit associations, and hybrids of these, both in conventional and increasingly sharia-based forms.
14. As there are currently an estimated 26 million upland farmer<sup>[2]</sup> in Indonesia and the Ministry of Agriculture, through its Center for Agricultural Land Research and Development, has identified an additional 24 million hectares of upland that could potentially be utilized for food production in Sumatra, Kalimantan, Sulawesi and Papua. There is therefore significant potential for replicating and scaling up nationally the UPLANDs model.

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

15. The UPLANDs aligns and mainstreams IFAD's four thematic priorities: climate, nutrition, gender, and youth.
16. **Climate.** Given the fragility of upland areas and their vulnerability to climate variability and natural disasters, UPLANDs seeks to build on IFAD's strategic focus on climate by: (i) incorporating climate adaptation as an integral part of the project design; (ii) promoting good agricultural practices and initiatives to strengthen climate resilience, including water conservation and ecosystem and biodiversity preservation; (iii) the inclusion of a focus on climate adaptation in all capacity building activities that integrate farmers' traditional knowledge with innovation and science; (iv) building the skills and capacities of the farmer and government institutions to proactively support initiatives to meet the needs of climate change adaptation; (v) to develop linkages and partnerships with the private sector and incentive creating sustainable enterprises; and (vi) increase resilience through improved access to risk management tools, in particular agricultural insurance, (vii) supporting climate resilient and sustainable pathways to strengthening producers' organisations.
17. **Gender.** As rural people and smallholder farmers in upland areas in particular, suffer from poverty and lack of opportunity, UPLANDs will seek to promote equitable social norms and promote individual gender-equitable behaviour. The project will exclusively target small-holder men and women farmers and processors with targeting strategies to ensure the inclusion of marginalized women, men and youth who face increased vulnerability and that may have been side-lined from producer organizations and lack access to inputs, services and markets. The project fully recognizes women as farmers and potential entrepreneurs and focusses on expanding women's economic empowerment through ensuring women's access to markets, promotion of women in business, and improving women's access to financial services. Through a specific gender strategy the project will strengthen women's role in decision-making at the household, within producer organizations and at community levels, also encouraging more equitable distribution of workload and access to ecosystem services.
18. **Nutrition.** Nutrition has been mainstreamed through an evidence-based strategy which will result in a nutrition-sensitive implementation of the project along the value chain of each selected commodity and supported by measures in place to promote women's equality and empowerment, increased availability of nutritious foods through the kitchen gardening intervention as well as awareness-raising and social marketing events to improve food choices and preparation.
19. **Youth.** In keeping with IFAD's policy on Youth, the project will mainstream the participation of youth and incentivize their engagement in project activities. Emphasis will be provided to ensure youth representation in project management and producer organizations, the promotion of vocation training to generate employment opportunities along the value chain and facilitate their access to finance, knowledge, skills and markets. The project will also seek to leverage information technology to attract and retain youth in project activities. There is a strong focus on youth as agents of change and leaders in the innovative aspects of the project such as the market intelligence initiative and the promotion of mechanization within value chain activities. The M&E system will be gender and youth sensitive with disaggregated indicators and data by gender and age.
20. **Indigenous Peoples:** Although not one of the four IFAD priorities, the principles of IFAD's policy on "Engagement with Indigenous people" will be fully adhered to by the project. The project's approach to engaging with indigenous peoples includes the free and informed consent of all its beneficiaries and that there is a focus on the principals of community-driven development, valuing local knowledge, access to markets, gender equality and promoting climate-resilient agriculture. There is a social mobilization process in place to ensure the inclusion of women, youth or any other group that may have been excluded from existing farmer's organizations.

#### **c. Rationale for IFAD involvement**

21. The transformation of the agriculture sector is a key priority for the Government of Indonesia to meet its ambitious national development goals and to respond to a growing urban consumer class demand for diversified food. The need to increase agricultural productivity in order to feed a growing population raises demand for agricultural land and innovative agricultural approaches. As competition for land increases and productivity stagnates in low-land areas, increasingly, the Government of Indonesia sees considerable potential in increasing diversified agricultural production in upland areas.
22. To date, upland agriculture has received limited attention and investment. Indonesian agricultural development has mostly focused on low land irrigated areas to support food production (rice and secondary crops) and food security (rice and palawija crops). Intensive long term investment has been afforded to irrigation and infrastructure to support the development of low land irrigated paddy. Paradoxically, the overall dimension of agricultural upland area is larger than the available irrigated paddy land area, and has strong potential for developing commercial crops such as horticulture, tree crops, and livestock. Utilized upland agricultural land – excluding shifting cultivation land - occupies about 11.5 million hectares, or 46.5% of total utilized agriculture land. The Ministry of Agriculture estimates that there is an additional 24 million hectares of upland agricultural land that could be put into production if sustainable upland approaches, models and incentives were available.
23. Farming in the upland areas is undertaken by smallholders who have average landholdings of 0.71 hectares, ranging from 0.1ha in Java to 2ha in Sumbawa. Today, many poor and marginalized smallholders in upland farming locations are challenged with sloping land and poorer quality soils contributing to low productivity. They face constraints that are typical of the farming system in the uplands such as small land holdings that reduce opportunities for productivity enhancing mechanization, low productivity, limited capacity to invest in enhancing yields, lack of access to credit, lack of certified seed, fertilizer, agriculture machinery, poor infrastructure, lack of post-harvest and processing facilities, poor links to markets and limited understanding of the dynamic nature of market demand and information. Further, a lack of knowledge of sustainable agriculture practises, including failing to cultivate with proper contours, lack of terracing, widespread use of slash and burn agriculture, limited understanding of climate smart agriculture including soil moisture conservation techniques all contribute to soil erosion and high sedimentation in the waterways. Access to inputs including agriculture extension and financial services in upland areas are limited, leaving these smallholders with very limited support to enhance their productivity. Upland farmers are on occasions organized in farmer groups but have not graduated to higher levels of organization that can enable them to take advantage of economies of scale through aggregation. They lack the organizational capacity to form associations or cooperatives for managing post-harvest facilities and linking them in mutually beneficial relationships with the private sector.
24. Upland areas play an important role for water conservation and ecosystem preservation. The upland and lowland ecosystems are intricately connected, and land use problems of the former affects the latter seriously. The increased uptake of agriculture activities in upland areas in response to increasing demand for higher value agricultural products may exacerbate issues of soil and water conservation and result in a loss of biodiversity in uplands, while in the lowlands, rivers and irrigation schemes are being damaged due to increased run-off and siltation.
25. A new and innovative approach is required to create synergies between uplands and lowlands as both production areas have an important role in contributing to national food security, with lowlands being the major rice production areas and the uplands producing a wider range of crops (including fruits) and livestock. Upland agricultural farming systems require modernization and investment that prevents soil erosion, improves fertility and addresses water scarcity through water conserving techniques and technologies. Indonesia's 26 million smallholder farmers in upland areas need to be equipped with specific knowledge to promote climate smart and sustainable natural resource management practices and ensure financially sustainable livelihoods.
26. The Government of Indonesia has requested financial and technical support from IFAD and the Islamic Development Bank to assist in developing replicable models across a range of commodities in diverse geographical upland areas. The UPLANDs intends to introduce approaches to empower communities to better leverage local resources and village funds; to promote district (kabupaten) level value chain approaches; incentivize the inclusion of youth and women through innovative on and off farm employment opportunities; stimulate climate smart and good agricultural practices; enhance private sector engagement and partnerships; and increase access to finance including value chain and Islamic financing
27. There are four main reasons why the project was proposed by the Government of Indonesia and why IFAD and the Islamic Development Bank should consider financing it: (i) there are

approximately 26 million upland smallholder farmers in Indonesia who disproportionately suffer poverty, food and nutritional insecurity and vulnerability, they have received limited support to improve their productivity and market access to generate improved livelihoods; (ii) many upland smallholders have demonstrated motivation and commitment to improve their economic position and take responsibility for development initiatives; (iii) there are good economic opportunities, particularly for a range of high value upland agricultural products being produced upland smallholders for which there is strong market potential; and (iv) the UPLANDS aligns and directly contributes to national medium term and sector strategy targets related to poverty reduction, reducing inequality and improvements in smallholder farmer welfare through community empowerment, group strengthening and market-linked enterprise development. Furthermore, the project would respond to the pressing need to address the issues of resource degradation and the impact of climate change by the restoring upland ecosystems, maintaining ecosystem services, and building the awareness and capacity of upland communities to improve resilience and reduce disaster risk. Finally, as there are 24 million hectares of additional upland agricultural land available, the project would provide government with the experience, models and lessons learned to replicate project activities in upland areas within the selected districts and to scale up to other districts with similar resource and social/cultural profiles. Government funding allocations at district, provincial and national levels are already planned for this replication and scaling up.

## B. Lessons learned

28. There are a host of relevant lessons from IFAD and IsDB's long history of partnership with Indonesia. Both institutions have undertaken several independent evaluation<sup>[5]</sup> that have informed this project design. While IFAD has not in the past specifically targeted upland areas in Indonesia, it does have a long history of engaging in rain-fed agriculture where approaches that combine innovative, integrated support packages with social mobilization and value chain integration have proven successful. IFAD does have experience in uplands area development from within the region, such as in Myanmar, which have also been drawn upon.
29. The 2014 IFAD CPE recommended that smallholder farmers are the principal beneficiaries of IFAD's engagement in Indonesia. Given IFAD's relatively scarce resources, the CPE further recommended that IFAD should limit its role to high value crops grown by smallholders with an appropriate and increasing role of value chains. It suggested that IFAD operations should focus on improving the access of small farmers to agricultural technology and services, and help them to develop value chain links to input and output markets. This will help small farmers raise productivity and adapt to climate change. The success of IFAD in alleviating poor small farmer problems depends on its ability to build capacity at the village level so that small farmers interact with key players from government departments, private sector entities and civil society.
30. Lessons from the implementation from some of IFAD's most recent investments includes: simple designs with a strong poverty alleviation focus; strong and motivated management at national and district level; the combination and integration of technical expertise from different service providers, including public extension agents, NGOs and private sector; integrating empowerment with targeted technical support increases effectiveness; diversifying extension service improves the capacities available for rural communities; involving the private sector can strengthen service delivery, access to new technologies and markets can stimulate more market driven productivity responses from smallholder farmers; sustainability of equipment and infrastructure can be facilitated with strong collective governance and group ownership; involving a neutral facilitator in negotiating a private public partnership can ensure mutual beneficial agreements; involving village leadership in decision making processes ensures greater participation and smoother implementation; the phasing of activities important to promote social capital and ensure equity and governance; decentralized management structure ensures flexible and targeted programme activities.
31. In terms of targeting, IFAD-supported projects have been generally effective in engaging poor households, using government indicators and poor household lists combined with participatory selection of project beneficiaries. The fact that many IFAD-supported projects provide comparatively small financial support packages and expect considerable active participation from participants in return, supports the self-targeting nature of interventions. This broad approach would be replicated in the targeting strategy for this Uplands project. There are also a number of areas in which targeting strategies have proven less effective: (i) social mobilisation, inclusion and capacity building must be successfully completed before economic activities begin, particularly those related to infrastructure; (ii) economic and livelihoods analysis, both preparatory and participatory, should support the identification of economic opportunities; (iii) capacity building should be linked to tangible programme opportunities, whether these are economic or social and finally (iv) M&E should be simple and support the generation of knowledge on key development challenges, such as those listed above.
32. Additional lessons from the CPE, annual COSOP reviews, ongoing projects and consultations held in preparation of the 2016-2019 COSOP point to the following key lessons learned about project implementation in Indonesia:
  - **Flexibility:** Project design needs to leave flexibility for adapting project interventions to the diversity of different target locations, as shown in Coastal Community Development Programme, a project that was implemented in nine provinces with diverse socio-economic, geographic and cultural contexts. The project design provided a broad framework, which was adapted, in collaboration with local stakeholders, maximizing engagement, synergies and impact of interventions;
  - **Agrarian Reform:** The agrarian context of agriculture is changing fast with high livelihood diversification and increasing land scarcity - given these factors, understanding smallholder's incentives is key to sustainable agriculture systems. Farmers have an enormous capacity for innovation and investment in service delivery, as long as this is the service that they need and is a profitable proposition - hence the importance of an explicit focus on agricultural returns;
  - **Participation of the private sector:** Experience in the cocoa (READ) and marine resources (CCDP) sub-sectors have demonstrated how private companies can contribute to enhancing the livelihoods of rural small-scale producers, by facilitating their access to inputs, technology, advisory services and markets. Projects should facilitate and support partnerships linking private companies and small producers, with a view to generating mutual business benefits by reducing transactions costs, sharing risks and improving efficiency and reliability for sourcing products and services;
  - **Access to financial services:** While Indonesia has a diverse financial sector that has piloted some unique innovations to enhance outreach to rural areas, access to finance remains a major constraint for small primary producers in rural areas. Projects should partner with bank and non-bank financial institutions to support small producers' access to a range of financial products meeting their needs and matching their capacities, including savings, loans, access to remittance and insurance products;
  - **Participation of non-state actors:** The lack of qualified government staff in some remote target areas has hampered the development of sustainable self-help and producers' groups. Projects should promote innovative models relying on a larger range of service providers, including producers' organisations, private trading or processing SMEs and non-governmental organisations (NGOs);
  - **Performance-based incentives:** The approach whereby annual allocation of funds is determined based on actual performance generates a focus on results, motivates project participants for better achievements and helps in identifying areas where capacity building is required to improve performance, as demonstrated in CCDP;
  - **Intensive Monitoring and Evaluation strategy:** Weekly monitoring of performance at the local level and of progress towards meeting key project indicators is another effective tool to boost performance. Electronic communication, the use of a web-based Management Information System and of mobile applications like WhatsApp, Facebook and Twitter facilitate the exchange of information throughout wide project target areas.
  - **On-granting mechanism:** On-granting is a relatively new government mechanism to facilitate decentralized funding transfer and to create incentives for stronger ownership of local government authorities. IFAD has recent experience under the implementation the READSI and IPDMIP investments. Initially, this new process has been challenging with the following key lessons: (i) strong capacity building support needed for PMUs and PIUs that may not have dealt with projects or similar nature and need support to implement activities effectively, (ii) importance of accurate procurement planning/packaging; (iii) strong management and supervision consultants, PMU and PIU experts, where necessary, as well as facilitators to interface and implement at the village level; (iv) creation of special accounts given the large frequency of small payments (due to the nature of the project), and (v) close follow-up and regular/periodic supervision and implementation support from the financiers.

## 2. Project Description

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

33. **Project Objectives.** The overall goal of the project is to reduce poverty and enhance food security in upland areas through remunerative, sustainable and resilient livelihoods. The project would aim to increase agricultural productivity and farmer's income in upland areas through the development of land and water infrastructure, introducing modern agricultural cultivation techniques and holistic integrated agricultural management systems. The development objective of the project is to increase smallholders' agriculture productivity, incomes, livelihoods and resilience in the targeted uplands.
34. The project would contribute to three specific outcomes that are in line with the strategic objectives of IFAD, IsDB and the Government of Indonesia: (i) increase in poor rural people's productive capacities; (ii) increase poor rural people's benefits from market participation and (iii) increase in Government capacity for modernizing agriculture.
35. At the output level UPLANDS would assist in establishing the following: (i) irrigation developed on about 14,000ha using physical infrastructure schemes such as irrigation systems, small weirs, shallow wells, ponds (ii) about 500kms of farm to market roads developed, (iii) training of 30,000 households in improved and more sustainable agriculture production practices, (iv) capacity building of 800 farmer groups and helping to building the capacity to graduate to higher levels of organization for enterprise and business development for at least 60% of them; (v) increase processing capacity for 800 farmer groups including 200 women's groups; (vi) facilitate business mentoring and market linkages for 30,000 households; (ix) provide access to finance for 20,000 smallholders including 8000 women and 5000 youth.
36. **Project Area.** The project will be implemented in seven Provinces: Banten, West Java, Central Java, East Java, West Nusa Tenggara, North Sulawesi, and Gorontalo. Provincial selection was based on a competitive call for proposals from respective provinces detailing their commitment to develop high value smallholder agriculture and compliance with criteria including poverty and unemployment rates as well as agricultural and market potential.
37. Within the selected provinces, the project will be implemented in 14 districts 61 sub-districts identified by the district Agriculture Departments based on their potential for specific horticulture crops and livestock. The total population within these sub-districts is 2.6 million. The selection of districts and sub-districts was driven by the identification of high potential and comparative advantage in the selected commodity. The selection of these districts was also justified based on an assessment of the poverty and employment profile in these districts. As per the 2017 data from the National Statistics Bureau, the average incidence of poverty in these sub-districts is 13.9% which is considerably higher than the national average of 10.12%. In terms of unemployment, the average sub-district unemployment rate is 6.13% which is also just above the national average of 5.5%.
38. A total of 248 villages have been selected within the identified project districts. Applicable criteria for the selection of villages included: (i) concentration of farmers engaged in the production and marketing of the selected commodity (ii) potential for intensification and expansion of production and development of value-chain (iii) potential for engagement with private sector (iv) contiguity to ensure that project villages are not too widely scattered across the country.
39. The project will work with 680 farmer's groups and 200 women's groups in the target area. Table 1 below gives an overview of the target area with number of sub-districts, villages and farmer's groups in each district.



40. **Target groups.** The project will target economically active upland smallholders (men and women), poor and marginalized subsistence farmers (men and women), women processors and youth. The project will employ a series of targeting mechanisms (empowering, enabling and compliance measures) to ensure the effective engagement of targeted beneficiaries. The targeting strategy will ensure the inclusion of minority and marginalized groups who meet the project selection criteria, as well as the adaptation of activities to social and cultural context of women and youth: Women will be specially targeted as entrepreneurs and processors while youth will be specifically involved as facilitators for social mobilization and empowerment, in gathering market intelligence and in the operation and maintenance of agricultural machinery.
41. In recognition of the importance of mainstreaming the inclusion of women and youth to promote sustainable rural transformation, UPLANDs will promote the economic empowerment and well-being of poor smallholder farmers, especially women and youth, through gender, youth and nutrition sensitive value-chain interventions. Women and youth will be mainstreamed in project activities as producers and processors as well as specifically targeted for certain value chain activities. Youth will be specifically engaged in value addition enterprises along the value chain of the selected commodities as well as facilitators for social mobilization, in the gathering of market intelligence, and in the operation of agricultural machinery. Nutrition will be mainstreamed in selection of commodities, production and processing activities as well in addition to awareness raising of nutrition activities, social marketing events and home gardening at the village level. As many farmers are loosely organized into groups and this mechanism is extensively used for extension training delivery and provision of inputs to the villages, the project will seek to engage with rural producers organizations to strengthen institutional capacity, governance and inclusivity.
42. An effective and well-defined social mobilization process will facilitate the inclusive and effective delivery of UPLANDs activities. It will ensure that the project is able to effectively target and fully engage its intended beneficiaries. It will also enable project activities to be fine-tuned to respond to the local context, opportunities and the priorities of the households. The project's social mobilization and inclusion approach will involve selecting a village facilitator for each target village (50 percent women and 80 percent youth). These facilitators will be trained and tasked with using PRA techniques to undertake a full social and economic mapping of their villages to identify project beneficiaries for different activities and ensure their inclusion in project activities. These village facilitators will be key to mobilizing and incentivizing the village to participate in project activities, building the capacity of women and men farmer groups to function more effectively and delivering empowerment and nutrition training as well as establishing an effective communication channel between the project beneficiaries and project implementers.
43. On the basis of current information, some of the villages identified for project intervention in Lebak, Banten include Indigenous (Masyarakat adat) communities. Following IFAD's Policy for Engagement with Indigenous Peoples, a FPIC implementation plan is included in the Project Implementation Manual (PIM). To ensure compliance with IFAD policies, the project will only start in those provinces where indigenous people are located only after and if appropriate FPIC is obtained. If any other indigenous peoples are identified in the project villages through the social mobilization process, IFAD's requirement for working with indigenous communities as specified in IFAD's policy for Engagement with Indigenous Peoples will be fully pursued and complied with.
44. **Target Commodities.** As detailed in Table 1, UPLANDs will invest in a limited number of commodities (one commodity per district) to reduce complexity and enhances the likelihood of success. The commodities were selected and validated, based on the following criteria: (i) market demand and potential for expansion; productivity potential including land availability; (iii) demand from smallholders and farmer groups and opportunities for smallholder engagement; (iv) private sector demand; (v) financial and economic feasibility; (vii) NRM and climate resilience potential; (vi) other factors such as availability technology. The selected commodities are aligned with Government national strategic commodities consistent with the national goals to achieve self-sufficiency of some agricultural commodities (such as rice, shallots, garlic and meat) and also in line with the national priority to expand production of horticulture for export markets. Finally, participating local government authorities were involved in the selection process to ensure appropriate local ownership. Further detail about the potential development of specific commodities in each district is included in Appendices 2 and 3 of the Project Implementation Manual.

**Table 1: Commodity Data by Targeted Districts and Villages**

No	District	Villages	Commodity	Area (ha)	Farmer Group		Estimated*)		Value Chain Participants	Total Indirect Beneficiaries
					Farmer Groups*	Members	#Women	#Youth		
1	Lebak	4	Mangosteen	421	19	569	199	135	832	6,500
2	Tasikmalaya	4	Organic rice	500	8	1,077	431	50	1,558	3,300
3	Subang	31	Mangosteen	2,000	75	3,138	1,255	475	4,868	13,700
4	Cirebon	21	Mango	1,500	32	568	590	455	2,520	36,500
5	Garut	5	Seed Potato	200	10	872	174	60	1,106	4,350
6	Banjarnegara	31	Goats & Coffee	385	25	1,209	487	225	1,930	10,300
7	Purbalingga	9	Goats		14	237	45	100	595	2,280
8	Magelang	31	Organic rice	2,000	97	6,336	2,158	500	8,054	10,100
9	Malang	3	Shallots	300	3	860	233	65	1,076	6,230
10	Sumenep	3	Shallots	160	80	1,733	340	275	1,747	1,950
11	Lombok Timur	21	Garlic	1,640	100	2,964	1,045	530	4,477	19,350
12	Sumbawa	26	Shallot Seed	3,000	59	2,700	972	445	4,117	15,020
13	Minahasa Selatan	10	Potato	2,000	118	2,179	872	640	3,691	630
14	Gorontalo	1	Banana	20			10	40	76	1,300
		<b>231</b>		<b>14,126</b>	<b>640</b>	<b>24,442</b>	<b>8,812</b>	<b>3,995</b>	<b>36,648</b>	<b>130,000</b>

(\*) Women's farmers are estimated based on the women involvement in on-farm and off-farm activities as per specific commodities. The youth is estimated based on the youth involvement in on-farm and off-farm activities as per specific commodities.

45. **Validation of targeting and intervention logic** To enhance local ownership, participating districts were invited to submit project proposals based on criteria provided by the Ministry of Agriculture. These project proposals from each district were then assessed and compiled by Ministry of Agriculture and validated by IsDB/IFAD. The validation was conducted through field checks jointly conducted by the design/ validation team and local government agency, focus groups with sample farmer groups level and local government level. Criteria assessed included the proposed farmer groups and beneficiaries demonstrating their willingness to participate and their preparedness (social feasibility), proposed commodities (crops & livestock), land availability and status, current status of agriculture activities, environmental and technical feasibility of the proposed agriculture infrastructures, facilities and machineries; quantity and volume of activities, unit cost, and the actual needs for developing farmer-based agribusiness concept. Focus group discussions conducted either at local government level and farmer group level also validate and



confirm the project concept of each sub-project including agribusiness models, value chain models and marketing, institutional and managerial aspects. In addition to agriculture sectoral agencies, validation through focus group discussion at district level also engages other relevant sector agencies (e.g. Dinas of Public Work, Bappeda, extension services) and representative of farmer groups to examine the technical and environmental feasibility of the proposed infrastructures, facilities and machineries and obtain more feasible option or alternatives which are accepted by the farmer groups, and to make sure that the activities are conducted outside conservation or protected areas.

46. **Alignment with IFAD Indonesia Country Strategy.** The overarching goal of IFAD's Indonesia country strategy (2016-2019) is to support inclusive rural transformation to enable rural people to reduce poverty and achieve sustainable livelihoods. IFAD intends to achieve this through the provision of financing and technical support to develop innovative models that can be replicated and scaled up by Government and other partners. IFAD maintains its focus on the empowerment of women and other marginalized groups including: (i) smallholder farmers (women and men); (ii) smallholder fisheries producers; (iii) women and women headed households; (iv) marginal communities and ethnic minorities in the selected geographic areas; and (v) youth. Investments made by IFAD will contribute to three interlinked strategic objectives: (i) Small-scale producers participate in remunerative agricultural markets; (ii) Small-scale producers and their families are more resilient to risks; and (iii) Rural institutions deliver responsive services meeting the needs of small producers. UPLANDs is closely aligned with the IFAD country strategy, and will directly contribute to results under all three defined strategic objectives.

#### D. Components/outcomes and activities

47. The Project consists of four main components: (i) Infrastructure Development for Productivity Enhancement & Resilience Building; (ii) Agribusiness Development & Livelihood Facilitation; (iii) Strengthening Institutional Delivery Systems and (iv) Project Management.

#### Component 1: Productivity Enhancement and Resilience-Building

48. The expected outcome of this component is that 20,000 farmers increase their productive capacities, by: (i) promoting sustained adoption of improved inputs, technologies or practices (including land terracing); and (ii) assisting farmers to improve climate adaption practices including soil and water conservation approaches to reduce the risk of erosion and landslides due to agriculture activities.
49. This component has two sub-components designed to invest in the productive potential and resilience building of farming households in upland areas: (i) Land Development and Infrastructure; (ii) Production and Farm Management. The overall implementation of the component would be undertaken by the District Project Implementation Units (DPIU) and coordinated by the Project Management Unit (PMU) at the national level with support from design and supervision consultancy (DSC) services.

#### Sub-component 1.1 Land infrastructure and Development.

50. The sub-component output is that 14,000ha of physical infrastructure will be constructed or rehabilitated on sustainable basis. All infrastructure activities will incorporate techniques and practices that cater to climate change adaptability/ mitigation based on the specific context in each of the project locations. Specific details of roads, irrigation and land management infrastructure to be undertaken in each project target district are presented in Annex 2 to the PIM (Appendix 8) including estimated costs for each type of infrastructure; the exact cost for each infrastructure work will be calculated as part of the detailed engineering design during project implementation. This also includes detailed GIS mapping of specific activities to be undertaken in each geographical area. The activities to be undertaken include: (i) terracing and contouring, use of soil bio-engineering stabilizers such as mulches, and the strategic planting of agro-forestry trees and shrubs including perennial horticultural crops; (ii) investment in infrastructure to promote resilient and sustainable agriculture, with improved access to markets; and (iii) farmers capacity building on irrigation management and operation maintenance of infrastructure. The agencies responsible for achievement of outputs will be the NPMU, the DPIU and the Ministry of Public Works. The direct beneficiaries of the land activities will be participating smallholder farmers and their families. The indirect beneficiaries of other physical infrastructure will include the broader communities from within the project targeted areas. The implementing agency will be the District Public Works Agency – who will be responsible for formation of 621 farm infrastructure groups.
51. Land development activities would be based on soil and water conservation approaches to reduce the risk of erosion and landslide<sup>[5]</sup> due to agriculture activities and climate variability. The specific land development activities would be customized within each district to suit the specific environment; referencing topography, soil type, climate, any evidence of deforestation and consideration of current and planned agricultural activity. Activities would include terracing and contouring, use of soil bio-engineering stabilizers such as mulches, and the strategic planting of agro-forestry trees and shrubs including perennial horticultural crops. This selection will be based on the technical and feasibility of the sites selected and business plans/proposals submitted by the farmer groups. It is expected that the project would help to develop 7,032ha benefitting around 6,017 households. The land development works will be done on selected smallholder farms that pose a great risk for soil erosion and landslides. The land owner will implement the construction work supported by specialist from the Design and Supervision consultant, at the PIU levels.
52. In addition to land development, the project will assist smallholder farmers in the uplands to invest in infrastructure such as irrigation systems for improving access to water and access/farm roads that facilitate farmers' access to markets. The investments will be designed to promote resilient and sustainable agriculture, with improved access to markets, in the Upland areas.
53. To improve climate resilience and water supply, the project will assist farmers to invest in water storage ponds, shallow wells, and small weirs. The irrigation infrastructure types will include rehabilitation and new tertiary surface, drip and sprinkler irrigation systems, solar and electricity pumps. The Ministry of Agriculture has pre-identified a preliminary list of 198 villages in the selected districts with about 14,000ha that will require improved water security through the water infrastructure investments. The farms are owned by about 30,000 smallholder households organized in 680 infrastructure groups. The irrigated land under each group ranges from 2 to 67ha, with an average land holding ranging from 0.23 to 1.1 ha<sup>[5]</sup>. The average cost of irrigation development is estimated at approximately US\$2,800 per ha. These villages are growing the prioritized crops selected for the project. However, each proposed site in the selected villages would be assessed to ensure that it meets the following criteria: (i) serve the priority commodity and promotes integrated farming; (ii) gives priority to poor smallholder farmers, and benefits women and youth; (iii) technical feasibility; (v) economic feasibility and (vi) promotes good environmentally and social stewardship.
54. Weirs and water ponds will be designed not to store more than 500m<sup>3</sup> of water and have depth of less than 5 m. These small water storage structures will be designed in areas with minimum environmental and social impacts. The farm groups or village government will secure land for the structures. To reduce costs, lined earth ponds will be used, where ever feasible. However, concrete ponds may be the most suitable to reduce the footprint of the ponds, so as not to take large proportion of farm land and on steep slopes. The cost of the ponds and weirs is estimated at an average of US\$16,000 per pond/weir. Each pond will serve a group of an average 25 farmers, depending on the size.
55. The project will invest in the improvement of access and farm roads in total about 406 km farm road. The roads will typically be engineered compacted gravel or concrete roads (depending on the ground conditions), 2.5-4m wide (depending on the type of vehicles mix) to use the roads. In all cases, provision of routes for non-motorized traffic should be prioritized, where ever necessary. The cost of road development is estimated at an average of about US\$24,000 per km.

**Table 2: Proposed Land Development Activities**

	Lebak	Tasikmalaya	Subang	Cirebon	Garut	Banjarnegara	Purbalingga	Magelang	Malang	Sumenep	Lombok Timur	Sumbawa	Minsel	Gorontalo	Total
Land clearing, soil conservation/land terracing (ha)	332	500	400	500						160	1,640	3,000	500		7,032
Irrigation (ha)	332	500	2,004	500	200	43	-	1,400	300	160	1,640	3,000	2,000	20	12,099
Farm road (km)	38	10	33	100	16	42	7	15	18	5	35	70	15	3	406

56. Prior to final selection and construction activities, a feasibility study and detailed engineering design would be prepared for each scheme with detailed costs. In addition, an ESMP, will be prepared for each site to ensure that all identified environmental and social impacts are adequately addressed. The feasibility studies and detailed engineering designs will be implemented in a participatory way, led by staff at Dinas Pertanian (District Agriculture), assisted by district technical consultants. The construction works will be done through community contracting or through private contractors, depending on the nature and scope of engineering works. The private contractors will be competitively procured following the national procurement system. The local government or local communities would be responsible for securing the land required for the development of infrastructure. All the infrastructure investments by the project will be owned by either village or district government or by the farmers, groups of farmers or their associations. The farmers will finance at least 20% of the cost of the on-farm irrigation costs infrastructure, through own funds, loans from a bank or grant from the village government. The district government and the project funds will finance water infrastructure to the group farm edge.
57. Farmers will contribute the full operations, maintenance and management for the irrigation infrastructure built by the project. This will be formalized and confirmed in district and village ordinances, PERDES that regulates the O&M arrangements. The farmers will be trained, in their existing groups, to operate and manage the irrigation facilities for their group. In some cases, where it is technically feasible and farmers are willing, the groups would aggregate to form water user associations, for the purpose of managing irrigation infrastructure. The village government will pay for the maintenance of all access roads built outside the farms, and the farmers will be responsible for the maintenance of roads built within their farm boundaries.

### **Sub-Component 1.2 Production and Farm Management**

58. Within the context of a commodity development approach in each of 14 districts, UPLANDS will ensure around 32,600 men and women farmers receive commodity specific training and technical support to enhance their overall agricultural production, resilience and management capacity.
59. About 1,300 farmer extension or training groups of around 25 farmers (including the poor, women and youth) will be formed and socialized by the UPLANDS village facilitators. These extension groups will be the access point to village farmers for extension training, nutrition training, and microfinance and market information. The project will work with at least 300 women farmer extension/training groups and demonstrations will be organized for aspects of production in which they are engaged. Similarly, training will be provided to youth for crops and activities appropriate for them, for example, management and operation of agriculture machineries.
60. The project will include a suite of complementary support mechanisms suited to smallholder farming in which both the public and (where possible) private sector will be involved. These activities will be coordinated by 235 Facilitators, and 114 Extension staff, supported by 14 teams or district level technical specialists. Training and technical support will include Farmer Field Schools with a series of trainings throughout the crop cycle. Training will be delivered on climate smart agriculture and improved agronomic practices (including Good Agricultural Practices - GAP) relevant to each commodity including quality genetics, soil management, crop nutrition, water management, Integrated Pest Management (IPM), sustainable use and management of farming equipment, canopy management (for trees crops) and optimal harvest and post-harvest practices at the farm and village level.
61. While production inputs applicable to the commodity will be made available to eligible farmers in the first year of engagement to help initiate farmer support and improved farming practices, UPLANDS will require a 25% contribution<sup>[6]</sup> from the farmers with the balance funded by the project. It is anticipated the farmer contribution will come from village fund support. After year 1, farmers will be able to borrow for these inputs through UPLANDS supported microfinance. This will be delivered via local banks with credit lines from UPLANDS. These inputs include seed, seedlings, fertilizers and pesticides.
62. Intensification of agricultural production requires improvement in labour productivity and efficient operations. The effective utilization of agricultural machinery suitable for smallholder agriculture is one of the key strategies to be used to improve land and labour productivity, reduce costs in uplands agriculture production. Use of machinery is also an effective way to reduce drudgery of agricultural labour for women, men and youth. Youth are more likely to participate in primary agricultural production if this drudgery is reduced. The type and number of machines would be selected by commodity and utilized within the uplands taking into consideration the steepness of land, the needs of women and youth and the type of crop to be grown. There would be appropriate machinery and powered equipment sourced for land preparation, planting, cultivation, pest and disease management, weed control and harvesting and transport. In general, the type of equipment will include hand powered cultivators, power sprayers, hand sprayers, small powered harvesting equipment, wheel barrows among other types. Specialist machinery and equipment would also be sourced for specific commodity production requirements. The farmers would pay 25% of the cost of purchasing the machinery based on the experience of the Ministry of Agriculture and other IFAD financed investments such as the READ project<sup>[7]</sup>. The project will assist in linking the farmers with local financial institutions or value chain actors, to potentially finance the farmers' payment and ensure that O&M facilities established at the village level to ensure the maintenance of the infrastructure and equipment. In some village the village authorities will formulate PERDES that regulates the O&M arrangements.
63. Machinery and equipment would be owned by the farmer's group or association. Assurance of the provision of training in the safe and appropriate use and maintenance of all machinery and equipment would be a key element of these terms of partnership. Young people (both men and women) will be trained in the operation and maintenance of the equipment, so as to be able to offer a service to farmer groups. The project will facilitate in the provision of the appropriate technical and on-the-job training and workplace supervision to the youth who take part in the equipment support business opportunities. In some cases, the youth may be employed by Farmer's Groups and federations to undertake and/or oversee machinery operation and also ensure appropriate maintenance schedules and tasks are performed. Users will pay fees on a full cost recovery basis.
64. Training will be provided taking into consideration the workplace health and safety risk associated with operating machinery on slopes. In addition, minimum tillage approach will be promoted to reduce risk of soil erosion. Proper terms of partnership would be signed between the district Government and the Farmer Groups or Associations on the hand over, operation, maintenance and storage of the equipment to ensure its effective utilization.
65. Livestock training will be delivered in farmer field schools, covering the basics of animal nutrition, housing, health and reproduction. Annual flock management plans will be prepared including disease prevention, fodder production, feeding regimes and planning and monitoring including vaccination and parasite treatment, livestock inventory, mating and live weights. In addition, besides group training UPLANDS will document the training and provide goat group members with copies of training material for their future reference.
66. While UPLANDS will mainstream nutrition into activities, the design recognizes that there is no single solution to these problems. Yet the fact that malnutrition rates remain unchanged despite rising incomes and food availability give some clues that some of the remaining constraints to better nutrition are driven by social norms and behaviours. UPLANDS will therefore adopt a multi-pronged and main-streamed approach to improving nutrition. It will also encourage local innovation combined with evidence-based assessment to identify and scale-up promising innovations in the approaches to improving nutrition. Nutrition activities will be conducted in all UPLANDS villages coordinated by the Village Facilitators.
67. To further ensure that the benefits of increased incomes translate into improved health outcomes for women and men small-holder farmers and their households, appropriate interventions at each stage of the value-chain will be identified. A rapid nutrition assessment will be used to identify the key nutritional challenges and opportunities specific to the project districts and appropriate nutrition interventions at relevant stages of the value-chain. A two-person nutrition team will work closely with the other technical specialists to mainstream nutrition in the various projects commodity development activities. Some of the interventions for nutrition will include extension advice on nutritious crop varieties, social marketing events and nutrition awareness sessions. Given the complexity of the nutrition challenge, UPLANDS will actively encourage and reward local innovation by teams in districts to work out what combination of factors works best to deliver sustainable nutrition outcomes.
68. A major challenge for small farmers is the high-risk environment (and increasing with climate variability) in which they operate, making them traditionally highly risk averse and in turn inhibiting their willingness to adopt new and improved farm practices. On top of everyday production risks, the risk profile for farmers is becoming more challenging due to climate change related production risks like drought, flood, and pests. Recognizing this reality, and to create incentives for farmers' to invest in high-value crops, UPLANDS will link with a new SIDA-funded, IFAD-implemented initiative 'Insurance for Rural Resilience & Economic Development Technical Assistance Programme' – (INSURED) which designed to improve access for smallholders to appropriate crop insurance.
69. Currently, agricultural insurance in Indonesia is only available for food crops, mainly for rice through the public sector insurer PT Asuransi Jasa Indonesia (Jasindo). During the first year, the project will analyse the risk exposure of each value chain within UPLANDS. Based on this analysis and in discussion with potential insurance partners (either public or private); two value chains will be selected for product development.
70. Agricultural insurance will not be developed as stand-alone solution but rather links to other interventions of UPLANDS in the respective value chain, for example linked to agricultural inputs or embedded in arrangements with buyers in downstream markets. By tackling the various risks that farmers face (input, production, market, and price risks) in an integrated approach, the overall resilience of farmers will be increased which also improves their creditworthiness with financial institutions. Therefore, strong linkages between the development of agricultural insurance and other services such as input provision, and the extension of credit to farmers will be created. A key for the success of cash crop insurance will be raising risk management and insurance awareness among farmers. This will happen in two ways. UPLANDS will develop training modules on risk management and insurance to raise farmers' awareness of the issues and tools. These can be incorporated in the Farmer Field Schools (FFS) approach within this component and the financial literacy training within component 2.4. Product-specific education will also take place during the implementation of the insurance schemes. At meso level, UPLANDS will build the capacity of value chain actors, and insurers in cash crop insurance. At macro level, UPLANDS will raise awareness of local government. It will also link with INSURED, which will also work directly with the Working Group on Agricultural Insurance headed by the Ministry of Agriculture to support policy advice at the macro level.

### **Component 2 Agri-business Development and Livelihoods Facilitation**

71. The expected outcome of this component is to increase farmer's incomes from enhanced processing to improve product quality and market participation by: (i) supports farmer to profitably engage in post-harvest and marketing activities; (ii) develop market intelligence systems to encourage regular exchange with market; and (iii) established access to financial services to farmers and agri-related enterprises.
72. This component has four sub-components designed to facilitate farm-gate to market activities which will improve product quality and marketability as well as enhance market linkages based on improved market intelligence. The sub-components are: (i) 2.1 Farmer institutional development; (ii) 2.2 Market infrastructure and equipment; (iii) 2.3 Strengthening market linkages and alliances; and (iv) 2.4 Access to financial services.

### **Sub-component 2.1 Farmer Institutional Development**

73. The sub-component output will be farmer post-harvest businesses established, equipped and supported on sustainable basis. Activities include: (i) support to the development of farmer institutions and units/entities to ensure impact sustainability in the long run at the village level, such as (i) BUMDES or other village level enterprises which may engage in activities such as product aggregation, provision of cultivation services, village level processing (e.g. potatoes or mangoes), and village rice drying services; (ii) approximately 100 KUBE (Farmers Business Unit/Federation) will be established in farmer association levels to manage some capital that have been invested by the project while provide service to 3-4 farmer groups, and will be responsible to operate and manage equipment and machinery; and approximately 14 BLUD at the district level or towards the market end of the value chain and operate as a primary commodity service in large scale to serve the KUBEs. The agencies responsible for achievement of outputs will be the NPMU, the DPIU and the Ministry of Agriculture. The direct beneficiaries will be the farmers and their families who are members, shareholders or suppliers in the business entities. The implementing agency will be the district agriculture agency with village facilitators.
74. Groups of farmers will be encouraged to form associations or federations (some already formed) which can evolve into KUBEs or KUBE-look like institutions. Depending on location, a KUBE can be at village level, or involve 2-3 villages in one KUBE, or at kecamatan level as business association of farmer group. An estimated 180 KUBEs and around 14 larger BLUDs or Cooperatives will be supported.

**Table 3: Establishment of KUBE, BLUD or Cooperative**

No.	District	Commodity	Land (Ha)	# Farmer Groups	# KUBE		# BLUD/Cooperative at District Level	
					Village	Sub-District	BLUD	Cooperative
1	Lebak	Mangosteen	421	23		2		1
2	Tasikmalaya	Organic Rice	500	8	4	1		1
3	Subang	Mangosteen	2,000	75		7		1
4	Cirebon	Mango	1,500	77	7		1	
5	Garut	Potato Seed	200	10	1		1	
6	Banjarnegara	Coffee, Goat & Sheep	385	37	34			1
7	Purbalingga	Goat		18	18			1
8	Magelang	Organic Rice	2,000	94		3		1
9	Malang	Shallot	300	11	11			1
10	Sumenep	Shallot	160	53	52			1
11	Lombok Timur	Garlic	1,640	92		6		1
12	Sumbawa	Shallot Seed	3,000	59		30		1
13	Minahasa Selatan	Potato	2,000	118		10	1	
14	Gorontalo	Banana	20	6	1		1	
<b>Total Number</b>			<b>14,126</b>	<b>681</b>	<b>128</b>	<b>59</b>	<b>4</b>	<b>10</b>

75. In collaboration with both national and district governments, UPLANDs will work closely with individual farmers, farmers group and farmers' association. Many farmers groups and association do not currently have sufficient capacity, suitable legal basis or flexibility to deal with some required functions and responsibilities needed to support the project. To address this, UPLANDs will provide farmer institutional development to ensure sustainable management and business unit formed and functional.
76. Based on the local context and appropriate institutional framework, UPLANDs consider several options of entities or management/business units that can provide sufficient flexibility to ensure sustainability of project impacts in the long run. Some of the available options include KUBE, BLUD, and BUMDES[8].
77. KUBE (Kelompok Usaha Bersama) is a Joint Business Group which aims to empower poor communities (including small holder farmers) by providing business capital to manage productive economic activities/businesses. In general a KUBE will be established at farmer association level (to manage capital assets invested by UPLANDs) and will typically provide services to 3-4 farmer groups.
78. BUMDES (Badan Usaha Milik Desa) is a village-owned business entity is a village business managed by the Village Government, and incorporated where the establishment is determined by the Village Regulation. The management of the BUMDES consists of the village government and the local village community. The capital of BUMDES can come from the Village Government, community savings, assistance from the government, loans, or other parties' equity participation or profit sharing cooperation on the basis of mutual benefits.
79. BLUD (Badan Layanan Umum Daerah) or Regional Public Service Agency (BLUD) is a management and service unit within the local government formed to provide services to the community in the form of the provision of goods and / or services. While BLUD is a non-profit entity, it is still professionally managed based on principles of efficiency and productivity.
80. The characteristics of each management/business/service unit options are provided in the table below:

**Table 4: Farmer Post-Harvest Institution Summary**

Management/ Business Unit	Owner / Shareholders	Management	Characteristics and Flexibility
KUBE	Community or small holders farmers	Community / Farmers Association	<ul style="list-style-type: none"> <li>- Similar to cooperative / enterprise group</li> <li>- Capital: government grant and members contributions</li> <li>- Acts as a private business</li> <li>- Profit oriented</li> <li>- Profit shared as revenue to its members</li> </ul>
BUMDES	Village owned	Appointed professional	<ul style="list-style-type: none"> <li>- Enterprise type</li> <li>- Profit oriented</li> <li>- Profit shared as revenue to it's the village</li> <li>- First capital could be provided by the government or from village funds</li> </ul>

Management/ Business Unit	Owner / Shareholders	Management	Characteristics and Flexibility
BLUD	Government institution	Government official and supported by professional management	<ul style="list-style-type: none"> <li>- Manage government assets</li> <li>- Non-profit</li> <li>- Service oriented</li> <li>- Allowed to collect fees to support its operational</li> <li>- Can get subsidy from the government</li> </ul>

81. Because there is no 'one fixed solution' that fits all across the 14 districts, the selection of institution or management unit that will be established/ strengthened to support the project will be customized based on the needs of each value chain and which is suitable to the local context. UPLANDs will not create a new entity or management/business unit where an existing institution is functioning efficiently. In this case, the Project will empower existing KUBEs that are ready to apply for assistance, for instance, to have sorting and grading equipment and are able to certify that they have the required beneficiary contribution. Where new institutions are required, district governments will issue a call for proposals for the establishment of processing facilities e.g. for potatoes and mangoes, based on business viability. But, in all cases, the district government will first undertake full feasibility assessment including the applicant's business plan.
82. KUBEs will be responsible for operating and managing product collection vehicles (three wheeler bikes) provided to each village. A truck will be also provided to transport the commodity from KUBE to the BLUD or other major processing, storage or marketing centre. UPLANDs will establish BLUDs at district level or at the end part of the value chain that will deal directly with the market. The BLUD operates as a primary commodity service in large scale to serve the KUBEs. It will manage the significant capital assets invested by the project such as grading and processing equipment and facilities.

#### **Sub-Component 2.2 Market Infrastructure and Equipment**

83. The main targeted output will be that market related equipment is supplied to the rural producer organizations detailed in Sub-component 2.1. Activities will include: (i) construction of warehouse buildings to house storage and processing equipment; (ii) provision of processing equipment including packaging equipment; and (iii) provision transport equipment including trucks, pick-ups and 3 wheeler vehicles. The agencies responsible for the achievement of outputs will be the NPMU, the DPIU and the Ministry of Agriculture. The direct beneficiaries will be the farmers and their families who are members, shareholders or suppliers in the business entities. The implementing agency will be the district agriculture agency.
84. *Marketing* infrastructure, equipment and systems are based on the systematic aggregation and value adding of product to meet the demands of markets; commencing from the farmer and Farmer Group level, farmer associations activities, then to KUBE level facilities and processes and finally to commodity processing and distribution centres operating under Cooperatives, Federation or BLUD arrangements, as applicable to each District and commodity. Farmer Groups and rural producer organizations that demonstrate their commitment to enhancing access to markets would be eligible to apply for marketing infrastructure and equipment support under the project. Marketing infrastructure and equipment provision will ensure the selected commodities will be cost effectively and efficiently made market-ready in terms of agreed specifications and supply arrangements with buyers.
85. *Infrastructure* and equipment provided will include small scale collection, drying (where applicable) and pre-sorting facilities located strategically at the Farmer Group and Village levels, larger scale post-harvest handling, packaging and aggregation facilities and equipment operating at the KUBE level and facilities and equipment for final aggregation, processing, storage and distribution of fresh and/or processed products operating at the District level. Investments in transport equipment will allow efficient and timely movement of product from the field to collection/aggregation points and on to processing/packing facilities. Transport investments will include three wheeler motorbikes for moving post-harvest from farms to KUBE and small trucks for moving product from KUBE to larger scale BLUD managed facilities.
86. All infrastructure and equipment will be "fit for purpose" i.e. designed and fitted out to an appropriate level of Good Manufacturing Practice (GMP) in terms of market and regulatory compliance. Young men and women with an interest in maintaining and operating post-harvest and processing equipment and with the required technical and personal attributes would be employed to carry out skilled work within processing and storage facilities. These young men and women will receive appropriate technical and on-the-job training in safe equipment operation and maintenance procedures and would also be supervised appropriately.
87. To qualify for UPLANDs support, Farmer Groups, Associations, KUBEs or Federations/Cooperatives will have to (a) be formally registered; (b) demonstrate their capacity to invest at least 25% of their own equity or leverage this proportion of financing from other sources (e.g. equity from village funds or from local government contributions); demonstrate interest/ willingly participate in project activities.
88. An eligibility and screening criteria will be developed during early project implementation to ensure that the equipment goes to groups who are committed and can utilize the equipment effectively for the benefit of their members. The provision of these investments will be based on criteria including the following; (a) equity investment; (b) employment generation potential; (c) targeting of women from poor households; and (d) the number of women and youth benefitting.
89. Applicants are expected to develop Business Plans to justify the project investment in infrastructure and/or equipment. UPLANDs will provide technical assistance to facilitate development of these plans. This would result in start-up marketing groups and those in their early stage of development being able to calculate short and medium-term production based on realistic market projections.

#### **Sub-Component 2.3: Strengthening Market Linkages and Alliances**

90. The main output for the sub-component will be increased production of commodities with higher value participation in markets. UPLANDs will assist farmers to establish and further build market linkages, by: (i) Technical assistance to farmers groups and associations operating at the KUBE and BLUD level for improving the market readiness and brand recognition of specific products in areas such as selection of primary and secondary packaging, labelling and sales promotion; and (ii) develop regular exchange with markets, buyers and others commodity association to understand market expectations. The direct beneficiaries will be the farmers and their families who are members, shareholders or suppliers in the business entities. The implementing agency will be the district agriculture agency.
91. Under this sub-component mentoring support would be provided to establish or further build market linkages for the selected products and assist them in growing their markets. The project will engage experienced and suitably skilled Value Chain, Business Development and Capacity Development specialists in each District so that Farmer Groups/Associations receive ongoing support through the market development process.
92. The project will have a distinct focus on developing public-private-producer partnerships. This will be developed for example, through inviting buyers in downstream markets to visit Farmers Groups and Associations operating at the KUBE and BLUD level to discuss market expectation and information, and to try to build partnership. Representatives of Farmer groups and Associations will also undertake market visits to better understand distribution systems and downstream markets. These study visits would be facilitated by the Value Chain and Business Development specialists in consultation with Village Coordinators.
93. Technical assistance will be provided to Farmers Groups and Associations operating at the KUBE and BLUD level for improving the market readiness and brand recognition of specific products in areas such as selection of primary and secondary packaging, labelling and sales promotion. This will extend to assistance with achieving compliance with certification standards where required, for example organic rice.
94. Systems for regular exchange of meaningful, marketing related information between buyers and sellers will be developed and introduced in the early stages of the project. This would include specific marketing opportunities, for example, for organic and value-added products or opportunities to access new, higher value markets such as modern retail or export.
95. Identification and correction of harvest and post-harvest issues will involve product assessments being undertaken by Quality Assessors (particularly women and youth) trained within the project and operating within packing and processing facilities. Consignments would be checked for compliance with buyer requirements before dispatch and these assessments would be communicated to downstream markets using check-sheets and digital photography.
96. Simple technologies such as temperature recording devices would also be used to monitor cold chain performance during distribution. These consignments would be further assessed by buyers on receipt. If quality issues were identified (such as overripe fruit) these issues would be communicated back up the Value Chain and collectively analysed so that appropriate corrective actions could be taken.
97. Quality assessments for each commodity end-product would be developed by Value Chain technical specialists in concert with Farmer groups, Associations and Commodity Alliances. As part of this process product quality specifications suited to the intended market may be agreed by chain participants and regular, scheduled quality assessments carried out at each stage of the production, distribution and marketing system.
98. This collective gathering and sharing of post-harvest and market information will enhance smallholder understanding of market dynamics, particularly in larger distant markets and help build and strengthen commercial relationships. Over the life of the project these systems will be refined and improved, best practices established, and implementation progressively extended to larger numbers of project beneficiaries in each district.

99. IT and Market Intelligence systems offer job opportunities for women and youth. While the approach to market intelligence systems will vary by location and commodity, generally each commodity marketing group will employ at least one trained young person to seek out, analyse and disseminate this information to all producers. To ensure sustainability training would be provided so that beneficiary groups take a progressively larger role in information collection, analysis and dissemination with continued technical support from Government and other support agencies as required. These systems will act as models for enhancing smallholder capacity, productivity and incomes through commercially relevant value chain engagement.
100. At an early stage of the project, buyers in downstream markets will be invited to visit Districts to discuss market expectations. Representatives of Farmer groups and Associations will also undertake market visits to better understand distribution systems and downstream markets. These study visits would be facilitated by the Value Chain and Business Development specialists in consultation with Village Coordinators. Technical assistance will be provided for improving the market readiness and brand recognition of specific products in areas such as selection of primary and secondary packaging, labelling and sales promotion. This will extend to assistance with achieving compliance with certification standards where required, for example organic rice.

#### **Sub-component 2.4 Access to Financial Services**

101. The main sub-component output will be the poorest 15% (or 3,750 of whom 1,700 will be women) and/or businesses with enhanced access to finance. Activities under this sub-component will facilitate the poorest farmers to access financial services through establishment of microfinance (credit) that will be channelled by local government to local district bank (BPD's or other microfinance institutions) [9]. This bank linkage approach and model has proven effective through efforts of IFAD and other development partners in Indonesia. It involved facilitating and creating incentives for local microfinance providers to engage in agriculture and with the project target groups. Financial services, ranging from credit and savings to insurances and financial literacy training are important to support upland producers in mitigating risks and enhancing productivity in the long term. Further, without access to these services, it is a challenge to start up rural enterprises, or to invest in the future of their farms. Agriculture financing is risky and expensive and in some aspects value chain agents – traders, warehouse operators – have an advantage over formal financial service providers, such as banks, because they know the market and often also the farmer.
102. The principal of providing an allocation for microfinance is not only to provide access to finance for the poorest beneficiaries, but also to stimulate and capacity building to the local banks/MFIs so that they would be capable of providing relevant and functional microfinance products beyond the life of the project. In addition, basic financial literacy training would be offered to women's and men's farmer groups. The direct beneficiaries will be the poorest farmers and their families. The implementing agency will be the local district banks and village facilitators.
103. An important constraint to improved production and post-harvest performance and development is lack of access to finance - especially microfinance to farmers and agri-related microenterprises. The current situation is one where the individuals or groups have to either borrow from moneylenders at high mark-up/interest, or place a high collateral with banks/MFIs, or are simply non-bankable (i.e. with no operating institutions, no suitable products or non-favourable lending criteria)
104. UPLANDs will provide access to seasonal financial services in the selected project areas according to crop requirements. It is expected the UPLANDs will provide US\$4.0m for up to 60% of the seasonal finance requirements for a particular crop. Although the majority of the financing allocation would be for microfinance support, the project may also consider larger loans for working capital or asset financing for individual farmers or groups, to meet the needs of the target communities and the value chains to be developed. The principal of providing an allocation for microfinance, is not only to provide access to finance for the target beneficiaries, but also to provide stimulation and capacity building to the local banks/MFIs so that they would be incentivized and capable of providing microfinance products beyond the life of the project. Where possible, the UPLANDs will promote Shariah Microfinance products, in line with the mandate of the Islamic Solidarity Fund for Development (ISFD) and IsDB. The project may partner and collaborate with the IsDB-led Islamic Microfinance Program for Poverty Alleviation and Capacity Transfer (IMPACT) initiative to benefit from the latter's Islamic microfinance product and services toolkit, which can be ported to the participating financing institutions.
105. In line with the national regulations, and based on the situations in project locations, project funding for microfinance activities will be transferred to project target districts using government's on-granting mechanisms. Each respective district would then identify a local bank (e.g. provincial bank, district bank, national bank branch in the district, etc.) or a local Microfinance Institution (MFI). Based on mutual agreement, the Head of the district (Bupati) would then issue an official administrative instruction (Decree/SK) stating that a certain amount of funds from the district government would be placed in the selected local bank/MFI for the purpose of providing access to finance to the local beneficiaries, with the fund to be managed by the bank/MFI for a fee. The administrative/management fee of the bank/MFI would be specified in the Decree and shall be a competitive rate based on local benchmarks. The terms and conditions of the microfinance lending (i.e. tenure, mark-up rates, lending criteria) would also be stated in the instruction from the District head. The microfinance lending would be structured so that it would be offered to individuals as well as groups, with or without collateral, based on necessity or local circumstances. UPLANDs microfinance specialists would work with the PMU and PIUs to develop the full set of criteria, operating procedures, requirements, terms and conditions, monitoring guidelines, and other required mechanisms and documentation, based on the local contexts.
106. To explore value chain financing options, the project would initiate a dialogue with the various value chain players and examine the demand for financing from both input suppliers and wholesalers and retailers purchasing the selected commodities. There is evidence that value chain financing options can work effectively in dealing with smallholders under specific circumstances.
107. A financial literacy and numeracy training course would be organized for farmer groups, women and youth and will be built into the capacity development and business development curriculum. Basic financial literacy and numeracy training would be offered to women's and men's farmer groups with the objective of helping to improve livelihoods through inculcating the knowledge, skills and attitudes required to adopt good money-management practices for earning, spending, saving, borrowing and investing. This would include understanding the benefits of savings and loans, planning of income and expenditures of households, analysing investments and understanding the role of financial institutions. The project would utilize the methodology and materials being used in IFAD's READ SI project and build on lessons learnt, as well as look to link to Women's World Banking approaches to improving financial access for women. UPLANDs also aims at increasing farmers' understanding of risk management and what role agricultural insurance can play to mitigate risk and to improve access to credit and other financial services.
108. There also may be further financial resources available to the relevant beneficiaries in the project, by leveraging on MFIs or branches of national banks through the IsDB's partnership with Women's World Banking. The project would also seek to partner with other microfinance institutions working in the project locations, including Fintech companies, to leverage a greater pool of financial resources being made available for the stakeholders in the project areas.

#### **Component 3: Strengthening Institutional Delivery Systems**

109. The expected outcome of Component 3 will be enhanced delivery of UPLANDs services and research. It is anticipated that 80% of households will adopt new technologies and 95% of DPIUs will be fully engaged in on-granting processes. This component has two sub-components (i) Capacity building and institutional development of MOA and Districts; and (ii) Adaptive Research.

#### **Sub-component 3.1 Capacity Building for Institutional development, governance and transparency**

110. The main sub-component outputs will be: (i) commodity training courses prepared & delivered; and (ii) intensive PIU capacity building support for on-granting, procurement, and transparency and governance mentoring. Activities include: (i) improvement and strengthening of extension guidelines; (ii) focus on ensuring extension staff are adequately skilled to support the selected commodities in specific target location; (iii) mentoring and support to district staff; (iv) support for strengthen measures for transparency, governance, and fiduciary aspects. The implementing agency will be the NPMU with the MOA agriculture training centres.
111. All 231 agriculture extension staff in each district will be encouraged to focus on the target commodity for their specific location. UPLANDs will fund preparation and delivery of 10 training courses specifically written for each commodity, including guidelines. This refresher training will be delivered at MOA training centres in Manokwari and Kupang in 2019. To improve their understanding and to ensure they can work effectively with extension staff in their respective locations, village facilitators will be invited to participate in the extension training programs (training will be delayed until after VFs have been recruited). Extension staff will be trained to understand post-harvest and market linkages as well. Follow up refresher training may be provided by UPLANDs crop and product specialists. Wherever feasible, this training can be delivered in partnership with private sector extension providers.
112. As district authorities have limited experience with managing and implementing foreign funded projects, district staff (including PIU and Bappeda staff) will be supported by project capacity building specialists who will be located at each district. This support will be designed to ensure smooth implementation of on-granting and procurement activities, and also to ensure strengthened measures are in place for governance (demand and supply measures) and transparency (citizen engagement, consultation, availability of information). Similarly, farmer institutions (KUBE, BLUD etc.) will be supported in business management, in particular in preparation of business plans, cash flow management, operations and maintenance of capital assets, staff management etc.
113. UPLANDs will support and train national and provincial seed centres. While the IFAD funded IPDMIP project is also engaged with these institutions, the range of crop varieties most relevant to upland farming systems will still require support and capacity building from UPLANDs technical specialists. Where feasible, UPLANDs should build on the capacity building lessons learned from on-going IFAD funded projects such as READSI and IPDMIP. In particular, the on-granting guidelines prepared by IPDMIP can be adopted for use at UPLANDs PIUs.
114. The project is also expected to benefit from the IsDB's Reverse Linkage initiative. Reverse Linkage is a south-south and triangular cooperation mechanism whereby IsDB member countries serve among themselves as the primary and forefront agents in the provision of expertise, knowledge, technology and solutions. Through this mechanism, the member countries address specific development constraints in a mutually beneficial, results-oriented and program-based arrangement. To facilitate this exchange, the IsDB will provide a grant, while the provider and recipient countries are required to contribute to the activity budget both, in cash and in kind.
115. In the project, the Executing Agency (Ministry of Agriculture) will be linked with a Centre of Excellence (CoE) in another of the common member countries of IFAD and IsDB (e.g. Malaysia), so that technical expertise or technology transfer can be supported for the benefit of the project. It is anticipated that the CoE would augment the efforts to improve the post-harvest and downstream value-addition activities, or contribute to improving the marketing and trading linkages of some of the project commodities. As such, in addition to the grant allocation from IsDB, there will also be an allocation from the project to cover the contribution from Indonesia, with a contribution coming from the CoE as well.

#### **Sub-component 3.2 Adaptive Research**

116. The main sub-component output will be the broad dissemination of research results. Activities will focus on three key areas of need for uplands agriculture: (i) On-farm trials of new crop

varieties and their good agronomic practices; (ii) Soil fertility including developing appropriate fertilizer recommendations based on diagnostics; and (iii) Yield and socio-economic studies. The implementing agency will be the NPMU with the MOA agriculture extension staff and village facilitators. UPLANDs will also leverage partnerships with local research agencies and other international research partners such as CGIAR centres (e.g. ICRAF, CIP) where IFAD has existing partnerships, and bilateral partners such as ACIAR and USAID.

117. Adaptive research is important given that many technologies 'on shelf' at the research institutes, but not extended to farmers. There is also need to continuously assess the adaption and adoption processes of the introduced technologies, and incorporate lessons learnt into the extension programs to help their greater uptake and use by farmers and local agribusinesses. The adaptive research will be conducted on-farm and will engage extension staff and farmers in their design, management and evaluation. It will have three key activities for which the project will budget for:
118. **On-farm trials of new crop varieties and their good agronomic practices** Examples include: (i) high yielding coffee varieties that respond well to fertilizer application; (ii) rice; and (iii) potatoes. All three are target crops of the project. The trials could also include intercropping that farmers traditionally practice – how this can be done well in ways that does not adversely affect the yields of the two crops. The on-farm trials design will be determined in consultation with extension staff and farmers with budgets to support their establishment and management.
119. **Soil fertility** including developing appropriate fertilizer recommendations based on diagnostics. It is important that farmers get the best advice on what fertilizers to use judiciously within the framework of integrated soil fertility management. The program budgets will support soil sampling, rapid analysis and reporting on the key project locations. Where the data exists from previous studies, the project will support its synthesis and fine-tuning to the needs of the farmers, the fertilizer industry and extension system in easy to understand comprehensible formats.
120. **Yield and socio-economic studies** – including yield analysis and periodic assessment of farmer's adoption patterns of project innovations. This requires setting up good baselines. The project will provide resources for national research to set a good sampling framework, collect and analyse the data, and report fast the outcomes to all stakeholders involved in the project. The frequency of the studies could be twice a year, at least for the annual crops. For the perennial crops (e.g. mango), once a year would be adequate. Data collected will be archived well, updated and shared with all stakeholders regularly. All data collected from the field will be geo-referenced.

## E. Theory of Change

121. The UPLANDs theory of change is presented in Annex 2. In addition, Annex 2 also provides an illustration of how the theory of change in operationalized at the district levels.
122. In line with the national government priorities to reduce economic disparity, promote food and nutritional security, as well as improving farmers' welfare, UPLANDs theory of change is based on the assumption that by creating and enabling environment and by provisioning targeted support, upland smallholders will be able to increase their productivity, build sustainable livelihoods and create stronger linkages with national and export markets, and ultimately transform rural upland areas.
123. Smallholder farmers in the uplands of Indonesia generally have good resource potential and a demonstrated willingness to produce marketable surpluses that would increase their incomes and reduce poverty. There is a strong demand for diversified higher value crops, however, supply chains are underdeveloped and sustainable commercial relationships have failed to emerge. Smallholders face a number of technical and organizational constraints that keep them from realising their potential, while off-takers face other constraints that keep them from sourcing from upland areas. Smallholder farmers in uplands areas face increased threats from climatic variations and increased risk of climate induced natural disasters. Investment in ensuring a more enabling environment for effective business relationships with better access to improved inputs, technologies, and public and private sector investment in market infrastructure, and increased climate and disaster resilience, has great potential for increasing the income levels of upland smallholder farmers.
124. The upland rural areas across Indonesia, and the specific project locations, have a higher incidence of poverty than the national average (14.3% vis. a vis 10.7% in 2017), as well as a higher concentration of vulnerable populations. Considering the need to expand agricultural productive land in Indonesia in order to feed a growing population, and the under-utilization of available uplands agricultural land (less than 50% utilized), the development of upland areas has large potential for economic development and closing inequality gaps. Capitalizing on these still underdeveloped areas is a high national developmental priority, but must to be done in a sustainable manner in order to avoid a negative impact on fragile natural resources.
125. The theory of change recognizes that in order to effectively support smallholders in overcoming their constraints to improving productivity and increasing their resilience, an integrated approach is required. The project will therefore invest in a range of complementary activities to address some of the most common problems encountered in upland farming in the selected commodities. By investing in new and rehabilitated infrastructure, improved quality of climate resilient planting materials, training and upskilling extension staff, providing relevant and regular technical and facilitation support for farmers, ensuring access to finance, reducing post-harvest losses and improving market access, UPLANDs can promote a new paradigm for upland agriculture that is profitable, climate smart, sustainable. This will result in higher incomes for farm families as well as more profitable market linkages and employment opportunities for women and youth. Therefore, by working to improve productivity, capacity and market development, the project will contribute to poverty reduction and economic development in the project areas.
126. IFAD and IsDB would build on their considerable collective experience of strengthening and building the capacity of smallholders, farmer groups including men and women, microenterprises, and agriculture cooperatives. The project offers an opportunity to develop a platform for fostering an approach that can be scaled up by the Government for achieving its strategic vision for agriculture growth and development, and also to inform future policy and public expenditure.

## F. Alignment, ownership and partnerships

127. **Alignment with Sustainable Development Goals (SDG) Number 1, 2, 5, 10, 12 and 15** UPLANDs directly addresses [1] the SDG goal number 1: End poverty in all its forms everywhere, [2] the SDG goal number 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture; [3] the SDG goal number 5: Gender Equality; [4] 10: Reduce inequality within and among countries; [5] the SDG goal number 12: Ensure; and [6] SDG goal number 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
128. The project's goal is to reduce poverty within the 14 targeted districts. Therefore, the project is in line with the **SDG targets of goal number 1.1 and 1.2** e.g. (i) By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day; and (ii) By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.
129. The project activities will improve agricultural infrastructure (water retention, irrigation and farm-road), soil and water conservation practices, production practices, training to farmers, women group and youth, and adopt value chain agribusiness to increase on-farm productivity and creating value added, which in turn it will raise farmers' income, Farmer's Term of Trade Indices. Therefore, in regard to the **SDG goal number-2**, the project will in line with the corresponded targets number 2.3 and 2.4, i.e.: (i) By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment; and (ii) By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.
130. Through the project's approach towards gender transformation it will contribute to SDG 5 by ensuring women's full and effective participation and equal opportunities for leadership at all levels of decision-making, promoting women equal rights to economic resources, as well as access to ownership, financial services, and natural resources, and to promote the empowerment and gender equality of women and girls.
131. Improvement to market access and developing marketing network of the processed agricultural products will be promoted in this project; which will contribute to increase farmers' income. In this regard, the project will be in line with the **SDG goal number 10**, particularly to contribute in achieving the SDG target number 10.1: By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average.
132. Integrated farming systems in the upland agriculture – particularly integration between upstream and downstream agribusiness activities, applying soil and water conservation practices, promotion of the use of organic fertilizers - is the soul of this project. In this regard the project is in line with the target of **SDG number-12**, especially target number 12.2: By 2030, achieve the sustainable management and efficient use of natural resources. This also in line with the target of **SDG goal number 15**, particularly target number 15.3.: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.
133. **Alignment with national priorities.** Indonesia follows a 2005-2025 long-term development plan, which is segmented into a 5-year National Medium Term Development Plans (RPJMN). In the 4th Medium-term Development Plan (2015-2019), the government has set targets for increasing food sovereignty, reducing poverty in urban and rural areas, reducing economic inequality, and decreasing underdeveloped villages. It sets ambitious objectives to achieve equitable growth and poverty reduction: annual GDP growth of 8%, reduction of the poverty rate from 11 to 7-8%, access to nutritious food for 100% of the population and development of rural and remote areas, and 4.5% annual growth rate of the agricultural, fisheries and forestry sector. The Plan affirms the importance of the agriculture sector and the development of neglected areas in Indonesia's development. In line with the current 2015-2019 RPJMN, the Government of Indonesia seeks innovative approaches that serve all rural poor and ensure that growth does not lead to entrenched poverty as Indonesia transitions to a modern middle-income country. A special focus has been placed on upland development due to the existing natural resource management challenges as well as the needs of upland populations as they are recognized as particularly disadvantaged and vulnerable.
134. In line with the Medium-Term National Development Plan, the overall objective of the 2015-2019 Strategic Plan of the Ministry of Agriculture (MoA) is to achieve food security and farmers' welfare. The Plan aims at promoting an overall environment enabling small farmers to respond to the growing domestic demand for food production, through extensive investment in irrigation, storage, market and transport infrastructure, strengthened extension and other support services, and adaptation to environmental risks. It also aims at increasing the value added of agricultural products as well as employment in the agriculture sector, with a view to raise the income of farmers and of all the players directly or indirectly involved in the agriculture business.
135. The Ministry of Agriculture has developed the Master Strategy for Agriculture Development (SIIP) 2015 - 2045 which puts forward two new paradigms (i) Agriculture for development which focuses on downstream development of the agricultural sector and (ii) Development of bio-sustainable industrial agriculture with an emphasis on quality, adding value and enhancing competitiveness of agricultural products. It intends to promote economies of scale, vertical integration covering upstream and downstream aspects, as well as horizontal integration that cover various commodities and business types. The principle of sustainable bio-industrial agriculture requires an integrated management pattern, involving relevant institutions and stakeholders. The Ministry also has a blueprint for horticultural development (2010–2025) to transform the sub-sector in Indonesia so that it can be a major supplier of fruit in Asia and the world market.
136. **Alignment with IFAD policies and corporate priorities.** Under the 2016-2025 Strategic Framework, IFAD aims to invest in rural people to enable them to overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods. IFAD will pursue three closely interlinked and mutually reinforcing strategic objectives (SOs) to achieve its goal: SO1: Increase poor rural people's productive capacities; SO2: Increase poor rural people's benefits from market participation; and SO3: Strengthen the environmental sustainability and climate



resilience of poor rural people's economic activities. In order to achieve these objectives, IFAD intends to work in a way that is bigger, better and smarter: Bigger: by mobilizing substantially more funds and resources for investment in rural areas; Better: by strengthening the quality of IFAD's country programmes through innovation, knowledge-sharing, partnerships and policy engagement; and Smarter: by delivering development results in a cost-effective way that best responds to partner countries' evolving needs. UPLANDs directly feeds into the development goal and further works particularly towards SO1, 2 and 3. Given the prominent scaling up agenda and innovation focus, the READ SI investment is aligned with the bigger, better, smarter way of working.

137. The Indonesia Country Strategic Opportunities Programme (COSOP) details IFAD's three strategic objectives (SO) in Indonesia: (i) SO-1: Smallholder producers participate in remunerative agricultural markets; (ii) SO-2: Smallholder producers and their families are more resilient to risks; (iii) SO-3: Rural institutions deliver responsive services that meet the needs of smallholder producers. UPLANDs directly addresses the three strategic objectives and is thus consistent with IFAD's country strategy for Indonesia.
138. It is furthermore consistent with other relevant IFAD policies, strategies and guidelines, notably: (i) Targeting Policy: Reaching the rural poor; Gender Equality and Women's Empowerment Policy; Private-Sector Development and Partnership Strategy; Rural Finance Policy; Policy on Preventing Fraud and Corruption; Policy on Supervision and Implementation Support; Loan and Grant Administration Operational Manual; Guidelines for Project Design.
139. As detailed previously, UPLANDs also responds to the four IFAD11 corporate priorities:
- **Gender.** UPLANDs is a gender transformative programme that puts strategies in place to ensure inclusion of women, men and youth. The project fully recognizes women as farmers and is focussed on expanding women's economic empowerment, strengthening their role in decision-making at the household and community level, encouraging more equitable distribution of workload between women and men and facilitating empowering measures for men, women and youth at the village level.
  - **Youth**<sup>[10]</sup>. UPLANDs will facilitate youth representation in farmers groups, expand employment opportunities along the value chain and facilitate their access to knowledge skills and markets. The project investment in mechanization and the use of modern technologies will specifically be the areas where youth will participate actively.
  - **Nutrition** will be mainstreamed in production and processing activities as well as in awareness raising and promotion of nutrition through women and youth. The approach is to introduce a nutrition-sensitive value chain implementation approach for each commodity. It will encourage local innovation combined with evidence-based assessment to identify and scale-up promising innovations in the approaches to improving nutrition. Some of the interventions for nutrition will include extension advice on nutritious crop varieties, social marketing events and nutrition awareness.
  - **Climate** adaptation is an integral part of the project design. The project will develop a number of good climate smart agricultural practices that will strengthen existing and future climate resilience. The climate adaptation focus will be participative and building on the traditional farmer climate skills together with the findings of climate science. It seeks to build the skills and capacities of the farmer and government institutions to proactively support initiatives to meet the needs of climate change adaptation. The approach will provide a strong base to scale up the UPLANDs production and climate change initiatives to wider areas. In addition, UPLANDs contributes to increasing climate change resilience by providing farmers with adequate risk transfer mechanisms, including agricultural insurance.
140. **Country ownership.** The project concept for UPLANDs was developed by Directorate of Agriculture Irrigation and Facilities (DGAIF) of the Ministry of Agriculture in consultation with other relevant government ministries and included in Government's Blue Book, its investment plan for foreign financing. The process for developing UPLANDs involved a call for proposals from district agriculture staff across Indonesia. After careful assessment, proposals from 14 districts covering 11 commodities were selected and presented to the UPLANDs design team for detailed definition. This approach was endorsed by Bappenas, who guided the design firmly towards the original concept of commodity chain development. Bappenas has also ensured the UPLANDs project is included in Government's Green Book to ensure government funding for co-financing UPLANDs is available for implementation in 2019. To ensure adequate local ownership, the UPLANDs will adopt the *on-granting mechanism*, which requires all participating local government authorities to pre-finance project activities, to later be reimbursed by the central government. The government agrees that this mechanism is better suited to meet the objectives of supporting large decentralized investment delivery, and creating and enabling higher district level ownership.
141. **Partnerships.** The Government of Indonesia has requested IFAD and the Islamic Development Bank to collaborate to improve agricultural productivity and sustainable soil and water management in upland areas by focusing on specific high priority commodities. This partnership is expected to make an important contribution to key government priorities such as poverty alleviation, food security, employment and economic growth, empowerment of women and youth, climate resilience, innovation, reducing regional inequality and promotion the sustainable use of natural resources.
142. IFAD and IsDB's considerable experience in the country can assist Government address its key priorities. IFAD has been working in Indonesia since 1980. It has financed 17 loan projects, with a total investment of US\$ 1,692 million. IsDB has been supporting Indonesia's since 1978, and has cumulatively provided financial resources in excess of US\$ 7 billion, through over 200 public and private sector operations, as well as financial sector support. UPLANDs is aligned with IsDB's Member Country Partnership Strategy (MCPS) 2016-2020, and is included in the proposed project pipeline agreed between IsDB and GOI under the MCPS.
143. IFAD has a proven track record in empowering disadvantaged groups and raising agricultural productivity in upland areas. IFAD has also a strong reputation for strengthening rural enterprises and developing inclusive value chains. Up until today, IFAD interventions have benefitted 13 million people throughout Indonesia, including in rain-fed, upland areas. While in previous IFAD programmes, upland farmers have not been a dedicated target group, IFAD's approach of strengthening the farming system, combining innovative, strengthened advisory services with access to business development services and markets will be a highly relevant basis for the development of sustainable technology transfer approaches in upland settings which would be used as appropriate. Along with strong footprints in education and infrastructure sectors, the IsDB has considerable experience in supporting GOI's National Community Empowerment Program (or PNPM-Mandiri and now renamed as the National Slum Upgrading Program), which adopts the community development approach and has community mobilization and capacity building at its core. Through this program IsDB has contributed to the reduction of poverty and improvement of well-being of over 15 million people out of the 45 million populace living in the 4800 urban wards of 15 provinces. IsDB's innovative approaches for providing access to financial services would also be incorporated in the design of the UPLANDs.
- G. Costs, benefits and financing**
- a. Project costs**
144. The total project costs, including physical and price contingencies, duties and taxes are estimated at US\$ 151.655 million over a five-year implementation period. Project costs by components and by category are summarized in Table 5 and Table 6. The Project investments are organized into four major components: (i) Productivity Enhancement and Resilience-Building (68% of the costs); (ii) Agribusiness Development & Livelihood Facilitation (12.7% of the costs); (iii) Strengthening Institutional Delivery Systems (3.4% of the costs); and (iv) Project Management (15.9%).
145. Project components 1. Infrastructure Development for Productivity Enhancement & Resilience Building, and 3. Strengthening Institutional Delivery System are partially counted as climate finance. The total amount of IFAD climate finance is preliminarily calculated as US\$41.297 million.

**Table 5: Programme/project costs by component (and sub-components) and financier(Thousands of United States dollars)**

Component	IFAD loan		IsDB loan		IsDB grant		Beneficiaries			Government of Indonesia		Private sector	Total
	Amount	%	Amount	%	Amount	%	Cash	In-kind	%	Cash	In-kind	%	Amount
<b>1. Productivity enhancement and resilience-building</b>													
1.1. Land and infrastructure development	2 959	5.0	40 499	67.8	-	-	-	10 858	18.2	5 432	-	9.1	- 59 748
1.2. Production and farm management	33 091	76.5	3 017	7.0	-	-	-	975	2.3	6 103	-	14.1	- 43 186
Subtotal	36 050	35.0	43 516	42.3	-	-	-	11 833	11.5	11 535	-	11.2	- 102 934
<b>2. Agribusiness development and livelihood facilitation</b>													
2.1. Development of farmer institutions	1 207	90.9	-	-	-	-	-	-	-	121	-	9.1	- 1 328
2.2. Market infrastructure and equipment	1 664	13.7	7 139	59.0	-	-	-	2 201	18.2	1 100	-	9.1	- 12 105
2.3. Strengthening market linkages and alliances	1 645	89.6	-	-	-	-	-	-	-	167	-	9.1	24 1 836
2.4. Access to financial services	-	-	4 001	100.0	-	-	-	-	-	-	-	-	- 4 001
Subtotal	4 516	23.4	11 140	57.8	-	-	-	2 201	11.4	1 388	-	7.2	24 19 269
<b>3. Strengthening institutional delivery systems</b>													
3.1. Capacity-building for institutional development, governance and transparency	2 733	77.3	-	-	500	14.1	-	-	-	301	-	8.5	- 3 534
3.2. Adaptive research	-	-	1 608	90.9	-	-	-	-	-	161	-	9.1	- 1 769
Subtotal	2 733	51.5	1 608	30.3	500	9.4	-	-	-	462	-	8.7	- 5 303
<b>4. Project management</b>													
4.1. Technical assistance	619	4.0	13 537	86.9	-	-	-	-	-	1 416	-	9.1	- 15 571
4.2. Operating cost	6 081	70.9	199	2.3	-	-	-	-	-	2 297	-	26.8	- 8 577
Subtotal	6 700	27.7	13 736	56.9	-	-	-	-	-	3 713	-	15.4	- 24 149
Total	50 000	33.0	70 000	46.2	500	0.3	-	14 034	9.3	17 097	-	11.3	24 151 655

Note: The access to financial services US\$ 4 million from IsDB will be provided through Islamic Solidarity Fund for Development

Table 6: Programme/project costs by expenditure category and financier(Thousands of United States dollars)

Expenditure category	IFAD loan		IsDB loan		IsDB grant (ISFB)		Private sector			Beneficiaries			Government of Indonesia		Total
	Amount	%	Amount	%	Amount	%	Amount	%	Cash	In-kind	%	Cash	In-kind	%	Amount
<b>Investment costs</b>															
A. Technical assistance and consultancies	401	2.6	13 609	88.3	-	-	-	-	-	-	-	1 401	-	9.1	15 441
B. Works	19	0.1	17 077	72.7	-	-	-	-	-	4 273	18.2	2 137	-	9.1	23 505
C. Grants and subsidies	5 399	10.3	32 715	62.6	-	-	-	-	-	9 415	18.0	4 753	-	9.1	52 282
D. Goods and services	31 791	86.2	1 608	4.4	-	-	-	-	-	130	0.4	3 353	-	9.1	36 882
E. Training, workshop and meeting	9 171	85.1	127	1.2	500	4.6	24	0.2	-	-	-	960	-	9.1	10 782
F. Micro-credit	-	-	4 001	100.0	-	-	-	-	-	-	-	-	-	9.1	4 001
G. Vehicle	77	90.9	-	-	-	-	-	-	-	-	-	8	-	9.1	85
H. Equipment	106	8.1	863	66.2	-	-	-	-	-	216	16.6	119	-	9.1	1 304
I. Operating cost	3 036	90.8	-	-	-	-	-	-	-	-	-	304	-	9.1	3 340
Total Investment cost	50 000	34.0	70 000	47.6	500	0.3	24	0.0	-	14 034	9.5	13 034	-	9.1	147 591
<b>Recurrent costs</b>															
A. Salaries	-	-	-	-	-	-	-	-	-	-	-	4 064	-	100.0	4 064
Total recurrent costs	-	-	-	-	-	-	-	-	-	-	-	4 064	-	100.0	4 064
Total	50 000	33.0	70 000	46.2	500	0.3	24	0.0	-	14 034	9.3	17 098	-	11.3	151 655

Table 7: Programme/project costs by component and year(Thousands of United States dollars)



	PY1		PY2		PY3		PY4		PY5		Total
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount
<b>1. Productivity enhancement and resilience-building</b>											
1.1. Land and infrastructure development	-	-	17 679	29.59	26 152	43.77	15 917	26.64	-	-	59 748
1.2. Production and farm management	490	1.14	18 743	43.40	21 389	49.53	1 951	4.52	613	1.42	43 186
<b>Subtotal</b>	<b>490</b>	<b>0.48</b>	<b>36 422</b>	<b>35.38</b>	<b>47 541</b>	<b>46.19</b>	<b>17 868</b>	<b>17.36</b>	<b>613</b>	<b>0.60</b>	<b>102 934</b>
<b>2. Agribusiness development and livelihood facilitation</b>											
2.1. Development of farmer institutions	-	-	360	27.10	366	27.59	320	24.12	281	21.19	1 328
2.2. Market infrastructure and equipment	83	0.69	8 863	73.22	3 158	26.09	-	-	-	-	12 105
2.3. Strengthening market linkages and alliances	-	-	449	24.45	457	24.89	465	25.34	465	25.31	1 836
2.4. Access to financial services	58	1.44	3 459	86.46	484	12.10	-	-	-	-	4 001
<b>Subtotal</b>	<b>141</b>	<b>0.73</b>	<b>13 131</b>	<b>68.15</b>	<b>4 465</b>	<b>23.17</b>	<b>786</b>	<b>4.08</b>	<b>746</b>	<b>3.87</b>	<b>19 269</b>
<b>3. Strengthening institution delivery systems</b>											
3.1. Capacity-building for institutional development, governance and transparency	1 129	31.95	729	20.63	742	21.00	716	20.26	220	6.2	3 534
3.2. Adaptive research	-	-	-	-	579	32.74	590	33.33	600	33.93	1 769
<b>Subtotal</b>	<b>1 129</b>	<b>21.29</b>	<b>729</b>	<b>13.75</b>	<b>1 321</b>	<b>24.91</b>	<b>1 305</b>	<b>24.61</b>	<b>820</b>	<b>15.46</b>	<b>5 303</b>
<b>4. Project management</b>											
4.1. Technical assistance	1 524	9.79	3 725	23.93	4 242	27.24	3 263	20.96	2 816	18.09	15 571
4.2. Operating cost	1 242	14.48	2 238	26.09	1 761	20.53	1 701	19.83	1 636	19.07	8 577
<b>Subtotal</b>	<b>2 766</b>	<b>11.45</b>	<b>5 963</b>	<b>24.69</b>	<b>6 003</b>	<b>24.86</b>	<b>4 964</b>	<b>20.56</b>	<b>4 452</b>	<b>18.44</b>	<b>24 149</b>
<b>Total</b>	<b>4 526</b>	<b>2.98</b>	<b>56 245</b>	<b>37.09</b>	<b>59 331</b>	<b>39.12</b>	<b>24 923</b>	<b>16.43</b>	<b>6 631</b>	<b>4.37</b>	<b>151 655</b>

#### b. Project financing/co-financing strategy and plan

146. GOI has requested a loan of US\$ 50 million or 33.0% of total project cost, from IFAD and US\$ 70million or 46.2% of cost from IsDB. The GOI will contribute US\$ 17.1 million (11.3%) by financing salaries of all PMU, PIU, extension workers and by waiving taxes and duties. The project beneficiaries are expected to contribute US\$ 14.0 million (9.3%) mostly to co-finance the purchase of basic and advanced machinery, equipment, building storage and production facility under component 1 and 2 - and "private sector partners" – which are companies investing on seed potato and potato commodities-related activities - will contribute US\$ 24,000 of the total programme cost.

147. 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 and IsDB loan, any future changes in tax legislation will have to apply to the programme.

#### 148. Table 8: Project Financing Plan (in US\$ Million)

Source	Amount	Share of Total
		(%)
International Fund for Agricultural Development – Loan	50.00	33.0%
Islamic Development Bank – Loan	70.00	46.2%
Islamic Development Bank – Grant	0.50	0.3%
Government of Indonesia	17.1	11.3%
Beneficiaries	14.0	9.3%
Private Sector	0.02	0.016%
<b>Total</b>	<b>151.655</b>	<b>100</b>

#### c. Disbursement

- IFAD loan proceeds will be disbursed in accordance with IFAD Loan Disbursement Handbook and its detailed arrangements would be outlined in the Letter to the Borrower. Disbursements under IsDB and ISFD financing will be made in accordance with prevailing IsDB procedures and guidelines. Considering the activities, the project will adapt impress account arrangement, with advance payment and then followed by replenishment to the DA.
- The Government will open two Designated Accounts in US\$, in the name of the Ministry of Finance (MoF) at Bank Indonesia (BI). One account for the IFAD loan funds and another account for the IsDB loan funds. Funds in these accounts will be used to pay the eligible Project expenditures incurred by PMU and PIUs. The modalities of the designated account for the IFAD resources will be detailed in the Letter to the Borrower, which would be issued by IFAD. Details of the specific names, titles and signature(s) of the persons authorized to operate these accounts must reach IFAD and IsDB before withdrawals are initiated. There will be strong fiduciary management and controls put in place to effectively track and report on the utilization of funds. The Special Account limit for the IsDB is proposed to be increased to US\$ 10 million and US\$ 1 million for the ISFD Loan, to facilitate the multiple and frequent small payments expected across the 14 districts under the project
- Although the DA will be under the name of DG Treasury MOF, the PMU at MOA will be the ones responsible to reconcile the DA and to prepare the application for withdrawal for advances and reporting the use of the DA, duly approved by DG Treasury, before their submissions to the IFAD or IsDB. Copies of the DA's bank statement will be provided to the PMU by DG Treasury, MOF.
- Requirement for First Disbursement.** The following are designated as additional general conditions precedent to withdrawal: (i) The PMU shall have been duly established within MoA, and (ii) The PIM shall have been prepared in a manner satisfactory to IFAD.
- The annual estimated disbursement at design is described in table below. Disbursement Plan per Year. Loan withdrawals per year for the Project until the end of 2023 are IDR 1,533,884,452,049 or US\$ 108,786,131.
  - First year: the project will carry out PMU component activities, Project Start Up Workshop, Consulting Services, Monitoring and Evaluation with a total budget of Rp76,694,222,602.43 (5%) or USD 5,439,306.57.
  - Second Year: the project will carry out a continuation of PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure, and Extension & Field Trial,

Training with a total budget of IDR 306,776,890,409.71 (20%) or USD 21,757,226.54.

- o Third Year: the project will carry out a continuation of PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure, and Extension & Field Trial, Training with a total budget of IDR 613,553,780,819.42 (40%) or USD 43,514,226.54.
- o Fourth Year: the project will carry out a continuation of PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure, and Extension & Field Trial, Training with a total budget of IDR 383,471,113,012.14(25%) or USD 27,196,532.84.
- o Fifth Year: overall the project will complete PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure with a total budget of IDR 153,338,445,204.86 (10%) or USD 10,878,613.14.

#### d. Summary of benefits and economic analysis

149. The project is expected to reduce poverty and enhance food security in upland areas through building remunerative, sustainable and resilient livelihoods. As a result of project activities, the poverty level of rural area in the targeted districts will reduce from in average 16.41% in 2017 to become in average 13.0% by end of 2025. This will be achieved through achievement of outcome 1: Increase in poor rural people's productive capacities, outcome 2: Increase poor rural people's incomes from enhanced processing and/or market participation, and outcome 3: Enhanced delivery of UPLANDs services & research.

150. The project will be implemented in 14 districts. Total villages covered by the project is 247 (16%) of the total 1,525 villages in the participating districts. The poverty rate on the participating districts in 14 districts in 2017 was in average 14.295. Based on the BPS data, the ratio poverty level of rural to urban in at provincial level of the participating districts in 2012 in average was 1.37, meaning that poverty at rural area is 1.4 times compared to district poverty level. Current reduction in poverty rate is in average at 0.55% per year during 2009-2018. The project villages are expected to able to reduce poverty rate at 1% per year starting from 2021. Based on this assumption, the project will contribute to reduce the poverty rate at rural are in the participating districts in average to become 13% by end of 2025.

**Table 9: Incremental Benefits by Commodity and Location**

Commodity	Average incremental benefit per unit			
	Location	AIB/unit/year	unit	Note
Shallot	Malang	31,255,934	ha	
	Sumenep	39,774,334	ha	
	Sumbawa	39,993,534	ha	
Seed shallot	Sumbawa	110,082,334	ha	
Garlic	Lombok Timur	49,158,905	ha	
Potato	Minahasa Selatan	16,776,835	ha	
Seed Potato	Garut	39,270,585	ha	
Organic rise	Tasikmalaya	79,593,450	ha	
	Magelang	57,647,798	ha	
Mangosteen	Subang	23,780,883	ha	New
	Subang	9,228,839	ha	Existing
	Lebak	16,342,571	ha	
Mango	Cirebon	54,178,009	ha	New
	Cirebon	183,841,350	ha	Existing
Banana	Gorontalo	42,899,557	ha	New
Goat	Banjarnegara	6,509,313	head	
	Purbalingga	2,561,264	head	
Coffee	Banjarnegara	34,742,265	ha	New
	Banjarnegara	18,493,200	ha	Existing

151. The main benefits expected from the project will be increases in productivity, increase in area under the selected commodities, reduction in post-harvest losses and increase in market share and reduced price vulnerability due to greater market access. In the selected commodities current yields are between 20% to 50% below the potential yields and that there are post-harvest losses of around 20% or more for some of the most perishable commodities, especially horticulture crops. There is considerable price volatility due to lack of access to markets and poorly developed infrastructure. The project is designed to deal with these issues of low productivity and limited access to markets. Women are expected to benefit from increased entrepreneurship activities by participating in increased processing of the selected commodities as well as reduction in their workload through access to improved technology and skills. Youth and women will directly benefit as a result mainly of improved employment opportunities and access to skills and technologies for improved farming.

152. Benefits relating to increased farm productivity include better access to crop inputs, seasonal finance, technical support and improved on farm infrastructure. Improved crop water management will involve use of efficient irrigation systems designed to best suit the selected commodity in an uplands agricultural production system. Marketing benefits would include aggregation of commodities by way of smallholder Farmer Groups being linked into larger farmer association/private sector alliances. Commodity aggregation via alliances would result in significant economies of scale for smallholders by providing access to enhanced post-harvest packing, processing, and storage and distribution systems. This in turn would result in marketing benefits as

they would become active participants in an agricultural enterprise able to satisfy requirements of higher end Indonesian and export markets

153. The project is expected to be a financially and economically viable investment for the economy as a whole. The economic net present value of the programme's net benefit stream, discounted at 9 per cent, is Indonesian Rupiah 1.98 billion (approximately US\$207.5 million). The estimated EIRR for the project is 26.4% and the NPV (at the discount rate of 9%) is Rp. An increase of project costs or a decrease of project benefits by 10% would lead to an EIRR of 24.1% and 23.9% respectively while the two scenarios together would result in an EIRR of 21.7%

154. Variations in the shadow wage rate factor (set at 0.8 for the base case) have negligible impact on the result: a SWRF of 0.9 results in an EIRR of 26.3% and of 0.7 in and EIRR of 26.5%.

155. This result indicates that the project can be expected to be economically viable, and resilient to any likely variations in key variables.

#### e. Exit Strategy and Sustainability

156. The overall likelihood of the sustainability of the UPLANDs is expected to be enhanced by the strong national and local government ownership and financial commitment, the project's focus on strengthening where possible existing local institutions rather than creating project based structures, and the investment in viable agribusiness business plans in a selected number of focus commodities. Other elements that will contribute to the project's overall sustainability and exit strategy are as follows.

157. **Capacity Building and Training.** Training will be an important element of project sustainability and associated exit strategy, and will include: (i) farmer training to ensure the technical skills are learned to enable uptake of new technology. In this respect the Project will specifically track the adoption rates by farmers of new technologies required to improve product outputs and quality; (ii) 231 farmer extension workers will be re-trained to ensure they have the skills required to support farmers; (iii) farmers will be trained in financial analysis to enable them to understand gross margins and general farm profitability; (iv) post-harvest training will be delivered to farmers and market specialists. and (v) business training will be essential to ensure UPLANDs supported businesses (including Bumdes, KUBE and BLUD) are established and strengthened on the basis of sound business practices. All training will be supported by technical assistance personnel with the necessary skill and experience.

158. **Strengthening Farmer Institutions:** The project is expected to contribute to strengthening strong farmer-based agribusiness organizations/institutions, at the farmer group level, farmer-group federation level, and higher-level agribusiness institutions (such as Cooperative, BLUD). It is recommended that the organization team of farmer-based cooperative and BLUD (government own) are both managed by appointed professional team. Key staff of these institutions/organization will be trained, facilitated and supported in the business operation since on-farm level, off-farm level and might be up to out-farm level. At on-farm level that corresponds to farmer group levels or farmer-group federation levels, capacity building will be addressed to implement good agricultural or livestock raising practices to produce high quality products which meet the quality standard and to increase on-farm productivity, managing agricultural machineries for use collectively by farmers, managing communal cage for livestock raising. For off-farm - that in some extent correspond to farmer-group federation or higher-level agribusiness institutions - capacity building will be targeted to Gapoktan (Federation of farmer group), KUBE, BLUD, Cooperative. Capacity building will be addressed in preparation of business plan and how to implement the business plan, business operation and management. Functioning and operationalization of the farmer-groups and their business institutions will ensure the sustainability of the program and achieving project objectives.

159. **Strengthening Marketing and Partnership building.** Market awareness for all value chain participants will also be a key aspect of sustainability and therefore a realistic exit strategy. All elements of production, post-harvest processing and marketing will be based on a full and clear awareness of the requirements, demand levels and potential returns in the market place. While this may be a part of any business plan, market awareness in commercial value chain development is a key sustainability and exit strategy for UPLANDs.

160. **Access to Finance** (seasonal and development finance) is critical in value chain development. UPLANDs will ensure that all enterprises have access to sufficient financial support to enable them to operate to optimal potential. Over the life of UPLANDs, businesses will be required to build sufficient resources to enable them to largely stand alone in terms of seasonal finance as well as to build greater equity which in turn will support use of greater investment borrowing to enable continued growth. In summary, farmers and businesses will be encouraged to build both their own seasonal finance and a strong balance sheet where equity and debt are in balance. Strong balance sheets and limited overdrafts are the hallmarks of sustainability and in UPLANDs will also be a clear factor in the Project exit strategy.

161. **Strengthening Local Government:** Capacity of staff of local government agencies will be strengthened through training and comparative studies. The agencies are expectedly active in the programme implementation either in technical and managerial aspects, so that they could continue in providing guidance and facilitation to the farmer-based agribusiness development after the project. To ensure the strong and sustainability of the business institutions (KUBE, BLUD and Cooperatives), the project will:

- As part of capacity building of KUBE, BLUD and Cooperatives, ensure continuous facilitation and mentoring need to be provided by professional consultant operate in business or agribusiness.
- Professional business and public policy consultants to be provided to support the local government in developing and managing BLUD.
- Individual consultants mastering in specific-commodity business to support the related KUBE, BLUD and Cooperatives in developing the business and marketing networks.

162. There are risks associated with ensuring successful exit in a manner that ensures sustainability of UPLANDs beyond project closure. In addition to the elements outlined above, UPLANDs will adopt an on-granting approach to Project implementation. This will require districts to pre-finance budgeted activities, and as such will involve considerable awareness training for District Bupati (Mayors), and financial management training for treasurers and other finance staff. Ultimately, on-granting will provide district staff with greater authority to demand services and delivery from national government agencies. As such, on-granting is a strategy to empower district governments, in the process building greater sustainability and self-reliance. Hence, a fully operational on-granting mechanism is an integral part of the UPLANDs Exit Strategy.

163. UPLANDs will monitor the successful achievement of both sustainability and therefore the exit strategy by tracking the key indicators in the logical framework analysis. This can be supplemented by tracking supervision mission reports in respect of business development and progress in building financial resources to fund seasonal finance and debt repayment.

### 3. Risks

#### H. Project risks and mitigation measures

164. A total of 14 risks are identified as important for Project Management staff to address. While there are no serious risks to successful Project delivery, there are two operational risks rated as "medium" which will require specific attention to ensure potential negative outcomes are mitigated against. These are presented in Table 10 below. In addition, there are: (i) 5 "medium-low" risks (4 operational and 1 country); and (ii) 7 "low" risks (6 operational and 1 country). See Annex 8 – Integrated Risk Framework for further details of risks and their mitigation.

Table 10: Risks and mitigation.

	Risk	Rating	Mitigation
1.	Operational Risk: Complexity of national management of 14 different sub-projects.	M	Provision of consistent support to NPIU by both IFAD and IsDB in supervision and advice, especially in establishing functional project management, supervision and monitoring systems for all 14 value chain sub-projects.
2.	Operational Risk: Weaknesses in financial management impede smooth flow of funds and hamper execution of programme activities	M	Adequate provision of finance staffing to be foreseen manuals, interim financial reporting and enhanced internal audit to be put in place. With introduction of on-granting processes in financial implementation, there will be urgent need to focus on awareness raising of Bupati, and provide budget training to district treasurers and other financial staff.
3.	Operational Risk: Extension staff lack capacity to respond to farmer needs and to deliver relevant support.	L-M	Activities will focus on strengthening demand-driven support of the extension system, combined with an upgrading of extension staff capacities and training facilities.  Specialist TA recruited to mitigate major staffing skill deficiencies.

4.	Operational Risk: Procurement weaknesses; delayed contracting of specialist service providers for social mobilization	L-M	Good planning, training and support for the procurement processes. Procurement initiatives will include: (i) strengthening of procurement planning and strengthening of e-procurement, e-monitoring systems; (ii) setting performance targets to improve procurement planning; (iii) implementing measures to increase competition, such as better procurement and capacity development; (iv) providing technical support for documentation quality especially for terms of reference prior to tendering; (vi) ensure access to the highest quality consultants including international experts; and (vii) conducting a procurement audits.
5.	Operational Risk: First time introduction of BLUD institutional structures into agriculture sector	L-M	Provision of Institutional Specialist TA support to help establishment of proposed 6 BLUDs.
6.	Operational Risk: Lack of capacity and resources for the effective O&M of equipment and infrastructure.	L-M	Plans and responsibilities are defined and put into place for O&M of investments from the start including: (i) ensuring farmer ownership of equipment and equipment through around 25% cost recovery; (ii) training and develop of the institutional framework for O&M including putting aside funds to meet the needs of depreciation and replacement.
7.	Country Risk: Impact of climate changes will affect crop productivity and viability. Risk of earthquakes and volcanic activity.	L-M	Climate change adaptation will be carefully planned and implemented including: (i) implementing a climate change analysis and preparing viable and effective programs of climate adaptation; (ii) developing plans and climate resilient designs for soil and water conservation and irrigation; (iii) improving access to appropriate seed to meet climate impacts; (iv) improving access to climate information including weather and el Nino forecasts.  Most district schemes are in areas of seismic and volcanic risks; impacts to small scale infrastructure and agriculture would however be minimal.

#### 165. **Public Financial Management**

166. *The inherent risk is deemed to be **medium**. Indonesia was ranked 89<sup>th</sup> out of 180 countries in the 2018 TI Corruption Perception Index, with a medium score of 38.*

167. *The latest PEFA report for Indonesia was published in 2017. It described a reasonably well-functioning PFM system, with significant improvements from 2011 to 2016. The assessment over time shows significant improvements in the quality of PFM including: (i) Aligning the legislative and regulatory framework to the latest international budget, accounting and reporting standards with the adoption of the COFOG classification and accrual accounting standards; (2) Establishing a multi-year budgeting framework and a robust macroeconomic fiscal framework to optimize expenditure management in line with revenue mobilization; (iii) Rolling out the FMIS SPAN as a platform for the integration of the Treasury system and the consolidation of cash management operations at the central government level; and (iv) Strengthening the effectiveness of the oversight function by the internal audit and external audit institutions. in PFM systems linked to predictability and control over budget execution, particularly PEFA performance scores are slightly below B, which is above the basic level of performance broadly consistent with good international practices.*

168. *The Indonesia portfolio consists of six investment projects, with a disbursement ratio of 5.1% in 2018 (USD 8.19 Million out of USD 162 Million). Three projects are in completion or closing stage (CCDP, VDP & SOLID). Three projects are on the second year of implementation (IPDMIP, co-financed with ADB, READSI and SMPPEI) and one project in preparation stage of implementation (YESS). The disbursement performance of IPDMIP & READSI are unsatisfactory.*

#### I. **Environment and Social category**

169. The Project will have significant positive impacts on the quality of life and environment for the project communities such as strengthening farmer-based organization and management, improving agribusiness, soil and water conservation, maintaining genetic resources, improving the waste-water management, recycling of livestock dung to produce organic fertilizers for use in crop fertilization, improving access/farm road, increasing farmers' income sustainably, participation of women group and the youth, etc. Potential negative impacts associated with the design, construction and operation of the proposed project activities will be temporary, minor, and localized in extent and can be mitigated to acceptable levels. Such impacts include: (i) site specific impacts including excavation of construction materials for farm road and irrigation infrastructure development; (ii) water availability and quality; (iii) construction impacts; and (iv) operation impacts.

170. A preliminary screening of the project interventions has been carried and is described in the Social and Environment and Climate Assessment Procedures review note (SECAP) which is presented in Annex 3. The environmental screening has incorporated the requirements of IFAD, IsDB and Government. The IsDB environmental procedures follow the IFAD safeguards; in parallel a preliminary screening of the projects in relation to the Government environment regulations has been carried out.

171. Based on the IFAD Social, Environmental and Climate Assessment Procedures (SECAP), the project is categorized as Category B; anyhow, monitoring for early detection of investments which could correspond to category A will deserve high attention during implementation and the supervision missions will include specific focus on this monitoring. The proposed project is spread over fourteen districts and; (i) would not impact on any sensitive areas or result in loss natural habit and biodiversity, all of the agricultural development would be located on existing cultivated lands; (ii) the projects would be located in areas at high risk of geophysical hazards, notably earthquakes, however the risks to agriculture and small-scale infrastructure are considered to be minimal; (iii) the project design is directed at environmentally sound and sustainable agriculture, the project will invest in rehabilitation and new irrigation with a high emphasis on sustainable water use efficiency and strong water management, some increased use of pesticides is envisaged however these be supported by guidance and training in the safe and environmentally sound practices for pesticide use, waste from agriculture and processing will be small scale and will include measures to ensure safe disposal, and where viable include recycling; (iii) infrastructure will be small scale including farm roads and small scale irrigation schemes less than 100ha including rehabilitation and new schemes, dams would be small (less than 5m); (iv) the projects would require only limited land acquisition mainly for farm roads, land requirements would small and dispersed and would require only a small percentage (less than 10%) of individual owner's land; and (v) the project design will be participative and will be aimed at ensuring vulnerable and socially disadvantaged groups are actively engaged in the project activities.

172. The SECAP including the environmental and social management plan will be fully reviewed and updated as part of the detailed design process during year the first year of the project implementation; the approach for preparing the final project screening including the preparation of assessment to meet the environmental requirements of the UKL/UPL are described in the SECAP.

173. Prior to implementation all proposed physical and construction activities are also subject for environmental assessment, according to the Government regulations, i.e. (i) Government Regulation No. 27/2012 on Environmental Permit; (ii) Decree of Minister of Environment No. 05/2012 on Screening Criteria (type/scale/magnitude of activities requiring AMDAL/EIA); (iii) Regulation of Minister of Environment, Republic of Indonesia No. 16/2012 on Guideline on Preparation of Environmental Document; (iv) Decree of Ministry of Environment No. 17/2012 on Community Participation and Information Disclosure in Environmental Impact Assessment; (v) Regulation of Minister of Public Works, Permen PU No. 10/PRT/M/2008 on the Environmental Management Measure (UKL) and Environmental Monitoring Measure (UPL) Criteria; and (vi) Regulation of Ministry of Environment (Permen LH) No. 07/2010 on Competence Certification of AMDAL Preparation and Training Requirements for AMDAL Preparation.

174. In relation to the Government environmental requirements, preliminary screening indicates that the projects would be small with limited environmental impact and as such, would meet the criteria for a simpler UKL/UPL environmental permit rather than a full AMDAL assessment.

#### J. **Climate Risk classification**

175. Based on information on historic climate changes and projections using climate change models it is estimated that the project will be 'highly sensitive' to climate change. This classification is based on existing studies prepared by development partners acting in Indonesia [\[11\]](#); the project climate risk management will benefit from these studies.

176. Climate change estimates have been prepared relative to the 1986-2005 values. For Indonesia by 210, 0 temperature is projected to increase by 0.9-2.20C and rainfall by between -1% to +5%. For the UPLANDs projects there will be significant local climatic differences due to the altitude and complex topography. In the seven provinces where the UPLANDs will be located the estimated climate change impacts include: (i) by 2060s the estimated average temperature will increase between 1.0-1.50C; (ii) by 2060s in Banten, West, Central and East Java and Nusa Tenggara Barat, the wet season rainfall is estimated to increase (by 0 to +10%), dry season rainfall will however reduce (by 0 to -10%); (iii) a small increase in wet and dry season precipitation (by 0 to +10%) is estimated for Gorontalo and North Sulawesi; (iv) variation in the rainfall patterns due to the ENSO effects will continue, these will be over and above climate impacts, it is estimated that with climate change that there will be uncertainty an increase in the frequency of drought due to the El Niño events; (v) potential evapotranspiration is estimated to increase by about 5%, which will result in higher crop water requirements; (vi) extreme rainfall events are likely to increase risk of soil erosion; and (vii) the number of consecutive days without rainfall will increase.

177. Changes in climate will have an impact on crop growing conditions; affect agricultural productivity and the suitability of crops in different agroecological zones. High temperatures can lead to; (i) negative impact including heat stress; (ii) upland crops grown at niche altitudes may over time become less suitable for specific crops and varieties; and (iii) will increase evapotranspiration and

may trigger the proliferation of weeds, pests, and diseases. Changes in precipitation can result in a reduction of water availability for rainfed crops, and alterations of discharge in small upland river systems may lower reliability of irrigation water supply.

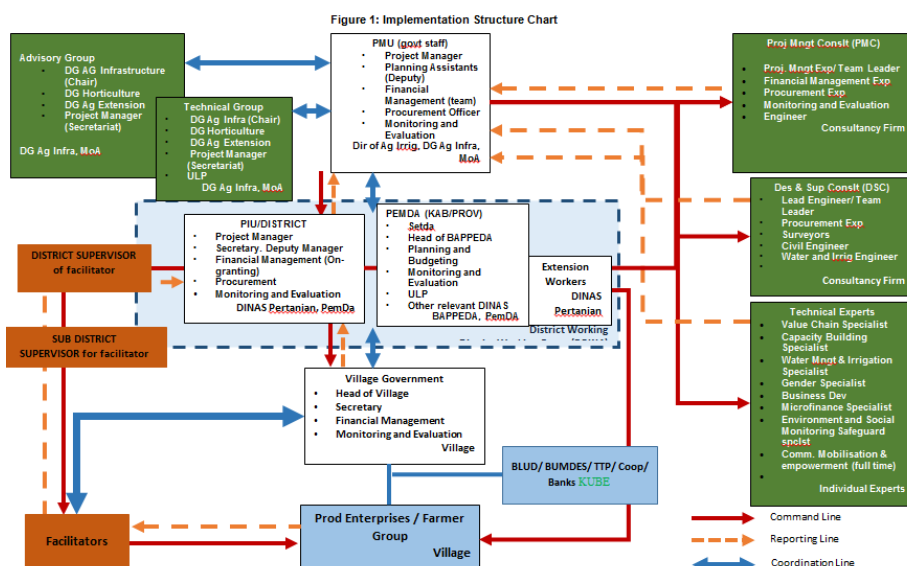
178. The collective impact of reductions in dry season rainfall, increased evapotranspiration as well as the increase in frequency of the cyclical El Niño droughts poses significant challenges to the UPLANDS in Java and NTB; climate impacts will be less in Gorontalo and North Sulawesi.
179. As a 'high climate risk project' an in-depth climate risk analysis will be carried out to help to examine the nature of climate and disaster hazards of the various projects; the analysis will examine the exposure and sensitivity of the project and associated communities. Based on the climate change risk analysis a detailed climate change adaptation plan and programme will be prepared for the project. The in-depth climate risk analysis also forms the basis for the development of adequate risk transfer mechanisms such as agricultural insurance.
180. A major challenge for small farmers is the high-risk environment in which they operate, making them traditionally highly risk averse and in turn inhibiting their willingness to adopt new and improved farm practices. On top of everyday production risks, the risk profile for farmers is becoming more challenging due to climate change related production risks like drought, flood, and pests. Recognizing this reality, UPLANDS will link with a new IFAD initiative ('Insurance for Rural Resilience & Economic Development Technical Assistance Programme') which designed to improve access for smallholders to appropriate crop insurance.

## 4. Implementation

### K. Organizational Framework

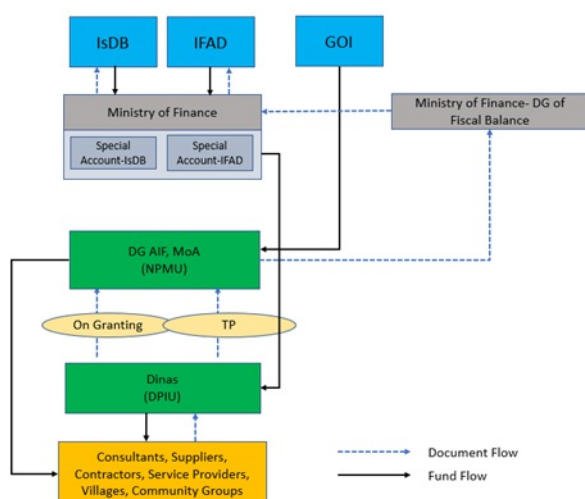
#### a. Project management and coordination

181. *Project Structure and Coordination.* The UPLANDS implementation structure will have strong management foundations both at National and District levels. The project, including all activities funded by IFAD and IsDB, will be executed by Directorate General of Agricultural Infrastructure and Facilities (DGAIF) in the Ministry of Agriculture. DGAIF will establish a National Project Management Unit (NPMU), embedded within the Directorate for Agricultural Irrigation, to manage and supervise the overall IFAD-IsDB co-funded project. The NPMU will coordinate the 14 District Project Implementation Units (PIU) which will be embedded at Dinas Pertanian (District Agricultural Agency). Main project implementation activities will be undertaken at district levels. The NPMU and PIUs will be staffed by dedicated full time staff and supported by technical and administrative staff to ensure timely project delivery. Under the existing Framework Agreement (FA) signed by IFAD and IsDB in 1979, and the Framework Co-Financing Agreement (FCA) dated 2010, IFAD will enter into a specific agreement with IsDB to establish the concrete arrangements for the project implementation.
182. The NPMU has overall responsibility for project implementation and will be led by a Project Manager supported by a Planning Assistants to provide overall coordination and oversight of all project activities within a number of districts and ensure adequate presence and support of the project management out in the districts level. In addition, the Project Manager will be supported by Financial Management team, Procurement Officer and Monitoring and Evaluation officer that will oversee financial management, procurement and programme administration issues, including planning, M&E and reporting.
183. The PIU will be housed under the Dinas Pertanian (District Agricultural Office) in each district. With similar structure to NPMU, PIU will be led by a District Project Manager and supported by the relevant support staff to provide implementation support and managing all project activities within number of villages. Similar to NPMU, the PIU will be equipped with staff that will oversee financial management, procurement and programme administration issues, including planning, M&E and reporting.
184. While there will be no dedicated structure established at Provincial level, provinces will focus on coordination and monitoring support and as such will not lead any activities nor manage activities in districts. They are considered necessary to provide closer support and backstopping to the District PIU during implementation.
185. The NPMU and PIU will be supported by a Project Management Consultant (PMC) team, for day to day management and coordination; a Design and Supervision Consultant (DSC) team that will specifically verify the engineering design of the infrastructure works and will supervise the construction works in the project area; and Technical Experts that will be highly focused teams in each district according to commodity needs. These experts will explicitly focus on advising and providing professional support in specific areas, such as value chain, water management, business development, microfinance, gender and other relevant technical areas. There will be a small number of individually recruited national and international technical experts, primarily at the PMU level and weighted towards the start of the programme to help establish the new programme systems and approaches.
186. While the PMU has overall responsibility for project delivery, each of the Components will have specific implementation arrangements:
- Component 1: District Agricultural Agencies (DINAS Pertanian) will have prime responsibility for project delivery within their district area. BAPPEDA will act as coordinator during the planning process while Dinas Pertanian will act as Programme Implementation Unit (PIUs) supported with other relevant technical agencies. PIU will be supported by technical specialists and DSC implementing the physical infrastructure work assigned to each district and will work as an integrated part of the district implementation teams and be based in the Dinas Pertanian. The district teams will be provided with technical backstopping and monitoring by PMU team as well as the corresponding provincial agencies, especially the provincial Dinas Pertanian.
  - Component 2: The project will include a suite of complementary support mechanisms suited to smallholder farming in which both the public and (where possible) private sector will be involved. These activities will be coordinated by 231 Village based facilitators who will work closely with the provider of extension services to ensure the village facilitation and social mobilization process within the village is efficiently implemented. Village facilitators will ensure that all intended UPLANDS beneficiaries, including women and youth, fully understand UPLANDS opportunities as well as the obligations and responsibilities. A village facilitation and social mobilization team will be recruited. It will comprise: (i) National Village Facilitation Team Manager will be recruited to work in the NPMU; (ii) In some districts where the target area covers more than one sub-district, 20 Village Facilitator coordinator will be hired at district level.
  - While the social mobilisation and facilitation process under sub component 2.1 will be the responsibility of PIU, PMU will have primary responsibility for delivery of activities under 2 sub-components. The implementation of sub-component 2.4 on microfinance, will be under on-granting mechanism where District Government will appoint a regional development bank/ district level bank (BPDs/BPRs) to administer the revolving fund to be extended to farmer groups and its members.
  - Component 3: Training of GoI staff will be led and implemented by the PMU while adaptive research will be undertaken in consultation with relevant research institutes and district extension staff in the case of on-farm research.
187. *Advisory Group and Technical Group.* UPLANDS will be overseen by an Advisory Group to provide overall policy guidance and oversight to the Project Management Unit. The Advisory Group will be composed of senior government officials (Echelon 1) from relevant Directorate General (DG) within MoA. Their advice will be important given the strong linkages that the project envisages with other sectors such as horticulture or agricultural extension and agri-business. For daily technical advice, there will be a national technical group that will provide technical guidance for implementation purposes. At each district, a District Working Group (POKJA) will be established with membership from BAPPEDA and other relevant technical agencies, including the procurement committee. District working groups are an effective way of keeping district government officials informed of the project progress and challenges as well as of seeking the active support of the Bupati (District Mayor), and any potential private sector players working in the project area. It will also identify opportunities for leveraging funds available from other sources e.g. Village Funds and District Governments, supporting the BLUD set up and, most importantly, ensure that on-granting funds are properly provisioned in district budgets. Private sector partners working in the relevant commodity value chain in each district may also provide support to the small holders in extension activities, and identifying markets and building commodity alliances.



## b. Financial Management, Procurement and Governance

- Financial Management.** The project's financial management arrangements follow the government system, especially on budgeting, flow of funds, and the auditing mechanism. Overall, the financial management risk is rated as 'substantial' and 'moderate' before and after mitigation respectively. The project faces a major risk in staff capacity to manage project implementation, especially in managing the on-granting mechanism. To minimize the risks, financial management consultants will be hired to assist PMU/PIUs in financial management and conduct FM training for project staff at district level in particular.
- The Ministry of Agriculture (MoA), through the Directorate General of Agricultural Infrastructure and Facilities (DG AIF) will have overall accountability for the project, including fiduciary aspects. The project will use On-Granting mechanisms to finance activities at the district level. DG AIF has extensive experience in managing similar programs using this particular fund flow mechanism (e.g. World Bank WISMP-2). Some of the selected districts are currently implementing IPDMIP or READSI projects (IFAD funded) which also apply the On-Granting mechanism. The government agrees that this mechanism is better suited to meet the objectives of supporting large decentralized investment delivery, and creating and enabling higher district level ownership.
- Designated - Account.** After loan entry into force, the Government will open two Designated Accounts in US\$, in the name of the Ministry of Finance (MoF) at Bank Indonesia (BI). One account for the IFAD loan funds and another account for the IsDB loan funds. Funds in these accounts will be used to pay the eligible project expenditures incurred by PMU and PIUs. The modalities of the designated account for the IFAD resources will be detailed in the Letter to the Borrower, which would be issued by IFAD. Details of the specific names, titles and signature(s) of the persons authorized to operate these accounts must reach IFAD and IsDB before withdrawals are initiated. The flow of fund is described in Figure 2 below:
- Figure 2. Flow of funds:**
  - "On-Granting" Mechanism.** In conformance with the Minister of Finance's Regulation (PERMEN KEU No. 188/PMK.07/2012), fund proceeds of sub-national levels will be made available through "On-Granting Agreements" (OGA) or Perjanjian Hibah between the Ministry of Finance and the head of the relevant district administration. For UPLANDS, these OGAs will cover the funding of the majority of the activities at the district level. There would be separate OGAs based on the funding sources, one for the IFAD-funded activities, and one for the IsDB funded activities. Under this mechanism, the district will have to pre-finance the project activities using their own financial resources and through PMU. Systematic requests for reimbursement will be made to MoF.
  - Special Considerations for Financing Arrangements.** For a selected number of activities, alternative/optional financing arrangements other than the OGAs may be applied: (i) for infrastructure work where specific knowledge/technology is required; and/or those requiring multi-year contracts and/or those requiring large amounts of financial resources. These activities may be implemented by using APBN funds instead of "On-Granting" funds; (ii) for "soft" activities including training and several activities during the initial planning year, certain activities may be implemented using central budget (APBN) with Tugas Pembantuan (TP) procedures.
- Disbursement.** In general, there will be three types of disbursement mechanisms for the programme which consist of (i) Advance Withdrawal; (ii) Direct Payment; (iii) Reimbursement. The IFAD loan will be disbursed in accordance with IFAD Loan Disbursement Handbook. Considering the activities, the project will adapt imprest account arrangement, with advance payment and then followed by replenishment to the DA.
- Requirement for First Disbursement.** The following are designated as additional general conditions precedent to withdrawal: (i) The PMU shall have been duly established within the Ministry of Agriculture<sup>[1]</sup> and (ii) The PIM shall have been prepared in a manner satisfactory to IFAD
  - Accounting and Reporting.** All financial transactions will be recorded in the computerized government accounting system and included in government accountability reports. PMU/PIUs will prepare a separate set of project financial reports that are suitable for project monitoring purposes. PMU will be responsible to prepare the aggregate Interim Financial Reports (IFR) and submit them to IFAD and IsDB biannually on an agreed format within 45 days after the period end. The Project will also submit annual financial statement for each fiscal year that states all project operation, resources and expenditures. All financing resources (IFAD, IsDB, GOI contribution, beneficiary contribution) shall be accounted in the report.
  - Audit Arrangements.** The audit for the financial statement of this Project will be carried out by an independent auditor acceptable to IFAD and IsDB. The audit will include the assertion on the reliability of the Project financial statement, review and reconciliation of DA and examination of aspects of compliance and governance, internal control, and detection of fraud and corruption. The audit will cover the entire Project, covering all sources and application of the fund. The auditor will visit the various implementation units as considered necessary for the audit. The audit coverage will consider the risk of material misstatement as a result of fraud or error.
- Procurement.** The procurement of goods, works and services financed from resources provided or administered by IFAD will be undertaken in accordance with the GoI's National Procurement Laws and Regulations (Perpres 54/2010, Perpres 70/12, Prepres 84/2012 and Prepres 4/2015) and their amendments, consistent with IFAD's Project Procurement Guidelines. The National Public Procurement Agency (LKPP) is currently working on a major revision to the National Public Procurement Law and Regulations to simplify procedures and shorten processing times. This is expected to introduce e-procurement and would also become applicable to UPLANDS procurement of goods and materials.
- The NPMU will initially prepare an 18-month Procurement Plan, with support from a Project Expeditor. The 18-month Procurement Plan will be updated annually or as required as per implementation needs. Procurement will be undertaken as per the consolidated Procurement Plan submitted by the NPMU approved by the Project Steering Committee, in accordance with IFAD and IsDB procurement guidelines. Procurement arrangements are detailed in Appendix 7
  - The PMU shall consist Project Coordinator, Deputy Project Coordinator, Finance Officer, and Accountant. This is the minimum structure needed to be established prior to disbursement and the Project will need to present the decree letter of the PMU formation.



188. Overall, all IFAD-funded projects in Indonesia are fully mainstreamed through national public financial management systems (budget, treasury, accounting, asset management, audit). Based on lessons from ongoing projects, strong management and effective coordination systems will be essential to ensure efficient financial reporting and fund-flows, which will be key to successful project implementation.

189. Due to a change in Government policy, there has been a rapid deterioration in country disbursement performance and project implementation. The current mechanism allows the national level to reimburse only based on output delivery. However, the local government is often not sufficiently confident to pre-finance the project activities thereby creating a bottleneck. Implementation progress and disbursement could be improved by providing advance payments based on some key indicators. To speed up the project implementation progress, the project design mission needs to agree on eligibility criteria showing certain activities have been completed prior to main activities. The mechanism for providing advance should be clearly described in the PIM, that should be properly translated and distributed to DPIUs and local government.

190. *Delay in disbursement due to on granting agreement process • Delay in disbursement due to delay in submitting withdrawal application mitigation : Financial management consultants recruited to assist day today project financial management at national and district level PMU work with MoF provides on granting mechanism training IFAD to provide training on financial management procedures, including disbursement requirements*

191. Sufficient internal control system should be set up. Risk identification and risk analysis needed to be conducted in a structured, formal, and comprehensive manner for the new project.

192. The project will be audited by BPK (SAI), in contrast to the situation to date as IFAD-funded projects have always been audited by BPKP (GoI Internal Audit) except READSI. Adopting a harmonised approach with other IFIs, BPK (SAI) as a member of INTOSAI, should be the external auditors for IFAD Projects and it should be.

193. **Procurement.** The procurement of goods, works and services financed from resources provided or administered by IFAD will be undertaken in accordance with the GoI's National Procurement Laws and Regulations (Perpres 54/2010, Perpres 70/12, Prepres 84/2012 and Prepres 4/2015) and their amendments, consistent with IFAD's Project Procurement Guidelines. The National Public Procurement Agency (LKPP) is currently working on a major revision to the National Public Procurement Law and Regulations to simplify procedures and shorten processing times. This is expected to introduce e-procurement and would also become applicable to UPLANDs procurement of goods and materials.

194. The NPMU will initially prepare an 18-month Procurement Plan, with support from a Project Expeditor. The 18-month Procurement Plan will be updated annually or as required as per implementation needs. Procurement will be undertaken as per the consolidated Procurement Plan submitted by the NPMU approved by the Project Steering Committee, in accordance with IFAD and IsDB procurement guidelines. Procurement arrangements are detailed in Annex 7

195. **Procedures:** Presidential regulation Number 16 Year 2018 regulates how procurement is carried out by self-management and / or providers of goods / services. The budget owner in terms of preparing a procurement plan prioritizes procurement through self-management and provider involvement. Other assessment subjects are regarding the stages of procurement planning, procurement preparation, procurement evaluation and implementation and contract administration. Based on the results of the interview, it was obtained information that not all procurement processes run optimally to achieve procurement objectives because the level of implementation is still limited to the fulfilment of procedures.

196. **Human resources:** The procurement assessment checked the ability of personnel procurement to comply with the requirements of the national regulatory framework. For the time being, the procurement officers in PIU are the government employees who have basic certification in GoI procurement system.

197. **Procurement Risk and Mitigation.** Most procurements are for a value of between IDR200 million and Rp5 billion will be carried out by district PIUs. Procurement planning is categorized with moderate to high risk, development of human resources is categorized with medium risk and governance and institutions are categorized with moderate to low risk. UPLANDs will therefore integrate clear strategies are needed to mitigate the main risks including strengthening preparation of procurement planning and increasing the capacity and competence of key procurement staff – including budget owners, procurement commitment officer, evaluation working group, and self-management organizer. Similar perspectives and understanding among all stakeholders is necessary for successful procurement.

198. Considering these potential risk levels, strengthening of PIU and involvement of stakeholders in each stage of project procurement will be undertaken. National and district staff will: (a) implement standard operating procedures and conduct socialization events regarding the matrix of the responsibilities of each stakeholder in the procurement process; (b) be assisted by procurement professional who have experience with Government of Indonesia's Procurement System (certified by LKPP) to provide technical assistance and advice. This procurement professional or consultant will be involved in preparing procurement plans, preparation of bid documents and technical specifications for key procurement packages, including but not limited to providing guidance to project staff on issues related to procurement.

199. **Governance.** Indonesia has a 2017 Corruption Perception Index (CPI) score of 37/100 and is ranked 96 out of 180 countries. This index indicates a lack of transparency in certain government institutions. IFAD and IsDB will apply a zero-tolerance policy on appearances of corruption. The PMU will, with assistance from the financial management consultants, prepare a programme framework for transparency and issue public notices including annual financial audits, with a random sample of community and farmer-group grants. This will be performed in accordance with International Standards of Auditing by a professional external independent auditor; (ii) IFAD and IsDB's direct supervision process will specifically address fiduciary compliance and the implementation of the Project framework for transparency and public notice; (iii) Project stakeholders (especially farmers and their organizations) will be directly involved in programming, implementing and M&E of the project activities; and (iv) evaluation and impact assessment will be outsourced to professional independent institutions.

200. The provisions contained in the Guidelines for the Use of Consultants under IsDB Financing and the Guidelines for the Procurement of Goods and Works under IsDB Financing will apply in the procurement of goods and services for components under IsDB and ISFD financing.

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

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

201. The UPLANDs monitoring and evaluation (M&E) and knowledge management (KM) system will be developed with three main objectives:

- guide programme implementation: it should provide programme stakeholders at the three levels of intervention with information and analysis required to: measure programme outcomes; assess programme effects on the livelihoods and skills of target groups; assess the relevance of the project strategy, methodologies and implementation processes; detect difficulties and successes; and support decision-making to improve programme performance;
- support economic decisions and policymaking: it should provide project stakeholders with the information and analysis they need to assess the return brought by innovation, to develop profitable and sustainable activities and to adapt their strategies accordingly;
- Share knowledge and upscale good practices: it should develop lessons learnt, capture good practices and successful innovation, and share knowledge, with a view to support project performance, policy development and policy dialogue.

202. The M&E and KM system will be:

- open and easily accessible information and knowledge should be available to all stakeholders and not restricted to project staff and consultants;
- participatory associate project stakeholders in the definition of indicators, data collection, analysis and dissemination of results;
- focused on analysis, learning and sharing in support of decision-making, knowledge sharing and policy dialogue, and not merely on data production;

- harmonized with Government relevant information systems;
- accountable not just upward (to IFAD, IsDB, Gol.) but also downward (to programme stakeholders and target groups);
- Phased, thus simple and small initially, concentrating on key indicators, and expanding progressively as needs and capacities develop, particularly at district level.

203. **Annual Workplans and Budgets.** Using logframe indicators, AWPBs will be the primary basis for project monitoring. The PMU will prepare a consolidated Annual Work Plan and Budget (AWPB) and corresponding 18 month procurement plan for the project. Although each District will prepare its own AWPB on the basis with the On-Granting requirements to ensure the allocation of funds to be made available in their annual budget process (APBD). The AWPB would be used as a tool for specifying implementation priorities, identifying the financial and procurement requirements and establishing a work plan with specific targets at the district, provincial and national level. The AWPB would constitute the basis for release of funds and for financial management. Together with the quantified results-based indicators (Logframe), AWPBs would be the primary basis for monitoring the project.
204. The AWPB will be prepared by consolidating (i) the plans from each district, primarily covering Component 1; (ii) plans associated with each of the sub-components under Component 2 both at National and District level (iii) plans for overall management of UPLANDs; (iv) for Component 3 will be included in the PMU AWPB.
205. **M&E System.** The programme monitoring and evaluation (M&E) and knowledge management (KM) system will draw on the experiences of two IFAD funded projects (Coastal Community Development Project (CCDP) and SOLID) to learn about effective monitoring of key, specific performance indicators without collecting excessive data that can never be effectively analysed. The M&E and KM will be developed in line with IFAD, IsDB and Gol requirements. The system will be setup and managed by the PMU and be connected and inter-linked at all levels. It will consider the effects/impacts of project investments on all project beneficiaries and key stakeholders. The system will use the UPLANDs logframe as the key document for establishing the monitoring and reporting system. A monthly dashboard will be established to report progress on the key outputs and objectives, disaggregated by gender and integrating physical progress and financial progress including procurement processes. AWPB-based progress monitoring will be used as a starting point to monitor progress at activity level. The project will hire M&E specialist who will be part of the NPMU. This person will draw on the M&E experiences of other IFAD and IsDB funded projects e.g. CCDP and SOLID. The project will also support to increased transparency and beneficiary engagement in planning and monitoring implementation of project intervention
206. **Learning and knowledge management.** The project will prepare a knowledge management plan that is linked to the M&E and MIS system. The objective of knowledge management is to ensure the project units are able to generate and document that knowledge that are useful to build practical knowledge and know-how that leads to improve project performance and results. The knowledge generated within the project is systematically identified, analysed, documented and shared, and should be used to: (i) improve project performance and delivery; (ii) allow flexibility to changing circumstances; (iii) document and share innovations, best practices, including project's successes and failures to improve project intervention (iv) support innovations and up-scaling; and (v) support country level policy engagement. Particular attention will be given to documenting innovative models that are being tested through the project. The concept of "Reverse Linkage" which is a technical cooperation mechanism enabled by the IsDB whereby the Bank's Member Countries exchange their knowledge, expertise, technology and resources to develop capacities and devise solutions for the sake of their development in a mutually beneficial arrangement would also be used where required.
207. The MIS system will be gender-disaggregated on all outcomes, outputs and indicators related to individuals or households. The project will establish a tablet-based electronic data collection system from which field data would be directly input into a centrally maintained MIS system. This will reduce the time burden of M&E data collection and also improve timeliness and reliability of data, making the M&E system more robust and useful as a management tool. The project will produce one annual consolidated report for IFAD, the IsDB and Government. This report will highlight the key achievements of the project. The baseline survey to be completed early in the first year will provide the foundation for subsequent evaluations and for the Mid-Term Review and Project Completion Review. Thematic studies would be conducted on a needs basis to support programme activities, policy dialogue and scaling up. The project will conduct an annual outcome survey to show progress.
208. **Policy.** Indonesia's agricultural policies recognize the environmental, social and economic imperative of sustainable productive agriculture. An enabling policy and regulatory environment is critical to promote the development of upland areas and livelihoods. Knowledge and learning generated during project implementation will be captured through the project M&E system and used to inform policy and public investment. Key areas of policy interest will include determining how existing policies impact land use decisions and the socio-economic and the environmental consequences, how to improve household welfare in Indonesia's upland areas, how to enhance long-term agricultural productivity, and how to reduce negative environmental externalities of increasing agricultural productivity in upland areas.

## b. Innovation and scaling up

209. The UPLANDs design is directed to effectively support upland smallholders in overcoming their constraints to improving productivity and quality of output of 10 commodities across 14 locations. In addition to on farm support, the project will provide support to downstream post-harvest processing, aggregation and marketing initiatives.
210. The project will introduce a number of innovative approaches and activities to farming practices including water conserving irrigation (e.g. drip and sprinkler), organic approaches, mechanization, specifically trained extension staff and para-vets, farmer extension groups, demonstration plots, access to affordable microfinance, activities for improving the livelihoods of poor women (e.g. goats), and facilitation services in every village. UPLANDs will introduce post-harvest and market related innovations as well. Farmers will be mentored and mobilized into KUBEs to facilitate improved post-harvest processing, grading and storage. Larger commercial enterprises will further aggregate products to ensure more cohesive marketing approaches. To enhance prospects for sustainability, all business models will be required to prepare a comprehensive business plan. Further, farmers will be systematically exposed to market feedback – relating to quality, pricing, grading and reliability of supply.
211. UPLANDs will be piloting a number of innovations, including (i) a focus on public-private partnership along the value chain using the BLUD system; (ii) a clear focus on selected key crops that were supported with a comprehensive, well-resourced input package; (iii) working capital finance by promoting inclusive microfinance in partnership with regional development banks; (iv) agricultural insurance that is bundled with other services in the value chain (e.g. inputs, credit) and that makes use of technological advances (e.g. yield measurement based on satellite technology, index-based insurance); (v) innovative approaches to social mobilization leading to community empowerment with capacity to leverage local resources and village funds; (vi) adopting a district (kabupaten) sub-project approach to the development of commodity value chains; and (vii) initiating a Gender Action Learning System (GALS) which is expected to promote gender equality, improve livelihood choices and increase participation.
212. The project will also explore possibilities to take advantage of IT technologies for project management purposes and to provide services to its beneficiaries:
213. a. It will be explored the integration of Geographic Information Systems (GIS) into the M&E system; this would entail using geographical coordinates of the targeted villages/groups and the interventions they receive, which would allow to visualize their geographical locations in interactive maps. The data collection can be done by providing cheap tablets/smart phones to facilitators, who would then input the data every time they visit the groups/villages.
214. b. Digital soil testing and extension services will be sought, benefiting from the experience developed through an IFAD partnership with Grameen Intel Social Business (GISB), to roll-out a digital soil testing and extension service developed by GISB. This technology has been used in other APR projects and UPLANDs could benefit from their experience.
215. d. Fintech (financial technology) services. As UPLANDs will include rural finance interventions, partnerships will be sought with existing Fintech companies in Indonesia that provide digital financial services, some of which are targeted to small-holder farmers.
216. UPLANDs will target the poor. Recognizing the multi-dimensional nature of poverty, including engaging gender and youth, the project will promote the economic empowerment and well-being of small farmers, including young men and women. This will be achieved through gender, youth and nutrition sensitive mainstreamed into the identified value chains. There will be a focus on social inclusion through a social mobilization process that makes existing farmer's groups more inclusive with a focus on inclusion of women, women-headed households and youth. UPLANDs will empower women by recognizing them as farmers in their own right with representation in formal farmer's groups for production and in post-harvest and processing activities. Women will receive targeted nutrition awareness training while interested youth will be prioritised for investment opportunities in all aspect of the production and marketing. Youth will also be trained as Village Facilitators (80 per cent up to the age of 30).
217. After the 5 year implementation of UPLANDs, and after a thorough review of successes and failures, strengths and weaknesses, the Gol will decide whether to scale up the UPLANDs approach to other districts. Where market response to a particular commodity is strong, other districts may be encouraged to join with existing suppliers to ensure consistency of supply to meet demand.
218. **Scaling up.** Scaling-up and replication is at the heart of UPLANDs, and includes dimensions of replication into new geographical locations, evolution and adaptation of field activities so they are suited to a wider range of contexts, and building a programmatic and management platform for even wider scaling up and mainstreaming of the UPLANDs approach.
219. Considering the high priority, potential and need for increased attention and investment in upland agriculture, the project is expected to meet conducive political and institutional spaces and supportive drivers ranging from government to private sector to, most importantly, from smallholder farmers themselves. Key elements to facilitate scaling up will include: (i) a solid M&E and knowledge management system allowing to track achievements, document approaches and outcomes and disseminate them to relevant stakeholders; (ii) implementation through existing institutions and structures that will mainstream successful instruments into their regular systems and operations; (iii) involvement of key policy makers at national and provincial levels in implementation and through evidence-based policy dialogue; (iv) facilitation of multi-stakeholder partnerships that will disseminate knowledge on programme achievements and advocate for policy changes; (v) strengthening national and district capacities; and (vi) building upland smallholder farmers as champions for scaling up.

## M. Implementation plans

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

220. **Start up support.** To facilitate start up and expedite early implementation, the Ministry of Agriculture will ensure the early formal appointment of the project management team (already engaged in project design process) and recruit a project expeditor to support establishing the project management structure and system. In the first year, a Start-up Workshop will be organized to sensitize all project stakeholders, including NPMU, PIU and BAPPEDA about the approach of the project and its key components and implementation arrangements. The tools and procedures for financial management, procurement, selection of beneficiaries for different components, strategies for M&E and KM will also be introduced to key staff undertaking these key functions. Inception workshops would subsequently be organized in every participating district to sensitize local partners about the project.
221. A start-up meeting will also be planned in each of the selected villages. Commodity forums will be established for each commodity at the national level for an initial start-up briefing on the project approach and scope and incorporate the key stakeholders views on the key aspects of the project.



222. UPLANDs is adopting a district (kabupaten) sub-project approach to the development of commodity value chains. An effective and well-defined social mobilization process will facilitate the inclusive, effective delivery of UPLANDs activities. The delivery of mobilization and empowerment will involve facilitator, including assisting the community planning process. Collective empowerment of farmers will take place at three levels: (i) Participatory community planning of productive infrastructure; (ii) bulk purchases of inputs and services; and (iii) economies of scale for sale of commodities. The process will involve participatory decision making in the selection and planning of the works, community planning for sustainable O&M arrangements, community supervision of construction and public community audit of works and expenditures after completion. Village facilitators will be trained to facilitate all steps of this process. Disbursement of funds will be via the Village Account, under the supervision of the Village Head. It is anticipated that the participatory planning and decision making process used for this will demonstrate to the Village Head and other village stakeholders an effective and efficient local participatory planning process that may be relevant to other similar plans, particularly those for the Village Fund provided for under the Village Law.

## Footnotes

[1] Upland area is associated with the upstream part of a watershed (upstream) as upland or land found in dry areas (lack of water) that depend on rainwater as source water.

[2] Assuming each farming household cultivates on average 0.45 ha dry field/garden, currently there are about 25.6 farmer households utilizing the dry field/garden (upland area).

[3] IFAD's most recent Country Programme Evaluation (CPE) was undertaken in February 2014

[4] Landslides are the most frequent form of natural disaster in Indonesia causing wide scale loss of life and assets, and reduction in productivity.

[5] This is an initial estimate based on initial technical scoping/ validation conducted during the feasibility phase of design. Detailed engineering design will be undertaken during implementation, which will determine the specific costs. Further details of the types of infrastructure to be financed per district are included in Appendix 2 Theory of Change and Appendix 8 PIM Value Chain by Commodity. Further details of estimates costs of infrastructure are included in Annex2 of Appendix 8 PIM.

[6] This builds on the experience of the Ministry of Agriculture in promoting stronger local ownership and contributions. The 25% contribution requirement will be assessed on an individual intervention basis to ensure the inclusion of the UPLANDs primary target groups.

[7] The Ministry of Agriculture and IFAD have experience with facilitating group management of equipment and machinery. This includes establishing a user fees schedule that accounts for O&M and replacement funds (depreciation), provision of sound security and storage at all times, Establishing transparent schedules of service for members (rotating by crop cycle) to ensure fairness, establishing transparent rules for non-group member usage (if relevant), establishing an agreed and transparent dispute resolution process, establishing transparent rules for any wilful damage to machinery by members or non-members, reporting to the wider group on a quarterly basis, establishing a machinery replacement fund with dual signing by Group Treasurer and MMSC Leader.

[8] BUMDES: is a village-owned business entity is a village business managed by the Village Government, and incorporated where the establishment is determined by the Village Regulation

[9] A number of first, second and third tier financial service providers operate in the project target areas. Despite compliance targets for engaging in agriculture and with smallholders, limited financing currently is available to smallholders and the UPLANDs target group in particular.

[10] According to Indonesian national policy, youth is defined as 18 -30 years.

[11] These studies are the Climate Risk & Adaptation Country Profile for Indonesia prepared by the World Bank, the Climate Risk Profile for Indonesia prepared by USAID, and the Climate Change Profile for Indonesia prepared by the Ministry of Foreign Affairs of the Netherlands. These documents are available in IFAD IT systems and are part of the set of the project documents.

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 1: Logframe**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## The Development of Integrated Farming Systems in Upland Areas (UPLANDs)

### Logical Framework

Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
Outreach	1.a Corresponding number of households reached				PMU reports	Annual	PMU & PIUs	
	Women-headed households							
	Non-women-headed households							
	Households		15000	30000				
	1.b Estimated corresponding total number of households members				PMU reports	Annual	PMU & PIUs	
	Household members							
	1 Persons receiving services promoted or supported by the project				PMU reports	Annual	PMU & PIUs	
	Females		5000	15000				
	Males							
	Young		5000	7500				
	Not Young							
	Indigenous people							
	Non-Indigenous people							
	Total number of persons receiving services			250000				
Project Goal Reduce poverty and enhance food security in upland areas through remunerative, sustainable and resilient livelihoods.	Population below the poverty line in the 14 project districts				Indonesia Bureau of Statistics	Mid-term review & project closing	PMU	Continued GoI commitment to promote uplands agriculture
	People	13.9		13				

Results Hierarchy	Indicators				Source	Means of Verification		Assumptions
	Name	Baseline	Mid-Term	End Target		Frequency	Responsibility	
<b>Development Objective</b> Assist rural households to increase smallholders' agriculture productivity, incomes, livelihoods and resilience in the targeted uplands	Households that have increased their asset ownership				Third Party Survey by the Project	Mid-term review & Project Completion survey	PMU	Local and international demand for key crops does not suffered prolonged collapse in prices or demand volumes. Farmers do not suffer from prolonged or repeated draughts or other adverse climate conditions or natural disasters.
	Households							
	Households		5000	20000				
	UPLANDs HHs receiving project investments, technical support and/or services (including nutrition)				Third Party Survey by the Project	Mld-term review & Project Completion survey	PMU	
	Households		10000	30000				
	Women		5000	15000				
	Youth		5000	7500				
<b>Outcome</b> 1. Increase in poor rural people's productive capacities	1.2.2 Households reporting adoption of new/improved inputs, technologies or practices				Project survey	Semi-annual	PMU & project partners	Sufficient numbers of upland smallholder are interested in improving their production rather than leaving farming or switching to other production systems entirely. Good quality genetics and other critical are available in sufficient quantities to allow widespread adoption.
	Households		8000	20000				
	1.2.4 Households reporting an increase in production				Project survey	Semi-annual	NPMU & project partners	
	Households		6000	22000				

Results Hierarchy	Indicators				Source	Means of Verification		Assumptions
	Name	Baseline	Mid-Term	End Target		Frequency	Responsibility	
<b>Output</b> 1.1 Physical Infrastructure schemes constructed or rehabilitated	3.1.4 Land brought under climate-resilient practices				Project reports	Semi-annual	PMU & project partners	Sufficient numbers of upland smallholder are interested in improving their production rather than leaving farming or switching to other production systems entirely. Good quality genetics and other critical are available in sufficient quantities to allow widespread adoption.
	Hectares of land		5000	14000				
	1.1.4 Persons trained in production practices and/or technologies				Project reports	Semi-annual	PMU & project partners	
	Men trained in crop							
	Women trained in crop	2800	12000					
	Young people trained in crop							
	Men trained in livestock							
	Women trained in livestock							
	Young people trained in livestock							
	Men trained in forestry							
	Women trained in forestry							
	Young people trained in forestry							
	Total persons trained in crop	7000	30000					
	Total persons trained in livestock							
	Total persons trained in forestry							

Results Hierarchy	Indicators					Means of Verification		Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
<b>Output</b> 1.2 Production technical support and machinery provided on sustainable basis	Farmer groups operating & maintaining machinery & equipment				Project reports	Semi-annual	PMU & project partners	Sufficient numbers of upland smallholder are interested in improving their production rather than leaving farming or switching to other production systems entirely. Good quality genetics and other critical are available in sufficient quantities to allow widespread adoption.
	Farmer groups		200	600				
	1.1.5 Persons in rural areas accessing financial services				Project reports	Semi-annual	PMU & project partners	
	Men in rural areas accessing financial services - credit							
	Women in rural areas accessing financial services - credit		1200	4000				
	Young people in rural areas accessing financial services - credit							
	Total persons accessing financial services - credit		3000	10000				
	Enterprises							
	Active Borrowers (Enterprises)							
<b>Outcome</b> 2. Increase poor rural people's incomes from enhanced processing and/or market participation	2.2.6 Households reporting improved physical access to markets, processing and storage facilities				Project survey and M&E data	MTR and project Completion surveys	PMU	Agribusiness interested in expanding market links with upland smallholders
	Households reporting improved physical access to markets		50	80				
	Households reporting improved physical access to processing facilities							
	Households reporting improved physical access to storage facilities							
	2.2.5 Rural producers' organizations reporting an increase in sales				Project survey and M&E data	MTR and project Completion surveys	PMU	
	Percentage of rural POs		40	70				

Results Hierarchy	Indicators				Source	Means of Verification		Assumptions
	Name	Baseline	Mid-Term	End Target		Frequency	Responsibility	
	HHs reporting improved incomes from improved processing/market linkages				Project survey and M&E data	MTR and project Completion surveys	PMU	
	Households		5000	22000				
	Female		2000	4000				
<b>Output</b> 2.1 Farmer post-harvest business established, equipped and supported on sustainable basis	2.1.6 Market, processing or storage facilities constructed or rehabilitated				Project reports	Semi-annual	PMU & project partners	Private entrepreneurs and businesses are interested to run service businesses in programme districts development. Willingness of key parts of MoA to have genuine PPP with private firms.
	Market facilities constructed/rehabilitated		30	180				
	Processing facilities constructed/rehabilitated							
	Storage facilities constructed/rehabilitated							
<b>Output</b> 2.2 Business management and technical training delivered	2.1.2 Persons trained in income-generating activities or business management				Project reports	Semi-annual	PMU & project partners	Private entrepreneurs and businesses are interested to run service businesses in programme districts development. Willingness of key parts of MoA to have genuine PPP with private firms.
	Females		50	200				
	Persons trained in IGAs or BM (total)		250	600				
<b>Output</b> 2.3 Commodities with higher value participation in markets								



Results Hierarchy	Indicators				Means of Verification			Assumptions
	Name	Baseline	Mid-Term	End Target	Source	Frequency	Responsibility	
<b>Output</b> 2.4 Famer/businesses with enhanced access to finance	1.1.5 Persons in rural areas accessing financial services				Project reports	Semi-annual	PMU & project partners	Private entrepreneurs and businesses are interested to run service businesses in programme districts development. Willingness of key parts of MoA to have genuine PPP with private firms.
	Men in rural areas accessing financial services - credit							
	Women in rural areas accessing financial services - credit		2000	8000				
	Young people in rural areas accessing financial services - credit							
	Total persons accessing financial services - credit		6000	18000				
	Enterprises							
	Active Borrowers (Enterprises)							
<b>Outcome</b> 3. Enhanced delivery of UPLANDs services and research	1.2.2 Households reporting adoption of new/improved inputs, technologies or practices				Project survey and M&E data	MTR and Project Completion surveys	PMU	Smallholders wiliness to engage in commercialization of target commodities
	Households		33	80				
	PIUs on schedule with on-granting, procurement targets				Project survey and M&E data	MTR and Project Completion surveys	PMU	
	PIUs on schedule		50	95				
<b>Output</b> 3.1 Commodity training courses prepared and delivered	Extension receiving commodity specific training				Project reports	Semi-annual	PMU & project partners	Capacity building and technical support timely and of adequate quality
	Extension		231	231				
<b>Output</b> 3.2 Intensive PIU on-granting and procurement mentoring	PIU staff trained in on-granting and procurement				Project reports	Semi-annual	PMU & project partners	Capacity building and technical support timely and of adequate quality
	PIU staff trained		28	28				

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 2: Theory of change**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department





products from traders, processors, other market operators. However, in the current environment, value chains are underdeveloped and sustainable commercial relationships have failed to emerge. Smallholders face a number of technical and organizational constraints that keep them from realising their potential, while buyers face other constraints that keep them from sourcing from upland areas. Investment in building more enabling environment for effective business relationships with better access to improved inputs, technologies, and public and private sector investment in market infrastructure, holds great potential for increasing the income levels of upland smallholder farmers.

4. Considering the need to expand agricultural productive land in Indonesia in order to feed the growing population, the development of upland areas has large potential for economic development and closing inequality gaps. Capitalizing on these still underdeveloped areas is a high developmental priority for the Gol, but has to be done in a sustainable manner in order to avoid negative impact on natural resources and lowland agriculture systems.

5. The theory of change recognizes that in order to effectively support smallholders in overcoming their constraints to improving productivity, an integrated approach will be required. The project will invest in a range of complementary activities to address some of the most common problems encountered in upland farming in the selected commodities. There is strong evidence that agriculture in the country is significantly more efficient in reducing poverty when compared to other major economic sectors.<sup>13</sup> IFAD and IsDB would build on their considerable collective experience of strengthening and building the capacity of smallholders, farmer groups including men and women, microenterprises, and agriculture cooperatives. The project offers an opportunity to develop a platform for fostering an approach that can be scaled up by the Government for achieving its strategic vision for agriculture growth and development, and also to inform future policy and public expenditure decision making.

6. Illustrations of the application of the theory of change at the district levels are presented below.

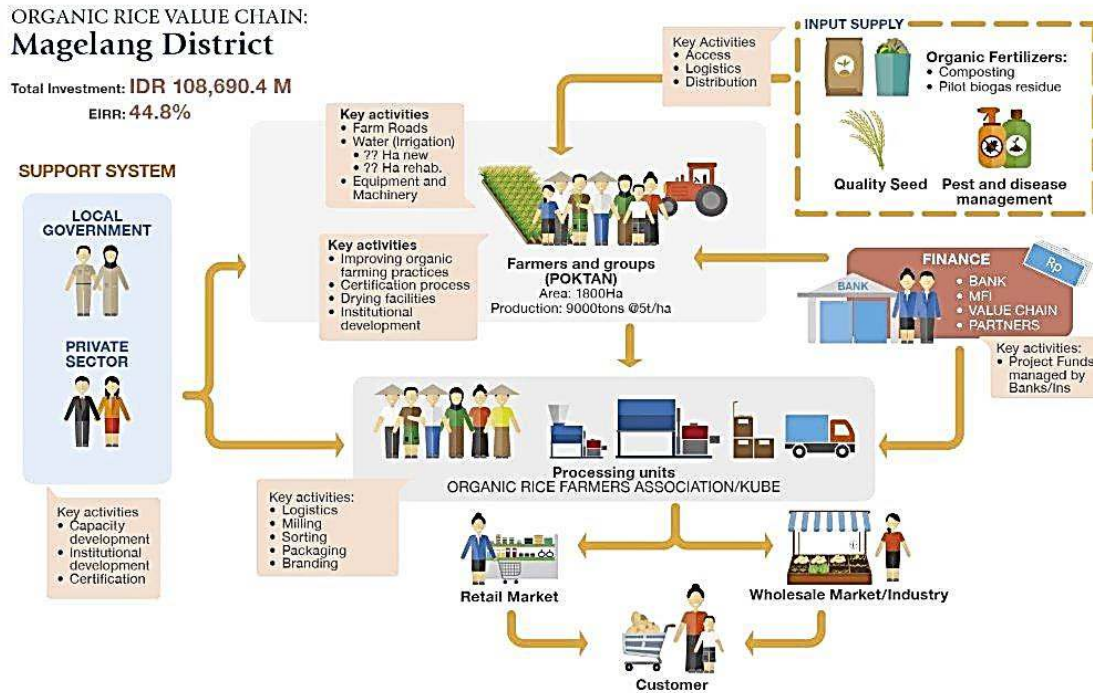
---

<sup>13</sup> World Bank, 2008; Agriculture for Development, World Development Report, Washington

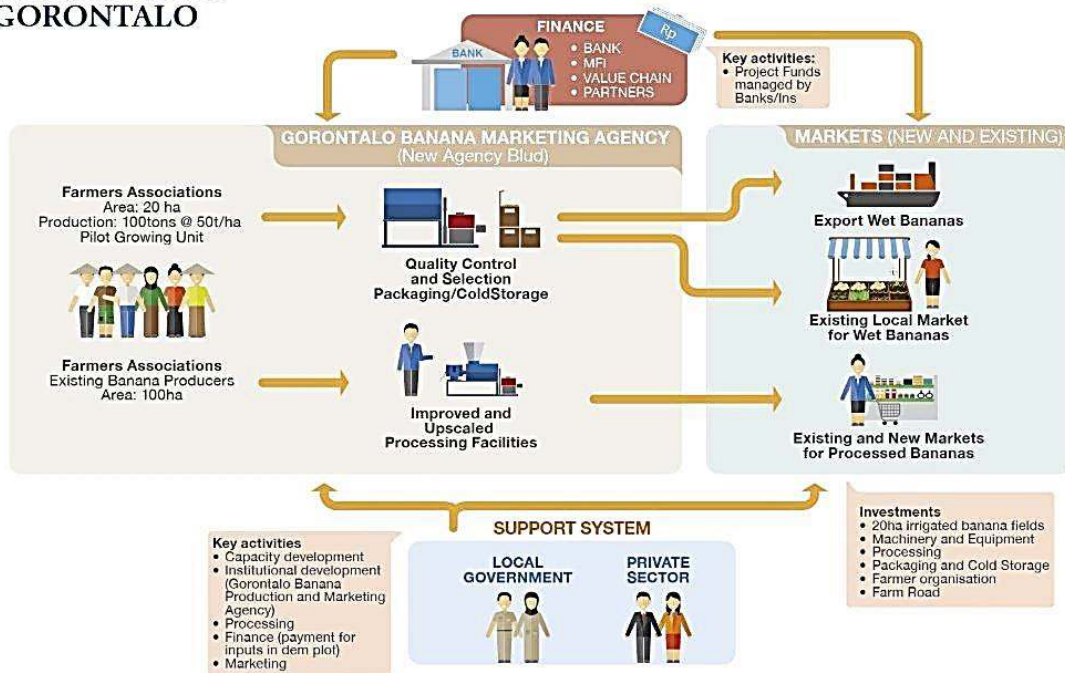
## ORGANIC RICE VALUE CHAIN: Magelang District

Total Investment: IDR 108,690.4 M

EIRR: 44.8%



## BANANA PRODUCTION: GORONTALO

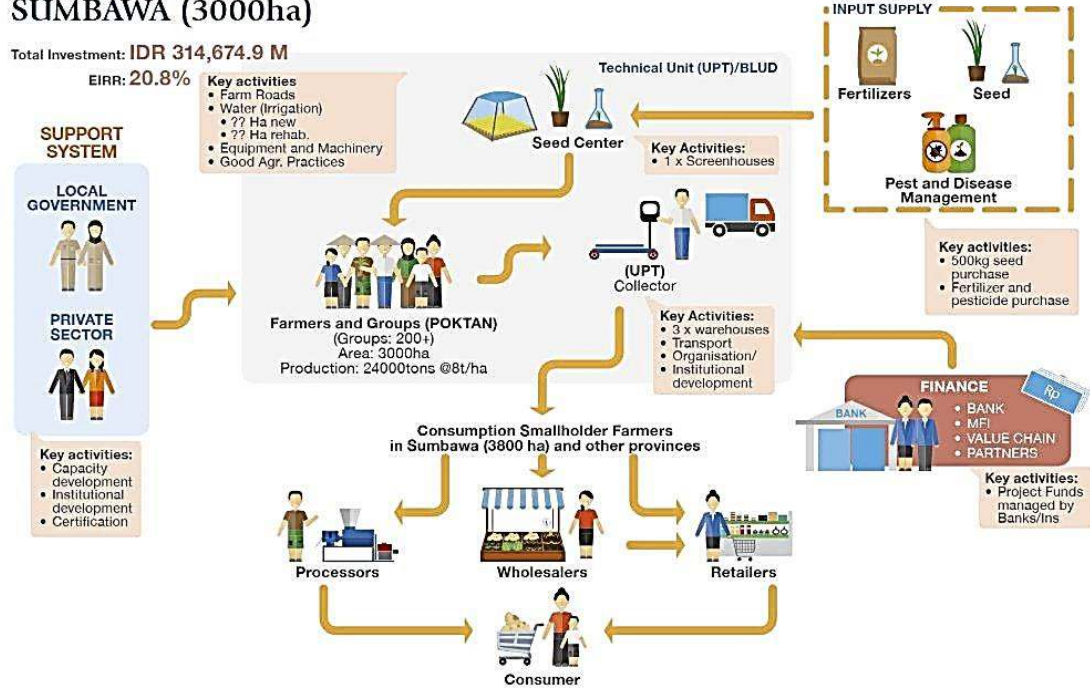




### SHALLOTS SEED VALUE CHAIN: SUMBAWA (3000ha)

Total Investment: IDR 314,674.9 M

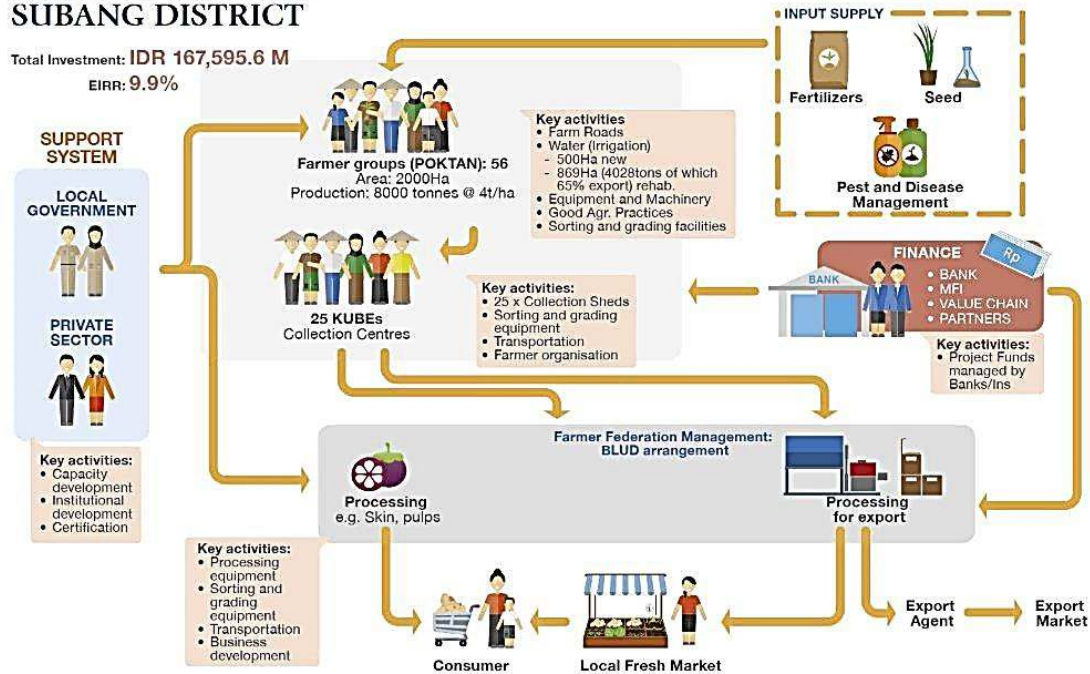
EIRR: 20.8%



### MANGOSTEEN VALUE CHAIN: SUBANG DISTRICT

Total Investment: IDR 167,595.6 M

EIRR: 9.9%

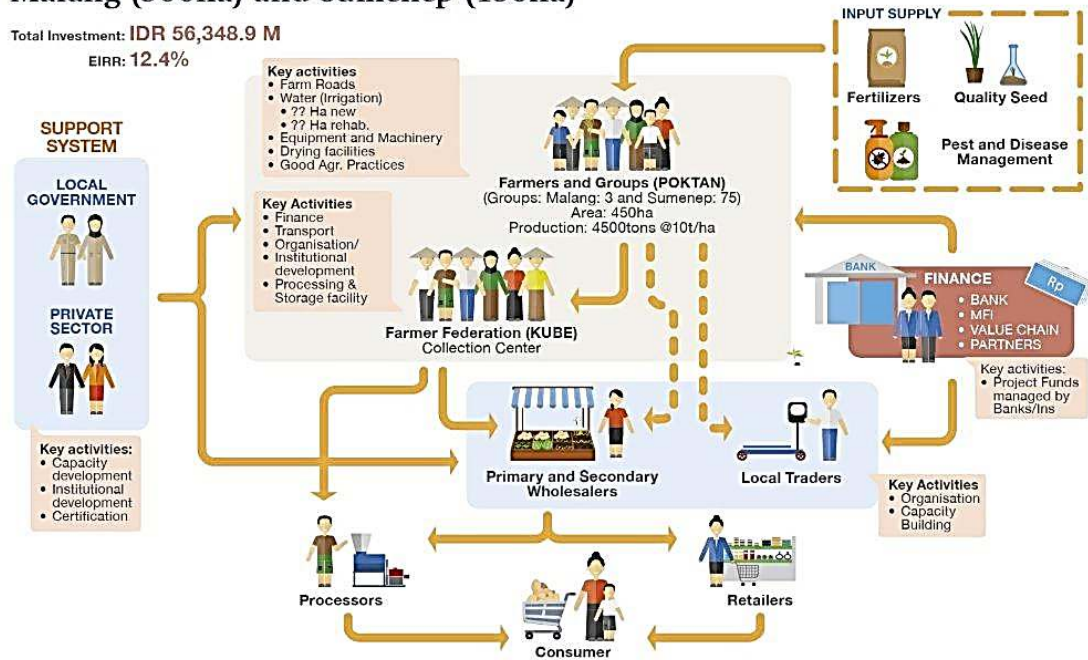


### SHALLOTS VALUE CHAIN:

## Malang (300ha) and Sumenep (150ha)

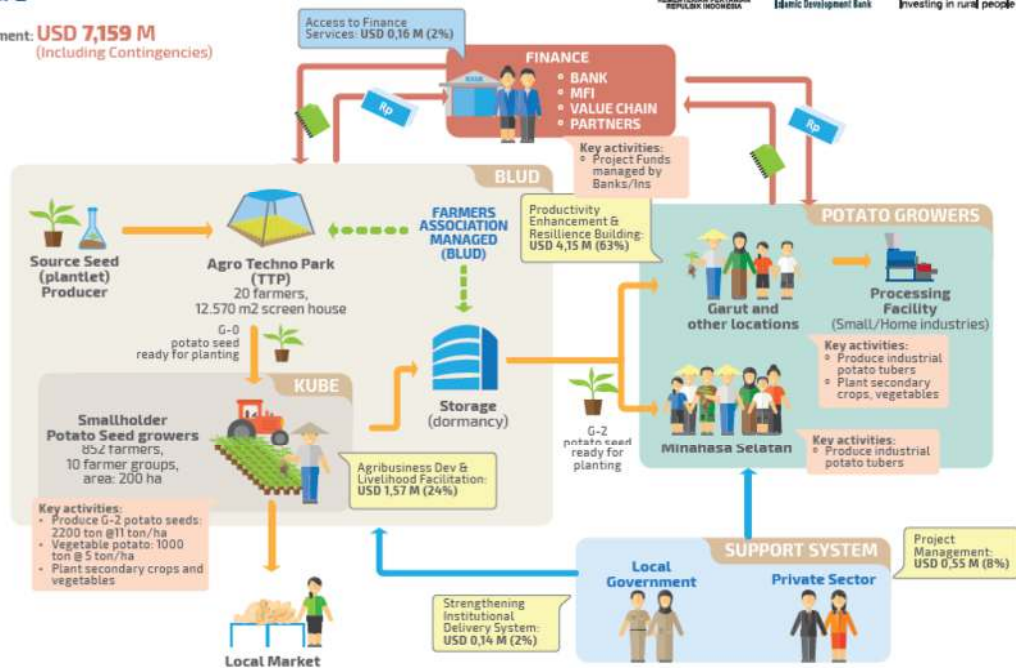
Total Investment: IDR 56,348.9 M

EIRR: 12.4%



### SEED POTATO and POTATO PRODUCTION: GARUT

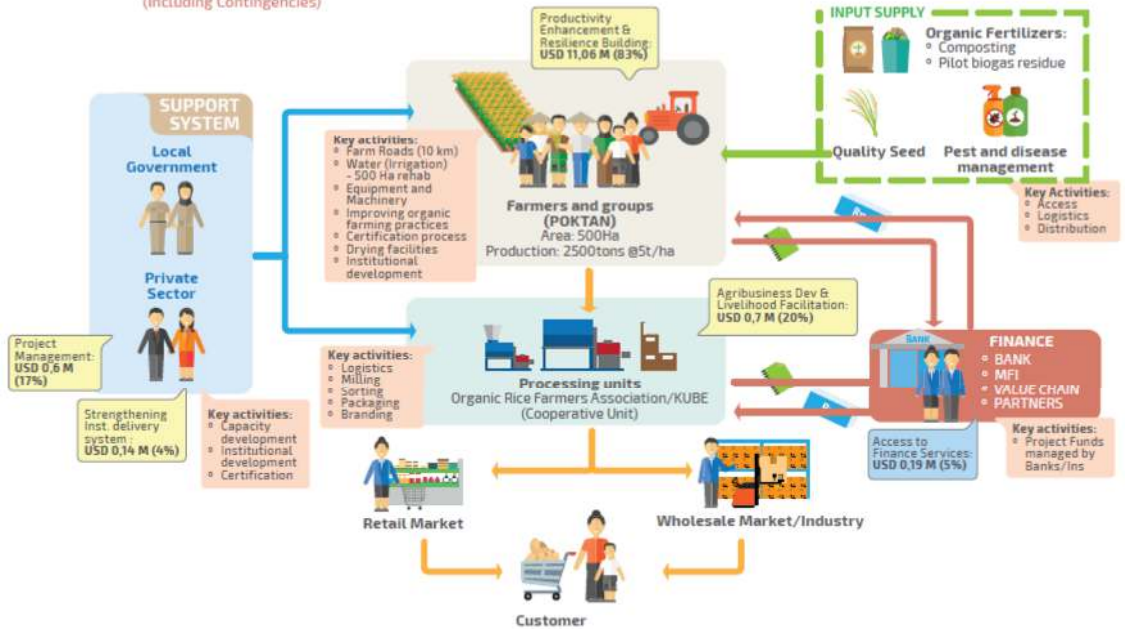
Total Investment: USD 7,159 M  
(Including Contingencies)





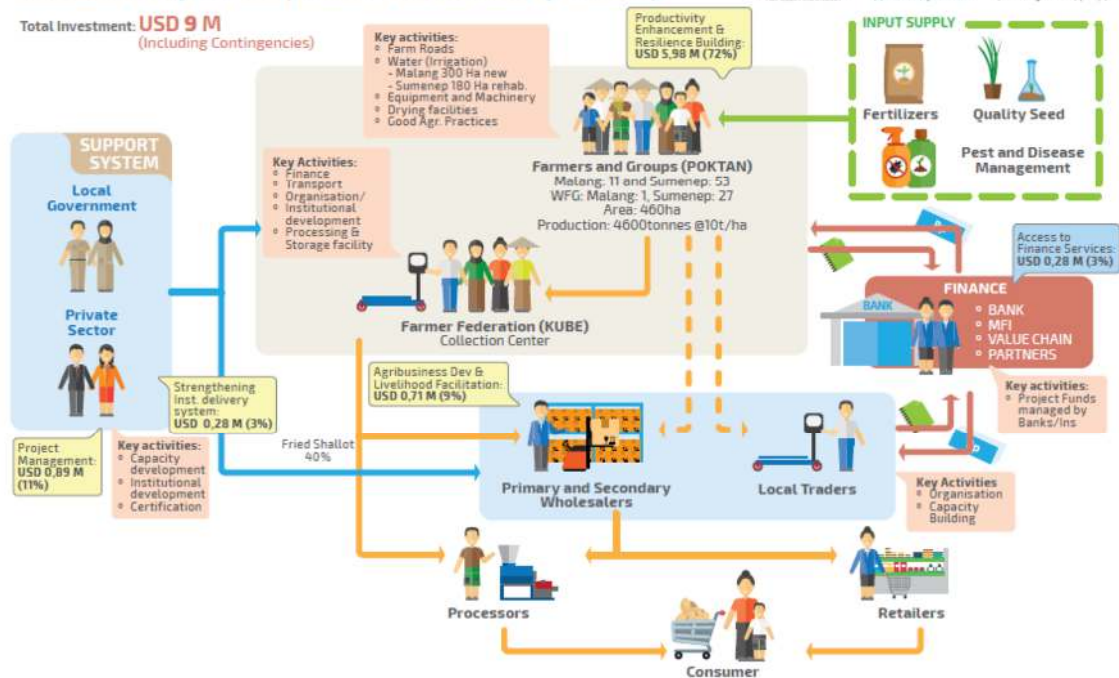
## ORGANIC RICE VALUE CHAIN: TASIKMALAYA DISTRICT

Total Investment: **USD 3,85 M**  
(Including Contingencies)



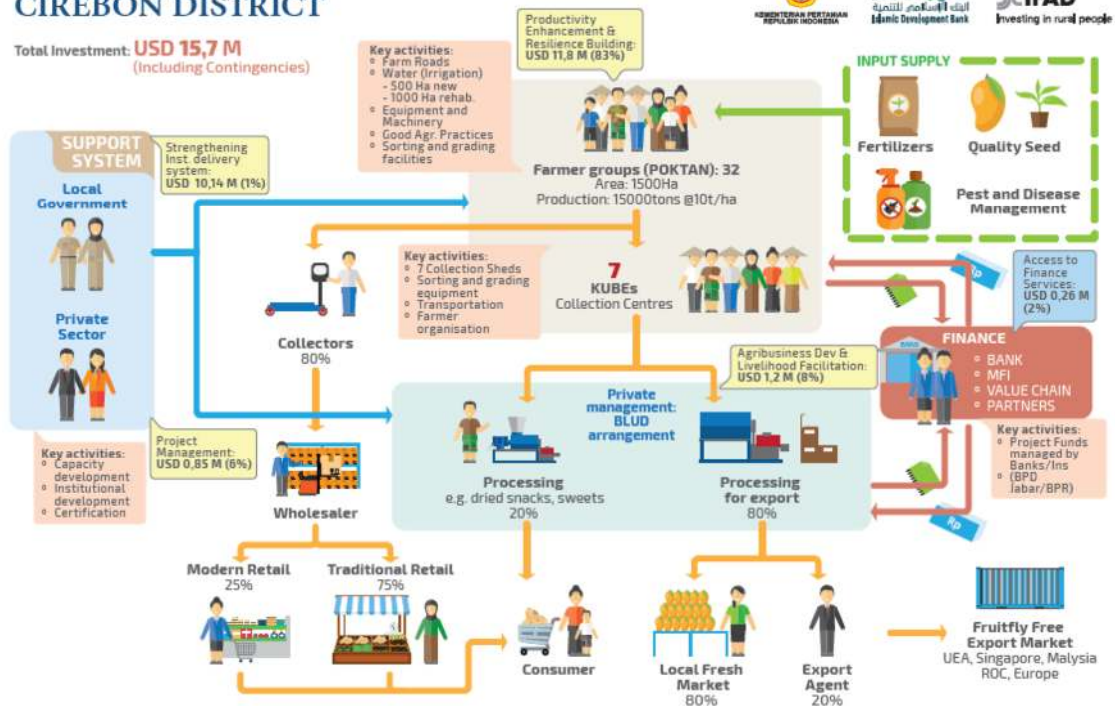
## SHALLOTS VALUE CHAIN: MALANG (300HA) and SUMENEP (160HA)

Total Investment: **USD 9 M**  
(Including Contingencies)



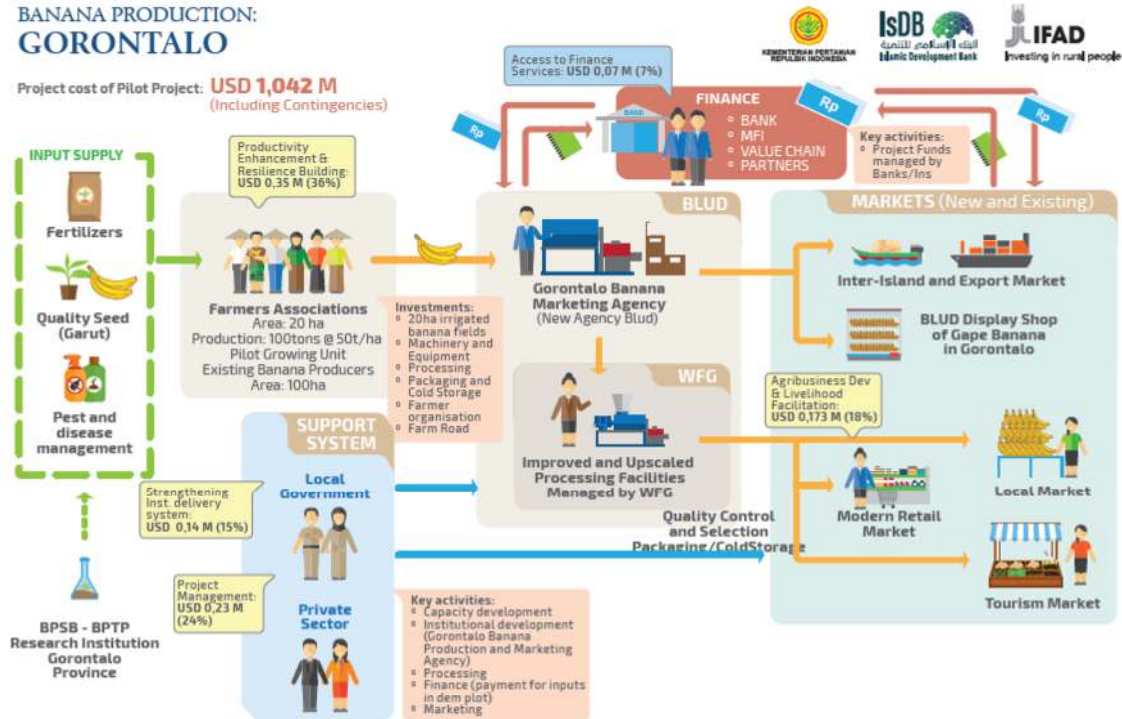
## MANGO VALUE CHAIN: CIREBON DISTRICT

Total Investment: **USD 15,7 M**  
(Including Contingencies)



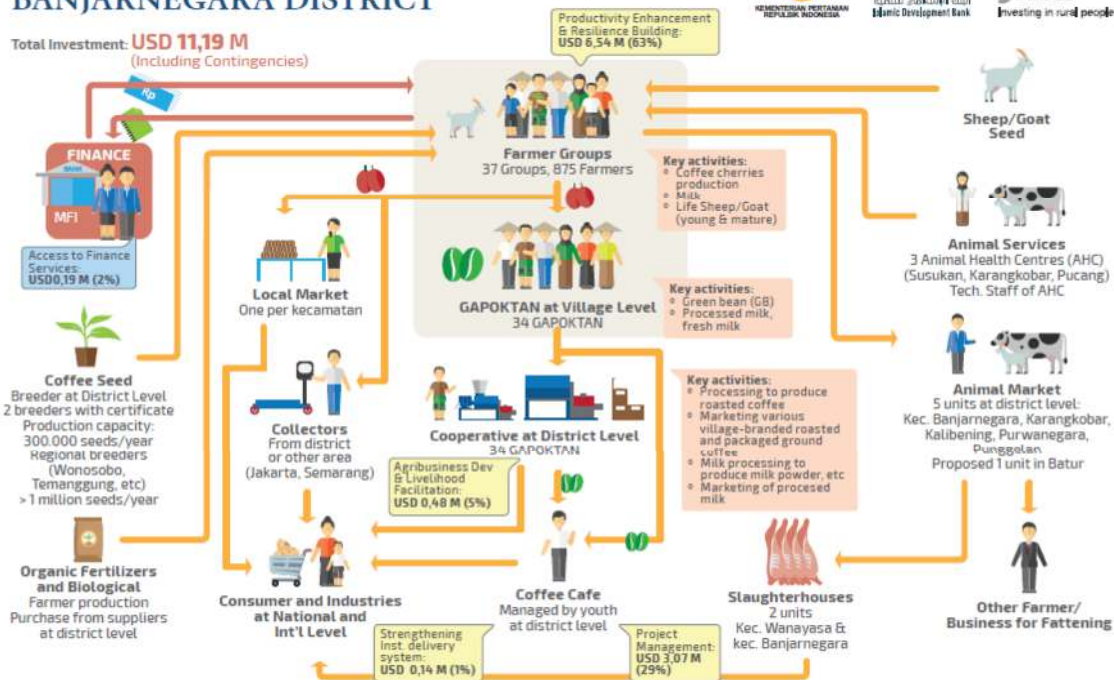
## BANANA PRODUCTION: GORONTALO

Project cost of Pilot Project: **USD 1,042 M**  
(Including Contingencies)



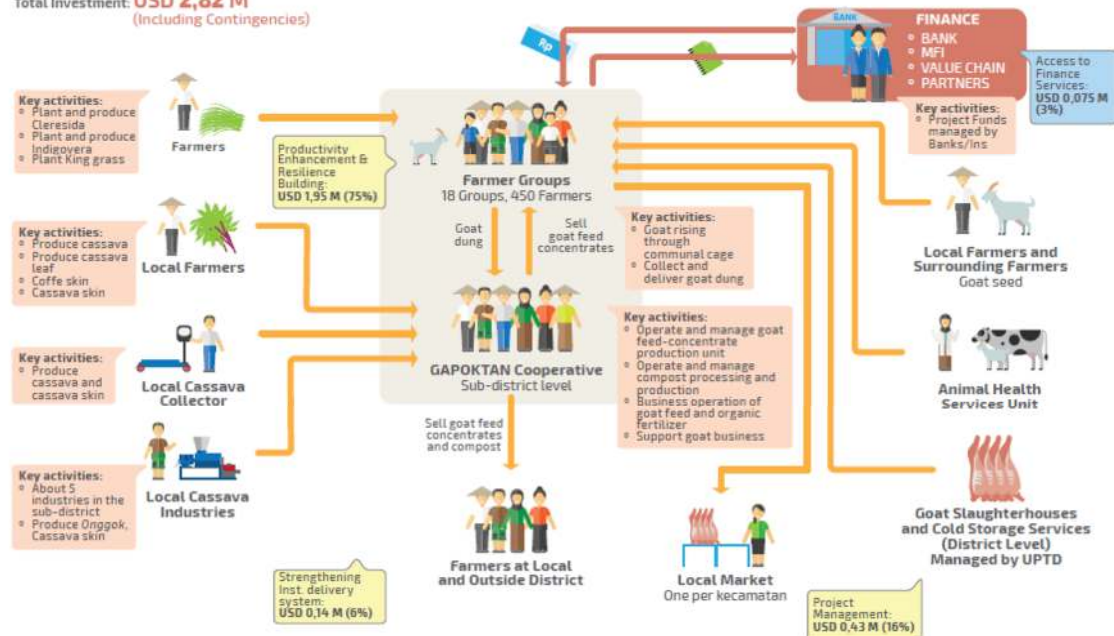
## COFFEE VALUE CHAIN: BANJARNEGARA DISTRICT

Total Investment: **USD 11,19 M**  
(Including Contingencies)



## GOAT AGRIBUSINESS VALUE CHAIN: PURBALINGGA DISTRICT

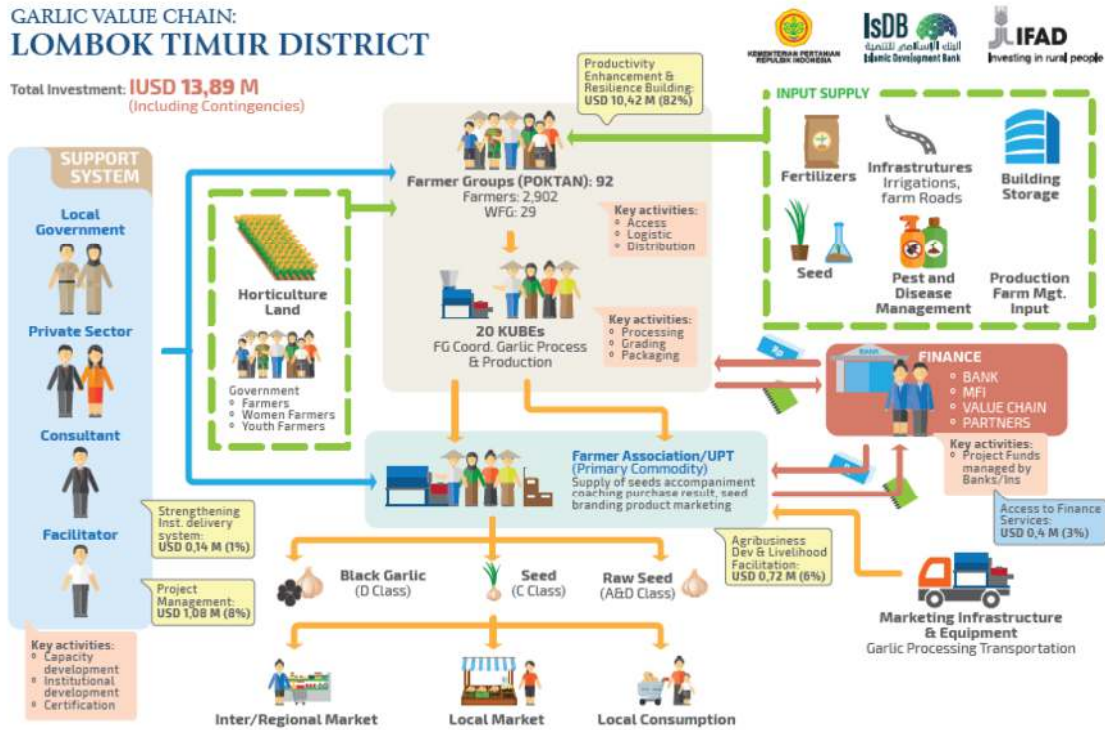
Total Investment: **USD 2,82 M**  
(Including Contingencies)





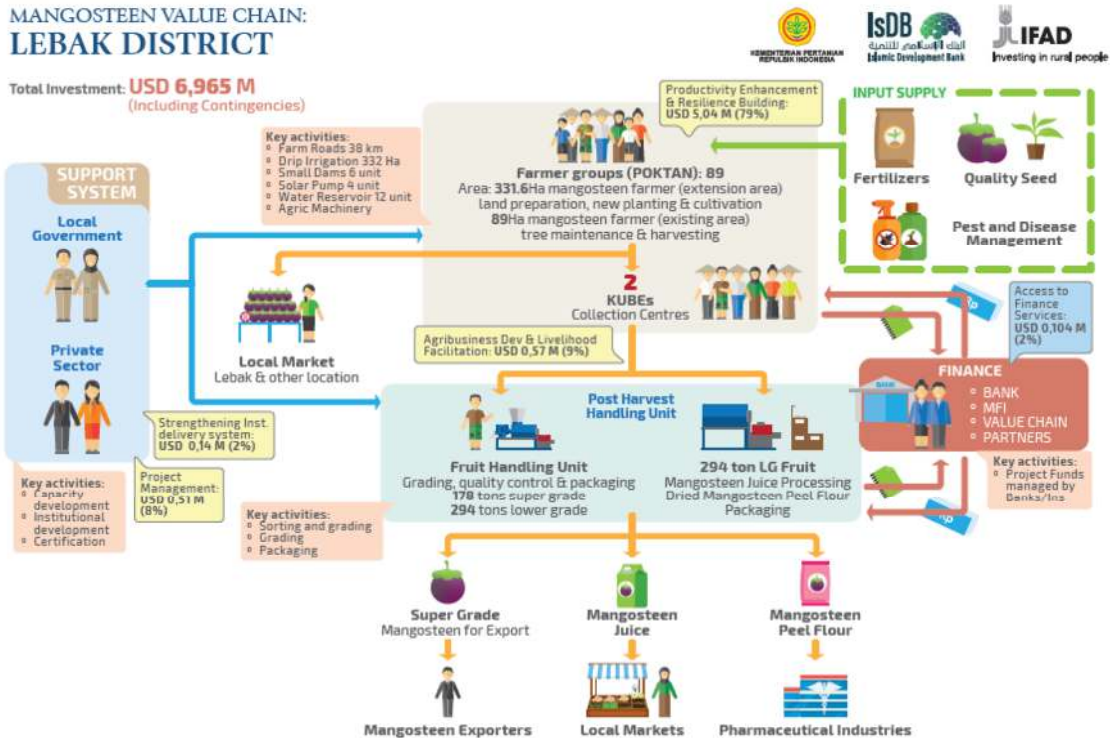
## GARLIC VALUE CHAIN: LOMBOK TIMUR DISTRICT

Total Investment: **USD 13,89 M**  
(Including Contingencies)



## MANGOSTEEN VALUE CHAIN: LEBAK DISTRICT

Total Investment: **USD 6,965 M**  
(Including Contingencies)



## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 3: Project cost and financing: Detailed costs tables**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## Annex 3: Project costs and financing: detailed cost tables

### A. Project Costs

1. **Introduction.** This annex describes the assumptions underlying the derivation of costs, estimated costs and financing plan for the programme. Total programme costs are based on November 2017 prices.

2. **Project Period.** The programme will be financed over a five-year period starting from end 2019.

3. **Inflation.** The base rate of inflation has been set at 4 percent up to programme start-up, reaching 3.6 per cent for the last years of the programme.

4. **Exchange Rate.** The exchange rate was fixed at 1 US\$ = 13,541 IDR as per average situation in 2019. Programme costs are presented in both IDR and US\$ currency.

5. **Physical and price contingencies.** Both types of contingencies have been taken into account and included in the costing of programme.

6. **Taxes and Duties.** There is VAT of 10% levied on all imported and locally procured goods and services. The Government would finance the cost of all taxes on goods and services procured under the Programme. Most items procured under the project would be purchased locally.

7. **Expenditure Accounts.** Project expenditure accounts will be the following: (i) Technical Assistance and Consultancies; (ii) Grants and Subsidies; (iii) Goods, and Services; (iv) Training, Workshops and Meetings; (v) Microcredit; (vi) vehicles; (vii) equipment; (viii) Salaries and Allowances; (ix) Operating costs.

8. **Project Structure.** The Programme has four components and eight subcomponents distributed as follows:

- (a) **Component 1: Productivity Enhancement and Resilience Building;**
  - (i) Land Development and Infrastructure
  - (ii) Production and Farm Management
- (b) **Component 2: Agribusiness Development & Livelihood Facilitation;**
  - (i) Farmer Institutional Development
  - (ii) Marketing Infrastructure and Equipment
  - (iii) Strengthening Market Linkages and Alliances
  - (iv) Access to Financial Services
- (c) **Component 3: Strengthening Institutional Delivery Systems**
  - (i) Capacity building for Ministry of Agriculture and decentralized partners
  - (ii) Adaptive research
- (d) **Project management**

9. **Total cost and financing.** UPLANDs total costs, including physical and price contingencies, duties and taxes are estimated at US\$ 151.655 million over a five-year implementation period. An IFAD loan will cover US\$ 50 million, or 33.3%, of the total project cost. The Islamic Development Bank (IsDB) will be the main international co-financier which will cover US\$ 70 million loan (46.2%) out of the total project cost and US\$ 500,000 grant to support reverse linkage activity. The Government of Indonesia will contribute US\$ 17.1 million (11.3%) by financing salaries of all PMO, and districts staff and by waiving taxes and duties. The project beneficiaries are expected to contribute US\$ 14.0 million (9.3%) of the project cost) - mostly to co-finance the purchase of basic and advanced agriculture mechanization and equipment. The Project will explore partnership with private sector especially around seed technology development. It is estimated the minimum contribution from private sector is US\$ 24 thousand, or 0.02%, of the total programme cost.

10. Project costs by components and by category are summarized below. The Project investments are organized into four major components: (i) Productivity Enhancement and Resilience-Building (68% of the costs); (ii) Agribusiness Development & Livelihood Facilitation (12.7% of the costs); (iii) Strengthening Institutional Delivery Systems (3.4% of the costs); and (iv) Project Management (15.9%).



**Table 1: Programme cost by component ('000 USD)**

**Components Project Cost Summary**

Component	IFAD loan		IsDB loan		IsDB grant		Beneficiaries			Government of Indonesia			Private sector	Total
	Amount	%	Amount	%	Amount	%	Cash	In-kind	%	Cash	In-kind	%	Amount	Amount
<b>1. Productivity enhancement and resilience-building</b>														
1.1. Land and infrastructure development	2 959	5.0	40 499	67.8	-	-	-	10 858	18.2	5 432	-	9.1	-	59 748
1.2. Production and farm management	33 091	76.5	3 017	7.0	-	-	-	975	2.3	6 103	-	14.1	-	43 186
<b>Subtotal</b>	<b>36 050</b>	<b>35.0</b>	<b>43 516</b>	<b>42.3</b>	-	-	-	<b>11 833</b>	<b>11.5</b>	<b>11 535</b>	-	<b>11.2</b>	-	<b>102 934</b>
<b>2. Agribusiness development and livelihood facilitation</b>														
2.1. Development of farmer institutions	1 207	90.9	-	-	-	-	-	-	-	121	-	9.1	-	1 328
2.2. Market infrastructure and equipment	1 664	13.7	7 139	59.0	-	-	-	2 201	18.2	1 100	-	9.1	-	12 105
2.3. Strengthening market linkages and alliances	1 645	89.6	-	-	-	-	-	-	-	167	-	9.1	24	1 836
2.4. Access to financial services	-	-	4 001	100.0	-	-	-	-	-	-	-	-	-	4 001
<b>Subtotal</b>	<b>4 516</b>	<b>23.4</b>	<b>11 140</b>	<b>57.8</b>	-	-	-	<b>2 201</b>	<b>11.4</b>	<b>1 388</b>	-	<b>7.2</b>	<b>24</b>	<b>19 269</b>
<b>3. Strengthening institutional delivery systems</b>														
3.1. Capacity-building for institutional development, governance and transparency	2 733	77.3	-	-	500	14.1	-	-	-	301	-	8.5	-	3 534
3.2. Adaptive research	-	-	1 608	90.9	-	-	-	-	-	161	-	9.1	-	1 769
<b>Subtotal</b>	<b>2 733</b>	<b>51.5</b>	<b>1 608</b>	<b>30.3</b>	<b>500</b>	<b>9.4</b>	-	-	-	<b>462</b>	-	<b>8.7</b>	-	<b>5 303</b>
<b>4. Project management</b>														
4.1. Technical assistance	619	4.0	13 537	86.9	-	-	-	-	-	1 416	-	9.1	-	15 571
4.2. Operating cost	6 081	70.9	199	2.3	-	-	-	-	-	2 297	-	26.8	-	8 577
<b>Subtotal</b>	<b>6 700</b>	<b>27.7</b>	<b>13 736</b>	<b>56.9</b>	-	-	-	-	-	<b>3 713</b>	-	<b>15.4</b>	-	<b>24 149</b>
<b>Total</b>	<b>50 000</b>	<b>33.0</b>	<b>70 000</b>	<b>46.2</b>	<b>500</b>	<b>0.3</b>	-	<b>14 034</b>	<b>9.3</b>	<b>17 097</b>	-	<b>11.3</b>	<b>24</b>	<b>151 655</b>

**Table 2: Programme Costs by Expenditure Account ('000 USD)**

**Expenditure Accounts Project Cost Summary**

Expenditure category	IFAD loan		IsDB loan		IsDB grant (ISFB)		Private sector		Beneficiaries			Government of Indonesia			Total
	Amount	%	Amount	%	Amount	%	Amount	%	Cash	In-kind	%	Cash	In-kind	%	Amount
<b>Investment costs</b>															
A. Technical assistance and consultancies	401	2.6	13 609	88.3	-	-	-	-	-	-	-	1 401	-	9.1	15 441
B. Works	19	0.1	17 077	72.7	-	-	-	-	-	4 273	18.2	2 137	-	9.1	23 505
C. Grants and subsidies	5 399	10.3	32 715	62.6	-	-	-	-	-	9 415	18.0	4 753	-	9.1	52 282
D. Goods and services	31 791	86.2	1 608	4.4	-	-	-	-	-	130	0.4	3 353	-	9.1	36 882
E. Training, workshop and meeting	9 171	85.1	127	1.2	500	4.6	24	0.2	-	-	-	960	-	9.1	10 782
F. Micro-credit	-	-	4 001	100.0	-	-	-	-	-	-	-	-	-	9.1	4 001
G. Vehicle	77	90.9	-	-	-	-	-	-	-	-	-	8	-	9.1	85
H. Equipment	106	8.1	863	66.2	-	-	-	-	-	216	16.6	119	-	9.1	1 304
I. Operating cost	3 036	90.8	-	-	-	-	-	-	-	-	-	304	-	9.1	3 340
<b>Total investment cost</b>	<b>50 000</b>	<b>34.0</b>	<b>70 000</b>	<b>47.6</b>	<b>500</b>	<b>0.3</b>	<b>24</b>	<b>0.0</b>	<b>-</b>	<b>14 034</b>	<b>9.5</b>	<b>13 034</b>	<b>-</b>	<b>9.1</b>	<b>147 591</b>
<b>Recurrent costs</b>															
A. Salaries	-	-	-	-	-	-	-	-	-	-	-	4 064	-	100.0	4 064
<b>Total recurrent costs</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4 064</b>	<b>-</b>	<b>100.0</b>	<b>4 064</b>
<b>Total</b>	<b>50 000</b>	<b>33.0</b>	<b>70 000</b>	<b>46.2</b>	<b>500</b>	<b>0.3</b>	<b>24</b>	<b>0.0</b>	<b>-</b>	<b>14 034</b>	<b>9.3</b>	<b>17 098</b>	<b>-</b>	<b>11.3</b>	<b>151 655</b>

**Table 3: Expenditure Accounts by Financiers**

**Expenditure Accounts by Financiers**

	<i>PY*1</i>		<i>PY2</i>		<i>PY3</i>		<i>PY4</i>		<i>PY5</i>		<i>Total</i>
	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>	<i>%</i>	<i>Amount</i>
<b>1. Productivity enhancement and resilience-building</b>											
1.1. Land and infrastructure development	-	-	17 679	29.59	26 152	43.77	15 917	26.64	-	-	59 748
1.2. Production and farm management	490	1.14	18 743	43.40	21 389	49.53	1 951	4.52	613	1.42	43 186
<b>Subtotal</b>	<b>490</b>	<b>0.48</b>	<b>36 422</b>	<b>35.38</b>	<b>47 541</b>	<b>46.19</b>	<b>17 868</b>	<b>17.36</b>	<b>613</b>	<b>0.60</b>	<b>102 934</b>
<b>2. Agribusiness development and livelihood facilitation</b>											
2.1. Development of farmer institutions	-	-	360	27.10	366	27.59	320	24.12	281	21.19	1 328
2.2. Market infrastructure and equipment	83	0.69	8 863	73.22	3 158	26.09	-	-	-	-	12 105
2.3. Strengthening market linkages and alliances	-	-	449	24.45	457	24.89	465	25.34	465	25.31	1 836
2.4. Access to financial services	58	1.44	3 459	86.46	484	12.10	-	-	-	-	4 001
<b>Subtotal</b>	<b>141</b>	<b>0.73</b>	<b>13 131</b>	<b>68.15</b>	<b>4 465</b>	<b>23.17</b>	<b>786</b>	<b>4.08</b>	<b>746</b>	<b>3.87</b>	<b>19 269</b>
<b>3. Strengthening institution delivery systems</b>											
3.1. Capacity-building for institutional development, governance and transparency	1 129	31.95	729	20.63	742	21.00	716	20.26	220	6.2	3 534
3.2. Adaptive research	-	-	-	-	579	32.74	590	33.33	600	33.93	1 769
<b>Subtotal</b>	<b>1 129</b>	<b>21.29</b>	<b>729</b>	<b>13.75</b>	<b>1 321</b>	<b>24.91</b>	<b>1 305</b>	<b>24.61</b>	<b>820</b>	<b>15.46</b>	<b>5 303</b>
<b>4. Project management</b>											
4.1. Technical assistance	1 524	9.79	3 725	23.93	4 242	27.24	3 263	20.96	2 816	18.09	15 571
4.2. Operating cost	1 242	14.48	2 238	26.09	1 761	20.53	1 701	19.83	1 636	19.07	8 577
<b>Subtotal</b>	<b>2 766</b>	<b>11.45</b>	<b>5 963</b>	<b>24.69</b>	<b>6 003</b>	<b>24.86</b>	<b>4 964</b>	<b>20.56</b>	<b>4 452</b>	<b>18.44</b>	<b>24 149</b>
<b>Total</b>	<b>4 526</b>	<b>2.98</b>	<b>56 245</b>	<b>37.09</b>	<b>59 331</b>	<b>39.12</b>	<b>24 923</b>	<b>16.43</b>	<b>6 631</b>	<b>4.37</b>	<b>151 655</b>

**Table 4 Expenditure Accounts by Components (US\$)**

**Expenditure Accounts by Components – Base Cost**

	Strengthening Institution Delivery System											Physical Contingencies			
	Productivity Enhancement & Resilience Building		Agribusiness & livelihood Facilitation				Capacity								
			Land & infrastructure Development	Production and Farm Management	Development of Farmer Institutions	Marketing Infrastructure & Equipment	Strengthening Market Linkages & Alliances	Access to Financial Services	Building for government staff	Program Management					
	Adaptive Research	Technical Assistant								Operating Cost	Total	%	Amount		
I. Investment Costs															
A. Technical Assistance and Consultancies	-	112	-	-	-	-	-	-	14 391	369	14 873	0.1	15		
B. Works	15 179	166	-	5 965	-	-	-	-	-	-	21 310	6.0	1 279		
C. Grants and Subsidies	38 918	4 211	-	4 342	-	-	-	-	-	-	47 471	6.0	2 848		
D. Goods, and Services	-	31 342	-	-	-	-	-	1 572	28	645	33 587	6.0	2 013		
E. Training, Workshop and Meeting	-	847	1 194	-	1 646	-	3 228	-	625	2 259	9 799	5.7	563		
F. Micro-credit	-	-	-	-	-	4 001	-	-	-	-	4 001	-	-		
G. Vehicle	-	-	-	-	-	-	-	-	-	78	78	6.0	5		
H. Equipment	-	407	-	793	-	-	-	-	-	-	1 200	6.0	72		
I. Operating Cost	-	104	-	-	-	-	-	-	-	2 928	3 032	5.2	157		
Total Investment Costs	54 097	37 189	1 194	11 100	1 646	4 001	3 228	1 572	15 045	6 279	135 351	5.1	6 951		
II. Recurrent Costs															
A. Salaries	-	2 295	-	-	-	-	-	-	-	1 658	3 953	0.2	7		
Total Recurrent Costs	-	2 295	-	-	-	-	-	-	-	1 658	3 953	0.2	7		
Total BASELINE COSTS	54 097	39 485	1 194	11 100	1 646	4 001	3 228	1 572	15 045	7 937	139 304	5.0	6 958		
Physical Contingencies	3 246	2 225	72	666	99	-	194	94	13	350	6 958	-	-		
Price Contingencies															
Inflation															
Local	5 588	3 934	179	837	258	-	324	261	1 468	831	13 680	-	-		
Foreign	433	119	-	54	0	-	2	9	-	1	618	-	-		
Subtotal Inflation	6 021	4 053	179	891	258	-	326	270	1 468	832	14 299	-	-		
Devaluation	-3 617	-2 576	-117	-553	-167	-	-212	-168	-955	-541	-8 905	-	-		
Subtotal Price Contingencies	2 404	1 477	63	338	91	-	114	102	514	291	5 394	5.0	269		
Total PROJECT COSTS	59 748	43 186	1 328	12 105	1 836	4 001	3 535	1 769	15 571	8 577	151 656	4.8	7 227		
Taxes	5 432	3 926	121	1 100	167	-	321	161	1 416	780	13 423	4.9	657		
Foreign Exchange	10 744	3 725	-	1 938	1	-	37	161	-	36	16 643	5.7	942		

**Table 5 Expenditure Account by Year**

Expenditure Accounts by Years – Totals Including Contingencies

	Totals Including Contingencies					
	2019	2020	2021	2022	2023	Total
<b>I. Investment Costs</b>						
A. Technical Assistance and Consultancies	1 323	3 612	4 140	3 346	2 989	15 411
B. Works	-	7 987	9 920	5 599	-	23 505
C. Grants and Subsidies	-	20 238	21 560	10 484	-	52 282
D. Goods, and Services	377	15 197	18 961	1 686	661	36 882
E. Training, Workshop and Meeting	1 541	3 061	2 563	2 234	1 383	10 782
F. Micro-credit	58	3 459	484	-	-	4 001
G. Vehicle	-	85	-	-	-	85
H. Equipment	83	1 072	148	-	-	1 304
I. Operating Cost	347	729	742	754	768	3 340
<b>Total Investment Costs</b>	<b>3 730</b>	<b>55 441</b>	<b>58 518</b>	<b>24 102</b>	<b>5 801</b>	<b>147 592</b>
<b>II. Recurrent Costs</b>						
A. Salaries	796	804	813	821	830	4 064
<b>Total Recurrent Costs</b>	<b>796</b>	<b>804</b>	<b>813</b>	<b>821</b>	<b>830</b>	<b>4 064</b>
<b>Total PROJECT COSTS</b>	<b>4 526</b>	<b>56 245</b>	<b>59 331</b>	<b>24 923</b>	<b>6 631</b>	<b>151 656</b>

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 4: Economic and Financial Analysis**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## **Annex 4: Economic and financial analysis**

### **Introduction and Background**

1. The agriculture sector in Indonesia is a core area of the Government's national development programme. Within the agriculture sector, a sharper focus is now being given to development of upland areas which were neglected in the past. The government now has plans to make significant investments in upland agriculture. The upland areas are highly diverse and fragile but play a very important role in the production of horticulture crops and serve as watersheds in the conservation of water resources and the maintenance of a stable ecosystem. Traditional agricultural and water management techniques are generally poor in conserving soil and water in Indonesia's tropical environment, where precipitation ranges from 1500 to more than 3000 mm/year, often falling within a few months of the year. The project will assist in developing an integrated, and more sustainable, approach to farming for the uplands. Proper management of upland areas is being increasingly recognized as a key issue in the successful utilization of land resources in the country as a whole. Government recognizes that there is need for a new approach in developing high economic value commodities to improve land productivity, enabling farmers to achieve greater value-added and selecting appropriate technologies compatible with land and local socio economy conditions.

2. Farming in the upland areas is undertaken by smallholders who have average landholdings of 0.71 hectares. These smallholders face some constraints that are typical of the farming system in the uplands. These include low productivity, limited capacity to invest in enhancing yields, lack of access to credit, lack of certified seed, fertilizer, agriculture machinery, poor infrastructure, lack of post-harvest and processing facilities, poor links to markets and limited understanding of the dynamic nature of market demand and information. The farmers are organized in farmer groups but have not graduated to higher levels of organization that can enable them to take advantage of economies of scale by aggregating their produce. They lack the organizational and technical capacity to form associations or cooperatives for managing post-harvest facilities and linking them in mutually beneficial relationships with others in the private sector. An integrated farming systems approach is a solution for improving agricultural crop productivity as well as enhancing farm management systems leading to greater competitiveness and improvement of farmers' income.

3. The overall goal of the project will be to reduce poverty in upland areas through remunerative, sustainable and resilient livelihoods. The project would aim to increase agricultural productivity and farmer's income in upland areas through the development of land and water infrastructure, introducing modern agricultural cultivation techniques and holistic integrated agricultural management systems.

4. The development objective of the project would be to assist rural households to increase smallholders' agriculture productivity, incomes, livelihoods and resilience in the targeted uplands.

5. The project would contribute to three specific outcomes that are in line with the strategic objectives of IFAD, IsDB and Government; (i) increase in poor rural people's productive capacities; (ii) increase poor rural people's benefits from market participation and (iii) increase in Government capacity for modernizing agriculture.

6. At the output level the project would assist in establishing the following; (i) irrigation developed on about 12000 ha through small irrigation systems, small weirs, shallow wells and ponds ii) about 500kms of farm to market roads developed, (iii) training of about 25,000 households in improved and more sustainable agriculture production practices, (iv) capacity building of about 800 farmer groups including developing the capacity to graduate to higher levels of organization for enterprise and business development for at least 60% of them, (v) increase processing capacity for 800 farmer groups, (vii) facilitate business mentoring and market linkages for 25,000 households, and (ix) provide improved access to microfinance for 20,000 smallholders.



### Approach, Assumptions and Data

7. This economic analysis is based on crop and livestock production data provided by the relevant agencies in each of the 14 project districts. There has been no independent verification of data and may aspects remain to be clarified during final project design.

8. **Numeraire and prices.** The analysis uses the domestic price level numeraire, expressed in local currency (i.e. Indonesian rupiah). The financial prices used are current prices in mid-2018. To convert financial prices and costs to economic prices and costs when using the domestic price level numeraire, the foreign component of the price of traded goods is adjusted by the shadow exchange rate factor (SERF), scarce labour is adjusted by the shadow wage rate factor (SWRF), taxes are removed from prices and domestic resources are multiplied by a factor of 1 (i.e. the financial prices of domestic resources are equal to the economic prices).

9. **Taxes and duties.** Indonesia applies a value added tax (consumption tax) of 10% on goods and services, but there are a number of both goods and services that are exempted from VAT or are zero rated. Import duties also apply on some imported equipment and other goods. Taxes and duties are removed from financial prices in the process of deriving economic prices.

10. **Conversion factors and exchange rate.** The standard conversion factor (SCF) for the project has been estimated, as shown in Table , using import and export data for four years. This method for calculating the SCF is used by the Asian Development Bank and other agencies and provides an acceptable approximation for this analysis.<sup>14</sup> Since the 4 year average of the estimated values is not significantly different from 1.0, this value for the SCF has been used in the analysis. (SERF is therefore also equal to 1.0).

11. The exchange rate used throughout the analysis is USD1 = Rp13,700

**Table 1: Estimate of Standard Conversion Factor**

	2014	2015	2016	2017
Imports (M) (USD million)	178,178.8	142,694.8	135,652.9	156,925.2
Exports (X) (USD million)	175,980.0	150,366.3	145,186.2	168,810.7
Taxes on imports (T <sub>M</sub> ) (USD million)	2,665.1	2,361.7	2156.9	2,495.1
Taxes on exports (T <sub>X</sub> ) (USD million)	1,334.6	1,182.7	1,149.0	1,335.9
Standard Conversion Factor	0.996	0.996	0.992	0.992
Shadow Exchange Rate Factor (1/SCF)	1.004	1.004	1.008	1.008
Average exchange rate (Rp/USD)	11,865	13,389	13,308	13,381

Notes: 1) Standard conversion factor =  $(M + X)/(M + T_M + X - T_X)$

2) Taxes on imports and exports for 2016 and 2017 estimated by applying average tax rates calculated for 2013 to 2015 data

Sources: Import and export data from Statistics Indonesia (Badan Pusat Statistik). Import and export tax data for 2013 - 2015 and average exchange rates from OECD website.

12. The daily wage for agricultural labour varies according to province and district. Values verified during final design and used in the analysis vary from IDR30,000 per day (for goat rearing in Purbalingga) to IDR150,000 per day (for potato production in Minahasa Selatan).

13. The project life is taken as 20 years and project investments are assumed to have no residual value at the end of this period.

14. **Opportunity cost of capital.** The opportunity cost of capital used in the analysis is 9%. This value will be reviewed during final design and may be revised, if appropriate.

<sup>14</sup> ADB, 2004. ERD Technical Note No. 11, Shadow Exchange Rates for Project Economic Analysis: Toward Improving Practice at the Asian Development Bank. Manila.

## **Project Interventions**

### ***(i) Beneficiaries***

15. The total estimate number of beneficiaries is 250,000. The project's value chain activities are expected to directly benefit approximately 30,000 households or 120,000 beneficiaries in 14 districts located in 7 provinces of Banten, West Java, Central Java, East Java, West Nusa Tenggara, Gorontalo and North Sulawesi, and Gorontalo.

### ***(ii) Project Interventions***

16. The project will have 3 components plus Project Management. The operational components are (i) Productivity Enhancement and Resilience Management; (ii) Agribusiness Development and Livelihood Facilitation; (iii) Strengthening Institutional Delivery Systems

17. Component 1 has two sub-components which are; (i) Land and Infrastructure Development, and (ii) Production and Farm Management. Land development will include a range of activities such as terracing and contouring, drainage, the use of soil stabilisers such as mulches and the strategic planting of trees including perennial horticultural crops. It is expected that the project would help to develop 5,000 hectares benefitting around 7,000 households. Infrastructure development will include protection works, rehabilitation of existing and construction of new tertiary irrigation schemes, drip and sprinkler irrigation systems, water storage ponds, shallow wells, small weirs and farm-to-market and farm-to-regional roads. Production and Farm Management will provide training and technical support to farmers to enhance their agricultural knowledge and management capacity and will support the adoption of appropriate farm machinery to increase on-farm efficiency and productivity and will also train interested young people in machinery maintenance.

18. The Agribusiness Development and Livelihood Facilitation component has four sub-components; (i) Farmer Institutional Development; (ii) Marketing Infrastructure & Equipment (iii) Strengthening Market Linkages & Alliances and (iv) Access to Financial Services. The first of these will provide training in organization, business management and institutional strengthening for the farmer groups wanting improved access to markets. Under sub-component 2.2, Marketing Infrastructure and Equipment, farmer groups who demonstrate their commitment to enhancing their access to markets would be eligible to apply for infrastructure and equipment support under the project. This could range from small scale collection and presorting facilities, small and larger scale post-harvest handling packaging facilities for fresh commodities and secondary processing facilities and equipment. Warehouse and cool storage facilities could also be established where viable and necessary to meet market requirements. Sub-component 2.3 will help farmer groups to development strengthen linkages to markets and value chains for their products. Under Subcomponent 2.4, Access to Financial Services, the project will provide access to financial services through facilitating links with banks and financial institutions and will specifically explore the potential of Islamic micro-financing programs as well as other modalities to meet the needs of the target communities and the value chains to be developed.

19. The subcomponents of Component 3, Strengthening Institutional Delivery Systems are (i) Capacity building of Government Staff and (ii) Adaptive Research. Sub-component 3.1 will provide training for extension staff and district and sub-district level. The Adaptive Research sub-component will support relevant adaptive research in national agricultural research institutions.

20. Component 4 is Project Management.

### ***(iii) Estimating Project Benefits***

21. The project activities are intended to increase the productivity of farming in upland areas and increase farm household incomes through increasing the quantity and quality of farm outputs and enhancing connections to markets and product value chains. The direct benefits from expected with project crop and livestock production have been estimated. Each project district will focus on just one product – except for Banjarnegara which will have two.

**22** Benefit estimates have been based on data provided by the respective district offices together with data collected in the field by the team during the project design phase. As far as possible data was verified during project design and any inconsistencies or uncertainties addressed.

**23** The project will affect household production in several ways: firstly by helping farmers to increase crop yields, secondly by helping farmers to improve the quality of their production, and thirdly by improving knowledge of and links to markets and marketing. The quality and marketing benefits are difficult to quantify. For the present analysis all these benefits have been approximated by assuming yield increases of about 20% - i.e. the assumed increases are intended to be in part a proxy for the benefits accruing from all sources. Yield increases are shown in Table 2 below.

**Table 2: Products and Yields**

Province / District	Product	Area (ha) / number	Yield / Output (kg/ha)	
			Present	With Project
<i>Banten</i>				
Lebak <sup>1)</sup>	mangosteen	450	470	3,000
<i>West Java</i>				
Tasikmalaya	organic rice	500	6,670	7,760
Subang <sup>1)</sup>	mangosteen – existing	500	2,500	3,000
	mangosteen - new	1,504	470	3,000
Cirebon <sup>2)</sup>	mango - exist	485	7,700	9,240
	mango - new	1,000	1,500	8,400
Garut	seed potato	200	10,000	12,500
<i>Central Java</i>				
Banjarnegara	coffee – exist.	300	1,500	1,800
	coffee <sup>3)</sup> – new	200	500	1,800
	goats	816 units	6 kids/unit/yr	9 kids/unit/yr
Purbalingga	goats	237 units	6 kids/unit/yr	9 kids/unit/yr
Magelang	organic rice	2,000	5,250	6,038
<i>East Java</i>				
Malang	shallots	300	8,000	10,000
Sumenep	shallots	150	8,000	10,000
<i>Nusa Tenggara Barat</i>				
Lombok Timur	Garlic	1,440	20,000	24,000
Sumbawa	shallots – prod.	1,500	9,600	10,000
	shallots - seed	500	8,000	10,000
<i>North Sulawesi</i>				
Minahasa Selatan	Potato	2,000	12,000	15,000
<i>Gorontalo</i>				
Gorontalo	Banana	20	1,200 bunches	1,440 bunches
Total area		12,285		

Notes: 1) First yield from 5<sup>th</sup> year for new mangosteen  
2) First yield from 3<sup>rd</sup> year for new mango  
3) First yield from 3<sup>rd</sup> year

**25** **Field crops.** The field crops included in the project are shallots in 3 districts, garlic in one district, organic rice in 2 districts and potatoes in 2 districts. Most of the project households in these districts are already growing the concerned crops. For all these crops (as well as for tree crops) the

present yields used are the averages for the most recent 3 years of data provided by the respective district offices. For these crops the present scenario is that described by the crop financial analyses provided. Yields are assumed to increase by about 20% for each crop, with increases beginning in the third project year and continuing for 4 years – i.e. yields continue to increase slightly after the project has terminated.

**26. Tree crops.** Tree crops included in the project are mangosteen, mango, banana and coffee. These crops are already grown by some households in the districts, but there will also be some new plantations involving new households. The areas of existing and new plantations for the concerned crops and districts are shown in Table 2 above. Yields, quantities and prices are those provided by the district offices and yields are assumed to increase by about 20% compared with the present situation. For existing plantations these increases are assumed to occur during the 3<sup>rd</sup> to 6<sup>th</sup> project years. For new plantations they are assumed from the 2<sup>nd</sup> to 5<sup>th</sup> years of production, compared to what yields would be for these crops during that period without the project.

**27. Goats.** Improving goat production will be the project focus in Purbalingga district and in Banjarnegara there will be both goats as well as coffee. In Banjarnegara there will be 618 goat production units and in Purbalingga and estimated 237. Each production unit equates to one farm household and will have six breeding does. Each family unit produces on average 7 kids at present and it is anticipated that with improved fodder and health, the survival rate for kids will increase to an average of 9 per year per unit. Income comes from the sale of surplus kids and culled does.

#### **(iv) Prices**

**28.** In the crop and livestock budgets all prices used are those provided by the district offices together with crop and livestock financial analyses. There is considerable variation in prices between districts for some common inputs and the prices provided from each district have been applied in the crop and livestock budgets for that district except that for the prices of traded goods, the estimated economic prices have been applied uniformly for all districts.

**29.** Since the domestic price numeraire is being used, financial prices for domestic goods are converted to economic prices only by the removal of any tax component. This adjustment has been made for equipment and machinery and some inputs (e.g. herbicides and pesticides).<sup>15</sup> For traded goods (urea, potash and phosphates) economic prices based on average international prices for the second quarter of 2018 have been estimated. Organic rice is treated as a domestic product and the economic price is the same as the domestic price. Domestic retail prices for organic rice in Indonesia can vary from about IDR 18,000 per kg to about IDR 40,000 per kg, compared with about IDR 10,000 to IDR 12,000 for regular rice.

**30.** The prices of labour, which also vary considerably by district, are converted to economic values by adjusting with the shadow wage rate factor of 0.8.

#### **(v) Non-Quantified Benefits**

**31.** The project may generate significant benefits, resulting from training and institutional strengthening activities that it will not be possible or practicable to quantify, except in so far as they have a direct impact on what farmers produce. Some activities such as Access to Financial Services, the training of young people to undertake machinery maintenance and repairs, collaborative research and support for technical units may have benefits independent of farmers' production but which may still be difficult to quantify. Investments in infrastructure are expected to benefit a large number of community members.

---

<sup>15</sup> Whether VAT applies to any or all agricultural inputs needs to be clarified.

## Economic and Financial Analysis

### (i) Project Costs

32. The project costs in rupiah (in financial prices) are shown in Table 3 below with totals also given in economic prices.<sup>16</sup>

**Table 3: Project Costs (Rp. million)**

Financial Prices	Totals Including Contingencies					Total
	2019	2020	2021	2022	2023	
<b>Productivity Enhancement &amp; Resilience Building</b>						
Land Development	16,690	22,809	29,224	29,955	18,422	117,100
Physical Infrastructure	59,274	81,008	103,791	106,386	65,428	415,887
Farm Management & Advisory Services	52,883	72,273	92,600	94,915	58,373	371,042
Agricultural Machinery	32,429	44,320	56,785	58,205	35,796	227,535
<b>Subtotal</b>	161,276	220,410	282,400	289,460	178,018	1,131,565
<b>Agribusiness Development &amp; Livelihood Facilitation</b>						
Farmer Institutional Development	11,603	15,858	20,318	20,826	12,808	81,412
Marketing Infrastructure & Equipment	56,864	77,715	99,572	102,061	62,768	398,980
Strengthening Marketing Linkages & Alliances	4,629	6,326	8,105	8,307	5,109	32,475
Access to Financial Services	15,077	20,605	26,400	27,060	16,642	105,785
<b>Subtotal</b>	88,173	120,503	154,395	158,254	97,327	618,652
<b>Strengthening Institutional Delivery Systems</b>						
Capacity Building for Government Staff	8,846	12,090	15,490	15,877	9,765	62,068
Market Intelligence Systems Development	3,316	4,532	5,807	5,952	3,661	23,269
Collaboration of Adaptive Research	3,300	4,511	5,779	5,924	3,643	23,157
Support to Technical Units	20,154	27,544	35,291	36,173	22,246	141,408
<b>Subtotal</b>	35,617	48,677	62,367	63,926	39,315	249,901
<b>Project Management</b>	41,141	56,226	72,040	73,841	45,412	288,660
<b>Total PROJECT COSTS</b>	<b>326,207</b>	<b>445,816</b>	<b>571,202</b>	<b>585,482</b>	<b>360,071</b>	<b>2,288,777</b>
<b>Economic Prices</b>						
<b>Total PROJECT COSTS</b>	<b>304,565</b>	<b>406,087</b>	<b>507,609</b>	<b>507,609</b>	<b>304,565</b>	<b>2,030,436</b>

### (ii) Result and Sensitivity Analysis

33. The estimated EIRR for the project is 26.4% and the NPV (at the discount rate of 9%) is Rp 1.98 billion. An increase of project costs or a decrease of project benefits by 10% would lead to an EIRR of 24.1% and 23.9% respectively while the two scenarios together would result in an EIRR of 21.7%

34. Variations in the shadow wage rate factor (set at 0.8 for the base case) have negligible impact on the result: a SWRF of 0.9 results in an EIRR of 26.3% and of 0.7 in an EIRR of 26.5%.

35. This result indicates that the project can be expected to be economically viable, and resilient to any likely variations in key variables.

<sup>16</sup> Detailed project cost analysis is in Annex 2.

**Table 4: Results of the Economic Analysis**

	<b>EIRR</b>	<b>NPV (Rp million)</b>	<b>Switching Values</b>
<b>Base</b>	<b>26.4</b>	<b>1,976.4</b>	
Project costs +10%	24.1	1,847.6	+153%
+20%	22.1	1,718.9	
All benefits -10%	23.9	1,650.0	-61%
-20%	21.2	1,323.6	
Costs +10% & benefits -10%	21.7	1,521.2	
Benefits:			
field crops -10%	24.5	1,753.5	
-20%	22.6	1,530.6	
tree crops -10%	25.8	1,874.8	
-20%	25.2	1,773.3	
livestock -10%	26.4	1,974.4	
-20%	26.4	1,972.4	

## Supplementary Tables

**Table 5: Prices Used in the Analysis**

Item	District	Unit	Prices	
			Financial	Economic
Outputs				
Shallots	Malang	kg	18,000	18,000
	Sumenep	kg	25,000	25,000
	Sumbawa	kg	12,000	12,000
Garlic	Lombok Timur	kg	12,833	12,833
Organic rice	Tasikmalaya	kg	17,000	17,000
	Magelang	kg	15,000	15,000
Potato	Garut G0	kg	2,500	2,500
	Garut G1	kg	45,000	45,000
	Garut G2	kg	25,000	25,000
	Minahasa Sel.	kg	7,000	7,000
Mangosteen	Subang	kg	10,000	10,000
Mango	Cirebon	kg	5,000	5,000
Coffee	Banjarnegara	kg	50,000	50,000
Banana	Gorontalo	kg	35,000	35,000
Goats - years 1&2		head	800,000	800,000
Goats – culls		head	800,000	800,000
Inputs				
Seed – shallot		kg	45,000	45,000
Seed – garlic		kg	60,000	60,000
Seed - organic rice		kg	15,000	15,000
Seed – potato		kg	16,000	16,000
Saplings – mangosteen		tree	56,000	56,000
Saplings – mango		tree	50,000	50,000
Saplings – durian		tree	100,000	100,000
rhizomes – banana		plant	15000	15,000
coffee plants		tree	6,000	6,000
shade trees		tree	3,000	3,000
Fertiliser NPK (sumenep, gorontalo)		kg	20,000	4,842
Fertiliser NPK (banjarnegara, sumbawa, lebak)		kg	12,000	4,842
Fertiliser NPK (magelang, malang)		kg	10,000	4,842
Fertiliser NPK (garut, minsel)		kg	15,000	4,842
Potash (KCl)		kg	7,920	4,170
Urea		kg	7,000	4,452
Organic fertiliser (liquid)		litre	145,000	145,000
Organic fertiliser (liquid)		litre	85,000	85,000
Organic fertiliser		kg	1,500	1,500
Compost		kg	900	900
Manure		sack	7,000	7,000

Item	District	Unit	Prices	
			Financial	Economic
Organic pesticides		packet	UPLANDs	UPLANDs
Organic pesticides - rice, coffee		litre	100,000	100,000
Biofertiliser - rice		litre	90,000	90,000
SP-36 (double superphosphate)		kg	7,000	5,905
Ponska		kg	10,000	7,200
ZA		kg	6,000	4,200
POC		litre	75,000	75,000
Fungicide		kg	150,000	136,500
Fungicide - seed potato		litre	435,000	395,850
Fungicide – tree		kg	60,000	54,600
Insecticide		kg	30,000	27,300
Insecticide		litre	85000	77,350
Insecticide (sidametrin)		litre	200,000	182,000
Herbicide		litre	70000	63,700
Herbicide - seed potato		litre	310000	282,100
Herbicide (roundup)		litre	110,000	100,100
PPC		litre	100,000	100,000
Bamboo stakes		stake	300	300
Rope		roll	35,000	31,850
Goat house		pen	3,285,000	2,989,350
Water supply upgrade		unit	1,460,000	1,328,600
Concentrate for goats		kg	2,000	1,820
Veterinary medicines		head	20,000	18,200
Legume seed (for forage)		unit	73,000	73,000
Labour costs	garut, magelang,	day	50,000	40,000
	banjarnegara			
	tasikmalaya,			
	sumenep,	day	100,000	80,000
	gorontalo	day	75,000	60,000
	lebak	day	150,000	120,000
	minahasa	day	80,000	64,000
	malang	day	60,000	48,000
	sumbawa	day	30,000	24,000
	purbalingga			
<i>Equipment</i>	(goats)	day		
Hoes		unit	90,000	81,900
Tank sprayers		unit	650,000	591,500
Sickles		unit	65,000	59,150
Harvesting baskets		unit	150,000	136,500
Water pump (3 inch)		unit	4,000,000	3,640,000
Hand tractor (2 wheel)		unit	27,000,000	24,570,000
Buckets		unit	25,000	22,750
Pruners		unit	75,000	68,250



**Table 6: UPLANDs - Economic Assessment (Rp. '000)**

Economic Assessment		economic prices	Rp. '000						
Economic prices	District	ha/No.	2020	2021	2022	2023	2024	2025	2026
<b>Project Costs <sup>1)</sup></b>			55,878,929	725,338,415	654,687,823	120,526,178	53,614,754		
Project Benefits:									
Organic rice	Tasikmalaya	500	0	0	5,117,188	10,699,250	16,650,188	21,444,250	21,444,250
Organic rice	Magelang	2000	0	0	16,135,650	33,583,800	52,344,450	67,438,200	67,438,200
Shallots	Malang	150	0	0	2,174,619	4,378,037	5,450,947	5,450,947	5,450,947
Shallots	Sumenep	150	0	0	3,127,419	6,290,837	7,836,547	7,836,547	7,836,547
Shallots	Sumbawa	1500	0	1,440,000	17,978,187	33,292,373	40,733,466	40,733,466	40,733,466
Shallot seed	Sumbawa	500	77,500,000	0	17,344,729	34,689,458	43,361,822	135,861,822	43,361,822
Garlic	Lombok Timur	1440	0	0	17,455,770	35,049,779	52,505,549	52,296,358	52,296,358
Potato	Minahasa Sel.	2000	0	0	17,586,097	35,532,194	63,972,194	63,972,194	63,972,194
Potato - seed	Garut	200	0	0	4,601,210	5,242,419	9,202,419	9,202,419	9,202,419
Mangosteen	Subang	2004	0	-10,529,949	-11,262,383	-13,261,079	-4,353,216	-1,964,216	2,141,984
Mango	Cirebon	1585	-4,653,122	-6,896,244	22,351,720	54,432,559	92,265,523	130,038,486	136,731,614
Mangosteen	Lebak	450	20	-6,426,115	-2,721,327	-2,721,327	-2,068,827	-364,452	1,278,048
Banana	Gorontalo	20	-378,451	-68,517	640,868	682,868	724,868	554,868	575,868
Goats	Purbalingga	237	-299,805	-1,047,297	11,240	881,877	1,017,299	1,000,567	1,017,868
Goats	Banjarnegara	618	-781,770	-2,730,927	29,309	2,299,578	2,652,703	2,609,072	2,654,186
Coffee	Banjarnegara	500	-1,372,570	-1,415,878	-1,649,161	-458,494	1,905,768	3,196,106	4,666,106
Total incremental benefits			70,014,302	-27,674,927	108,921,132	240,614,130	384,201,699	539,306,634	460,801,878
Net benefits			14,135,373	-753,013,342	-545,766,691	120,087,952	330,586,945	539,306,634	460,801,878
IRR		<b>26.4%</b>							
NPV @ 9%		<b>1,976,368,496</b>							

**Table 7: Economic Assessment**

Development of Integrated Farming Systems in Upland Areas Project Economic Assessment economic prices Rp. '000																					
District	ha/No.	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
<b>Project Costs <sup>1)</sup></b>		76,680,818	306,723,271	613,446,542	383,404,089	153,361,636															
<b>Project Benefits:</b>																					
Organic rice	Tasikmalaya	500	0	0	5,117,188	10,699,250	16,650,188	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250	21,444,250
Organic rice	Magelang	2000	0	0	16,135,650	33,583,800	52,344,450	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200	67,438,200
Shallots	Malang	300	0	0	4,349,237	8,756,075	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893	10,901,893
Shallots	Sumenep	160	0	0	3,335,913	6,710,226	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983	8,358,983
Shallots	Sumbawa	1500	0	1,440,000	29,498,187	56,332,373	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466	69,533,466
Shallot seed	Sumbawa	500	77,500,000	0	17,344,729	34,689,458	43,361,822	135,861,822	43,361,822	43,361,822	43,361,822	135,861,822	43,361,822	43,361,822	43,361,822	43,361,822	135,861,822	43,361,822	43,361,822	43,361,822	43,361,822
Garlic	Lombok Timur	1640	0	0	31,633,515	63,424,471	95,057,986	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741	94,819,741
Potato	Minahasa Selatan	2000	0	0	17,586,097	35,532,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194	63,972,194
Potato - seed	Garut	200	0	0	4,601,210	5,242,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419	9,202,419
Mangosteen	Subang	2000	0	-10,529,949	-10,949,883	-12,636,079	-3,415,716	-714,216	3,391,984	8,802,484	14,468,484	22,946,984	31,394,984	38,493,984	41,124,234	42,436,734	43,092,984	43,092,984	43,092,984	43,092,984	43,092,984
Mango	Cirebon	1500	-4,653,122	-6,896,244	22,276,888	57,407,894	99,541,025	144,114,156	158,119,784	167,016,288	174,412,538	177,807,538	180,353,788	182,051,288	182,900,038	182,900,038	182,900,038	182,900,038	182,900,038	182,900,038	182,900,038
Mangosteen	Lebak	421	-5,065,452	-6,428,115	-2,721,327	-2,721,327	-1,540,077	1,218,986	3,682,736	5,918,673	10,728,048	15,073,361	16,402,267	17,288,204	17,731,173	17,731,173	17,731,173	17,731,173	17,731,173	17,731,173	17,731,173
Banana	Gorontalo	20	-258,451	171,483	886,868	940,868	994,868	836,868	863,868	1,075,868	1,075,868	1,075,868	387,483	387,483	1,075,868	1,075,868	863,868	863,868	1,075,868	1,075,868	1,075,868
Goats	Purbalingga	2970	-3,757,050	-13,124,356	140,852	11,051,370	12,748,428	12,538,746	12,755,556	12,755,556	12,755,556	12,538,746	12,755,556	12,755,556	12,755,556	12,755,556	12,538,746	12,755,556	12,755,556	12,755,556	12,755,556
Goats	Banjarnegara	3394	-4,293,410	-14,998,001	160,960	12,629,074	14,568,406	14,328,789	14,576,551	14,576,551	14,576,551	14,328,789	14,576,551	14,576,551	14,576,551	14,576,551	14,328,789	14,576,551	14,576,551	14,576,551	14,576,551
Coffee	Banjarnegara	385	-1,056,879	-873,664	-830,313	313,972	2,365,185	3,376,371	4,523,992	5,027,463	6,067,425	6,520,759	6,535,841	6,535,841	6,535,841	6,149,321	6,591,022	6,535,841	6,535,841	6,535,841	6,204,501
<b>Total incremental benefits</b>			58,415,636	-51,236,845	138,565,772	321,956,038	494,645,501	657,232,670	588,947,441	604,205,852	623,117,439	639,789,586	743,474,868	661,121,877	665,732,231	666,658,210	667,756,161	759,524,409	667,488,981	667,700,981	667,369,640
<b>Net benefits</b>			-18,265,182	-357,960,117	-474,880,771	-61,448,051	341,283,865	657,232,670	588,947,441	604,205,852	623,117,439	639,789,586	743,474,868	661,121,877	665,732,231	666,658,210	667,756,161	759,524,409	667,488,981	667,700,981	667,369,640
<b>IRR</b>			<b>38.11%</b>																		
<b>NPV @ 9%</b>			<b>2,926,060,320</b>																		

Notes:

1) Project costs generated from costab file.

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

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

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



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

### Major landscape characteristics and Issues (Social, natural resources, and climate)

#### a) *Socio-cultural context*

1. The Project would target up to fourteen districts within the seven provinces of Banten, West Java, Central Java, East Java, West Nusa Tenggara, Gorontalo and North Sulawesi, and Gorontalo. The districts were selected based on their proposals to develop specific high value crops in the upland areas and are well aligned with the strategic plan for agriculture. Those districts are Lebak, Tasikmalaya, Subang, Cirebon, Garut, Banjarnegara, Purbalingga, Magelang, Malang, Sumenep, Lombok Timur, Sumbawa, Minahasa Selatan, and Gorontalo. In addition to 188 villages from 13 districts that have been selected during preparation, the villages in Lebak district remain to be assessed and nominated to be included as project target area. Overall, the project would target the development of integrated farming system in at least 12,200 Ha across the seven provinces and directly benefit about 23,500 households (See main project document).

2. **Population.** Indonesia is the world's fourth most populous country with a current population of 262 million projected to exceed 300 million by 2030. The number of youth in Indonesia, those productive ones aged between 16 to 30 according to UNFPA, has been recorded at around 62 million in 2016. The growth in the youth population, and the general overall population annual growth rate of 1.12%<sup>17</sup> are supposedly the generators of the country's development as they are what is considered as the demographic bonus. The people of Indonesia comprise of around 300 ethnic groups who speak more than 600 languages. The World Bank estimates that by 2025 Indonesia will have 68 percent of its population living in cities or urban communities. As such, Indonesia's cities are among the fastest growing cities in the world.

3. According to UN, between 1990 and 2015, Indonesia's HDI value increased from 0.528 to 0.689, an increase of 30.5 percent. Indonesia is classified as a Medium Human Development country with a Human Development Index (HDI) ranking of 113 out of 188 countries in 2016 (UNDP). Indonesia's Human Development Index of 0.689 remains below the average for the East Asia and Pacific Region. Youth unemployment (age of 15 to 24 years) in Indonesia also recorded remains above the regional average, compared to of Malaysia, Thailand, and Vietnam. According to the Ministry of Manpower and Transmigration in 2013, although rates of open unemployment decreased, more than 5,16 million is still unemployed (14.35% unemployment rate). The reason behind to this is reported as the limited access to employment opportunities due to lack of skills, training, and experience.

4. **Gender.** Indonesia has made significant progress in promoting gender equality and reducing gender gaps, and in improving women's participation in economic and political activities<sup>18</sup>. Nonetheless, challenges remain in terms of low female labour force participation rate (50.3% against 84.4% for men), and a higher level of low-paid and low-skilled informal jobs for women. The 2014 Global Gender Gap Report shows that the female unemployment rate is at 9% which is higher than those of male (5.8%). The average income for males is double than that of females. Women's participation in public decision making also remains low, including at the village level. Indonesian women fare worse in all indicators of human development. Indonesia's Gender Development Index (GDI), which is a ratio of the female to the male HDI, is 0.927 in 2014, lower than the regional average of 0.948.

5. Women are actively engaged in agricultural production. Their roles in crop production are particularly important for weeding, harvesting, threshing and storage, although there may be wide variations across regions, crops, communities and households. Formal laws provide equal rights of women to properties, including land, but customary practices often work against women's claiming

---

<sup>17</sup> <http://worldpopulationreview.com/countries/indonesia-population/>

<sup>18</sup> ADB, Summary of Indonesia's Gender Analysis, October 2015.

these rights. Variations across regions and communities are, however, significant: for example, Javanese women can own land, and land is sometimes registered in the woman's name on Java Island. Involvement of women in farmers group is still very limited as is mostly dominated by men (male farmers). Only woman led households that are actively participated in the farmers group, otherwise they are represented by the husband.

**6. Economy.** Indonesia is a lower-middle income country. Its per capita income has increased steadily in recent years, growing from USD 560 in 2000 to \$ 3,374 in 2015, and \$ 3,859 in 2017. Indonesian economy has grown steadily over the past 10 years at 5–6 percent annually (World Bank 2016). The agricultural and marine sectors remain the main source of income for over one third of the population and for 59 per cent of the poor. However, issues surrounding the agriculture sector often arise, including the conflicting interests of agricultural (including estate crop) expansion and resource extraction, local communities, and environmental objectives; the illegal extraction of resources and the use of toxic chemicals in agricultural cultivation and mining; productivity and technological change, and the valuation and taxation of resources; and issues regarding trade and protectionism, foreign investment, and financing for action on climate change (Australian National University, 2015)<sup>19</sup>.

**7. Poverty.** The recent national economic growth has contributed to significant poverty reduction, with the number of poor people decreasing from 24 per cent in 1999 to 11 per cent in 2014. The poverty line during 2013 to 2017 has also been reported to improve from US\$ 21.41 to US\$ 28.56 and from US\$ 18.76 to US\$ 26.78, in urban and rural areas, respectively (Bappenas, 2017)<sup>20</sup>. However approximately 40% of the population's income is only marginally above the national poverty line (IDR 330,776/person/month). According to the World Bank, this group remains vulnerable to falling back into poverty as a result of "shocks", such as illness, extreme weather events or price volatility. Hence, more than 100 million Indonesians still live in or at risk of poverty and vulnerability. Malnutrition also remains a serious concern with one out of every three children under the age of 5 suffering from stunting. Poverty remains concentrated in rural areas, reportedly around 17.28 million. Whereas, the poor in urban areas is reportedly to be around 10.67 million by March 2017 (BPS, 2017)<sup>21</sup>. Despite being concentrated in the eastern provinces, however, the largest aggregate numbers of poor households are located in densely populated Java.

**8.** As per the 2017 data from the National Statistics Bureau, the average incidence of poverty in these sub-districts is 13.9% which is higher than the national average of 10.12%. In terms of unemployment, the average sub-district unemployment rate is 6.13% which is also just above the national average of 5.5%. Rising inequality, with an increase in the Gini Coefficient from 0.36 in 2005 to 0.41 in 2014, is threatening to roll back and further entrench progress in poverty reduction. Inequality is seen as the key threat to Indonesia's continued development and stability. Farming households are 3.5 times more likely to be poor than non-farming households – with upland rural poverty rates even higher. Poor education, declining land holding sizes, complex and insecure tenure arrangements together with a lack of appropriate technologies, infrastructure, rural finance and input and output markets, result in sub-optimal use of the already small landholdings and lead to low labour productivity.

**9. Nutrition.** The double burden of malnutrition in Indonesia entails high social and costs: Stunting can reduce an individual's productivity at a young age, and increases risks of developing non-communicable diseases when older – this is the double burden of malnutrition. It is estimated that out of the 24.5 million children under 5 years of age in Indonesia, approximately 9.2 million (37 percent) are stunted.<sup>22</sup> People do not only feel the effects of the double burden of malnutrition, they are also felt by

---

<sup>19</sup> Australian National University. (2015, March 4). Indonesia Project: Agriculture, resources, and the environment. Retrieved October 20, 2017, from Australian National University: <https://crawford.anu.edu.au/acde/ip/research/agriculture/>

<sup>20</sup> Kementerian PPN / Bappenas. (2017). Garis Kemiskinan Menurut Provinsi Tahun 2013-2017. Jakarta: Kementerian PPN / Bappenas. Retrieved October 12, 2017, from <https://www.bappenas.go.id/id/data-dan-informasi-utama/data-dan-statistik1/kemiskinan-ketenagakerjaan-dan-usaha-kecil-menengah/>

<sup>21</sup> Badan Pusat Statistik. (2017). Laporan Bulanan Data Sosial Ekonomi Edisi 89 Oktober 2017. Jakarta: Badan Pusat Statistik. Retrieved October 12, 2017, from [https://www.bps.go.id/website/pdf\\_publikasi/Laporan-Bulanan-Data-Sosial-Ekonomi-Oktober-2017.pdf](https://www.bps.go.id/website/pdf_publikasi/Laporan-Bulanan-Data-Sosial-Ekonomi-Oktober-2017.pdf)

<sup>22</sup> USAID and FANTA (2014); Indonesia Nutrition Profile; <https://www.fantaproject.org/sites/default/files/download/Indonesia-Nutrition-Profile-Apr2014.pdf>

the economy. Losses due to stunting and malnutrition are estimated to be 2-3 percent of Indonesia's GDP. Traditionally, Indonesia has paid more attention to severe underweight as a way to determine the country's state of nutrition. By this measure alone, nutritional issues appear largely resolved, as the prevalence of severe underweight is just 5.4 percent in children under five-years. However, the fact that 37.2 percent of children under five are stunted and 12 percent are wasted should be of greater concern, given the lifelong consequences.

**10.** Indonesia exemplifies a country experiencing the “double burden of malnutrition” as overweight among women, men, and children have been steadily increasing in recent years. As of 2013, a third of women over 18 years of age and a fifth of children 5–12 years of age were overweight or obese. Increase in national wealth has been accompanied by an increase in food availability, which has doubled the amount of fat consumed per capita. Processed foods are also being consumed in higher rates, particularly in urban areas. Many cities and towns are not pedestrian friendly, do not encourage physical activity, and lack outlets offering healthy foods. Those traveling to and from school or work have few options other than ready-made foods outside of the home.<sup>23</sup>

**11.** While the causes of the double burden of malnutrition are complex, traditional customs influence maternal and early child nutrition, and social norms dictate that many women marry still very young. These factors contribute to the high incidence of low-birth rates. The mortality rate for children under 5 is 40 per 1,000 live births—nearly 45 percent of these child deaths are attributable to various forms of under nutrition (World Bank, 2015).

**12. Youth.** With around 255 million people, Indonesia is the fourth most populous country in the world and has a substantial young population, as around half of the total population is below the age of 30 years. Combined, these two features imply that Indonesia currently contains a large labour force; one that will grow larger in the foreseeable future, stressing the need for job creation in Southeast Asia's largest economy. Policy-makers in Indonesia have been cheering over a “demographic bonus”, a condition where people of productive age (15-64) outnumber children and older people, but unless absorbed appropriately could become a potential disaster. The share of youth (pemuda) not in education, employment or training (NEET), total (% of youth population) in Indonesia was 22.50 percent as of 2016. This is a sizable group that the Chamber of Commerce of the country perceives could be threat, as the situation can multiply the violence and lead to an erosion of values. The limited work experience of adolescent youth is one factor that accounts for the high rates of unemployment of youth and teenage youth in particular.<sup>24</sup> Low levels of education and skills are other major factors for not being gainfully employed.

**13.** Yet, latest research survey with 13-18 year olds found that a majority of young Indonesians are optimistic about their future, and are drawn to study abroad out of an interest in pursuing a high quality education overseas and at a reputable institution. The longer-term goal of such students is to boost their academic profile with a study experience abroad, and, eventually, to open the door to better career prospects. Unfortunately, nearly half (45 percent) also indicated that they would not be able to pursue study abroad without scholarship support.

**14. Natural resources and Management.** Major landscape characteristics and Issues. Indonesia is the largest archipelago-state in the world comprising of 17,508 islands, of which about 6,000 of which are inhabited and approximately 990 are permanently inhabited. The archipelago covers 8 million square km of the earth's surface with the total land area of about two million km<sup>2</sup>. It is home to the world's third-largest tropical forest, with an estimated 91.1 million hectares in 2015 of natural and planted forests, covering 48 percent of its total land area<sup>25</sup>. It has a unique geographic landscape

---

<sup>23</sup> World Bank (2015); Featured Story - The Double Burden of Malnutrition in Indonesia  
<http://www.worldbank.org/en/news/feature/2015/04/23/the-double-burden-of-malnutrition-in-indonesia>

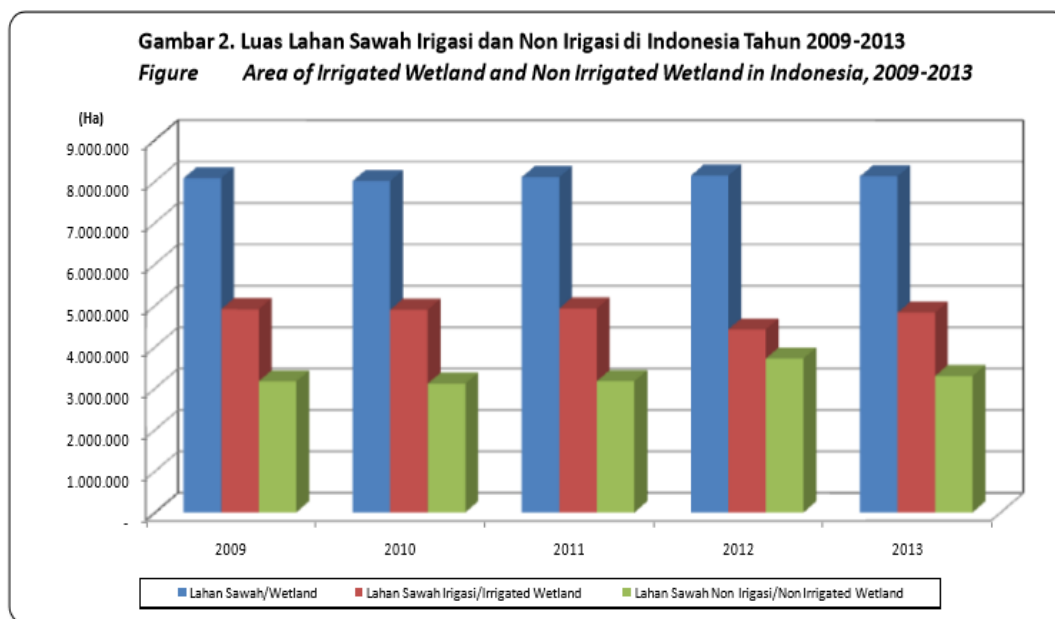
<sup>24</sup> UNFPA Indonesia (2015); Youth in Indonesia; [https://indonesia.unfpa.org/sites/default/files/pub-pdf/BUKU\\_Monograph\\_No2\\_Youth\\_in\\_Indonesia\\_ENG\\_05\\_Low-res.pdf](https://indonesia.unfpa.org/sites/default/files/pub-pdf/BUKU_Monograph_No2_Youth_in_Indonesia_ENG_05_Low-res.pdf)

<sup>25</sup> FAOSTAT, 2016. <http://www.fao.org/faostat/en/#country/101>

characteristics and broad range of diversity between one region to another that shape different challenges in each districts.

**15. Agricultural land.** Since the enactment of the UU 41/2009, the availability of agriculture land throughout Indonesia has not been changed significantly as seen in the Agriculture Ministry data below<sup>26</sup>. A negative growth rate of 0.25% per annum is shown in the overall agriculture land availability, this is to some extent compensated by a significant growth rate of 9.10% per annum for the irrigated land. There are now however growing constraints on irrigation development due to the lack of potential new sites and water availability.

**Figure 1: Area of Irrigated Rice Land**



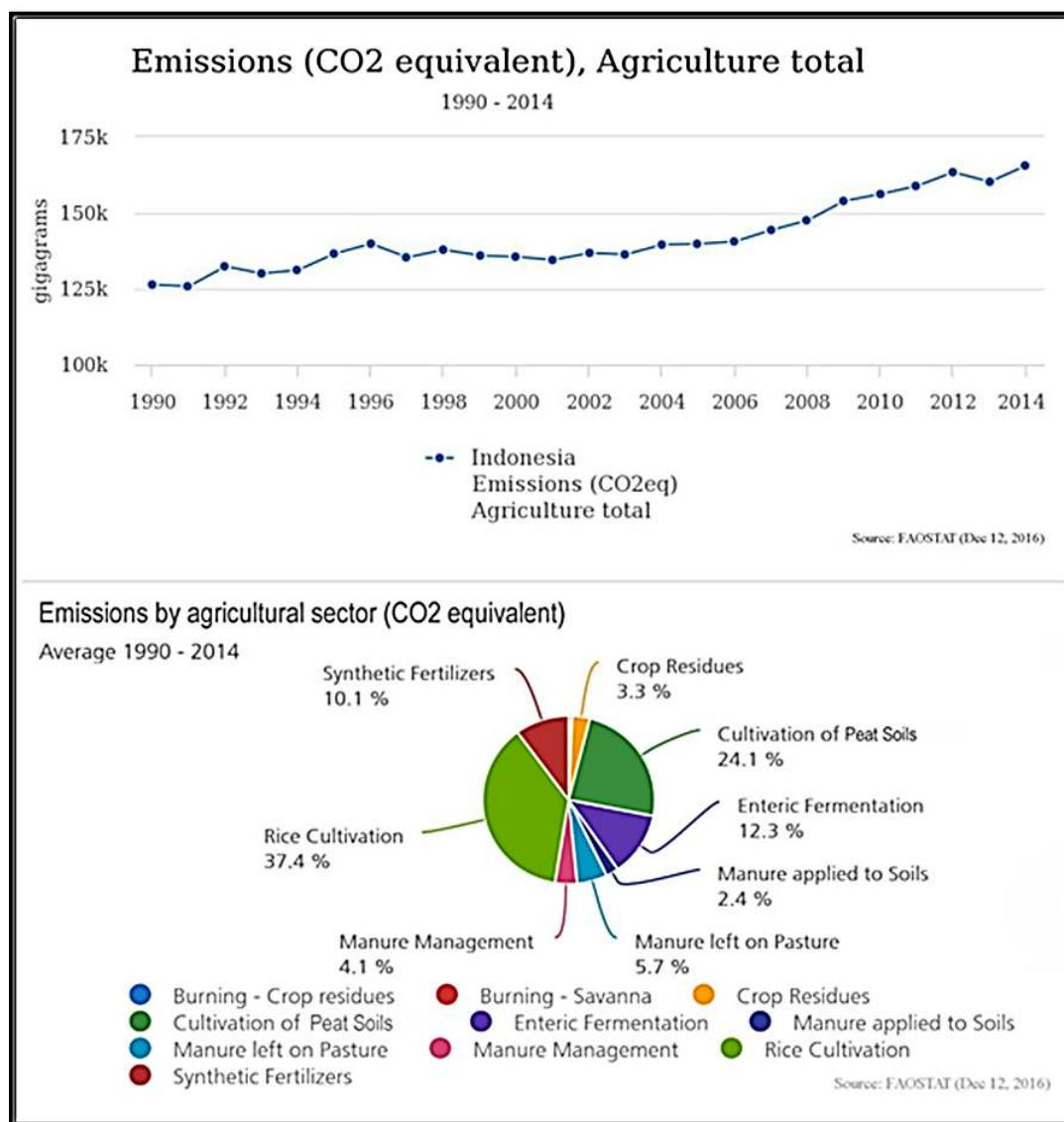
#### b) Climate

**16. Climate Change Mitigation.** Indonesia is committed to reducing its greenhouse gas (GHG) emissions by 29 % (or 41% with international financial support) by 2030 compared to business as usual, as noted in its Intended Nationally Determined Contribution to climate change. The Indonesia agriculture emissions are summarized in Figure 2: Indonesia Agriculture Emissions.

**Figure 2: Indonesia Agriculture Emissions**

<sup>26</sup> [http://www.pertanian.go.id/file/Statistik\\_Lahan\\_2014.pdf](http://www.pertanian.go.id/file/Statistik_Lahan_2014.pdf)





**17. Water resources.** Widely spread around the equator, Indonesia has varied rainfall distribution from the wettest of 4000 mm/year to the driest 800 mm/year<sup>27</sup>. The rainfall are mostly concentrated within 5 (five) months whereas the other 7 (seven) months faces dry season. Therefore, it has potential to the drought disaster due to very limited water availability for long period. During the wet season there is some places suffering from flood inundation.

**18.** Although given abundance water resources, Indonesia has already experienced water shortage in some areas during dry season, and flood events during rainy season. 80% of its rain falls during rainy season within five months while the remaining 20% occur within seven months or even shorter because of rainfall pattern variation due to climate change. As addition, there is a large variation in the rainfall all over the country. It range from very arid areas of Nusa Tenggara, Maluku and some parts of Sulawesi Islands (less than 1,000 mm), to very wet areas in parts of Irian Jaya, Java and Sumatra (more than 4,000 mm).

**19.** Water scarcity issues will become a significant problem throughout Indonesia, especially in urban areas. Northern Java, Bali, East and West Nusa Tenggara, North and South Sulawesi, Gorontalo,

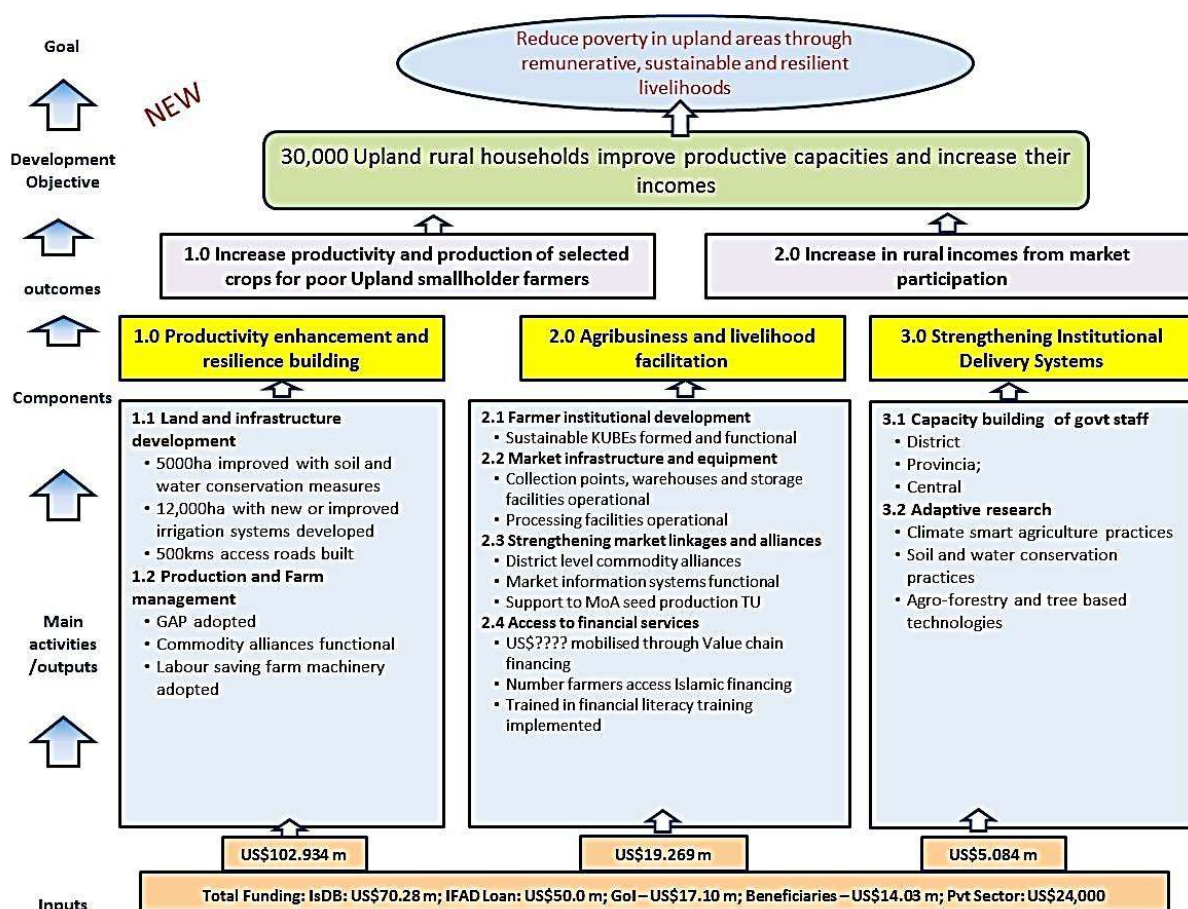
<sup>27</sup> Sugiyanto and Samekto, C. 2008. The Status and Challenges of Water Infrastructure Development in Indonesia

Lampung and South Sumatra are expected to be exposed to long periods of water deficits. Decreased rainfall during critical times of the year may translate into high drought risk, uncertain water availability, and consequently, uncertain ability to produce agricultural goods, economic instability, and higher level of undernourishment. Farm labourers and the urban poor are expected to be disproportionately impacted, as are rice farmers.

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

20. SECAP Project Assessments is conducted at project proposal development stage to assess the effect of a proposed development on the environment and socio-economic conditions and assess the vulnerability/sensitivity of the proposed development to climate risks. The assessment is directly related to the Project development and should enable the identification of project-specific impacts and/or measures to manage climate risks. It has a well-defined beginning and end and focuses on informing a specific decision at a particular point in time is focused on the minimization of negative impacts and the enhancement of positive impacts. The SECAP Project Assessment should have a narrow perspective and includes a high level of detail.

Figure 3: UPLANDs PROJECT COMPONENTS





**Table 1: Social, Environmental and Climate Risk Factors and Mitigating Measures**

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigating Measure
<b>Outcome 1. Productivity Enhancement &amp; Resilience Building</b>		
1.1 Land and Infrastructure Development	<p><b>Social:</b></p> <ul style="list-style-type: none"> <li>• Lack of mechanisms for participative planning involving communities low disadvantage groups and women.</li> <li>• Lack of clarity on local land and water resource access rights</li> <li>• New land and infrastructure development could impact on current livelihood activities.</li> <li>• Responsibilities for O&amp;M of infrastructure not clearly defined.</li> <li>• Requirements for beneficiary contribution towards costs of on farm investments not clearly explained.</li> <li>• Mechanisms for farmer contribution and access to finance not understood.</li> </ul> <p><b>Environmental/Climate:</b></p> <ul style="list-style-type: none"> <li>• Lack of or weak awareness of environmental risks in project areas including climate, land, water and seismic risks.</li> <li>• Poor technical capacity to plan and design</li> <li>• Environmentally sound and climate resilient infrastructure.</li> <li>• Planning and design consultants fail to consult with beneficiaries.</li> <li>• Failure to adequately assess water availability under climate uncertainty and ensure the rights of existing water users.</li> </ul>	<p><b>Social:</b></p> <ul style="list-style-type: none"> <li>• Awareness campaign, capacity building and facilitation for government and community leaders for community participation and inclusiveness.</li> <li>• A participatory approach will be adopted to ensure consent of participants through village meetings, formation of inclusive farmer groups and building government capacity to facilitate and enhance community participation</li> <li>• Ownership of assets, farmer contribution and long term O&amp;M responsibilities will be clearly defined.</li> <li>• Village facilitators based in the villages will support empowerment and training of farmers and community groups.</li> <li>• A proper diagnostic analysis will be conducted to assess current land use and ownership rights and ensure that existing arrangements are not infringed and proposed investments are made with community consent.</li> <li>• The selection criteria will specify that project investments will not displace current livelihood activities.</li> <li>• Clear and workable mechanisms including support for finance for farmer contribution.</li> <li>• Development of an independent grievance redress mechanism.</li> </ul>
1.2 Production and Farm Management	<p><b>Social:</b></p> <ul style="list-style-type: none"> <li>• Farmers continue “business-as-usual” agricultural practices and fail to achieve targeted benefits.</li> <li>• Government continues “business-as-usual” approach to handout machineries and equipment without any proper training and handover mechanism.</li> <li>• Inadequate opportunities for participation of women, youth and disadvantaged groups.</li> <li>• Lack of understanding of the ownership and OM responsibilities of agriculture infrastructure and equipment provided by the project and lack of clear mechanisms for beneficiary contribution and handover.</li> <li>• Lack of community participation/engagement and empowerment that will ensure the operation and maintenance of the machineries</li> <li>• Inadequate opportunities for participation of women</li> </ul> <p><b>Environmental/Climate:</b></p> <ul style="list-style-type: none"> <li>• Lack of understanding of environmental impacts and climate change impacts risk in farming activities. (changed and more uncertain rainfall erosion, land degradation, contamination from fertilizer and pesticides.</li> <li>• Increased use of fertilizer and pesticides and increased use of pumped irrigation.</li> <li>• Change to more intensive agriculture results in higher risk of climate change and water uncertainty</li> <li>• Environmental impacts due to improper handling of processing waste and oil from equipment.</li> </ul>	<p><b>Environment and Climate:</b></p> <ul style="list-style-type: none"> <li>• Awareness and stakeholder engagement in relation sustainable and environmentally appropriate and climate resilient farming systems.</li> <li>• Capacity building and technical support for government and farmers on best practices of farm management and land development and management, and how to reduce impact to the environment</li> <li>• Promote water efficient irrigation and water management.</li> <li>• Promote efficient and environmentally sound management systems of fertilizers and pesticides. Where appropriate develop organic farming and non-chemical fertilizer and pesticides.</li> <li>• Develop processing and other waste management</li> </ul>

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigating Measure
<b>Outcome 2. Agribusiness Development &amp; Livelihood Facilitation</b>		
2.1 Farmer Institutional Development	<b>Social:</b> <ul style="list-style-type: none"> <li>Reluctance to change from traditional to modern farming systems.</li> <li>Farmers are reluctant to take on risk of more intensive farming.</li> <li>Perspectives of vulnerable, youth and women not adequately incorporated into project planning and management.</li> </ul>	<b>Social:</b> <ul style="list-style-type: none"> <li>Capacity building for government and stakeholders on challenges and opportunities for community participation and modernized agriculture following the value chain approach.</li> <li>The formation of farmer groups to help enable small-holder farmers to aggregate their produce and have easier access to markets</li> <li>Improved assessment of potential risks of climate change and natural disaster impacts.</li> <li>Promote business mentoring systems.</li> <li>Facilitation of village/community leaders' participation in project planning and implementation processes through a mentoring system.</li> <li>Village Facilitators trained to build capacities of farmers to manage their groups more effectively and facilitate the inclusion of women and youth in groups.</li> <li>Facilitators liaise regularly with Village Head and Community Leaders to keep them informed and involved with project activities</li> <li>GALS methodology used to build teamwork in groups through developing common vision and roadmap to achieve their goals.</li> <li>The project will provide business development training to facilitate bottom-up business model approach.</li> <li>Where women are principally involved in post-processing activities, then women's groups will have ownership of the assets given by the project.</li> </ul>
2.2 Market Infrastructure & Equipment	<b>Social:</b> <ul style="list-style-type: none"> <li>Weak community participation/engagement and empowerment that are needed to ensure business sustainability – more top down business model approach</li> <li>Limited small holders' capacity on business development</li> <li>Inadequate opportunities for participation of women</li> </ul> <b>Environmental/Climate:</b> <ul style="list-style-type: none"> <li>Environmental impacts due to improper handling of agricultural waste.</li> </ul>	
2.3 Strengthening Market Linkages & Alliances	<b>Social:</b> <ul style="list-style-type: none"> <li>Lack of knowledge of potential agricultural entrepreneurship initiatives.</li> <li>Continuation government "business-as-usual" approach that focus on supply side and without proper assessment of the full market chain.</li> <li>Farmers with larger holdings dominate the marketing of selected commodities.</li> <li>Women &amp; vulnerable households lack capacities to take up full potential on their own.</li> </ul> <b>Environmental/Climate:</b> <ul style="list-style-type: none"> <li>Stand-alone small holder agriculture is exposed to potential environmental and climate impacts.</li> </ul>	
2.4 Access to Financial Services	<b>Social:</b> <ul style="list-style-type: none"> <li>Lack of viable and sustainable best practices of financial service in agriculture sector at village level.</li> <li>Lack of micro financial institutions that are accessible for small holder farmers down to village level.</li> <li>The inability of MSEs to finance growth in the agriculture sector</li> <li>Exclusion of disadvantage people, women and indigenous people in accessing financial services.</li> </ul> <b>Environmental/Climate:</b> <ul style="list-style-type: none"> <li>Lack of awareness of potential environmental and climate risks of more intensive agriculture systems</li> </ul>	<b>Environmental/Climate:</b> <ul style="list-style-type: none"> <li>Strengthen the assessment on potential risk of climate and natural disaster events and apply these to the business models.</li> <li>Improve capacities for waste management.</li> </ul>
<b>Outcome 3. Strengthening Institutional Delivery Systems</b>		
3.1 Capacity Building of Government Staff	<b>Social:</b> <ul style="list-style-type: none"> <li>Capacity building not suitable to the government needs and capacities.</li> <li>Lack of interest from government personnel and lack of capacity and interest to take up new approaches.</li> <li>Lack of sustainability after project completion.</li> </ul>	<ul style="list-style-type: none"> <li><b>Social:</b> <ul style="list-style-type: none"> <li>Conduct a participatory capacity building need assessments incorporating farmers (women, men and youth) on their needs; incorporate their feedback to the design.</li> <li>Mainstream gender issues into the capacity building training and events.</li> </ul> </li> </ul>

Project Intervention	Social/Environmental/ Climate Risk Factors	Mitigating Measure
	<b>Environmental/Climate:</b> <ul style="list-style-type: none"> <li>Lack of awareness and technical knowledge of modern agriculture, environmental and climate issues</li> </ul>	addressing any challenges and expanding the opportunities for women <ul style="list-style-type: none"> <li>Make sure applicable content that are relevant to the context – for research, technical support and capacity building</li> <li>Understand the local context and ensure participation of local people/small holder farmers including women, indigenous people and disadvantage group.</li> <li>Establish clear hand over mechanism including operation manuals, roles and responsibility and ensure operation and maintenance</li> <li>Environmental/Climate:</li> <li>Capacity development on technical knowledge of potential environmental and climate risks and impacts in agriculture sector particularly in upland areas.</li> </ul>
3.2 Adaptive Research	<b>Social:</b> <ul style="list-style-type: none"> <li>Lack of interest from government and other research centers/universities in upland agriculture</li> <li>Lack of applicability of the research with limited value.</li> <li>Lack of participation from farmers in the selection of research, farmers does not contribute to the research and decision making process.</li> <li>Voices &amp; perspectives of rural/affected households, especially women &amp; vulnerable households, lacking</li> <li>Applicability of the research for small-holder farmers.</li> <li></li> </ul> <b>Environmental/Climate:</b> <ul style="list-style-type: none"> <li>Weak technical knowledge and solutions of environmental and climate risks and impacts in agriculture sector particularly in upland areas</li> </ul>	<ul style="list-style-type: none"> <li>Adaptive research must be carefully targeted to meet key technical, social and environmental requirements.</li> <li>Research priority should be given to the relevance to the needs and priorities of women and men small-holder farmers; incorporation of consultation and feedback from small-holder farmers should be an integral part of the adaptive research process.</li> </ul>

### Environmental and social category

#### (i) Environmental and Social Overview

21. Overall the project is expected to contribute positively in addressing the vulnerability of farming households in the upland areas by strengthening capacity for sustainable and integrated farming practices. The project is expected to enhance crop productivity in a way that enhances natural resource management and improves the capacity for soil nutrient management and reduce erosion through soil and water conservation. The project would promote rehabilitation of abandoned and unproductive upland areas which would also involve natural resource management and conservation activities. The project would invest in technologies for preventing soil erosion, reduce water run-off, promote the development of high efficiency irrigation introduce integrated pest management practices, etc. The overall approach of the project would be based on promoting social cohesion by working with farmer groups and help them realize economies of scale.

22. The project would focus on sustainable agriculture in existing areas of agriculture land in the upland areas and would not involve any large infrastructure schemes, land acquisitions, resettlements, or conversion of forest or other environmentally sensitive lands. It will not involve any involuntary taking or restriction on the use of land that may result in physical or economic displacement not damaging or destroy any physical resources of historic, religious or cultural significance.

**(ii) Environmental Requirements**

23. The UPLANDs project will incorporate modern and rigorous assessment of the environmental and social issues and will ensure compliance with the requirements of IFAD, IsDB and Government of Indonesia; as described below:

- (a) IFAD defines three environmental categories (A, B, C) according to the likely significance of environmental and social concerns in relation to criteria shown below. Guiding questions and responses for environmental and social risk classification can be found in Attachment 1; based on preliminary screening the UPLANDs project is classed as category B.
- (b) IsDB environmental requirements are currently under consideration by the Board and Management. In the interim IsDB currently follow the GoI standards and regulations. In the case of case of co-financing the IsDB the pertinent safeguards and policies would normally be accepted as long as they meet the requirements of GoI and IFAD.
- (c) Government of Indonesia: The main environmental legal framework in Indonesia is Law 32/2009 on Environmental Protection and Management. It requires that, all projects should undergo environmental clearance before proceeding to implementation. New construction or upgrading of irrigation systems and associated infrastructure are required to prepare either; (i) an AMDAL (*Analisis Mengenai Dampak Lingkungan*) or (ii) a UKL/IUP for small schemes an environmental management effort/environmental monitoring effort (*upaya pengendalian lingkungan-upaya pemantauan lingkungan* report).

**(iii) Comparison of Requirements**

24. Indonesia regulation provides quite rigid quantitative criteria, based on specific magnitude (length, depth, width, size, or other physical dimensions), and whereas IFADs categorizes projects based on the “significance of impacts”. Comparisons of the environmental requirements are described in Table 2 below. A preliminary screening of the environmental requirements requirement is shown in

**Table 2: IFAD and Government Environmental Requirements**

IFAD Categories	GoI Environment (AMDAL) Categories
<p><b>Category A:</b> The programme and project may have significant adverse environmental and/or social implications that: (i) are sensitive, irreversible or unprecedented; (ii) affect an area broader than the sites or facilities subject to physical interventions; and (iii) are not readily remedied by preventive actions or mitigation measures.</p>	<p><b>Category:AMDAL:</b> Larger projects that according to law requires an Environmental Impact Assessment (AMDAL). According to the Government Regulation a AMDAL is mandatory for any business and/or activity of which boundary overlaps with a protected area and/or potential impacts of the business and/or activity are predicted to affect nearby protected areas.</p> <p><b>Protected Areas:</b> Annex III of the Decree of the Minister of Environment No. 05/2012 on Type of Business and/or Activities Requiring Environmental Impact Assessment, identifies 20 classifications of protected areas under regulations of Ministry of Forestry, Ministry of Public Work and others as follows:</p> <ol style="list-style-type: none"> <li>1) Protected forest area;</li> <li>2) Peat area;</li> <li>3) Watershed (catchment) area.</li> <li>4) Coast demarcation (corridor);</li> <li>5) River demarcation (corridor);</li> <li>6) Area around lake or reservoir;</li> <li>7) Flora sanctuary and marine sanctuary;</li> <li>8) Natural reserve and marine reserve;</li> <li>9) Mangrove forested coast area;</li> <li>10) National park and national marine park;</li> <li>11) Forest park;</li> <li>12) Natural tourism park and marine tourism park;</li> <li>13) Cultural and knowledge heritage area;</li> <li>14) Natural geology reserve area;</li> <li>15) Groundwater recharge area;</li> <li>16) Spring demarcation;</li> <li>17) Genetic protection area;</li> <li>18) Fauna refugee area;</li> <li>19) Coral reef; and</li> <li>20) Corridor area for protected flora or marine biota.</li> </ol> <p>According to Decree of Minister of Environment No. 05/2012 use of these areas that is not in line with the purpose of the original protection should be avoided. These areas are normally identified in Spatial Planning documents. The Government Regulation PP No. 27/2012 (article 4) mentions that purpose and location of an activity should comply with official spatial plans. In case of non-compliance, the AMDAL application will be refused.</p> <p>Business activities which do not require explicitly an AMDAL and have no significant impact on the environment will required an UKL-UPL.</p>
<p><b>Category B:</b> The programme and project may have some adverse environmental and/or social impacts on human populations or environmentally significant areas, but the impacts: (i) are less adverse than those for category A; (ii) are site specific and few are irreversible in nature; and (iii) can be readily remedied by appropriate preventive actions and/or mitigation measures</p>	<p><b>Category: UKL/UPL:</b> Smaller projects require an Environmental Management Measure (UKL) and Environmental Monitoring Measure (UPL).</p> <p>However, special discretion and judgment of environmental agencies at local and national level(based on particular consideration) may override the category, and UKL/UPL Category may be“upgraded” to AMDAL.In addition to the Indonesia national regulations, it is a requirement that provincial and local regulations related to environmental management, spatial planning [RTRW (regional spatial planning) and zoning regulation], forest conservation, and others. Also essential that any local customary laws will also be followed.</p>
<p><b>Category C:</b> The programme and project will have negligible or no environmental or social implications4 – no further environmental and social</p>	<p><b>Category: SPPL:</b> Projects that do not require AMDAL or UKLUPLare obliged to submit a 'statement of management and environmental monitoring ability'or SPPL.</p>



analysis is required. Projects in category C generally do not require additional environmental analysis because the activities have positive environmental impacts, or negligible or minimally adverse environmental impacts	
--	--

**Table 3: Preliminary Screening of Social and Environmental Categories**

	IFAD Criteria for Environment Category A	Gol Criteria for Full AMDAL Assessment	Preliminary Screening	Recommendation	IFAD	Govt
1	Geographic location and sensitive areas:					
1.1	Wetland development	May require AMDAL	No activities proposed in wetlands.	Not applicable	NA	NA
1.2	Conversion of significant areas of natural forests or other wild lands;	Larger schemes may require AMDAL.  Permission will be required from Forestry Department and from Governor. Permission is normally granted for small impact projects that benefit communities. Forest department may apply a water use charge.	All agriculture would be implemented on existing agricultural land.  A few irrigation intakes maybe located in forest areas. Work would include construction or rehabilitation of small weirs and transmission pipe.	Weirs height should be restricted to less than 4 metres and small diameter pipe should be buried. Trenches to be excavated by hand.  New weir would require water management analysis to ensure not conflict with downstream user.	B	UKL/ UPL
1.3	Loss of natural habitat and loss of biodiversity or environmental services provided by a natural ecosystem in sensitive areas – protected areas and their buffer zones, ecologically sensitive areas, coral reefs, mangroves swamps, small island ecosystems, areas of global/national significance for biodiversity conservation and/or biodiversity-rich areas, and habitats dependent on by endangered species;	May require AMDAL	Projects would be located in existing agriculture lands with minimal or no impact to biodiversity or natural habitat.	Not applicable	B	
1.4	High risk of major destruction as a result of geophysical hazards (tsunamis, landslides, earthquakes, volcanic eruptions).	No criteria	Most of the districts are vulnerable to earthquakes and volcanic eruptions.	Risks of impact to project investments in agriculture and small scale infrastructure would however be minimal.	B	N
2	Natural Resources					
2.1	Unsustainable natural resource management practices. For example, their development in areas and situations where little information exists on sustainable yield and carrying capacities	No criteria	Projects are in existing agricultural land and carrying capacity and yields are reasonably well defined.	Project will incorporate soil testing to better assess requirement for sustainable agriculture and requirements for organic and inorganic fertilizers.	B	NA

	IFAD Criteria for Environment Category A	Gol Criteria for Full AMDAL Assessment	Preliminary Screening	Recommendation	IFAD	Govt
2.2	Large-scale aquaculture projects, or where their development involves significant alteration of ecologically sensitive area, etc.;	May require AMDAL	There would be no significant alteration of ecologically sensitive areas.	NA	NA	NA
2.3	Significant increased use of agrochemicals which may lead to life-threatening illness and long-term public health and safety concerns	No criteria	Some increase in agro-chemicals as part of the agriculture program.  No long term health and public health envisaged.	Training will be given in the correct safe and environmentally appropriated use of agrochemicals. Promotion of organic pest control methods will be provided in the organic programs.	B	NA
2.4	Water-based (ground and/or surface) development where there is reason to believe that significant depletion and/or reduced flow may/has occurred from the effects of climate change or from overutilization (above recharge capacity);	No criteria	Most schemes will build on existing water sources and schemes.  Some new water sources-surface and groundwater will be developed.	Any new water (surface or groundwater) sources will be subject to rigorous analysis to ensure abstraction is sustainable and does not impact on other users.	B	
2.5	Introduction of potentially invasive species or genetically modified organisms which might alter genetic traits of native species or have an adverse effect on local biodiversity;	No criteria	No new species	Not applicable	NA	NA
2.6	Risk of project-induced pollution and other adverse health effects on sensitive ecosystems and vulnerable communities, or the risk of pollution from an existing source which might affect a new project.	No criteria	Some wastes from small/medium agricultural processing.  Some increase in CO2 emissions from small pumping units.	Agricultural processing units need to incorporate treatment of waste.  Opportunities to offset carbon will be explored including mini hydro, bio-gas	B	NA
3	Infrastructure development:					
3.1	Large-scale dam/reservoir construction (more than 15 metre high wall, more than 500 metre long crest, and/or with a reservoir	Dam height>15m Area>200ha	Dam/reservoir construction would be less than; 15m height, 500m crest, 3million m3 storage and incoming		B	UKL/ UPL

	IFAD Criteria for Environment Category A	Gol Criteria for Full AMDAL Assessment	Preliminary Screening	Recommendation	IFAD	Govt
	exceeding 3 million m <sup>3</sup> ) or incoming flood of more than 2,000 m <sup>3</sup> /s;		flood of 2000m <sup>3</sup> /s. Area would be less than 200ha			
3.2	Construction of large-scale irrigation schemes Rehabilitation/development (above 100ha per scheme);	New Schemes>2000ha Rehab. >1000ha	All schemes would small and would be less than 100ha.	Final scheme sizes to be finalized during project implementation	B	UKL/ UPL
3.3	Construction/rehabilitation or upgrade of rural roads that entail the total area being cleared above 10 km long.	No criteria	Farm roads are an important component of the infrastructure investment-roads would be built along lines of existing roads or pathways-no land clearance envisaged. Lengths would be less than 10 km.	Selection and design of roads will be carried out under project implementation. Routes to be selected based on maximum benefit and minimum environmental impact including land requirements	B	UKL/ UPL
3.4	Any farmer with more than 10 per cent of his/her private land taken;	In accordance with Presidential Regulation 40/2014 that land acquisition of less than 5 ha can be undertaken through direct negotiation between landowners and the district agency needing the land	Land requirements would be less than 10% of land holdings.	Districts would negotiate the requirements with the land owners-in most cases land would be donated due to incremental value of infrastructure-canal or road.	B	UKL/ UPL
3.5	Drainage or correction of natural waterbodies (e.g. river training); and	No criteria	Not proposed under project	Not Applicable	B	
3.6	Significant extraction or diversion/containment of surface water leaving the river flow below 20 per cent environmental flow plus downstream user requirements.	No criteria	Irrigation development would be a mix of new irrigation and rehabilitation.  Designs would be based on rigorous analysis of water availability and demand including environmental flow	Rehabilitation of existing schemes would follow current operation procedures.  New schemes would be required to maintain 20% environmental flow		
4	Social					
4.1	Economic or physical displacement (i.e. land, potable water and water for other uses), or physical	Land under 5ha can be negotiated by District Administration and landowners	Some land may be required for small farm roads and canal but this would be small and less than 10% of an	Land would be donated. The project would ensure that any land donation is properly	B	

	IFAD Criteria for Environment Category A	Gol Criteria for Full AMDAL Assessment	Preliminary Screening	Recommendation	IFAD	Govt
	resettlement of more than 20 people, or impacting more than 10 per cent of any one community's or individual farmer's or household's assets;		individual households land holding. Land for storage and other buildings there is some flexibility and would in most cases use village or government land.	documented including measurement and agreement by landholder and village and district. Government.		
4.2	Conversion and loss of physical cultural resources;	No criteria	The project will not impact on any		B	NA
4.3	Significant social adverse impacts to local communities (including disadvantaged and vulnerable groups and indigenous peoples) or other project-affected parties;	No criteria	The project design includes focused actions to ensure vulnerable and indigenous groups are protected and actively engaged in the project activities.	The project environment and social management plan identifies core initiatives to involve vulnerable groups including youth, women and indigenous groups.	B	NA
4.4	Manufacture and transportation of hazardous and toxic materials and storage;	No criteria	No specific hazardous waste. Increased use of agricultural machinery (pumps, tractors etc.)		B	NA
4.5	Construction of large- or medium-scale industrial plants (other than small-scale artisanal production.	No criteria	Agricultural processing will be small and medium scale	Project will incorporate initiatives to ensure management of waste	B	NA
4.6	Development of large-scale production forestry.	AMDAL may be required	Some small-scale planting of trees to support soil conservation and erosion control	NA	B	NA
4.7	Rural finance: projects involving lines of credit to financial service providers to support any of the activities above.	No criteria	Rural finance will be only to support small scale agriculture.	NA	B	NA

### **Environment Conclusions**

**26.** The project design will focus on the promotion of sustainable agriculture in upland areas including the development of small-scale irrigation and farm roads.

**27.** A preliminary screening of the project interventions has been carried out. The environmental screening has incorporated the requirements of IFAD, IsDB and Government. The IsDB environmental procedures follow the IFAD safeguards. In parallel a preliminary screening of the projects in relation to the Government environment regulations has been carried out.

**28.** Based on the IFAD guidelines the project is categorized as Category B. The proposed projects are spread over ten districts and; (i) would not impact on any sensitive areas or result in loss natural habit and biodiversity, all of the agricultural development would be located on existing cultivated lands; (ii) the projects would be located in areas at high risk of geophysical hazards, notably earthquakes, however the risks to agriculture and small-scale infrastructure are considered to be minimal; (iii) the project design is directed at environmentally sound and sustainable agriculture, the project will invest in rehabilitation and new irrigation with a high emphasis on sustainable water use efficiency and strong water management, some increased use of pesticides is envisaged however these be supported by guidance and training in the safe and environmentally sound practices for pesticide use, waste from agriculture and processing will be small scale and will include measures to ensure safe disposal, and where viable include recycling; (iii) infrastructure will be small scale irrigation schemes less than 100ha including rehabilitation and new schemes, dams would be small (less than 5m); (iv) the projects would require only limited land acquisition mainly for farm roads, land requirements would small and dispersed and would require only a small percentage (less than 10%) of individual owner's land; and (v) the project design is aimed at ensuring vulnerable and socially disadvantaged groups are actively engaged in the project activities.

**29.** In relation to the Government environmental requirements, preliminary screening indicates that the projects would be small with limited environmental impact and as such, would meet the criteria for a simpler UKL/UPL environmental permit rather than a full AMDAL assessment.

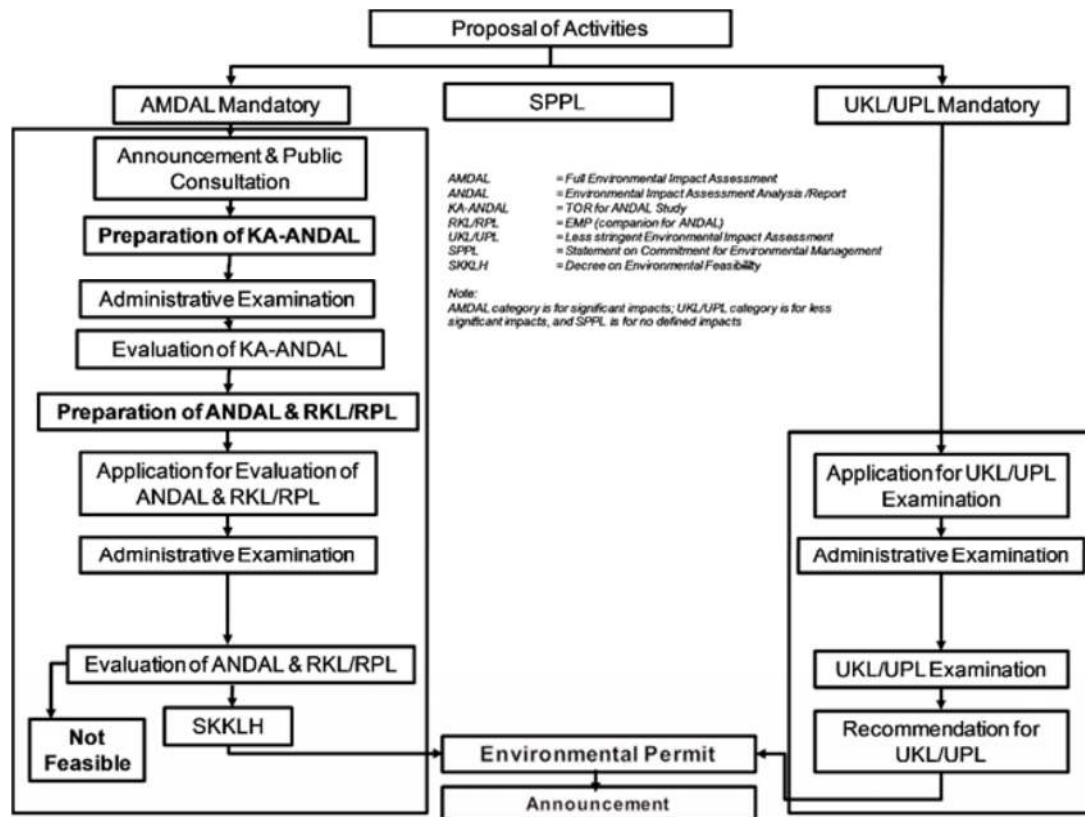
**30.** This SECAP review note and the Preliminary Environmental and Social Management Plan (ESMP) presented in Attachment 2 will be fully reviewed and updated as part of the detailed design process during year the first year of the project implementation; the approach for preparing the final project screening including the preparation of assessment to meet the environmental requirements of the UKL/UPL are described in the SECAP

#### ***(iv) Government Environmental Requirements.***

Government environment clearance must be considered in parallel to the IFAD environmental requirements; the flow chart for GoI clearance is shown in Figure 4. AMDAL refers to environmental impact assessment at whole, while ANDAL is part of the assessment where environmental impact analysis (ANDAL) carried out for the significant issues. In addition to ANDAL report, the assessment will be supported with RKL/RPL (equivalent to the Environment Management Plan) for managing/mitigating the impacts and subsequently monitoring the effectiveness of the environmental impacts management/mitigation

**31.** Initial screening described in the table above indicates the sub projects are relatively small and low environmental impacts and a UKL/UPL environmental permit would be acceptable. The procedure for a UKL/UKP permit the project would prepare an application according to the requirements; the application would be submitted to the Government for review and issue of an environment permit. The government can reject the application or can request a full AMDAL assessment; the AMDAL assessment must be carried out by licenced AMDAL consultants.

**Figure 4: Flow Chart for GoI Environmental Clearance**



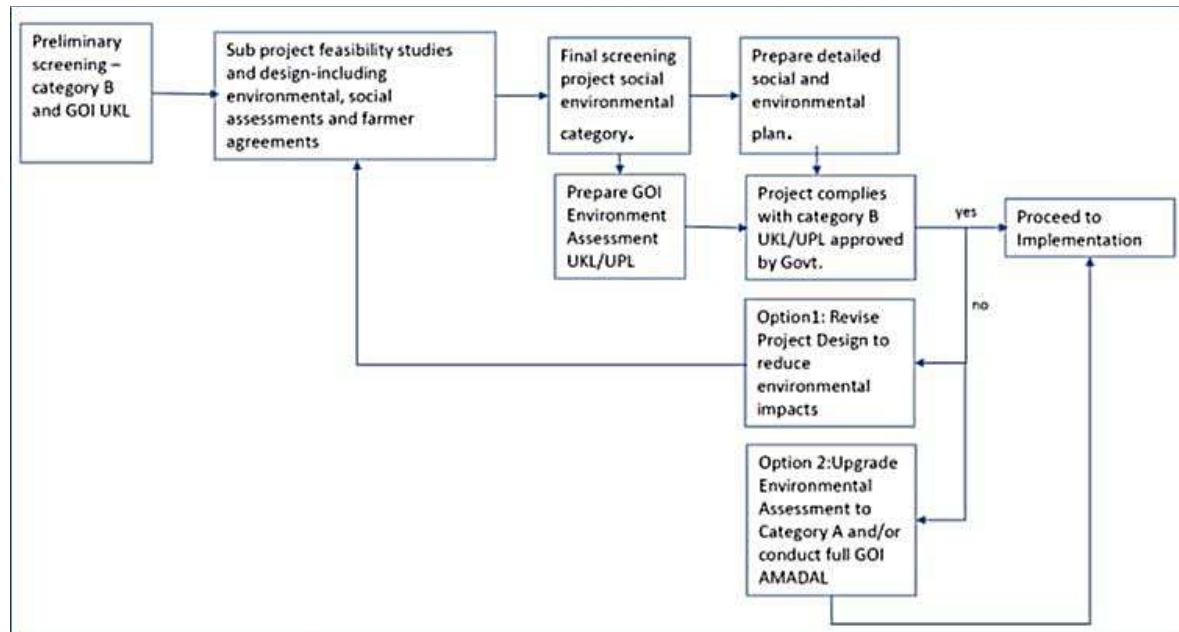
### Environment Conclusion

32. Based on a preliminary screening of the project components described in the above the project to be a Category “B”. The sub project would appear to comply with GOI UKL/UPL environmental category. The final categorization however would be defined during the year 1 project implementation stage as a part of the project feasibility studies and detailed design. At this stage the social and environmental status would be reviewed. The following scenarios

- The social and environment category remains at B and a UKL/UPL environment permit is issued then the sub-project can continue to implementation.
- At the time of project design if it is considered that the sub-project needs to be re-categorized or a UKL/UPL permit is not approved; then the project management can consider revising the project to reduce its project impact or upgrade the level of environmental assessment (a full environment Category A Project assessment including an ERIA, RAP/RAF and a full AMDAL assessment).

33. In most cases it is considered that all the projects would likely comply with Category B requirements and the UKL/UPL environment categories. In some cases, there may be requirement to adjust the project design to reduce any major environmental impacts. The process is shown in Figure 5 below.

**Figure 5: Environmental and Social Screening Process**

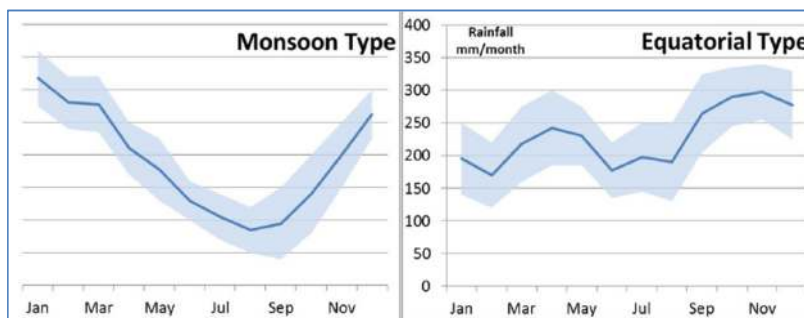


**(v) Climate risk category (High, Moderate, Low)**

**1) Current Climate**

34. Indonesia is the world's largest archipelagic state encompassing more than 17,000 islands. The large areas of water keep the overall temperature fairly consistent over the year about 28°C for the coastal plains, 26°C for the maintain areas. Rainfall varies from 1800 and 3200mm for the lowlands increasing with elevation up to 6000mm for the mountain areas. Most of the rainfall most of the rainfall occurs during the wet season which last from November to April (with a rainfall peak in January and February). The dry season last from May to October (with July to September as the driest months). Indonesia is vulnerable to a range of natural disasters including floods, droughts, earthquakes, tsunamis and volcanic eruptions. In the proposed project areas there are two types of rainfall pattern as shown in Figure 6 below.

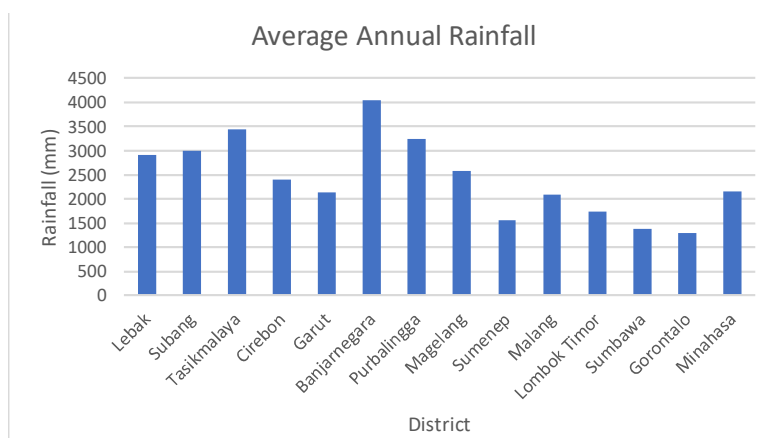
**Figure 6: Rainfall Types**



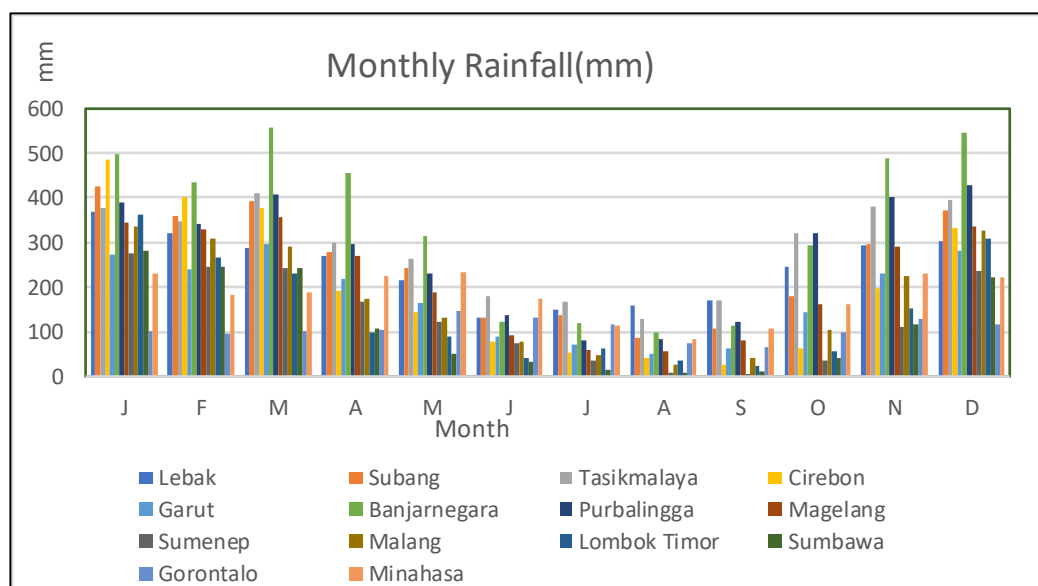
35. The total annual rainfall in districts is shown in Figure 7 due to the irregular topography in the uplands there may be some significant differences due to altitude between the rainfall in the district capitals shown in the graph and the actual agricultural areas of the project. The monthly distribution of rainfall is shown in Figure 8:



**Figure 7: Average Rainfall by District**



**Figure 8: Monthly Rainfall by District**



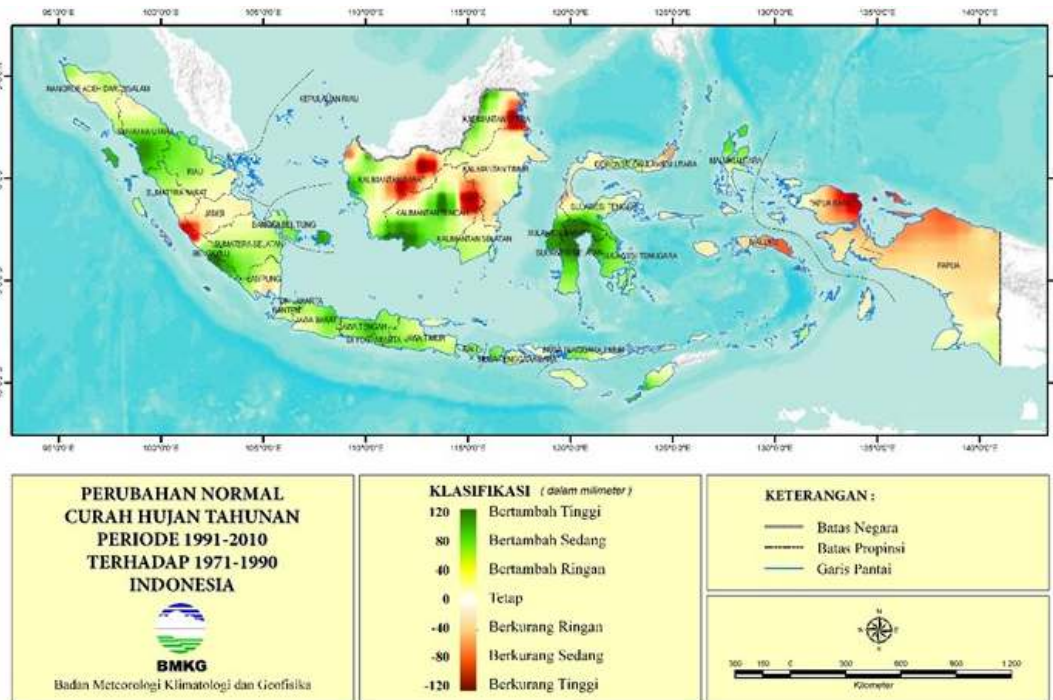
**a) Historic Climate Trends**

36. There is strong evidence of climate change in Indonesia; surface temperatures have increased by 0.040C per decade over the last 40 years, the increase is more pronounced in the larger islands in the west of the country. Total annual rainfall has increased by 12% over the last 30 years, however there are different trends between the dry and wet season, it is reported that dry season rainfall has decreased but there have been increases in the wet season rainfall.

37. The regional differences are shown in Figure below which shows the total rainfall has increased in the northern regions but there are decreases reported in the southern regions. There is a trend towards more extreme events, while droughts occurred in the 1960s they are now frequently reported once every 3 years<sup>28</sup>. There also evidence in the changes of timing of the wet and dry seasons. In general rainfall predictability is decreasing.

<sup>28</sup> Wingquest and Dahlberg (2008), World Bank (2014); Karmalkar et al (2012) and Syaukat (2011)

**Figure 9: Change in Rainfall 1991 to 2010 in relation to Rainfall 1971 to 1990**



*b) El Niño*

38. Precipitation in Indonesia is heavily influenced by the El Niño-Southern Oscillation cycle (ENSO), El Niño and La Niña are the opposite phases of the cycle. El Niño is referred to as the warm phase of ENSO and La Niña as the cold phase of the weather patterns that result from variations in ocean temperatures in the Equatorial Pacific. These fluctuations in from the normal surface temperatures and have large scale impacts on the ocean processes, global weather and climate.

39. Indonesia generally experiences droughts during El Niño and excessive rainfall during La Nina events. Currently the ENSO climate events form a large component of the current climate of Indonesia in Indonesia. There is only limited understanding of the linkage of the ENSO events with climate change; it is however predicted by several researches that there will be more frequent and intense ENSO events in the future due to climate change. For Indonesia there have been projections<sup>29</sup> that ENSO events are likely to increase from the current 3 to 7 years intervals to occurrences every 2 to 3 years. In the near future, it is likely that the rainfall shortage by El Niño is more significant than the climate change; although the two impacts cannot be disconnected.

2) Projections for Future Climate Change

40. There are a lot of analyses of climate change in Indonesia; there however remain many uncertainties especially in relation to precipitation in the higher elevation and complex terrain of the UPLANDs projects.

*a) Temperature*

- Over Indonesia temperature it is projected to increase by 0.2-0.3°C per decade with a total increase estimated by 0.9-2.2°C by the 2060s and 1.1-3.2°C by 2100. Project warming is more rapid for the larger islands than for the sea and the smaller islands. Projections by the International Panel for Climate Change (IPCC) for future climate changes are presented in Table below.

<sup>29</sup> Indonesia Climate Change Sector Road Map Government of Indonesia BAPPENAS 2010.

**Table 4: Projected Temperature Changes (°C)**

Province	Temp 2016-2035	Temp 2046-2065	Temp 2081-2100	
	Median value	Median value	Median value	Possible extreme value
Banten	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
West Java	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
Central Java	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
East Java	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
NTB	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
Gorontalo	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0
N. Sulawesi	0.5-1.0	1.0-1.5	1.0-1.5	1.5-2.0

Source: IPCC change in temperatures with respect to median values RCP4.5 scenario. Extreme value is based RCP4.5 with the 75 percentile which shows are possible more extreme scenario.

4.1. A summary of the temperatures and projected changes by Kabupaten is shown in Table below.

**Table 5: Historic and Projected Temperature by Kabupaten (this is a table, not a figure)**

Province	Kabupaten	Average Temp (OC)	Projected increase (OC)	Temperature Degree Centigrade											
				22.50	23.00	23.50	24.00	24.50	25.00	25.50	26.00	26.50	27.00	27.50	28.00
Banten	Lebak	25.3	0.70 to 0.75												
West Java	Subang	25.5	0.86 to 0.90												
	Tasikmalaya	25.2	0.86 to 0.90												
	Cirebon	27.4	0.86 to 0.90												
	Garut	23.1	0.86 to 0.90												
Central Java	Banjarnegara	25.0	0.71 to 0.80												
	Purbalingga	26.4	0.71 to 0.80												
	Magelang	24.8	0.71 to 0.80												
East Java	Sumenep	27.0	0.71 to 0.86												
	Malang	23.7	0.71 to 0.86												
West Nusatenggara	Lombok	23.9	0.71 to 0.75												
	Sumbawa	25.4	0.71 to 0.75												
Gorontalo	Gorontalo	27.0	0.76 to 0.80												
N Sulawesi	Minahasa	22.7	0.70 to 0.75												

Current average temperatures (source climate-data.org)      Future Projections 2032 to 2040 (BKM Bandung)

#### b) Precipitation

4.2. There are many caveats and uncertainties that apply to the simulated precipitation projections including the rate of change of green-house gases and the significant differences the different climate models. In Indonesia there are many difficulties to fully capture the range of rainfall behaviour of the tropical region due to the challenges to fully modelling cumulus precipitation due to the complex coastline, steep and irregular topography and the smaller islands (CSIRO)<sup>30</sup>.

4.3. Overall the projection for Indonesia is for changes between -1% to and 5% by 2100 but large seasonal and regional variations are expected. Changes in the southern islands s of Java, Nusa Tenggara Barat and Timor will likely result in reduced annual rainfall of between -5%-15%; The estimated change in precipitation the northern parts of Indonesia is less than the southern area and a small increase in wet and dry season precipitation of 0 to +10% is estimated for Gorontalo and North Sulawesi.

4.4. Taking an ensemble average of different models and focusing on relative change rather than absolute values reduces some of uncertainty and the IPCC have analysed an ensemble of 42 climate models. The estimated changes prepared by the IPCC in precipitation in the seven provinces of the

<sup>30</sup> High-resolution climate projections for the islands of Lombok and Sumbawa, Nusa Tenggara Barat Province, Indonesia: Challenges and implications Commonwealth Scientific and Industrial Research Organization (CSIRO), 2015

UPLANDs project areas are shown in Table 6 below. These are the median (most likely) values based on the RCP 4.5 scenario (which is low-medium climate change scenario).

**Table 6: Projected Precipitation Changes**

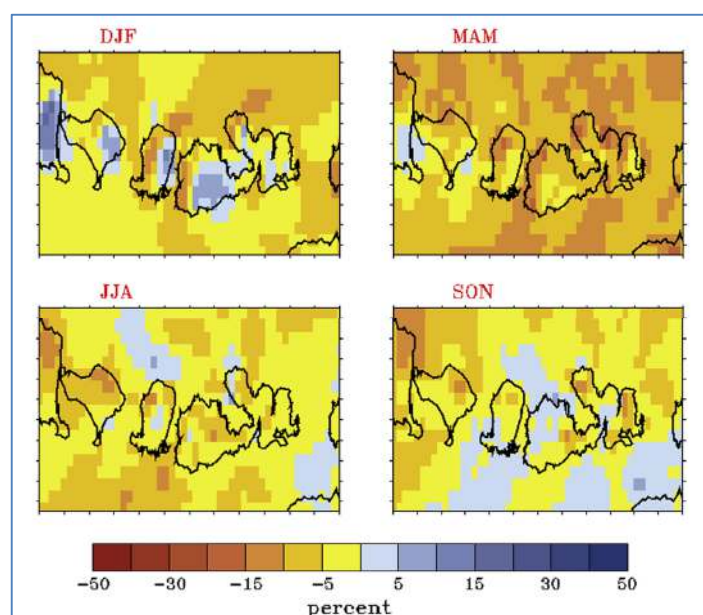
Province	Precipitation change % 2016-2035		Precipitation change % 2046-2065		Precipitation change 2081-2100	
	Oct-Mar	April-Sept	Oct-Mar	April-Sept	Oct-Mar	April-Sept
Banten	0 to +10%	0 to -10%	0 to +10%	0 to -10%	0 to +10%	0 to -10%
West Java	0 to -10%	0 to -10%	0 to +10%	0 to -10%	0 to +10%	0 to -10%
Central Java	0 to -10%	0 to -10%	0 to +10%	0 to -10%	0 to +10%	0 to -10%
East Java	0 to -10%	0 to -10%	0 to +10%	0 to -10%	0 to -10%	0 to -10%
NTB	0 to +10%	0 to -10%	0 to +10%	0 to -10%	0 to -10%	0 to -10%
Gorontalo	0 to +10%	0 to +10%	0 to +10%	0 to +10%	0 to +10%	0 to +10%
N. Sulawesi	0 to +10%	0 to +10%	0 to +10%	0 to +10%	0 to +10%	0 to +10%

Source: IPCC 2013 Annex 1: Atlas of Global and Regional Climate Projections. CIMP5 model output based on 42 climate models. Based on the RCP4.5 scenario and median Values

### c) Downscaled Projections

45. Downscaled climate projections for NTB at 14km resolution prepared by CSIRO illustrate the potential and constraints of down scaled climate projections that could be potentially be prepared for each of the project Kabupaten. For NTB the simulations of rainfall changes by 2060 suggest both increases and decreases of up to 5% in December–February, with more acute declines of 10% in some areas, and decreases of up to 10% in March–May. For the other seasons, generally little change is simulated. The regional temperatures are projected to increase by about 1.00C by 2030 and 1.6–20C by 2060. The high-resolution model outputs enable detailed differentiation between locations across the islands. The results show that due to the effect of the mountain terrain there are steep climate gradients. Estimated rainfall changes by 2030 are shown in **Error! Not a valid bookmark self-reference..** The detailed simulations downscale from 200km to 14km resolutions allow sufficient detail on decisions making at the district level and incorporates the local variations due to topography which can be seen in the figure above. The approach taken in the CSIRO study would be appropriate for UPLANDs project

**Figure 10: Downscaled Simulated Ensemble Percentage Rainfall Change NTB (%) by 2030**



### 3) Climate Change Conclusions

46. Based on available information on historic climate changes and projections using climate change models it is estimated that the project to be 'highly sensitive' to climate change.

47. Relative to the 1986-2005 values; by 2100 the over Indonesia temperature is projected to increase by 0.9-2.20C and rainfall by between -1% to +5%. For the UPLANDs project areas there will be significant local differences due to the altitude and complex topography. In the seven provinces where the UPLANDs projects climate change impacts include:

- (a) By 2060s, it is estimated that average temperatures will increase between 1.0-1.50C
- (b) In Banten, West, Central and East Java and Nusa Tenggara Barat wet season rainfall is estimated to increase (by 0 to +10%); dry season rainfall will however reduce (by 0 to -10%). In southern Java and in Nusa Tenggara Barat, there is some indication that the wet season rainfall by 2100 may reduce (by 0 to -10%).
- (c) The estimated change in precipitation the northern parts of Indonesia is less than the southern area and a small increase in wet and dry season precipitation (by 0 to +10%) is estimated for Gorontalo and North Sulawesi.
- (d) Most climate models predict an increase in the number of consecutive dry days, there is however significant variation between models.
- (e) There variation in the rainfall patterns due to the ENSO effects will be over and above climate impacts. Under climate change it is estimated that there will be an increase in the frequency of ENSO events, the El Nino's will increase the risk of drought.
- (f) Potential Evapotranspiration<sup>31</sup> is estimated to increase by about 6%, this will increase the crop water requirements and irrigation will be required when effective rainfall is less than evapotranspiration.
- (g) Extreme rainfall events are likely to increase soil erosion and increased frequency of upland short duration flash floods with potential to cause damage from erosion rather than inundation.
- (h) The UPLANDs projects will benefit from rehabilitation and new irrigation; this will however be small scale surface water, spring and groundwater all of which will provide some buffer but not full protection.
- (i) Changes in climate will have an impact on crop growing conditions, affecting agricultural productivity and the suitability of crops in different agro-ecological zones. Future increased intensity production systems can be more vulnerable to future climate impacts than the current traditional systems. High temperatures can lead to negative impact such as added heat stress; many upland crops are grown at niche altitudes which may over time become less suitable for specific crops and varieties. Higher temperatures can increase evapotranspiration and may trigger the proliferation of weeds, pests, and diseases. Changes in precipitation can result in a reduction of water availability for rainfed crops, and alterations of discharge in small upland river systems may lower reliability of irrigation water supply for irrigated crops and/or increase demand for irrigation.
- (j) The potential risks to agriculture include the increase in potential evapotranspiration, reductions in dry season rainfall and the cyclical risk of El Nino droughts.

48. As a 'high climate risk project' an in-depth climate risk analysis will be carried out to help to examine the nature of climate and disaster hazards in the geographical location of the various projects; the analysis will examine the exposure and sensitivity of the project and associated communities. Based on the climate change risk analysis a detailed climate change adaptation plan and program will be prepared for the project.

<sup>31</sup> Integrated Participatory Development Management of Irrigation Project IFAD/ADB March 2017

**(vi) Recommended features of project design and implementation**

1) Introduction

**49.** The overall goal of the project will be to reduce poverty and support small holders in building and remunerative sustainable and resilient livelihoods in the upland areas. The project will support the development of land and water infrastructure, modern agriculture cultivation techniques and holistic integrated agriculture management systems. The project is categorized as Category B and an Environmental and Social Management Plan (ESMP) has been prepared. The ESMP sets out the measures to be taken during the implementation and operation of the UPLANDs project/ to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and (ii) the actions needed (monitoring/supervision/reporting requirements), implementation arrangements, institutional responsibilities, time schedule and costs to implement the measures. The ESMP requirements are described below and the ESMP is presented in Attachment 2.

2) Environment and social mitigation measures

**50. Indigenous People:** Continuous assessment of the participation of Maysakarat Adat needs to be fully assessed during project implementation. Should significant populations of indigenous people be found in the district projects then the IFAD's guidelines for indigenous people will be followed. On the basis of current information provided the villages identified for project intervention in Lebak, Banten may include Indigenous (Masyarakat Adat) communities. Following IFAD's requirement for working with indigenous communities as specified in IFAD's policy for Engagement with Indigenous Peoples, and an FPIC implementation plan will be developed and attached to the Project Implementation Manual (PIM). The project will start in other provinces except for the region with indigenous people where the activities will start only if and when FPIC is obtained.

3) Climate change adaptation and mitigation measures

**51.** Mainstreaming climate change and future uncertainty into agricultural development planning is a pressing challenge, as the process is laying the foundation future events there is very limited information how to successfully operationalize adaptation pathways or how to evaluate the processes<sup>32</sup>. The UPLANDs project has been designed provide a strong foundation to climate change adaptation through ; (i) incorporating climate change adaptation as an integral part of the project, the development good agricultural practices will from the start include climate resilience; (ii) the climate change adaptation will be participative building on the existing farmer adaptation mechanisms together with the information from the science; (iii) building the skills and capacities of the farmer, government institutions to proactively meet the needs of climate change adaptation; (iv) to develop linkages and partnerships with private sector; and (v) provide a base to upscale the UPLANDs initiatives to wider areas.

**52.** The climate risk analysis will refer to any existing broader agricultural risk management analysis as well as project-level risk analysis to ensure the right prioritization and consistency with other sources of risk. Based on this analysis practical risk management and adaptation measures can be defined that can be integrated into the project design.

**53.** Developing initiatives to provide improved productivity and financial returns in parallel with strengthening the institutional base and laying foundations for climate change adaptation is critical; experience that many programs for climate change adaptation has been less successful as farmers are reluctant to change or invest in measures that may not be immediately apparent or may not occur. The climate adaptation plan incorporates two activities.

---

<sup>32</sup> CSIRO Priming Adaptation Pathways through Adaptive Co Management undertook research in Nusatenggara Barat carried out a four year trial to introduce innovative approaches. The study concluded found the approaches applied were unsustainable due to difficulties to change policies and institutions were inherently unsustainable. The study recommended the approach to develop informal livelihood innovation niches a priming process to establish bridgeheads and to establish cadres of leaders, brokers, facilitators and policy entrepreneurs that can be used to implement and re-ignite adaptation measures when opportunities eventuate. The study found that participatory monitoring and evaluation may be useful tool to help plan and implement adaptation.



- (a) **Preparation of an in-depth climate risk analysis** which is designed to improve the robustness of development investments, increase resilience to development outcomes; a separate study would be provided for each of the 14 project districts and would include:
  - (i) A historical analysis of hazards including compiling and assessing local climate conditions;
  - (ii) An assessment of projected climate change impacts in the target area based on representative ensembles of climate models and scenarios. The assessment will include a historical analysis of hazard types, intensities, frequencies and associated losses and damages and applying the findings to possible future scenarios;
  - (iii) Preparation an analysis of future climate scenarios for each of the project districts. This should be based on the development of regional climate models at a scale of less than 23 km, based on statistical or dynamic downscaling. The analysis of climate change impacts should be based on a careful selection of a representative ensemble of climate models and focus on implications for the programming context (e.g. climate change impacts and implications on crop production, harvesting, post-harvesting, and wider landscape characteristics;
  - (iv) A vulnerability map with a preliminary assessment of the locations and cropping within the project areas that is particularly vulnerable under present climate variability and projected climate change. This map should enable prioritization of geographic areas for UPLANDs interventions.

54. **Development of a climate adaptation strategy;** this would follow on from the climate change analysis and would evolve over the project period, the programme would include;

- (a) The establishment of good agricultural practices will from the start incorporate initiatives to strengthen existing and future climate resilience. The adaptation program will incorporate actions for the main commodity crops, together with secondary crops, with the objectives of ensuring improved returns within a framework of long-term sustainability.
- (b) Developing the skills and capacities of the farmers, government institutions and private sector to proactively act as a cadre of leaders, facilitators, brokers and entrepreneurs for change including piloting and piloting adaptation initiatives and supporting policies.
- (c) Strengthen the knowledge base on climate resistant agriculture including dissemination of climate change information, strengthening of the district level climate information systems, information on climate resilient technologies including climate resilient seed varieties, adjusted and diversified cropping patterns and agricultural practices, and improved weather forecasting including El Niño events.
- (d) Developing a high level of farmer engagement and participation to integrate the existing and traditional farmer climate skills together with the outputs of climate science. Establishment of participatory monitoring and evaluation.
- (e) Ensuring infrastructure is built to climate resilient criteria incorporating relevant government standards and codes.
- (f) Provide a strong base to upscale the UPLANDs' production and climate change initiatives to wider areas.

#### 4) Multi-benefit approaches

### Nutrition

55. The UPLANDs project will develop value chains with a strong focus on agricultural commodities with the highest prospect of increasing smallholder incomes. Smallholder and poorest household spend the largest proportion of their incomes on food and hence an increase in the income of households at

the lower end of the income spectrum immediately translates into improved food intake. To further ensure that the benefits of increased incomes translate into improved health outcomes for women and men small-holder farmers and their households, appropriate nutrition interventions at each stage of the value-chain will be identified. The nutrition program will include:

53. In the selection of the value chains there has been a strong focus on commodities with the highest prospect of increasing smallholder incomes. Smallholder and poorest households spend the largest proportion of their incomes on food and hence an increase in the income of households at the lower end of the income spectrum immediately translates into improved food intake. To further ensure that the benefits of increased incomes translate into improved health outcomes for women and men small-holder farmers and their households, appropriate interventions at each stage of the value-chain will be identified. A rapid Nutrition assessment, at the implementation stage, will be used to identify the key nutritional challenges and opportunities specific to the project districts and appropriate nutrition interventions at relevant stages of the value-chain. A full-time Nutrition team (Specialist and Assistant Nutrition Specialist) will work closely with the Value-chain Specialist and the Agri-Extension Specialist to fully mainstream nutrition in the various project value chains. Some of the interventions for nutrition will include extension advice on nutritious crop varieties, safe handling of pesticides, and balancing use of land for commercial and household nutrition needs, maximizing nutritional potential of homestead gardens, social marketing events and nutrition awareness sessions. The Gender Action Learning System (GALS) described below will support nutrition in two ways: (i) GALS will support the nutrition intervention as women's empowerment is considered a key factor in improving nutrition (ii) GALS tools will be used to help women and men reflect on nutritional goals and challenges. Nutrition interventions will be also be supported through extension training and seed inputs for homestead gardens for women with a focus on young women and women-headed households to increase the convenience and availability of supplementary vegetables and fruit to improve the quality of the dietary mix. The nutrition programme will include:

- (a) A Nutrition Study to be implemented in each of the 14 project districts. The TOR for the study will be guided by the research conducted on Nutrition Sensitive Value Chains conducted in Indonesia by IFAD. The sample for the study will be drawn from project Sub-district and villages. The study will focus on the following: (i) Identify the key nutrition challenges (i.e. gaps in nutrient intakes related to the food consumption patterns dietary patterns, hygiene factors etc.; (ii) analyse the value-chain of the selected commodity with a nutrition lens identifying opportunities for intervention within the framework of project activities and (iii) Identify intervention options to address these constraints and opportunities within the framework of project activities.
- (b) A nutrition package for each of the 14 districts will be prepared based on the recommendations of the various specialists and would incorporate the lessons learnt from the nutrition intervention being implemented under READGI. The nutrition package will outline the methodology, the activities and the responsibilities for interveners along the value-chain as well as for activities to be undertaken at the village level. The nutrition package is likely to include the following: extension advice on nutritious crop varieties, safe handling of pesticides, and balancing use of land for commercial and household nutrition needs, maximizing nutritional potential of homestead gardens, social marketing events and nutrition awareness sessions.
- (c) The nutrition package will include; (i) extension training and seed inputs for homestead gardens to increase the convenience and availability of supplementary vegetables and fruit for improving the quality of the dietary mix, with women-headed households will be receiving given starter kits with appropriate inputs (including, seeds/seedlings, agricultural tools, sprayer) and supported with small-scale household level infrastructure (fence, small water tank) to increase production and reduce workload; (ii) awareness raising and social marketing events in villages are another pre-determined parts of the nutrition package. Awareness raising will focus on the importance of nutrition for the family, good nutrition practices, healthy diet patterns which will be tailored to the local social-agricultural context.



## Gender Action Learning System (GALS)

57. GALS (Gender Action Learning System) is a community-led empowerment methodology that uses principles of inclusion to improve income, food and nutrition security of vulnerable people in a gender-equitable way. It positions poor women and men as drivers of their own development, identifying and dismantling obstacles in their environment, negotiating with service providers and private actors. It has proven to be effective for changing gender inequalities that have existed for generations, strengthening negotiation power of marginalized stakeholders and promoting collaboration, equity and respect between value chain actors. The GALS will be developed as a complementary initiative to the main project VCD approaches.<sup>33</sup> The added value of using GALS complementary to the main value chain development strategy include:

- (g) Transforming gender relations and social inequalities as prerequisite for pro-poor VCD;
- (h) Combining behaviour change at the household level and peer-to-peer scaling up with VCD;
- (i) Enabling vulnerable value chain stakeholders to control their own development process, organize themselves and negotiate with powerful stakeholders.

### 5) Incentives for good practices

58. UPLANDs will be piloting a number of innovations, including (i) a focus on public-private partnership along the value chain using the BLUD and KUBE systems. A key objective will be to ensure these organizations are professionally managed, financially sustainable and their development is based on flexible viable business models. Significant emphasis will be to provide training, institutional support provision of micro finance for both crop production and on and off farm equipment. In parallel with production orientated activities the new BLUDs and KUBEs will be required to support the social environmental and climate programs; these activities will be initially financed by the project however in the long term their sustainability will require the BLUDS and KUBE to be self-financing with sufficient margins and access to finance to ensure continuity of social, environmental and climate activities.

59. In parallel the UPLANDs will directly support the establishment of individual enterprises or small group enterprises including farmers, women youth and labourers; these could be in production, processing or marketing. Although the UPLANDs will provide support and subsidies in all cases the critical requirement will be viable and long term self-financing and commercial enterprises; a business model will be a key requirement.

### 6) Participatory processes

## Community Mobilization Process

60. A strong and well-defined social mobilization process will facilitate the delivery of programme activities in an inclusive and effective manner. It will ensure that the project is able to target and include its intended beneficiaries and that the target group fully understand the opportunities presented by the programme as well as the obligations and responsibilities for those who chose to join the programme. It will enable project activities to be fine-tuned to respond to the ground realities and priorities of the households. The program will be managed through a central Community Mobilization & Empowerment Officer; in addition District Community Mobilization & Empowerment Officers will also be engaged as well as Sub-district Supervisors for Community Mobilization and Empowerment as necessary.

**Table 7: Number of Villages in the UPLANDs District**

No	District	Sub-District	Villages	Farmer Group		
				Farmer	Members	Area (ha)

<sup>33</sup> Oxfam Novib, GIZ, BMZ, WEMAN, PRACTICAL GUIDE FOR TRANSFORMING GENDER AND UNEQUAL POWER RELATIONS IN VALUE CHAINS.  
[https://www.oxfamnovib.nl/Redactie/Downloads/English/publications/150115\\_Practical%20guide%20GALS%20summary%20Pase%201-2%20lr.pdf](https://www.oxfamnovib.nl/Redactie/Downloads/English/publications/150115_Practical%20guide%20GALS%20summary%20Pase%201-2%20lr.pdf)

				Groups*		
1	Lebak	1	4	19	569	450.00
2	Tasikmalaya	1	4	8	1,077	500.00
3	Subang	7	25	56	2,638	1,444.00
4	Cirebon	13	21	32	568	485.00
5	Garut	1	5	10	872	200.00
6	Banjarnegara	5	31	42	1,209	563.00
7	Purbalingga	1	9	14	237	-
8	Magelang	3	31	97	6,336	1,800.20
9	Malang	1	1	3	860	150.00
10	Sumenep	1	3	75	1,621	150.00
11	Lombok Timur	7	21	100	2,964	1,677.27
12	Sumbawa	13	26	59	2,700	3,000.00
13	Minahasa Selatan	1	10	118	2,179	2,000.00
14	Gorontalo	1	1	9	181	227.50
	<b>Total</b>	<b>55</b>	<b>188</b>	<b>623</b>	<b>23,442</b>	<b>12,196.97</b>

Village Facilitators (VF) will be recruited for each target village preferably from the Village/Sub-District according to specified criteria (minimum of 50% women).

Community Mobilization and Empowerment Guidelines and Farmer's Group Assessment Tool will be prepared at the National level in coordination with the Districts

The District Community Mobilization Officers will prepare Community Mobilization Plans based on the guidelines and submit them for review to the central office for approval and feedback.

#### **(vii) Analysis of alternatives**

¶1. The project design will focus on the promotion of 10 agricultural commodities in 14 districts. For most of the commodities farmers in parallel grow seasonal secondary crops; the project investments including irrigation, farm roads and storage will be of benefit to both the focus commodity crop and the secondary crops.

¶2. Over time there maybe requirements to consider crop diversification to reduce risk and also adapt to climate and market changes. Commodity prices are now internationally led and although the project is designed to improve efficiency and market competitiveness farmers will be vulnerable to sudden changes in demand. Similarly, increased temperatures and more variable rainfall may affect viabilities of growing certain crops. The increase in temperature may impact on the lowland areas and open new opportunities in the upland areas.

#### **(viii) Institutional analysis**

¶3. The institutional framework is described in the main report. The implementation structure will have a strong management structure at the National and District level. For the environmental, climate activities require a clear management structure and a phased transfer of responsibilities as follows; (i) the National PMU supported by the consultants will undertake to clearly define and prepare detailed guidelines for each activity (this would be in year 1); (ii) the National PMU would train and strengthen the District PMU (DPMUs) to implement the activities; (iii) district PMUs would work with the different stakeholder groups and farmer institutions to implement the various environment, climate and social activities, the PMU would support and guide as required; and (iv) DPMU would be responsible for monitoring and evaluation based on criteria prepared by the PMU.

¶4. Environment: The environmental management procedures are based on existing government environmental regulations and environmental guidelines<sup>34</sup>. There is however a lack of clear guidelines on the environmental requirements financed by the District governments. District agricultural and environment agencies however do not have dedicated safeguard unit or staff to oversee environmental management.

<sup>34</sup> ADB-financed Participatory Irrigation Sector Program (PISP) developed a rapid environmental screening checklist that was used by local governments in identifying environmental impacts and in determining the environmental assessment document to be submitted to the environmental agencies.

1) Capacity building

65. The UPLANDs project would have a strong focus on building of capacity for the implementation at the central, district and community levels. Capacity building/training would be provided to all key institutional participants and the principal stakeholders in order that UPLANDs is properly understood and the different parties are able to implement their assigned responsibilities. Key information and outreach materials would be produced according to the specific audience being addressed (e.g., government, private sector, community, smallholders). A training needs assessment would be carried out in order to inform the production of the training and information materials for the various government agencies responsible for peatland landscape. The focus of training for the social, environmental and climate activities would be those described in the Environment, Social Management Plan described in Attachment 2.

2) Additional funding

66. All the funding for social, environmental and climate activities are included in the overall project cost tables in the main report.

**(ix) Monitoring and Evaluation**

67. Monitoring and evaluation for the Social Environmental and Social activities would be integrated with the overall project M&E described in the main report. The broad details of the monitoring and evaluation are described below

- (i) Participatory monitoring through the Internal and External Farmer groups who will be given training in monitoring and reporting project activities.
- (k) Gender, youth and disadvantaged would have M&E data disaggregated with the focus on the specific gender, youth and disadvantaged programme.
- (l) Specific monitoring and evaluation of the Environmental, Social and Environmental Management Plan (ESMP) described in Attachment 2.

**(x) Further information required to complete screening, if any**

68. None

**(xi) Budgetary resources and schedule**

69. There is allocation for the environmental, social and climate change programs in the cost tables presented in the main project design report.

**(xii) Record of consultations with beneficiaries, civil society, general public etc.**

70. Information to be compiled from the various missions

### **Attachment 1: Check List and Preliminary Screening for Environmental and Social Categories and Climate Change**

IFAD classifies all projects into one of three environmental and social categories (A, B or C) and one of three climate risk classifications (high, moderate and low). Where IFAD is jointly financing a project with other agencies, IFAD will cooperate with the partner agency and agree on a common approach for the assessment and the categorization of the project.

Determination of the category and classification will also depend on the national requirements and the existing national capacity to promote and implement environmental and social mitigation measures. The determination is informed by existing assessments of national frameworks and capacities.

A positive response to any question between 1 and 23 will categorize the project as A. Similarly, a positive response to question 24 to 40 will categorize the project as B. In case all answers are negative, the project will be categorized as C.

This list of questions can be used at different stages of the project design and should be used in conjunction with the respective guidance statements.

The checklists for environmental and social and climate risks will:

1. initially be filled in during concept development to help guide in the identification of opportunities and possible risks and activities that will need to be considered in the project design;
2. be attached to the SECAP review note; and
3. be reviewed during project design phases and updated as required.

Project title:			
IFAD project no.:		Version of checklist:	Version 1
Country:	Indonesia	Date of this version:	15/09/2017
Checklist prepared by (name, title and institution)	Adrian Young IFAD Consultant		

In completing the checklist both short- and long-term impacts should be considered. This list of questions can be used at different stages of the project cycle and should be used in conjunction with the respective guidance statements. Capitalize on information based on reports and field visits during design. The details of the elaboration on issues that arise as a result of screening should be clearly articulated in the SECAP review note.

Guiding questions for environment and social screening		Yes/No	Comments/explanation
<b>Category A – the following may have significant and often irreversible or not readily remedied adverse environmental and/or social implications.</b>			
<b>Project location</b>			
<b>1. Would the project develop any wetlands? (Guidance statement GS1)</b>	No		All the projects are located in dry land and upland areas.
<b>2. Would the project cause significant adverse impacts to habitats and/or ecosystems and their services (e.g. conversion of more than 50 hectares of natural forest, loss of habitat, erosion/other form of land degradation, fragmentation, and hydrological changes)? (GS 1, 2 and 5)</b>	No		Project would work only in existing or abandoned areas of agricultural land.
<b>3. Does the proposed project target area include ecologically sensitive areas,<sup>35</sup> areas of global/national significance for biodiversity conservation and/or biodiversity-rich areas and habitats depended on by endangered species? (GS1)</b>	No		All the investments and activities will be located in existing agriculture land.
<b>4. Is the project location subjected to major destruction as a result geophysical hazards (tsunamis, landslides, earthquakes, volcanic eruptions)?</b>	(Yes)		Indonesia and some of the locations are vulnerable to earthquakes and volcanic eruptions. Risks of impact to project investments in agriculture and small scale infrastructure are however considered minimal.
<b>Natural resources</b>			
<b>5. Would the project lead to unsustainable natural resource management practices (fisheries, forestry, livestock) and/or result in exceeding carrying capacity. For example, is their development happening in areas where little up-to-date information exists on sustainable yield/carrying capacity? (GS 4, 5 and 6)</b>	No		Project design is to develop improved and sustainable agricultural
<b>6. Would the project develop large-scale<sup>36</sup> aquaculture or mariculture projects, or where their development involves significant alteration of ecologically sensitive areas?</b>	No		
<b>7. Would the project result in significant use of agrochemicals which may lead to life-threatening illness and long-term public health and safety concerns? (GS 14)</b>	No		The project will promote the safe and efficient use of agrochemicals including review of requirements, safety, health. In parallel the project will promote the use of organic pesticides.

<sup>35</sup> "Sensitive areas" include: protected areas (national parks, wildlife/nature reserves, biosphere reserves) and their buffer zones; areas of global significance for biodiversity conservation; habitats depended on by endangered species; natural forests; wetlands; coastal ecosystems, including coral reefs and mangrove swamps; small island ecosystems; areas most vulnerable to climate change and variability; lands highly susceptible to landslides, erosion and other forms of land degradation and areas that include physical cultural resources (of historical, religious, archaeological or other cultural significance) and areas with high social vulnerability.

<sup>36</sup> The size threshold to trigger an Environmental and Social Impact Assessment (ESIA) may vary based on the country context and fragility of specific locations. Some countries have regulations on minimum size (usually ranging from a unit area of 10 to 50 hectares) and these will be adopted where they exist. However, where there are no standards, it is proposed to use 25 hectares as an aquaculture unit size to trigger ESIA.

Guiding questions for environment and social screening	Yes/No	Comments/explanation
8. Does the project rely on water-based (ground and/or surface) development where there is reason to believe that significant depletion and/or reduced flow has occurred from the effects of climate change or from overutilization? (GS7)	No	Most of the irrigation investment will be rehabilitation of existing surface water irrigation.
9. Does the project pose a risk of introducing potentially invasive species or GMOs which might alter genetic traits of indigenous species or have an adverse effect on local biodiversity? (GS1)	No	
10. Does the project make use of wastewater (e.g. industrial, mining, sewage effluent)? (GS7)	No	
<b>Infrastructure development</b>		
11. Does the project include the construction/ rehabilitation/upgrade of dam(s)/reservoir(s) meeting at least one of the following criteria? (GS8) more than 15 metre high wall or more than 500 metre long crest or more than 3 million m <sup>3</sup> reservoir capacity or incoming flood of more than 2,000 m <sup>3</sup> /s	No	Irrigation will focus on rehabilitation and upgrading of small-scale irrigation. Dams would be small <15m with minimal storage.
12. Does the project involve large-scale irrigation schemes rehabilitation/development (above 100 hectares per scheme)? <sup>37</sup> (GS7)	No	All the schemes will be less than 100ha
13. Does the project include construction/rehabilitation/upgrade of roads that entail a total area being cleared above 10 km long, or any farmer with more than 10 per cent of his or her private land taken? (GS10)	No	Roads would be spread over wide areas -lengths of any specific stretch of road would be less than 10km
14. Does the project include drainage or correction of natural water bodies (e.g. river training)? (GS7)	No	
15. Does the project involve significant extraction/diversion/containment of surface water, leaving the river flow below 20 per cent environmental flow plus downstream user requirements? (GS7)	No	Project would focus on rehabilitation of existing irrigation schemes and would not affect the existing water management arrangements.  Any I new schemes will be fully planned including defining requirements of environmental flow.

<sup>37</sup> The size threshold to trigger an Environmental and Social Impact Assessment (ESIA) may vary based on the country context and fragility of specific locations. Some countries have regulations determining size of irrigation development requiring a full ESIA and these will be adopted where they exist. However, where there are no standards, it is proposed to use 100 hectares as an irrigation development unit size to trigger an ESIA.

Guiding questions for environment and social screening	Yes/No	Comments/explanation
<b>Social</b>		
16. Would the project result in economic displacement <sup>38</sup> or physical resettlement of more than 20 people, or impacting more than 10 per cent of an individual household's assets? (GS13)	No	
17. Would the project result in conversion and/or loss of physical cultural resources? (GS9)	No	
18. Would the project generate significant social adverse impacts to local communities (including disadvantaged and vulnerable groups and indigenous people) or other project-affected parties? (GS13)	No	The project activities will have a positive social effect as the project aims to include vulnerable groups such as women, women-headed households in farmers' groups through a well-designed social mobilization strategy. Preliminary information provided by the government indicates that the project villages do not belong to indigenous communities. Involvement of youth is a key project objective.
<b>Other</b>		
19. Does the project include manufacture and transportation of hazardous and toxic materials which may affect the environment? (GS2)	No	
20. Does the project include the construction of a large or medium-scale industrial plant?	No	Project investment would be restricted to small scale agro-processing at village level.
21. Does the project include the development of large-scale production forestry? (GS5)	No	
<b>Rural finance</b>		
22. Does the project support any of the above (Q1 to Q22) through the provision of a line of credit to financial service providers? (GS12)	No	
<b>Category B – the following may have some adverse environmental and/or social implications which can be readily remedied.</b>		
<b>Location</b>		
23. Does the project involve agricultural intensification and/or expansion of cropping area in non-sensitive areas that may have adverse impacts on habitats, ecosystems and/or livelihoods? (GS1, 2 and 12)	No	

<sup>38</sup> Economic displacement implies the loss of land, assets, access to assets, income sources or means of livelihoods (guidance statement 13).

Guiding questions for environment and social screening	Yes/No	Comments/explanation
<b>Natural resource management</b>		
24. Do the project activities include rangeland and livestock development? (GS6)	No	
25. Does the project involve fisheries where there is information on stocks, fishing effort and sustainable yield? Is there any risk of overfishing, habitat damage and knowledge of fishing zones and seasons? (GS4)	No	
26. Would the project activities include aquaculture and/or agriculture in newly introduced or intensively practiced areas? Do project activities include conversion of wetlands and clearing of coastal vegetation, change in hydrology or introduction of exotic species? (GS4)	No	
27. Do the project activities include natural resources-based value chain development? (GS 1, 6 and 12)	No	
28. Do the project activities include watershed management or rehabilitation?	No	
29. Does the project include large-scale soil and water conservation measures? (GS 1 and 5)	No	Minor initiatives for soil and water conservation
<b>Infrastructure</b>		
30. Does the project include small-scale irrigation and drainage, and small and medium (capacity < 3 million m <sup>3</sup> ) dam subprojects? (GS 7 and 8)	No	Dams would be existing or new with no or minimal storage (capacity would be less than 3 million m <sup>3</sup> )
31. Does the project include small and microenterprise development subprojects? (GS 12 and 13)	Yes	
32. Does the project include the development of agro processing facilities? (GS 2, 6 and 12)	Yes	Small scale agriculture processing
33. Would the construction or operation of the project cause an increase in traffic on rural roads? (GS10)	Yes	Some increase in traffic but this would be farm access traffic
<b>Social</b>		
34. Would any of the project activities have minor adverse impacts on physical cultural resources? (GS9)	No	
35. Would the project result in physical resettlement of less than 20 people, or impacting less than 10 per cent of an individual household's assets (GS13)?	No	Some land may be required for small farm roads but this would be small and less than 10% of an individual households land holding. Land for storage and other buildings there is some flexibility and would in most cases use village or government land. In all cases land would be donated. The project would



Guiding questions for environment and social screening	Yes/No	Comments/explanation
		ensure that any land donation is properly documented including measurement and agreement by landholder and village and district government.
<b>36. Would the project result in short-term public health and safety concerns? (GS14)</b>	No	The project is promoting a gender and nutrition sensitive approach to value-chain development. In case there is any potential health concern in the production or post-harvest processing of commodities, this will be systematically identified in the proposed Nutrition value-chain studies and measures implemented to address it through the nutrition intervention.
<b>37. Would the project require a migrant workforce or seasonal workers (for construction, planting and/or harvesting)? (GS13)</b>	No	The project is working with small-holder farmers with family members working on the farms and or other villagers hired as wage labourers
<b>Rural finance</b>		
<b>38. Does the project support any of the above (Q24 to Q37) through the provision of a line of credit to financial service providers? (GS12)</b>		

### **Guidance for categorization:**

		Environmental and Social Impact Assessment or an Environmental and Social Management Framework (full or specific) are required depending on availability of information.
		Also some specific questions would require the below specific actions:
		<ul style="list-style-type: none"> <li>• Yes to Q16 – A Resettlement Action Plan or a Resettlement Action Framework is required depending on availability of information.</li> <li>• Yes to Q17 – A Physical Cultural Resources Management Plan is required that includes provisions for managing chance finds at implementation.</li> <li>• Yes to Q18 – Free, prior and informed consent should be obtained/Free, Prior and Informed Consent Implementation Plan is required depending on whether the affected communities are identifiable. In instances where indigenous peoples are affected an Indigenous Peoples Plan is required. A Social Impact Assessment is required.</li> </ul>
<b>"Yes" response to any questions between 1 and 22</b>	Environmental and social category is A	<ul style="list-style-type: none"> <li>• Yes to Q8 and/or Q15 – A water resources management plan for the project is required.</li> <li>• Yes to Q7, Q9 and/or Q19 – A Pest Management Plan is required.</li> </ul>
"No" responses to all Q1-Q22 and "Yes" response to any questions between 23 and 38	Environmental and social category is B	An environmental and social analysis to develop an Environmental and Social Management Plan (ESMP) is required.
"No" response to all questions between 1 and 38	Environmental and social category is C	No further analysis is required.

In case projects fall under both Category A and B, the highest category will be taken as reference. The determination of the project category and classification will depend on the magnitude of impacts and would depend on the scale of such activities; a cautious approach to the concern of cumulative impacts is considered essential. In such cases, the necessary environmental and social analysis and associated budget should be incorporated into project design. Such projects may be considered for Category B.

Determining the environmental and social Category A, including the extent of assessments and studies to be conducted, will also take into account available information, i.e. recent studies and assessments, including other initiatives in the country, to the extent these are relevant to the proposed project.

Declassification (from A to B or from B to C) may also be possible in case negative externalities are being addressed by other projects or activities implemented by third parties.

### Guiding questions for climate risk screening

	Yes	No	Additional explanation of “yes” response*
1. Is the project area subject to extreme climatic events such as flooding, drought, tropical storms or heat waves?	X		Climate change and El Niño events will further challenge water and agriculture, here remains uncertainties in the projections however it is concluded that extreme climatic events will occur and more detailed climate change analysis adaptation initiatives must be incorporated into the project design
2. Do climate scenarios for the project area foresee changes in temperature, rainfall or extreme weather that will adversely affect the project impact, sustainability or cost over its lifetime?		X	Climate models envisage increase in temperature, variabilities in precipitation. Project design will incorporate climate resilience initiatives.
3. Would the project make investments in low-lying coastal areas/zones exposed to tropical storms?		X	
4. Would the project make investments in glacial areas and mountains zones?		X	The upland project includes land at higher levels (as opposed to the plains). Some projects would be in foothills of mountains however no projects would be in the mountain zones.
5. Would the project promote agricultural activity in marginal and/or highly degraded areas that have increased sensitivity to climatic events (such as on hillsides, deforested slopes or floodplains)?		X	
6. Is the project located in areas where rural development projects have experienced significant weather-related losses and damages in the past?		X	
7. Would the project develop/install infrastructure in areas with a track record of extreme weather events?		X	
8. Is the project target group entirely dependent on natural resources (such as seasonal crops, rainfed agricultural plots, migratory fish stocks) that have been affected by in the last decade by climate trends or specific climatic events?	X		Farmers already face some challenges of climate change and ENSO events.
9. Would climate variability likely affect agricultural productivity (crops/livestock/fisheries), access to markets and/or the associated incidence of pests and diseases for the project target groups?	X		

	Yes	No	Additional explanation of “yes” response*
<b>10. Would weather-related risks or climatic extremes likely adversely impact upon key stages of identified value chains in the project (from production to markets)?</b>		X	
<b>11. Is the project investing in climate-sensitive livelihoods that are diversified?</b>		X	
<b>12. Is the project investing in infrastructure that is exposed to infrequent extreme weather events?</b>		X	
<b>13. Is the project investing in institutional development and capacity-building for rural institutions (such as farmer groups, cooperatives) in climatically heterogeneous areas?</b>	X		This is a key part of the project.
<b>14. Does the project have the potential to become more resilient through the adoption of green technologies at a reasonable cost?</b>	X		
<b>15 Does the project intervention have opportunities to strengthen indigenous climate risk management capabilities?</b>	X		Farmers have developed basic capacities to adjust to climatic uncertainties.
<b>16. Does the project have opportunities to integrate climate resilience aspects through policy dialogue to improve agricultural sector strategies and policies?</b>	X		Yes proposed that climate adaptation is mainstreamed with other interventions.
<b>17. Does the project have potential to integrate climate resilience measures without extensive additional costs (e.g. improved building codes, capacity-building, or including climate risk issues in policy processes)?</b>	X		Yes adaptation initiatives would be carefully targeted and can be incorporated into the mainstream initiatives for production, processing and marketing.
<b>18. Based on the information available would the project benefit from a more thorough climate risk and vulnerability analysis to identify the most vulnerable rural population, improve targeting and identify additional complementary investment actions to manage climate risks?</b>	X		More detailed climate change analysis and development of a comprehensive climate adaptation plan will be prepared as part of implementation program.

\*The additional explanation, where possible, will provide the justification for classification. Consideration should be given particularly to provide additional explanations for questions 13 to 17.

**Guidance for classification:**

<b>Yes response to any of the questions 1 to 7</b>	The climate risk classification is high	A detailed analysis is required
Yes response to any of the questions 8 to 17	The climate risk classification is moderate	A basic analysis is required
Yes response to question 18	GHG assessment	For example, EX ACT tool
No response to almost all questions	The climate risk classification is low	No further analysis is required, but voluntary measures can be incorporated



## Attachment 2: Environmental and Social Management Plan (ESMP)

Key Requirements	Actions	Indicator	Responsibility	Time Frame	Budget Source
<b>Environment</b>					
Project environmental requirements and responsibilities need to be clearly defined.	Preparation of environmental guidelines for district projects.	Environmental guidelines including environmental screening, approvals, mitigation measures and responsibilities defined.	PIU in coordination with MoE	2019	PIU
Detailed plans and designs for sub projects developed..  Plans to be endorsed by communities and approved by project.  UPL/UKL permits required for sub projects	Design consultant to prepare detailed plans and designs for projects.  Plans to include details of infrastructure, production, processing and financing details including O&M responsibilities. Plans to include detailed environmental and water resources assessments..  Plans including O&M responsibilities to be endorsed by stakeholders  Plans to be approved by district government including UPL/UKL permits.	Detailed Plans and Designs for Sub Projects.  Community and stakeholder endorsement of plans  Approval of plans by DPIU, PIU and District Government. UPL/UKL permits for all projects in place.	DPIU, design and specialist consultants.  PIU to supervise  DPIU/ BLH	2019-2020	PIU
Environmental mitigation actions including pesticides, mechanical equipment, chemical fertilisers and plastics etc.	Guidelines prepared for reducing environmental impacts of agriculture production and processing.  Training and awareness of farmer groups  Investment in environmental mitigation measures including integrated pest management, chemical fertiliser and plastic substitution etc.	Guidelines prepared  Increased awareness and capacity of farmers groups  Investment in environmental mitigation  Monitoring and evaluation of environmental mitigation.	PIU  DPIU/ consultants  DPIU	2019  2019  2020	PIU  DPIU
Implementation of the Environmental and Social Management Plan (ESMP)	Implementation responsibilities to be defined, allocated and costed. Bid Documents and TOR for the various components need to incorporate the ESMP requirements	Bid documents include requirement for environment, climate and social requirements.	DPIU and Contractors and Implementation agencies	2019	DPIU
<b>Climate Change</b>					

Key Requirements	Actions	Indicator	Responsibility	Time Frame	Budget Source
Climate change impacts and adaptation responses need to be understood.	Preparation of detailed climate analysis and adaptation guidelines for projects.	Detailed Climate Change Analysis and Adaptation Guidelines	PIU and specialized climate change consultants.	2019	PIU
	Training for farmer institutions and government in climate change adaptation. Responsibilities and financing for climate change adaptation is agreed.	Climate change adaptation initiatives are being implemented. Monitoring and evaluation of climate parameters and progress of adaptation initiatives	DPIU and consultants	2020-2024	DPIU
Design of infrastructure need to incorporate climate change impacts.	Preparation of guidance notes for project design standards including reference to existing standards of Ministries of Public Works and Agriculture .	Project design standards agreed and incorporate climate change requirements.	PIU	2019	PIU
Risks from climate change are reduced.	Participative and sustainable climate change adaptation program is implemented..	Monitoring of climate adaptation programs and climate damage.	DPIU	2020-2024	DPIU
<b>Social</b>					
A strong and well-defined social mobilization process to facilitate the delivery of programme activities in an inclusive and effective manner	Detailed design of the social mobilisation program Implementation of the social mobilisation program	Approved social mobilisation plan	PIU DPIU and consultants	2019	PIU
		Districts establish the framework for social mobilisation and activities implemented	DPIU	2020-2024	DPIU
		Monitoring and evaluation of social mobilisation	DPIU	2020-2024	
Stakeholders need to participate in the design and implementation of the projects	Detailed information and engagement with stakeholders including farmers, disadvantaged groups, women and youth Final plan and design to be endorsed by representative stakeholders.	Guidelines for stakeholder engagement in design of sub projects. Documentation of stakeholder engagement and endorsement.	PIU, DPIU and consultants Stakeholders	2019 2020-2024	PIU DPIU
Screening and meeting the needs of any indigenous people (Masyarakat Adat) need to defined and implemented	Prepare guidance on screening, impact assessment of indigenous people. Preparing screening for indigenous people of all projects at district level. For any identified indigenous communities Free Prior and Informed Consent (FPIC) to be prepared.	Guidelines Prepared	PIU and Dinas Social in coordination with AMAN.	2019	PIU
		FPIC for any district project with indigenous people.	DPIU	2019	PIU



Key Requirements	Actions	Indicator	Responsibility	Time Frame	Budget Source
Requirements and methodology to acquire land for infrastructure needs to be agreed and properly managed.	Guidelines for minor land acquisition to be prepared and approved <sup>39</sup> .	Approved guidelines	PIU and consultants.	2019	
	Land acquisition program and implemented.	Monitoring and evaluation of land acquisition	DPIU and affected farmers	2020-2021	
				2020-2024	
Gender equitable approaches are developed for improving income, food and nutrition.	Gender equity is achieved through a Community led empowerment methodology known as GALS (Gender Action Learning System).	Gender program including detailed design of GALS prepared.	PIU and consultants	2019	PIU
	Training and implementation of the GALS	Monitoring and evaluation of the GALS program.	DPIU	2020-2024	DPIU
Nutrition packages and programmes are established to ensure that the benefits of increased incomes translate into improved health outcomes.	A Nutrition Study to be implemented in each of the 14 project districts.	Nutrition study report	PIU and consultants	2019	PIU
	Nutrition Packages for each of the 14 districts to be implemented.		DPIU	2020-2024	DPIU
		Monitoring and evaluation of nutrition program	DPIU	2020-2024	DPIU
Disadvantaged groups including rural youth are effectively incorporated into the district activities.	Opportunities are identified for the disadvantaged and rural youth at each stage of the value-chain.	Initiatives to support disadvantaged and youth identified and programmed.	PIU	2019	PIU
	Viable youth orientated interventions are programmed and implemented.		DPIU	2019	PIU
		Monitoring and evaluation of disadvantaged and youth programs.	DPIU	2020-2024	DPIU
Institutional					
District level environmental agencies lack knowledge and capacities to assess, supervise and monitor social and environmental requirements.	Guidelines of responsibilities at District level for ensuring social and environmental requirements. Training and strengthening of capacities in district offices of environmental and social initiatives.	Social and Environmental Guidelines Training and institutional strengthening of BLH and other related agencies	PIU/DPIU and consultants. BLH	2019	DPIU

<sup>39</sup> Presidential Regulation 40/2014 sets out that land acquisition of less than 5 ha can be undertaken through direct negotiation between landowners and the district agency needing the land

Key Requirements	Actions	Indicator	Responsibility	Time Frame	Budget Source
Project requires a independent grievance redress mechanism.	Requirements and approach to be established Grievance redress mechanism (GRM) through independent organization in place and effective	Approved GRM  GRM reports	DPIU Independent Agency to be defined	2020-2024	To be defined
Need an active institutional framework for the participation of disadvantaged groups, women and youth..	Institutional framework defined and approved	Monitoring and evaluation of institutional framework for disadvantaged, women and youth	PIU and consultants DPIU	2020-2024	PIU
Monitoring					
Effective public disclosure of environmental documentation	Requirements to be defined according to MOEF) and IFAD requirements.	Public disclosure effectively documented.	DPIU	2019-2024	DPIU
Overall monitoring and evaluation needs to be coordinated and effective to meet project evaluation requirements.	Monitoring and evaluation requirements would be defined; requirements to include expenditure, physical progress, production,	Approved plan for monitoring and evaluation. Monitoring and evaluation reports.	PIU and consultants  DPIU	2019  2020-2014	DPIU
Routine monitoring of social and environmental activities especially progress of ESMP implementation land acquisition, active participation of disadvantaged groups.	Quarterly and annual reports Requirements to be defined	Routine ESMP Reports	DPIU PIU	2010 to 2024	DPIU and PIU
Notes: AMAN-Alliance of Indigenous Communities; BLH-District Environment Offices; ESMP-Environmental and Social Management Plan, PIU-Project Implementation Unit , DPIU-District Project Implementation Unit, MOEF-Ministry of Environment and Forests.					

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 6: First Annual Work Plan and Budget (AWPB)**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## Annex 6: First Annual Work Plan and Budget (AWPB)

Table 1: Summary 2020 Annual Work Plan and Budget

Total Budget for FY1 (2020)													
Uplands Agricultural Productivity and Markets Project	International Fund for Agricultural Development		Islamic Development Bank		The Government		Beneficiaries		Private Sector		Total		
Components by Financiers	Development		Bank		The Government		Beneficiaries		Private Sector		Total		
(US\$ '000)	IDR		USD		IDR		USD		IDR		USD		
(IDR'000,000)	IDR		USD		IDR		USD		IDR		USD		
<b>1 Productivity Enhancement &amp; Resilience Building</b>													
11 Land and Infrastructure Development	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Production and Farm Management	-	-	8.0	0.5	1 742.0	119.1	-	-	215.8	14.8	1 965.8	134.4	
<b>2 Agribusiness Development &amp; Livelihood Facilitation</b>													
21 Farmer Institutional Development	3 976.4	271.9	2 778.3	190.0	-	-	-	-	-	-	6 754.7	462.0	
22 Marketing Infrastructure & Equipment	-	-	1 615.6	110.5	-	-	403.9	27.6	-	-	2 019.5	138.1	
23 Strengthening Marketing Linkages & Alliances	-	-	-	-	-	-	-	-	-	-	-	-	-
24 Access to Financial Services	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>3 Strengthening Institutional Delivery Systems</b>													
31 Capacity Building for Government Staff	-	-	-	-	-	-	-	-	-	-	-	-	-
32 Adaptive Research	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>4 Project Management</b>	11 547.1	789.7	-	-	6 319.1	432.2	-	-	-	-	17 866.2	1 221.9	
<b>Total Budget</b>	<b>15 523.5</b>	<b>1 061.7</b>	<b>4 401.9</b>	<b>301.0</b>	<b>8 061.1</b>	<b>551.3</b>	<b>403.9</b>	<b>27.6</b>	<b>215.8</b>	<b>14.8</b>	<b>28 606.1</b>	<b>1 956.4</b>	
<b>Categories by Financiers</b>													
<b>I. Investment Costs</b>													
A. Works	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Equipment & Materials	-	-	1 615.58	110.49	-	-	403.90	27.62	-	-	2 019.5	138.1	
C. Vehicles	-	-	-	-	-	-	-	-	-	-	-	-	-
D. Goods, Services & Inputs	3 976.39	271.95	2 786.27	190.55	1 742.03	119.14	-	-	215.76	14.76	8 720.4	596.4	
E. Workshops	-	-	-	-	-	-	-	-	-	-	-	-	-
F. Training	1 666.73	113.99	-	-	1 133.37	77.51	-	-	-	-	2 800.1	191.5	
G. Consultancies & Studies	3 792.37	259.36	-	-	400.01	27.36	-	-	-	-	4 192.4	286.7	
H. Credit & Guarantee Funds	-	-	-	-	-	-	-	-	-	-	-	-	-
I. Grants & Subsidies	-	-	-	-	-	-	-	-	-	-	-	-	-
J. Unallocated	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Investment Costs</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>II. Recurrent Costs</b>													
A. Operating Costs	6 088.01	416.36	-	-	-	-	-	-	-	-	6 088.0	416.4	
B. Salaries & Allowances	-	-	-	-	4 785.73	327.30	-	-	-	-	4 785.7	327.3	
<b>Total Recurrent Costs</b>	<b>15 523.50</b>	<b>1 061.66</b>	<b>4 401.85</b>	<b>301.05</b>	<b>8 061.14</b>	<b>551.31</b>	<b>403.90</b>	<b>27.62</b>	<b>215.76</b>	<b>14.76</b>	<b>28 606.15</b>	<b>1 956.39</b>	

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 7: Procurement Plan for first 18 months**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## Annex 7: Procurement Plan for first 18 months

1. Following the approval of the project by the financiers, advance procurement will be undertaken in order to expedite the readiness for physical implementation by the time of effectiveness conditions of the Financing Agreements are fulfilled. Given the straightforward technical nature of the activities involved, and the understanding that there is sufficient local expertise and technology (including initial assessment from IFAD), it is proposed that all procurement be undertaken on national basis.

2. In this line, a summary of the procurement plan is shown in the table below. The use of the national e-procurement system will be used, as applicable and as allowed under the donor guidelines. Application of national procurement procedure will follow the recent Presidential Regulation (*PerPres*) No. 16/2018 regarding *Procurement of Government's Goods/Services*. Procurement of Goods, Construction Works and Services under this regulation can be implemented through (i) self-managed (*Swakelola*) and/or (ii) providers. When *Swakelola* procedure is implemented, it can apply one from 4 (four) types of *Swakelola* as shown in the following table.

**Table 1: Four Type of *Swakelola* in Procurement of Goods/Construction/Services**

No	Type	Summary description
1	Type-1	planned, implemented, and supervised by the Ministry / Regional Institution / Administrators responsible for the budget
2	Type-2	<ul style="list-style-type: none"> <li>planned and supervised by the Ministry / Regional Institution / Administrators in charge of the budget responsible authority and</li> <li>implemented by other Ministries / Institutions / Regional Administrators implementing the Self-Management</li> </ul>
3	Type-3	<ul style="list-style-type: none"> <li>planned and supervised by the Ministry / Institution / Regional Apparatus responsible for the budget and</li> <li>carried out by the Community/Social Organizations</li> </ul>
4	Type-4	<ul style="list-style-type: none"> <li>planned by the Ministry / Institution / Regional Administrators responsible for the budget and / or based on community group proposals, and</li> <li>is carried out and supervised by the Community Group implementing self-management.</li> </ul>

3. When procurement will be implemented through Providers, the regulation divides it into 2 (two) groups of procurement procedures, i.e. (i) procurement of goods/construction works/other services, and (ii) procurement of consulting services. Procurement methods of goods/construction works/other services consist of: (i) E-purchasing; (ii) Direct Procurement; (iii) Direct appointment; (iv) Fast Tender; and (v) Tender. Whereas the procurement method of consulting services consists of: (i) Selection; (ii) Direct Procurement; and (iii) Direct appointment. Summary description of the procurement methods is shown in the tables below. The three evaluation methods of goods/construction work other service are: Value System (technical and cost); Cost Assessment During Economic Life; or Lowest price. In the meanwhile, the evaluation method for Consultancy Service Provider is: Quality and Cost; Quality; Budget ceiling; or Lowest Cost.



**Table 2: Procurement Method for Goods/Construction Works/Other Services Implemented through Provider**

No	Method	Requirements
1	E-purchasing;	Goods/Construction Work/Other Service that have been listed in the electronic catalogue
2	Direct Procurement	Goods/Construction Work/Other Service which have a <b>maximum value of IDR 200,000,000.00</b> (two hundred million rupiahs)
3	Direct Appointment	Goods/Construction Work/Other Service under certain circumstances. i.e.: a. preparation of sudden activities to follow up on international commitments attended by the President / Vice President; b. confidential goods / services for the country interest c. Building construction work which is a unit of construction system and a unit of responsibility for the risk of building failure which as a whole cannot be planned / calculated before d. only 1 (one) business actor is capable e. procurement and distribution of superior seeds which include rice, corn and soybean seeds, and fertilizers which include Urea, NPK, and ZA to farmers in order to ensure the availability of seeds and fertilizers appropriately and quickly for the implementation of increased food security f. infrastructure works, facilities and public utilities in the housing environment for Low-Income Communities carried out by the developer concerned g. goods / construction work / other service that are specific and can only be carried out by patent holders, or parties that have obtained permission from patent holders, or those who won the tender to get permission from the government; h. goods / construction work / other service which after a re-Tender have failed
4	The Fast Tender	a. specifications and volume of work can be determined in detail; b. Business Actors have been qualified in the Provider Performance Information System.
5	Tender	implemented in the event that it cannot use the Provider selection method as referred to point above.

Source: Presidential regulation No. 16/2018

**Table 3: Procurement Method for Consulting Services Implemented through Provider**

No	Method	Requirements
1	Selection	implemented for Consultancy Services with a value of at least IDR 100,000,000
2	Direct Procurement	implemented for Consultancy Services which are worth up to a <b>maximum of Rp100,000,000</b> (one hundred million rupiah).
3	Direct Appointment	a. Consulting Services under certain circumstances. i.e.: b. Consultancy Services which can only be done by 1 (one) Business Actor who is capable; c. Consultancy services that can only be done by 1 (one) registered copyright holder or a party that has obtained permission from the copyright holder; d. Legal consultancy services include legal consultants/advocacy or procurement of arbitrators that are not planned in advance, to deal with lawsuits and / or lawsuits from certain parties, whose nature of work and / or defense must be immediate and cannot be delayed; or e. Repeat requests for the same Consultant Service Provider.

Source: Presidential regulation No. 16/2018

4. By referring to the Presidential regulation no. 16/2008, and considering the characteristics of goods/construction works/services; local capacities; geographical area; and project component, the procurement arrangement can be summarized in the following tables. The procurement of goods/construction work/services are packaged in accordance with the procurement method, geographical area, and the nature of goods/construction work/services; as well as considering the efficiency, risks and manageability of the procurement. For example, when the number of farmer groups is too many, application of Type-III *Swakelola* is recommended by village rather than by farmer groups. Each Design and Construction Supervision Services is divided into two packages, i.e. DED consultant and CS consultant.

**Table 4: Procurement of Construction Works Managed by Local Government**

Procurement Plan Of Uplands Agricultural Productivity and Markets Project In FY 2019 (18 months)										
GOODS					BASIC DATA					Plan vs Actual
No.	Description	IMPLEMENTING AGENCY	Lot/Ref. No	FISCAL YEAR	Budget on AWPB (IDR Million)	Budget on AWPB (USD.000)	Proc. Method	Pre or Post Qualification	Prior or Post Review	
1	2	3	4	4	5	6	7	8	9	10
1	Digital Tablets	NPMU	DT_4_2	2019	1 200	85.106	e-Purchasing	Post Qual	Post	
2	Office equipment, furniture, renovation	NPMU	DT_4_2	2019	453	32.121	e-Purchasing	Post Qual	Post	
3	Vehicle (4 wheel)	NPMU	DT_4_2	2019	1 000	71.921	e-Purchasing	Post Qual	Post	
BANJARNEGARA DISTRICT										
1	Coffee nursery development-seedling	DPIU	DT_1_2	2020	2 900	205.674	Tender	Post	post	
2	Chemical fertilizer	DPIU	DT_1_2	2020	7 200	510.638	e-Purchasing	Post	prior	
3	Prunning equipment - coffee	DPIU	DT_1_2	2020	600	42.553	Tender	Post	prior	
4	Refrigerator	DPIU	DT_1_2	2020	38	2.660	Direct Purchase (Pengadaan Langsung)	Post	post	
5	Drug Stock	DPIU	DT_1_2	2020	43	3.014	Direct Purchase (Pengadaan Langsung)	Post	post	
6	Veterinary equipment	DPIU	DT_1_2	2020	53	3.723	Direct Purchase (Pengadaan Langsung)	Post	post	
7	Scales (10 units)	DPIU	DT_1_2	2020	25	1.773	Direct Purchase (Pengadaan Langsung)	Post	post	
8	Breeding does	DPIU	DT_1_2	2020	1 200	85.106	Tender	Post	post	
9	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Post	post	

<b>CIREBON DISTRICT</b>										
1	Seedlings/saplings	DPIU	DT_1_2	2020	1 650	117.021	e-Purchasing	Post	post	
2	Organic Feertilizers and Pesticides	DPIU	DT_1_2	2020	3 850	273.050	Tender	Post	post	
3	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	
<b>GARUT DISTRICT</b>										
1	G-2 and G20 Seed Production Inputs	DPIU	DT_1_2	2020	7 500	531.915	Tender	Pre	prior	
2	Indigofera seedlings	DPIU	DT_1_2	2020	200	14.184	Direct Purchase (Pengadaan Langsung)	Pre	post	
3	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	post	
<b>GORONTALO DISTRICT</b>										
1	Seeds, fertilizers, pesticides	DPIU	DT_1_2	2020	821	58.241	Tender	Post	Post	
2	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	
<b>LEBAK DISTRICT</b>										
1	Chemical fertilizers and pesticide (NEW AREA)	DPIU	DT_1_2	2020	13 552	961.135	Tender	Pre	Prior	
2	Organic fertilizer, chemical fertilizer and pesticide (EXISTING AREA)	DPIU	DT_1_2	2020	3 880	275.177	Tender	Pre	Prior	
3	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	
<b>LOMBOK TIMUR DISTRICT</b>										
1	Seeds, fertilizers & pesticides	DPIU	DT_1_2	2020	41 000	2 907.801	Tender	Pre	Prior	
2	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	

<b>MAGELANG DISTRICT</b>										
1	Nursery development	DPIU	DT_1_2	2020	420	29.787	Tender	Post	Post	
2	Seeds, fertilizers & pesticides	DPIU	DT_1_2	2020	6 000	425.532	Tender	Pre	Post	
3	Organic fertilizer processing unit	DPIU	DT_1_2	2020	1 250	88.652	Tender	Post	Post	
4	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	
<b>MALANG DISTRICT</b>										
1	Seeds, fertilizers & pesticides	DPIU	DT_1_2	2020	5 000	3.546	e-Purchasing	Post	Post	
2	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	
<b>MINAHASA SELATAN DISTRICT</b>										
1	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Post	Post	
<b>PURBALINGA DISTRICT</b>										
1	Refrigerator	DPIU	DT_1_2	2020	8	0.532	Direct Purchase (Pengadaan Langsung)	Pre	post	
2	Drug Stock	DPIU	DT_1_2	2020	9	0.603	Direct Purchase (Pengadaan Langsung)	Pre	post	
3	Veterinary equipment	DPIU	DT_1_2	2020	11	0.745	Direct Purchase (Pengadaan Langsung)	Pre	post	
4	Scales	DPIU	DT_1_2	2020	2	0.156	Direct Purchase (Pengadaan Langsung)	Pre	post	
5	Smallholder cost : breeding stocks /fl	DPIU	DT_1_2	2020	5 400	382.979	Tender	Pre	Post	
6	Feedlot : feed supply /lj	DPIU	DT_1_2	2020	32	2.234	Direct Purchase (Pengadaan Langsung)	Pre	Post	
7	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	

<b>SUBANG DISTRICT</b>										
1	Seedlings	DPIU	DT_1_2	2020	90	6.383	Direct Purchase (Pengadaan Langsung)	Pre	Post	
2	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Pre	Post	
<b>SUMBAWA DISTRICT</b>										
1	Shallot seed (white label G-0)	DPIU	DT_1_2	2020	2.4	0.170	Direct Purchase (Pengadaan Langsung)	Pre	Post	
2	Shallot seed (G-1)	DPIU	DT_1_2	2020	30 000	2 127.660	Tender	Pre	Post	
3	Seeds, fertilizer & pesticides	DPIU	DT_1_2	2020	1 250	88.652	Tender	Post	Post	
4	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Post	Post	
<b>SUMENEP DISTRICT</b>										
1	Seeds, fertilizer & pesticides	DPIU	DT_1_2	2020	8 000	567.376	Tender	Pre	Post	
2	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Post	Post	
<b>TASIKMALAYA DISTRICT</b>										
1	Seeds, fertilizers & pesticides	DPIU	DT_1_2	2020	1 750	124.113	Tender	Pre	Post	
2	Office equipment, furniture, renovation	DPIU	DT_4_2	2019	50	3.546	Direct Purchase (Pengadaan Langsung)	Post	Post	

**Table 5: Procurement of Goods Managed by Local Government**

Procurement Plan Of Uplands Agricultural Productivity and Markets Project In FY 2019 (18 months)										
WORKS					BASIC DATA					Plan vs Actual
No.	Description	IMPLEMENTING AGENCY	Lot/Ref. No	FISCAL YEAR	Budget on AWPB (IDR Million)	Budget on AWPB (USD.000)	Proc. Method	Pre or Post Qualification	Prior or Post Review	
1	2	3	4	4	5	6	7	8	9	10
PURBALINGA DISTRICT										
1	Feedlot : irrigation (pump, pipe, well, etc) /l	DPIU	DT_1_2	2020	3 600	255.319	Tender	Post	Post	
2	Smallholder cost : animal health center	DPIU	DT_1_2	2020	245	17.376	Tender	Post	Post	

**Table 6: Procurement of Services Managed by Local Government and MoA**

Procurement Plan Of Uplands Agricultural Productivity and Markets Project (UPLAND) In Fy 2019 (18 months)									
CONSULTING SERVICES									
No.	DESCRIPTION	Lot/Ref. Nomor	FISCAL YEAR	SELECTION METHOD	IMPLEMENTING AGENCY	ESTIMATED AMOUNT (IDR.Million)	ESTIMATED AMOUNT (USD.000)	PRIOR OR POST	PLAN VS ACTUAL
1	2	3	4	5	6	10.0	11.0	12	11
<b>NATIONAL LEVEL</b>									
1	Design of training manuals	DT_4_1	2019	swakelola	NPMU	261.0	19.0	post	
2	Training of trainers	DT_4_1	2019	swakelola	NPMU	169.0	12.0	post	
3	Nutrition studies(7 District)	DT_4_2	2019	swakelola	NPMU	1680.0	119.0	post	
4	Manuals & materials /a	DT_4_2	2020	swakelola	NPMU	840.0	60.0	post	
5	Monitoring cost	DT_4_2	2020	swakelola	NPMU	3194.4	227.0	post	
6	Delivery of training of trainers	DT_4_1	2019	swakelola	NPMU	87	6	post	
7	Delivery, supersion of 2 basic training courses	DT_4_1	2019	swakelola	NPMU	95.7	7.0	post	
8	Basic course in VF & social mobilization (8 times)	DT_4_1	2019	swakelola	NPMU	3 160	224.0	post	
9	TOT for VF refresher training /a	DT_4_1	2020	swakelola	NPMU	100	7.0	post	
10	VF refresher training /b	DT_4_1	2020	swakelola	NPMU	2 200	156.0	post	
11	Training for VFs (6 times)	DT_4_2	2020	swakelola	NPMU	1 057	75.0	post	
12	Village nutrition awareness classes (200 times)	DT_4_2	2020	swakelola	NPMU	1 000	71.0	post	
13	Social marketing activities (200 times)	DT_4_2	2020	swakelola	NPMU	1 000	71.0	post	
14	Project & Fiduciary Management Training	DT_4_2	2019	swakelola	NPMU	833	59.0	post	
15	User training for monitoring, evaluation and knowledge management software	DT_4_2	2019	swakelola	NPMU	58.5	4.0	post	

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 8: Project Implementation Manual (PIM)**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department





## Annex 8: Project Implementation Manual (PIM)

### Background

1. Despite years of under investment in upland agriculture, there is considerable potential to unlock that potential with carefully targeted investment in both on-farm and post-harvest points on the value chain. The UPLANDs approach will be to develop an integrated and sustainable upland farming systems approach, focusing on sustainable production and post-harvest improvements to the value chains for 10 key commodities. A key determinant for commodity selection was clear evidence of “demand pull” for on-farm and post-harvest activity and investments. The district selection process was based on a call from the Ministry of Agriculture to interested Districts for investment proposals for development of commodity value chains.

2. The UPLANDs design is directed to effectively support upland smallholders in overcoming their constraints to improving productivity and quality of output. In addition to on farm support, the project will provide support to downstream post-harvest processing, aggregation and marketing initiatives. The project will also look to address the high costs and dis-economies of small-scale production, weak local institutional capacity, and lack of access to inputs, technology and finance. In addition, the project will support the remote farmer communities and many other players in the agricultural value chains to address structural constraints in marketing, transport, handling and processing. Investment is directed at promoting environmentally sustainable agriculture practices as well as socially inclusive investment activities – especially in respect of employment opportunities for women and youth.

3. The Government sees the UPLANDs Project as an opportunity to develop replicable development models for a range of commodities across a diverse range of districts. The upland areas play an important role in the production of horticulture crops in fragile catchment areas. There are opportunities to improve water conservation in Indonesia's tropical environment, where precipitation ranges from 1500 to more than 3000 mm/year, often falling within a few months of the year.

### Project Objective, Target Group and Area

4. **Project Objective.** The goal of UPLANDs is to reduce poverty and enhance food security in upland areas through remunerative, sustainable and resilient livelihoods. The Project Development Objective is to assist rural households to increase smallholders' agriculture productivity, incomes, livelihoods and resilience in the targeted uplands.

5. **Expected Outcomes. The expected outcomes of UPLANDs includes:**

- (a) Increase in poor rural people's productive capacities
- (b) Increase poor rural people's incomes from enhanced processing and/or market participation
- (c) Enhanced delivery of UPLANDs services & agricultural research.

6. The core outputs of the project will however be through the quasi-private sector consisting of individual farmers working individually or working in collaboration with small, micro and medium sized enterprises to effectively meet the value chain targets of production, processing and marketing. The approach will be to develop and strengthen the linkages of the different parts through associations, partnerships. The institutions will be based on the institutional frameworks being promoted by Government including KUBEs (small to medium commercial operation owned by associations of farmers) and BLUDs (medium to large commercial entities with multiple ownership options, including farmers, local government and the private sector). A key objective will be to ensure these organizations are professionally managed, financially sustainable and their development is based on flexible viable business models. Significant emphasis will be to provide training, institutional support provision of micro finance for both crop production and on and off farm equipment.

7. **Key Indicators.** The detailed key performance indicators (KPIs) are presented in the logical framework (Annex-4). The project goal is to reduce poverty and enhance food security in upland areas through remunerative, sustainable and resilient livelihoods. The poverty level of rural area in the targeted districts will reduce from in average 16.52% in 2017 to become in average 12.83% by end of 2023.

8. Some of the expected results related to the project objectives are summarized as the following:

9. Outcome 1: Increase in poor rural people's productive capacities

(a) Key indicators of outcome-1:

- (i) Farmer households with sustained adoption of improved inputs, technologies or practices are 8,000 Households (HH) at the mid-term, and 20,000 HH by end of 2023;
- (ii) 25% beneficiaries' farmers reporting an increase in production at the mid-term and it will achieve 20% by end of 2023;
- (iii) HHs have increased their asset ownership, as much 5,000 HHs at mid-term period, and at least 20,000 HHs by end of 2023;
- (iv) UPLANDs HHs receiving project investments, technical support and/or services (incl nutrition, 10,000 HHs at mid-term and 23,000 HHs by end of 2023;
- (v) 4,000 women at mid-term and 7,000 women by end of 2023 are directly supported by the project;
- (vi) 2,000 youth at mid-term and 3,000 youth by end of 2023 are directly supported by the project.

10. Outcome 2: Increase poor rural people's incomes from enhanced processing and/or market participation.

(a) Key indicators of outcome-2:

- (i) 50% HHs at mid-term and 80% HHs by end of 2023 benefited from the improved access to markets, processing, storage facilities;
- (ii) 50% FGs at mid-term and 70% FGs by end of 2023, reporting increase in sales & profits.

11. Outcome 3: Enhanced delivery of UPLANDs services & research

(a) Key indicators of outcome-3:

- (i) 35% HHs and 30% HHs respectively at mid-term and by end of 2023 have adopted on farm technical messages;
- (ii) 35% PLUs and 20% PLUs respectively at mid-term and by end of 2023 are on schedule with on-granting, procurement targets.

12. **Target Group.** The target groups of the project will be the average farm size in the 14 locations is 0.71 Ha (but with considerable range from around 0.1ha to 2ha). The social mobilization process will ensure that women, men and youth farmers with the potential for contributing and benefitting from the value chain of the selected commodity are included.

13. The UPLANDs target groups will include:

- (a) Economically active smallholder farmers (men and women) in upland areas, poor and marginalized subsistence farmers, women processors and youth who are currently engaged and/or have the potential to engage in the value-chain for the selected commodities. This will be achieved through gender, youth and nutrition sensitive interventions in the identified value chains. There will be a strong focus on social inclusion through a social mobilization process that makes existing farmer's groups more inclusive.
- (b) Strong focus on inclusion of women, women-headed households and youth. UPLANDs will empower women by recognizing them as farmers in their own right with representation in formal farmer's groups for production and in post-harvest and processing activities. Women will receive targeted nutrition awareness training
- (c) Interested youth will be prioritised for investment opportunities in any aspect of the production and marketing. Youth will also be trained as Village Facilitators (80 per cent up to the age of 30). They will be sensitized to inclusive, participatory development processes and given the capacity to manage and monitor project activities and enhance the utilization of Village Funds. The project will further benefit smallholders by building the capacity of the Ministry of Agriculture and district line departments to support them.
- (d) On the basis of current information provided to the design team, the villages identified for project intervention in Labak, Banten appear to belong to Indigenous communities. Following IFAD's requirement for working with Indigenous communities as specified in IFAD's policy for Engagement with Indigenous Peoples, an FPIC implementation plan will

be developed and attached to the Project Implementation Manual (PIM). The project will start in other provinces except for the region with indigenous people where the activities will start only if and when FPIC is obtained.

- (e) The UPLANDs gender strategy will include interventions to increase women's productivity and incomes by providing access to agricultural knowledge and skills, training in business development, access to loans and equipment for their access to technical knowledge, agricultural and post-harvesting equipment, enhance their decision-making and control over productive assets and lead to their empowerment. Please refer to Annex/Chapter xx on Gender and Youth Strategy

**14. Poverty.** District selection is justified based on an assessment of the poverty and employment profile in these districts. As per the 2017 data from the National Statistics Bureau, the average incidence of poverty in these sub-districts is 13.9% which is considerably higher than the national average of 10.12%. In terms of unemployment, the average sub-district unemployment rate is 6.13% which is also just above the national average of 5.5%. The project will be implemented in the 14 districts identified by the district Agriculture Departments with the potential for development of specific upland commodities.

**15. Gender and Youth.** UPLANDs will have a strong focus on inclusion of women as decision-makers through their active participation in farmers groups and as farmers and processors by providing them with agricultural/business knowledge, skills and equipment directly, facilitating women's groups to access skills and machinery for post-harvesting processing. It will benefit women by reducing their workload through increased mechanization.

**16.** The gender strategy will be based on lessons from projects effective in the inclusion of women and the experience of projects regarding interventions that can increase women's productivity and incomes, enhance their decision-making and control over productive assets and lead to their empowerment.

**17.** The youth strategy will involve systematic identification of opportunities for their involvement in the value-chain, their inclusion in formal women and men farmers groups and capacity building as agents of change for inclusive socio-economic development. The inclusion of women and youth, in the implementation of the project, and as beneficiaries, will be further ensured through setting quotas. In each of the value-chains of selected commodities the entry points and opportunities available for youth and women all along will be identified and priority given to supporting their entry or existing production, employment and business opportunities available for them through project activities.

**18.** The empowerment of women will be ensured through a range of strategies: (i) a gender analysis of each value-chain will be undertaken to identify the level of women's engagement with special focus on targeting women's groups for post-harvest processing facilities (ii) a 40% target will be set for women's participation in all key project activities with active inclusion of women and women-headed households in farmer's groups; (iii) TOR for technical experts will include responsibilities for implementing the gender strategy of the project (iv) the project will be sensitive to arrangements required to enable women to participate – such as arranging training at village or district level to accommodate women's time constraints or providing transport; (v) inclusion indicators disaggregated by sex to track the project's performance in promoting women's empowerment in terms of their capacity-building and benefits; (vi) PMU and PIUs will be encouraged to maintain a gender balance in staffing, with women comprising around 50% of the staff; (x) a team of village facilitators will be hired to provide backstopping for (inter alia) social mobilization and implementation of gender strategies; (xi) organizations recruited for assisting in implementation of project activities will be required to have a demonstrated ability to work with women; (xii); any studies undertaken by the project will address gender issues and disaggregate data collection, analysis and findings by gender; and (xiii) a gender assessment of project activities will be conducted prior to the mid-term review.

**19.** Youth will be mainstreamed in the value-chain, as stated above, through the systematic identification of opportunities for their involvement in the value-chain and support for their involvement from the project will be further ensured through quotas, as specified in the table below. Youth will be the catalysts of change for the project in their capacity as Village Facilitators (80 per cent below the age of 30) ensuring inclusive targeting, building capacities, and managing and monitoring project activities at village level.

**Table 1: Targets for Participation of Women and Youth in UPLANDs.**

Issue	Women	Young men and women (Age 30 or less)
<b>Component 1: Productivity Enhancement and Resilience-Building</b>		
Farmers receiving training and technical support for selected commodities	40 %	25 %
Nutrition intervention	15,000 women will be involved in nutrition awareness training and social marketing events held in villages	50%
<b>Component 2 : Agribusiness Development &amp; Livelihood Facilitation</b>		
Farmer Groups	600 farmer's production groups (men and women's groups) 200 women's processing groups	25 %
Village facilitators	50%	80 %
Training and Technical Support in Farm Management	50 %	25 %
Training In Management, Business Development And Institutional Strengthening For Farmer's Groups	200 women's groups	
Exposure visits	30 % ( women from women's groups and mixed farmer groups)	30 %
Training in Processing and Marketing	50 %	25%
Training in Maintenance and Operation of Farm Machinery		75 %
<b>Component 3 : Strengthening Institutional Delivery Systems</b>		
Training in Market Intelligence	50 %	100 %
Component 4 : Project Management		
Staff of PMU	50 %	
Staff of PIU	50 %	25 %
Stakeholder forums	50 %	25 %
M&E	A monthly dashboard would be established to report progress on the key outputs and objectives, disaggregated by gender and age to capture and monitor the involvement of youth and women.	

**20. Target Area.** The UPLANDs will target 14 District in 6 Provinces. Table 2 below gives an overview of the target area with number of sub-districts, villages and farmer's groups in each district.

**Table 2: Commodity Data by Targeted Districts and Villages**

N o	District	Village s	Commodit y	Area (ha)	Farmer Group		Estimated*)		Total Beneficiarie s
					Farmer Groups	Member s	#Wome n	#Yout h	
1	Lebak	4	Mangostee n	421	19	569	199	135	832
2	Tasikmalaya	4	Organic rice	500	8	1,077	431	50	1,558
3	Subang	31	Mangostee n	2,000	75	3,138	1,255	475	4,868
4	Cirebon	21	Mango	1,500	32	568	590	455	2,520
5	Garut	5	Seed Potato	200	10	872	174	60	1,106
6	Banjarnegara	31	Goats & Coffee	385	25	1,209	487	225	1,930
7	Purbalingga	9	Goats		14	237	45	100	595
8	Magelang	31	Organic rice	2,000	97	6,336	2,158	500	8,054
9	Malang	3	Shallots	300	3	860	233	65	1,076
10	Sumenep	3	Shallots	160	80	1,733	340	275	1,747
11	Lombok Timur	21	Garlic	1,640	100	2,964	1,045	530	4,477
12	Sumbawa	26	Shallot Seed	3,000	59	2,700	972	445	4,117
13	Minahasa Selatan	10	Potato	2,000	118	2,179	872	640	3,691
14	Gorontalo	1	Banana	20			10	40	76
		<b>231</b>		<b>14,12 6</b>	<b>640</b>	<b>24,442</b>	<b>8,812</b>	<b>3,995</b>	<b>36,648</b>

21. The selection of districts is driven by the identification of high potential and the comparative advantage the area has in the commodity selected. Important criteria for the selection of villages are (i) concentration of farmers engaged in the production of the selected commodity (ii) potential for intensification of production and engagement in the value-chain (iii) potential for engagement with private sector (iv) contiguity to ensure that project villages are not too widely scattered across the country. There are approximately 55 sub-districts and 200 villages targeted in the selected districts. The project will work with a minimum of 623 women and men farmer's groups and 200 women's groups in the target area.

### **Project Components and Activities**

22. In general, Ministry of Agriculture through Directorate General of Agricultural Infrastructures and Facilities will be the Project Implementing Agency which in its daily implementation will be carried out by the National Project Management Unit (NPMU) in central government. While, implementing organizations at the district level is the District/City Agricultural Service which forms the District Project Implementing Unit (DPIU) which is responsible for the implementation of daily projects. NPMU in carrying out its duties should coordinate with DPIU. NPMU represents the whole DPIU in communicating and coordinating with IsDB and IFAD.

23. The Project would consist of four main components which would include the following; (1) Component-1: Productivity Enhancement & Resilience Building; (2) Component-2: Agribusiness Development & Livelihood Facilitation; (3) Component-3: Strengthening Institutional Delivery Systems; and (4) Component-4: Project Management.

### **Component 1: Productivity Enhancement and Resilience-Building**

24. This component would consist of four sub-components designed to invest in the productive potential and resilience building of farming households in upland areas. The sub-components would include the following; (i) Land Development; (ii) Physical Infrastructure; (iii) Farm Management & Advisory Services (iii) Agriculture Machinery. The overall Implementation of the component would be

undertaken by the District Project Implementation Units (DPIU) and coordinated by the Project Management Unit (PMU) at the national level with support from design and supervision consultancy (DSC) services where deemed necessary.

**25. Sub-Component 1.1: Land Infrastructures and Development.** Land development activities would be based on soil and water conservation approaches to reduce the risk of erosion and landslides due to agriculture activities. The specific land development activities would be customized within each district to suit the specific environment; referencing topography, soil type, climate, any evidence of deforestation and consideration of current and planned agricultural activity. Activities would include terracing and contouring, use of soil bio-engineering stabilizers such as mulches, and the strategic planting of agro-forestry trees and shrubs including perennial horticultural crops. The selection of the farming households would be through the farmer groups in each district who are participating in production of selected commodities. The selection will be based on the technical and feasibility of the sites selected and the commitment of the selected farmers to contribute at least 25% of the cost of land development. It is expected that the project would help to develop 7,032 ha benefitting around 6,017 households. The land development works will be done on selected smallholder farms that pose a great risk for soil erosion and landslides. The land owner will implement the construction work supported by specialist/expert from the Design and Supervision consultant, DSC. The cost of land development is estimated at an average of about US\$500 per ha.

**26.** In addition to land development, the project will assist smallholder farmers in the uplands to invest in physical infrastructure such as irrigation systems for improving access to water and access/farm roads that facilitate farmers to markets. The investments will be designed to promote resilient and sustainable agriculture, with improved access to markets, in the upland areas.

**27.** To improve resilience and water supply, the project will assist farmers to invest in water storage ponds, shallow wells, and small weirs for 12,099 ha. The irrigation infrastructure types will include rehabilitation and new tertiary surface, piping drip and sprinkler irrigation systems, solar and electricity pumps. The MoA has pre-identified a preliminary list of 239 villages in the selected districts with about 12,099ha that will require improved water security through the water infrastructure investments. The farms are owned by about 23,391 farmers organized in 663 groups. The irrigated land under each group ranges from 1.17 to 62.5 ha, with an average land holding ranging from 0.14 to 1.1 ha. The average cost of irrigation development is about US\$2,800 per ha. These villages are growing the prioritized crops selected for the project. However, each proposed site in the selected villages would be assessed to ensure that it meets the following criteria; (i) serve the priority commodity and promotes integrated farming; (ii) gives priority to smallholder poor farmers; (iii) technical feasibility; (v) economic feasibility and (vi) promotes good environmentally and social stewardship.

**Table 3: Proposed Land Development Activities**

	Lebak	Tasikmalaya	Subang	Cirebon	Garut	Banjarnegara	Purbalingga	Magelang	Malang	Sumenep	Lombok Timur	Sumbawa	Minsel	Gorontalo	Total
Land clearing, soil conservation/land terracing (ha)	332	500	400	500						160	1,640	3,000	500		7,032
Irrigation (ha)	332	500	2,004	500	200	43	-	1,400	300	160	1,640	3,000	2,000	20	12,099
Farm road (km)	38	10	33	100	16	42	7	15	18	5	35	70	15	3	406

**28.** The project will invest in the improvement of access and farm roads, in total about 406 km farm road. The roads will typically be engineered compacted gravel or concrete roads (depending on the ground conditions), 2.5 to 4m wide (depending on the type of vehicles mix) to use the roads. In all cases, provision of routes for non-motorized traffic should be prioritized, where ever necessary. The cost of road development is estimated at an average of about US\$27,269 per km.

**29.** Prior to final selection and construction activities, a feasibility study and detailed engineering design would be prepared for each scheme with detailed costs. In addition, an ESMP, will be prepared for each site to ensure that all identified environmental and social impacts are adequately addressed. The feasibility studies and detailed engineering designs will be implemented in a participatory way, led

by staff at Dinas Pertanian, assisted by experts from the DSC. Particularly for the area with earthquake risk such as Lebak, Tasikmalaya, Garut, Lombok Timur, and Minahasa Selatan, the infrastructure design has to be earthquake resistant. The construction works will be done through community contracting or through private contractors, depending on the nature of engineering works to be done. The private contractors will be competitively procured following the country procurement system. The local government or local communities would be responsible for securing the land required for the development of infrastructure. All the infrastructure investments by the project will be owned by either village or district government or by the farmers, groups of farmers or their associations. The farmers will finance at least 25% of the cost of the on-farm irrigation costs infrastructure, through own funds, loans from a bank or grant from the village government. The district government and the project funds will finance water infrastructure to the group farm edge.

30. Farmers would pay for the full operations, maintenance and management for the irrigation infrastructure built by the project. The farmers will be trained, in their existing groups, to operate and manage the irrigation facilities for their group. In some cases, where it is technically feasible and farmers are willing, the groups would aggregate to form water user associations, for the purpose of managing irrigation infrastructure. The village government will pay for the maintenance of all access roads built outside the farms, and the farmers will be responsible for the maintenance of roads built within their farm boundaries.

31. **Sub-Component 1.2: Production and Farm Management.** In the context of a commodity development approach in each of 14 districts, UPLANDs will ensure around 32,600 men and women farmers receive commodity specific training and technical support to enhance their overall agricultural production and management capacity.

32. About 1,300 farmer extension or training groups of around 25 farmers (including the poor, women and youth) will be formed and socialized by the UPLANDs village facilitators. These extension groups will be the access point to village farmers for extension training, nutrition training, and microfinance and market information. The project will work with at least 300 women farmer extension/training groups and demonstrations will be organized for aspects of production in which they are engaged. Similarly, training will be provided to youth for crops and activities appropriate for them, for example, management and operation of agriculture machineries.

33. The project will include a suite of complementary support mechanisms suited to smallholder farming in which both the public and (where possible) private sector will be involved. These activities will be coordinated by 235 Facilitators, and 114 Extension staff, supported by 14 teams or district level technical specialists. Training and technical support will include Farmer Field Schools with a series of trainings throughout the crop cycle. Training will be delivered on improved agronomic practices (including Good Agricultural Practices - GAP) relevant to each commodity including quality genetics, soil management, crop nutrition, water management, Integrated Pest Management (IPM), sustainable use and management of farming equipment, canopy management (for trees crops) and optimal harvest and post-harvest practices at the farm and village level.

**Table 4: Proposed Extension Staff and Facilitators**

	Lebak	Tasikmalaya	Subang	Cirebon	Garut	Banjarnegara	Purbalingga	Magelang	Malang	Sumenep	Lombok Timur	Sumbawa	Minssel	Gorontalo	Total
Extension Staff															
• Person month	240	486	1,860	1,860						180	900	890	270	36	6,722
• #Person	4	9	31	31						3	15	15	5	1	114
Facilitators (PM)															
• Village Fac	432	240	1,350	875	270	1,860	432	1,860		180	1,458	1,404	540		10,901
• Sub-District Fac./Coord	108		162	162		300		180			378	162			1,452
• District Fac./Manager	54	60	54	54	54	60	144	60		60	54	54	54		762
Subtotal (PM)	594	300	1566	1,091	324	2,220	576	2,100		240	1,890	1,620	594		13,115



# Facilitators	11	5	29	20	6	37	12	35		4	35	30	11		235
----------------	----	---	----	----	---	----	----	----	--	---	----	----	----	--	-----

**34.** While production inputs applicable to the commodity will be made available to eligible farmers in the first year of engagement to help initiate farmer support and improved farming practices, UPLANDs will require a 25% contribution from the farmers with the balance funded by the project. It is anticipated the farmer contribution will come from village fund support. After year 1, farmers will be able to borrow for these inputs through UPLANDs supported microfinance. This will be delivered via local banks with credit lines from UPLANDs. These inputs include seed, seedlings, fertilizers and pesticides.

**35.** A major challenge for small farmers is the high-risk environment in which they operate, making them traditionally highly risk averse and in turn inhibiting their willingness to adopt new and improved farm practices. On top of everyday production risks, the risk profile for farmers is becoming more challenging due to climate change related production risks like drought, flood, and pests. Recognizing this reality, UPLANDs will link with a new IFAD initiative ('Insurance for Rural Resilience & Economic Development Technical Assistance Programme') which designed to improve access for smallholders to appropriate crop insurance.

**36.** Intensification of agricultural production requires improvement in labour productivity and efficient operations. The effective utilization of agricultural machinery suitable for smallholder agriculture is one of the key strategies to be used to improve land and labour productivity, reduce costs in uplands agriculture production. Use of machinery is also an effective way to reduce drudgery of agricultural labour for women, men and youth. Youth are more likely to participate in primary agricultural production if this drudgery is reduced. The type and number of machines would be selected by commodity and utilized within the uplands taking into consideration the steepness of land, the needs of women and youth and the type of crop to be grown. There would be appropriate machinery and powered equipment sourced for land preparation, planting, cultivation, pest and disease management, weed control and harvesting and transport. In general, the type of equipment will include hand powered cultivators, power sprayers, hand sprayers, small powered harvesting equipment, wheel barrows among other types. Specialist machinery and equipment would also be sourced for specific commodity production requirements. The farmers would pay 25% of the cost of purchasing the machinery. The project will assist in linking the farmers with local financial institutions or value chain actors, to finance the farmers' payment.

**37.** Machinery and equipment would be owned by the farmer's group or association. Assurance of the provision of training in the safe and appropriate use and maintenance of all machinery and equipment would be a key element of these terms of partnership. Young people (both men and women) will be trained in the operation and maintenance of the equipment, so as to be able to offer a service to farmer groups. The project will facilitate in the provision of the appropriate technical and on-the-job training and workplace supervision to the youth who take part in the equipment support business opportunities. In some cases, the youth may be employed by Farmer's Groups and federations to undertake and/or oversee machinery operation and also ensure appropriate maintenance schedules and tasks are performed. Users will pay fees on a full cost recovery basis.

**38.** The machinery management sub-committee (MMSC) will be responsible for the following:

- Operator selection and supervision
- Each group will appoint a designated tractor operator who will be fully responsible for operations and maintenance. The operator will receive operator training prior to delivery of the tractor to each production group.
- Establishing a user fees schedule that accounts for O&M and replacement funds (depreciation).
- Provision of sound security and storage at all times
- Establishing transparent schedules of service for members (rotating by crop cycle) to ensure fairness.
- Establishing transparent rules for non-group member usage (if relevant).
- Establishing an agreed and transparent dispute resolution process.

- Establishing transparent rules for any wilful damage to machinery by members or non-members
- Reporting to the wider group on a quarterly basis.
- Establishing a machinery replacement fund with dual signing by Group Treasurer and MMSC Leader.

**39. Procurement.** Procurement will be undertaken within the rules and regulations of the GOI/MOA and the process will be closely supervised by the UPLANDs project management unit.

**40.** Assurance of the provision of training in the safe and appropriate use and maintenance of all machinery and equipment would be a key element of these terms of partnership. Young people (both men and women) will be trained in the operation and maintenance of the equipment, so as to be able to offer a service to farmer groups. The project will facilitate in the provision of the appropriate technical and on-the-job training and workplace supervision to the youth who take part in the equipment support business opportunities. In some cases, the youth may be employed by Farmer's Groups and federations to undertake and/or oversee machinery operation and also ensure appropriate maintenance schedules and tasks are performed. Users will pay fees on a full cost recovery basis.

**41.** Training will be provided taking into consideration the workplace health and safety risk associated with operating machinery on slopes. In addition, minimum tillage approach will be promoted to reduce risk of soil erosion. Proper terms of partnership would be signed between the district Government and the Farmer Groups or Associations on the hand over, operation, maintenance and storage of the equipment to ensure its effective utilization.

**42.** Livestock training will be delivered in farmer field schools, covering the basics of animal nutrition, housing, health and reproduction. Annual flock management plans will be prepared including disease prevention, fodder production, feeding regimes and planning and monitoring including vaccination and parasite treatment, livestock inventory, mating and live weights. In addition, besides group training UPLANDs will document the training and provide goat group members with copies of training material for their future reference.

**43.** While UPLANDs will mainstream nutrition into activities, it is recognized that there is no single solution to tackle these problems. Yet the fact that malnutrition rates remain unchanged despite rising incomes and food availability give some clues that some of the remaining constraints to better nutrition are driven by social norms and behaviours. UPLAND will therefore adopt a multi-pronged and mainstreamed approach to improving nutrition. It will also encourage local innovation combined with evidence-based assessment to identify and scale-up promising innovations in the approaches to improving nutrition. Nutrition activities will be conducted in all UPLANDs villages coordinated by the Village Facilitators.

**44.** To further ensure that the benefits of increased incomes translate into improved health outcomes for women and men small-holder farmers and their households, appropriate interventions at each stage of the value-chain will be identified. A rapid nutrition assessment will be used to identify the key nutritional challenges and opportunities specific to the project districts and appropriate nutrition interventions at relevant stages of the value-chain. A two-person nutrition team will work closely with the other technical specialists to mainstream nutrition in the various projects commodity development activities. Some of the interventions for nutrition will include extension advice on nutritious crop varieties, social marketing events and nutrition awareness sessions. Given the complexity of the nutrition challenge, UPLANDs will actively encourage and reward local innovation by teams in districts to work out what combination of factors works best to deliver sustainable nutrition outcomes.

## **Component 2: Agribusiness Development & Livelihood Facilitation**

**45.** This component is designed to facilitate farm gate to market activities which will improve product quality and marketability as well as enhance market linkages based on improved market intelligence. The component would have four sub-components; (i) Farmer institutional development; (ii) Market infrastructure and equipment; (iii) Strengthening market linkages and alliances; and (iv) Access to financial services.

**46. *Sub-Component 2.1: Farmer institutional development.*** Groups of farmers will be encouraged to form associations or federations (some already formed) which can evolve into KUBEs or KUBE-look like institutions. Depending on location, a KUBE can be at village level, or involve 2-3

villages in one KUBE, or at kecamatan level as business association of farmer group. An estimated 180 KUBEs and around 14 larger BLUDs or Cooperatives will be supported.

**Table 5. Establishment Plan Of Kube And Blud Or Cooperative**

No.	District	Commodity	Land (Ha)	# Farmer Groups	# KUBE		# BLUD/Cooperative at District Level	
					Village	Sub-District	BLUD	Cooperative
1	Lebak	Mangosteen	421	23		2		1
2	Tasikmalaya	Organic Rice	500	8	4	1		1
3	Subang	Mangosteen	2,000	75		7		1
4	Cirebon	Mango	1,500	77	7		1	
5	Garut	Potato Seed	200	10	1		1	
6	BanjarNEGARA	Coffee, Goat & Sheep	385	37	34			1
7	Purbalingga	Goat		18	18			1
8	Magelang	Organic Rice	2,000	94		3		1
9	Malang	Shallot	300	11	11			1
10	Sumenep	Shallot	160	53	52			1
11	Lombok Timur	Garlic	1,640	92		6		1
12	Sumbawa	Shallot Seed	3,000	59		30		1
13	Minahasa Selatan	Potato	2,000	118		10	1	
14	Gorontalo	Banana	20	6	1		1	
<b>Total Number</b>			<b>14,126</b>	<b>681</b>	<b>128</b>	<b>59</b>	<b>4</b>	<b>10</b>

47. In collaboration with both national and district governments, the UPLANDs will work closely with individual famers, farmers group and farmers' association. Many farmers groups and association do not currently have sufficient capacity, suitable legal basis or flexibility to deal with some required functions and responsibilities needed to support the project. To address this, the project will provide farmer institutional development to ensure sustainable management and business unit formed and functional.

48. UPLANDs is looking at several options of entities or management/business units that can bridge the gap by providing sufficient flexibility to ensure sustainability of project impacts in the long run. Some of the available options include KUBE, BLUD, Cooperative and BUMDES<sup>40</sup>.

49. KUBE (Kelompok Usaha Bersama) is a Joint Business Group which aims to empower poor communities (including small holder farmers) by providing business capital to manage productive economic activities/businesses. In general, a KUBE will be established at farmer association level (to manage capital assets invested by UPLANDs) and will typically provide services to 3-4 farmer groups.

50. BUMDES (Badan Usaha Milik Desa) is a village-owned business entity is a village business managed by the Village Government, and incorporated where the establishment is determined by the Village Regulation. The management of the BUMDES consists of the village government and the local village community. The capital of BUMDES can come from the Village Government, community savings, assistance from the government, loans, or other parties' equity participation or profit-sharing cooperation on the basis of mutual benefits.

51. BLUD (Badan Layanan Umum Daerah) or Regional Public Service Agency (BLUD) is a management and service unit within the local government formed to provide services to the community in the form of the provision of goods and / or services. While BLUD is a non-profit entity, it is still professionally managed based on principles of efficiency and productivity. The characteristics of each management/business/service unit options are provided in the table below:

<sup>40</sup> BUMDES: is a village-owned business entity is a village business managed by the Village Government, and incorporated where the establishment is determined by the Village Regulation

**Table 6. Farmer Post-Harvest Institution Summary**

Management/ Business Unit	Owner / Shareholders	Management	Characteristics and Flexibility
<b>KUBE</b>	Community or smallholders' farmers	Community/ Farmers Association	<ul style="list-style-type: none"> <li>- Similar to cooperative / enterprise group;</li> <li>- Capital: government grant and members contributions;</li> <li>- Acts as a private business;</li> <li>- Profit oriented;</li> <li>- Profit shared as revenue to its members.</li> </ul>
<b>BUMDES</b>	Village owned	Appointed professional	<ul style="list-style-type: none"> <li>- Enterprise type;</li> <li>- Profit oriented;</li> <li>- Profit shared as revenue to it's the village;</li> <li>- First capital could be provided by the government or from village funds.</li> </ul>
<b>BLUD</b>	Government institution	Government official and supported by professional management	<ul style="list-style-type: none"> <li>- Manage government assets;</li> <li>- Non-profit;</li> <li>- Service oriented;</li> <li>- Allowed to collect fees to support its operational;</li> <li>- Can get subsidy from the government.</li> </ul>
<b>Cooperative</b>	Farmers/farmer groups	Appointed professional	<ul style="list-style-type: none"> <li>- Enterprise group;</li> <li>- Profit oriented;</li> <li>- Profit shared as revenue to its member;</li> <li>- First capital could be provided by the government or from village funds.</li> </ul>

**52.** Because there is no 'one fixed solution' that fits all across the 14 districts, selection of institution or management unit that will be established to support the project will be customize based on the needs of each value chain and which is suitable to the local context. UPLANDs Project will not create a new entity or management/business unit where an existing institution is functioning efficiently. In this case, the Project will empower existing KUBEs that are ready apply for assistance e.g. to have sorting and grading equipment and are able to certify that they have the required beneficiary contribution. Where new institutions are required district governments call for proposals for the establishment of processing facilities e.g. for potatoes and mangoes. But, in all cases, the district government will first undertake full feasibility assessment including the applicant's business plan.

**53.** KUBEs will be responsible for operating and managing product collection vehicles (three-wheeler bikes) provided to each village. A truck will be also provided to transport the commodity from KUBE to the BLUD or other major processing, storage or marketing centre. UPLANDs will establish BLUDs at district level or at the end part of the value chain that will deal directly with the market. The BLUD or Cooperative at District level operates as a primary commodity service in large scale to serve the KUBEs. It will manage the significant capital assets invested by the project such as grading and processing equipment and facilities. BLUD or Cooperative will develop marketing network of processed products.

**54. Sub-Component 2.2: Market Infrastructure and Equipment.** Marketing infrastructure, equipment and systems are based on the systematic aggregation and value adding of product to meet the demands of markets; commencing from the farmer and Farmer Group level, farmer associations activities, then to KUBE level facilities and processes and finally to commodity processing and distribution centres operating under Cooperatives, Federation or BLUD arrangements, as applicable to each District and commodity. Farmer Groups and organizations which demonstrate their commitment to enhancing access to markets would be eligible to apply for marketing infrastructure and equipment support under the project. Marketing infrastructure and equipment provision will ensure the selected commodities will be cost effectively and efficiently made market-ready in terms of agreed specifications and supply arrangements with buyers.

**55.** Infrastructure and equipment will include small scale collection, drying (where applicable) and pre-sorting facilities located strategically at the Farmer Group and Village levels, larger scale post-harvest handling, packaging and aggregation facilities and equipment operating at the KUBE level and facilities and equipment for final aggregation, processing, storage and distribution of fresh and/or processed products operating at the District level. Investments in transport equipment will allow efficient and timely movement of product from the field to collection/aggregation points and on to processing/packing facilities. Transport investments will include 3 wheelers for moving produce post-harvest from farms to KUBE and small trucks for moving product from KUBE to larger scale BLUD/Cooperative managed facilities.

56. All facilities and equipment will be “fit for purpose” i.e. designed and fitted out to an appropriate level of Good Manufacturing Practice (GMP) in terms of market and regulatory compliance. Young men and women with an interest in maintaining and operating post-harvest and processing equipment and with the required technical and personal attributes would be employed to carry out skilled work within processing and storage facilities. These young men and women will receive appropriate technical and on-the-job training in safe equipment operation and maintenance procedures and would also be supervised appropriately.

57. To qualify for UPLANDs support, Farmer Groups, Associations, KUBEs or Federations/ Cooperatives will have to a) be formally registered; b) demonstrate their capacity to invest at least 25% of their own equity or leverage this proportion of financing from other sources (e.g. equity from village funds or from local government contributions); c) willingly participate in project activities.

58. An eligibility and screening criteria will be developed during early project implementation to ensure that the equipment goes to groups who are committed and can utilize the equipment effectively for the benefit of their members. The provision of these investments will be based on criteria including the following; (a) equity investment; (b) employment generation potential; (c) targeting of women from poor households; and (d) the number of women and youth benefitting.

59. Applicants are expected to develop Business Plans to justify the project investment in infrastructure and/or equipment. UPLANDs will provide technical assistance to facilitate development of these plans. This would result in start-up marketing groups and those in their early stage of development being able to calculate short and medium-term production based on realistic market projections.

60. **Sub-Component 2.3: Strengthening Market Linkages and Alliances.** Under this sub-component mentoring support would be provided to establish or further build market linkages for the selected products and assist them in growing their markets. The project will engage experienced and suitably skilled Value Chain, Business Development and Capacity Development specialists in each District so that Farmer Groups/Associations receive ongoing support through the market development process.

61. Throughout the project, buyers in downstream markets will be invited to visit Farmers Groups and Associations operating at the KUBE and BLUD level to discuss market expectations. Representatives of Farmer groups and Associations will also undertake market visits to better understand distribution systems and downstream markets. These study visits would be facilitated by the Value Chain and Business Development specialists in consultation with Village Coordinators.

62. Technical assistance will be provided to Farmers Groups and Associations operating at the KUBE and BLUD level for improving the market readiness and brand recognition of specific products in areas such as selection of primary and secondary packaging, labelling and sales promotion. This will extend to assistance with achieving compliance with certification standards where required, for example organic rice.

63. Systems for regular exchange of meaningful, marketing related information between buyers and sellers will be developed and introduced in the early stages of the project. This would include specific marketing opportunities, for example, for organic and value-added products or opportunities to access new, higher value markets such as modern retail or export.

64. Identification and correction of harvest and post-harvest issues will involve product assessments being undertaken by Quality Assessors (particularly women and youth) trained within the project and operating within packing and processing facilities. Consignments would be checked for compliance with buyer requirements before dispatch and these assessments would be communicated to downstream markets using check-sheets and digital photography.

65. Simple technologies such as temperature recording devices would also be used to monitor cool chain performance during distribution. These consignments would be further assessed by buyers on receipt. If quality issues were identified (such as overripe fruit) these issues would be communicated back up the Value Chain and collectively analyzed so that appropriate corrective actions could be taken.

66. Quality assessments for each commodity end-product would be developed by Value Chain Technical Specialists in concert with Farmer Groups, Associations and Commodity Alliances. As part of this process product quality specifications suited to the intended market may be agreed by chain

participants and regular, scheduled quality assessments carried out at each stage of the production, distribution and marketing system.

67. This collective gathering and sharing of post-harvest and market information will enhance smallholder understanding of market dynamics, particularly in distant markets and help build and strengthen commercial relationships. Over the life of the project these systems will be refined and improved, best practices established, and implementation progressively extended to larger numbers of project beneficiaries in each district.

68. Market Intelligence systems offer job opportunities for women and youth. To ensure sustainability training would be provided so that beneficiary groups take a progressively larger role in information collection, analysis and dissemination with continued technical support from Government and other support agencies as required. These systems will act as models for enhancing smallholder capacity, productivity and incomes through commercially relevant value chain engagement.

69. At an early stage of the project, buyers in downstream markets will be invited to visit Districts to discuss market expectations. Representatives of Farmer groups and Associations will also undertake market visits to better understand distribution systems and downstream markets. These study visits would be facilitated by the Value Chain and Business Development specialists in consultation with Village Coordinators. Technical assistance will be provided for improving the market readiness and brand recognition of specific products in areas such as selection of primary and secondary packaging, labelling and sales promotion. This will extend to assistance with achieving compliance with certification standards where required, for example organic rice.

70. ***Sub-component 2.4: Access to Financial Services.*** An important constraint to improved production and post-harvest performance and development is limited or no access to finance - especially microfinance to farmers and agri-related microenterprises. The current situation is one where the individuals or groups have to either borrow from moneylenders at high mark-up/interest, or place a high collateral with banks/MFIs, or are simply non-bankable (i.e. with no operating institutions, no suitable products or non-favourable lending criteria).

71. The project will provide access to financial services in the selected project areas according to crop requirements. It is expected the UPLANDs will provide US\$ 3.7 m (3% of total UPLANDs cost) for up to 60% of the seasonal finance requirements for a particular crop. Although the majority of the financing allocation would be for microfinance support, the project may also consider larger loans for working capital or asset financing for individual farmers or groups, to meet the needs of the target communities and the value chains to be developed. The principal of providing an allocation for microfinance, is not only to provide access to finance for the target beneficiaries, but also to provide stimulation and capacity building to the local banks/MFIs so that they would be incentivized and capable of providing microfinance products beyond the life of the project.

72. In line with the national regulations, and based on the situations in project locations, microfinance funds will be delivered using on-granting mechanisms to each Kabupaten (district). Each respective district would then identify a local bank (e.g. provincial bank, district bank, national bank branch in the district, etc.) or a local Microfinance Institution (MFI). Based on mutual agreement, the Head of the district (Bupati) would then issue an official administrative instruction (Decree/SK) stating that a certain amount of funds from the district government would be placed in the selected local bank/MFI for the purpose of providing access to finance to the local beneficiaries, with the fund to be managed the bank/MFI for a fee. The administrative/management fee of the bank/MFI would be set in the SK and shall be a competitive rate based on local benchmarks. The terms and conditions of the microfinance lending (i.e. tenor, mark-up rates, lending criteria) would also be stated in the instruction from the District head. The microfinance lending would be structured so that it would be offered to individuals as well as groups, with or without collateral, based on necessity or local circumstances. UPLANDs microfinance specialists would work with the PMU and PIUs to develop the full set of criteria, operating procedures, requirements, terms and conditions, monitoring guidelines, and other required mechanisms and documentation, based on the local contexts.

73. To explore value chain financing options, the project would initiate a dialogue with the commodity alliances established under the project and examine the scope for financing by both input suppliers and wholesalers and retailers purchasing the selected commodities. There is evidence that value chain financing options can work effectively in dealing with smallholders under specific circumstances.

74. A financial literacy training course would be organized for farmer groups, women and youth and will be built into the capacity development and business development curriculum. Basic financial literacy training would be offered to women's and men's farmer groups with the objective of helping to improve livelihoods through inculcating the knowledge, skills and attitudes required to adopt good money-management practices for earning, spending, saving, borrowing and investing. This would include understanding the benefits of savings and loans, planning of income and expenditures of households, analyzing investments and understanding the role of financial institutions. The project would utilize the methodology and materials being used in IFAD's READ SI project and build on lessons learnt.

### **Component 3: Strengthening Institutional Delivery Systems**

75. This component would include two (2) sub-components; (i) Capacity building and institutional development of MOA and Districts; and (ii) Adaptive Research.

76. **Sub-Component 3.1: Capacity building and institutional development of MOA and Districts.** All agriculture extension staff in each district will be encouraged to focus on the target commodity for their specific location. UPLANDs will fund preparation and delivery of a number training courses specifically written for each commodity, including guidelines. This refresher training will be delivered at MOA training centres in Batu and Lembang in 2019. To improve their understanding and to ensure they can work effectively with extension staff in their respective locations, village facilitators will be invited to participate in the extension training programs (training will be delayed until after VFs have been recruited). Extension staff will be trained to understand post-harvest and market linkages as well. Follow up refresher training may be provided by UPLANDs crop and product specialists. Wherever feasible, this training can be delivered in partnership with private sector extension providers<sup>41</sup>.

77. Because of their inexperience with managing and implementing projects funded by external financial institutions, district authorities (including PIU and Bappeda staff) will be supported by UPLANDs capacity building specialists who will be located at each district. This support will be designed to ensure smooth implementation of on-granting and procurement activities in particular. Similarly, farmer institutions (KUBE, BLUD etc.) will be supported in business management, in particular in preparation of business plans, cash flow management, operations and maintenance of capital assets, staff management etc.

78. UPLANDs will support and train national and provincial seed centres. While the IFAD funded IPDMIP project is also engaged with these institutions, the range of crop varieties most relevant to upland farming systems will still require support and capacity building from UPLANDs technical specialists.

79. It is recommended that wherever feasible, UPLANDs should build on the capacity building done by other on-going IFAD funded projects such as READSI and IPDMIP. In particular, the on-granting guidelines prepared by IPDMIP can be adopted for use at UPLANDs PIUs.

80. **Sub-component 3.2: Adaptive Research.** Adaptive research will be an important aspect of this component. This is important given that are many technologies 'on shelf' at the research institutes, but not extended to farmers. There is also need to continuously assess the adaption and adoption processes of the introduced technologies, and incorporate lessons learnt into the extension programs to help their greater uptake and use by farmers and local agribusinesses. The adaptive research will be conducted on-farm and will engage extension staff and farmers in their design, management and evaluation. It will have three key activities for which the project will budget for

81. On-farm trials of new crop varieties and their good agronomic practices. Examples include: (i) high yielding coffee varieties which respond well to fertilizer application; (ii) rice; and (iii) potatoes. All 3 crops are target crops of the project. The trials could also include intercropping that farmers traditionally practice – how this can be done well in ways that does not adversely affect the yields of the two crops. The on-farm trials design will be determined in consultation with extension staff and farmers with budgets to support their establishment and management.

82. Soil fertility including developing appropriate fertilizer recommendations based on diagnostics. It is important that farmers get the best advice on what fertilizers to use judiciously within the framework of integrated soil fertility management. The program budgets will support soil sampling, rapid analysis and reporting on the key project locations. Where the data exists from previous studies, the project will

---

<sup>41</sup> As IFAD has done on other projects e.g. READSI with MARS Cocoa.

support its synthesis and fine-tuning to the needs of the farmers, the fertilizer industry and extension system in easy to understand comprehensible formats.

**83.** Yield and socio-economic studies – including yield analysis and periodic assessment of farmers' adoption patterns of project innovations. This requires setting up good baselines. The project will provide resources for national research to set a good sampling framework, collect and analyze the data, and report fast the outcomes to all stakeholders involved in the project. The frequency of the studies could be twice a year, at least for the annual crops. For the perennial crops (e.g. mango), once a year would be adequate. Data collected will be archived well, updated and shared with all stakeholders regularly. All data collected from the field will be geo-referenced.

#### **Component 4: Project Management**

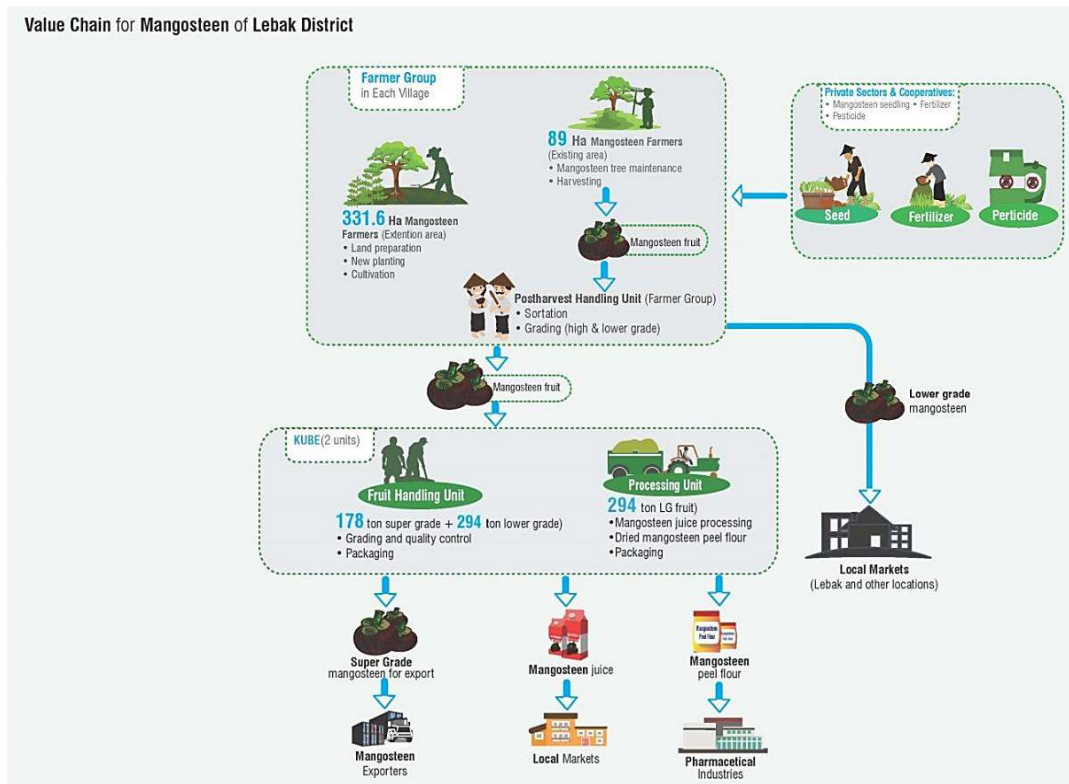
**84.** This component would cover the incremental costs of Project Management Unit at all levels, including one PMU and 14 PIUs. The Government would pay the salaries of its staff but the project would pay additional incentives to the staff. The component would also pay for hiring additional staff, technical assistance and consultancies. Based on its experience of successful implementation, IsDB would like to procure the services of a Project Management, Consultant, as well as a Design and Supervision Consultant to help in the implementation and supervision of the project. The PMU will also be supported by a team of technical specialties such as procurement, financial management, M&E, etc.). The operational expenses related to the project management and implementation, including the start-up workshop and review activities will be financed under this component. The component would also pay for all travel and associated costs. The component would also pay for the monitoring and evaluation costs including the costs of undertaking the baseline, mid-term and project completion surveys and other third party studies required. The component may provide the additional vehicles required for the project and other office equipment and facilities.

#### **VALUE CHAIN BY COMMODITY**

**85. Lebak District.** The project area in Lebak District consist 2 types, existing area (89 ha) and extension area (331.6 ha). All of mangosteen harvested will be collected to Farmer Groups and then delivered to KUBE. There are will be 2 units of KUBE in project location. It is estimated that total production of mangosteen in project location could be 472 ton consist of super grade 178 ton (38%) and low grade 294 ton (62%). Super grade of mangosteen would be for exporters and low grade would be for processing units which manage by KUBE. There are 2 end products that would be produced by KUBE, mangosteen juice for local market and mangosteen peel flour for pharmaceutical industries.

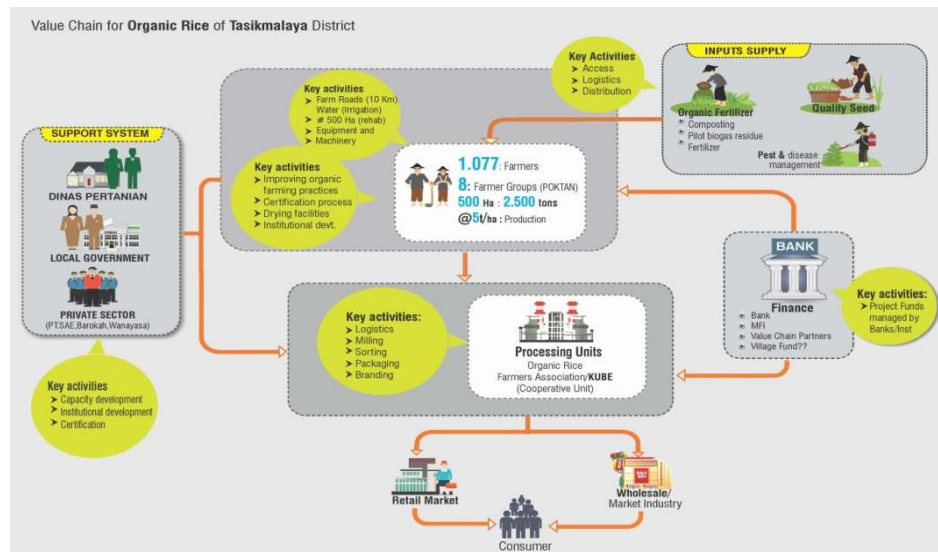


**Figure 1: Value Chain for Mangosteen of Lebak District**



**88. Tasikmalaya District.** The project in Tasikmalaya District will develop organic rice in area 500 hectares involve 1.077 farmers divided into 8 Farmer Groups and located in 4 villages of Cipatujah Sub-district. Seed of the organic rice will be obtained from local farmers of Tasikmalaya District. It is estimated that total production will reach 2,500 tons of unhulled rice. All of the harvesting rice would be collected in Farmer Groups, then will be delivered to Farmers Association or Cooperative which will form KUBE for marketing purpose. In this KUBE, the unhulled rice will be process to be Branded Organic Rice and deliver to retail market, wholesaler, and industry for consumers.

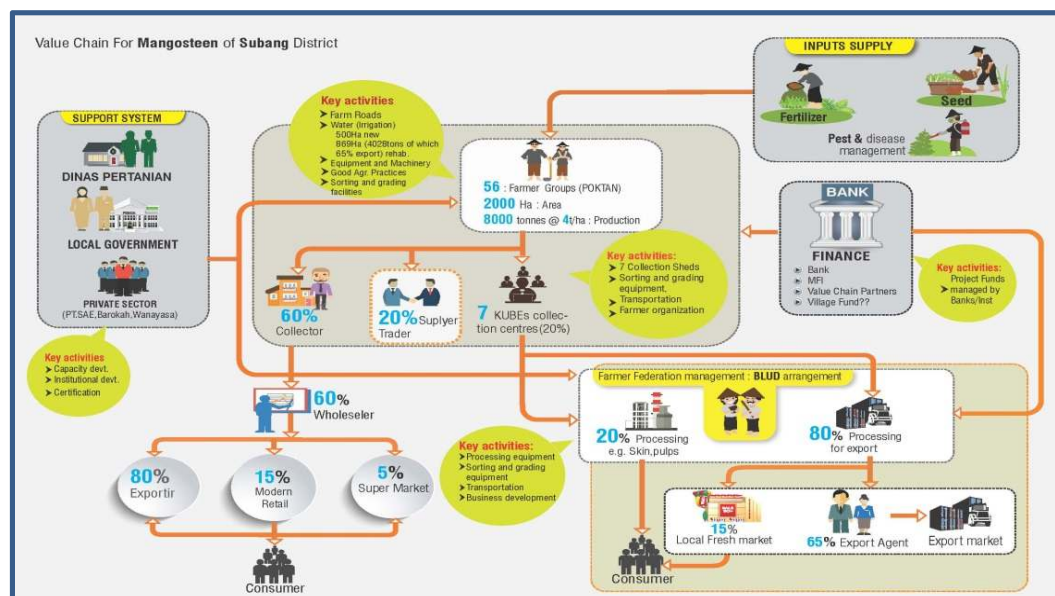
**Figure 2: Value Chain for Organic Rice of Tasikmalaya District**



37. **Subang District.** Mangosteen would develop in project area of Subang District with total area 2,000 cover 7 sub districts in 31 villages. It is estimated that total production will reach 8,000 tones, about 60% of production would be delivered to wholesalers through collectors, 20% for supplier trader and last 20 % for 7 KUBEs then will be delivered to BLUD. The fresh mangosteen that delivered to wholesaler, then will be distributed for exporters (80%), modern retailers (15%) and supermarket (5%).

38. In this value chain, Farmer Groups will manage all of mangosteen production, then KUBE will manage 20% (1,600 ton) of production for BLUD, and then BLUD will manage the product such as follow: for processing unit (skin pulp) as much 20% (320 tons) and 80% remain (1,280 tons) would be sold in fresh and distribute to local market 15% and exporter agent 65%.

Figure 3: Value Chain for Mangosteen of Subang District

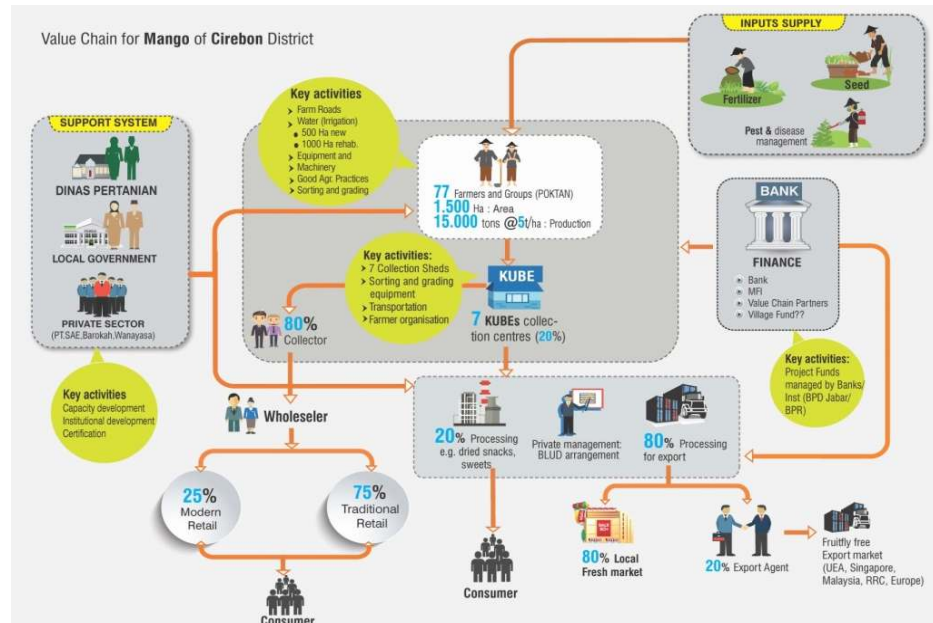


39. **Cirebon District** The project of Cirebon District will develop mango in area 1,500 ha consist of existing area 1,000 ha and new area 500 ha with total production 15,000 tons. All of production will be managed by Farmer Groups, then as much 80% (12,000 tons) will distribute to Collector and 20% (3,000 tons) remaining will distribute to KUBE. The next, the collectors will deliver the product to

wholesaler, then wholesaler will sell the fresh mango to Modern Retailer (25%) and Traditional Retailer (75%).

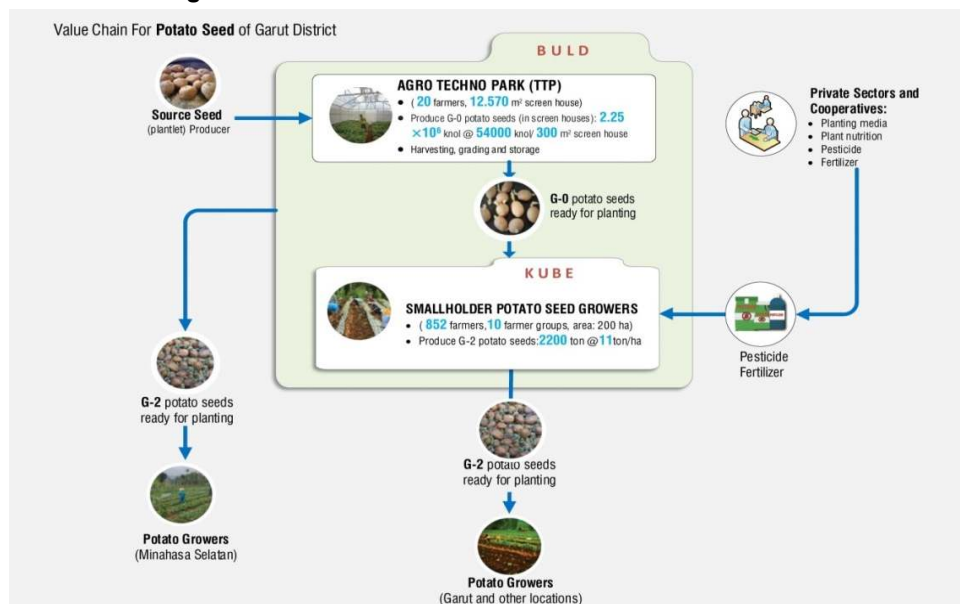
80. Meanwhile, 20% of total production in KUBE will be delivered for BLUD, then the fresh mango as much 20% (600 tons) will be processed such for dried and sweet snack and 80% (2,400 tons) for export market of Singapore, Malaysia, UEA, RRC and Europe.

**Figure 4: Value Chain for Mangos of Cirebon District**



81. **Garut District** The project in Garut District will develop potato seed that has 2 kinds of products, there are G-0 Potato Seed and G-2 Potato Seed. Production of G-0 seed will involve 20 famers in their 12,570 m2 screen house. While, production of G-2 seed will involve 852 farmers in their 200 ha of land that incorporated in Smallholder Potato Seed Growers. In this project, G-0 seed will be delivered through KUBE only to Smallholder Potato Seed Growers who will produce G2-seed and then to be delivered to Potato Grower in Garut and surrounding and also to South Minahasa District through BLUD.

**Figure 5: Value Chain for Potato Seed of Garut District**



**92. Banjarnegara District.** The project in Banjarnegara District will develop goat/sheep in communal cage and also coffee in area 588 ha which involve 1,218 farmers divided into 47 Farmer Groups, located in 34 villages under 5 sub-district.

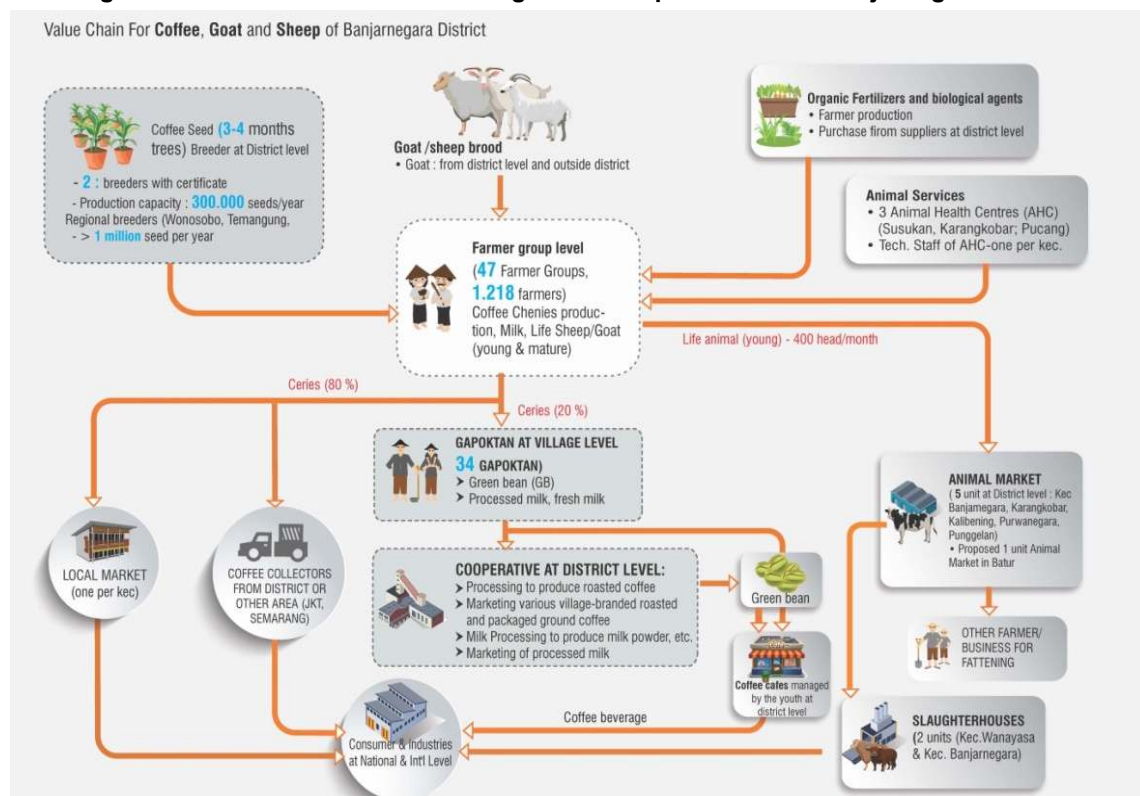
**93.** Number of sheep proposed in this project is 1,032 heads of Batur sheep and 3,085 heads of Ettawa goat. Farmer group will manage communal cage of sheep/goat and will raise the goat/sheep until the female and male population & composition achieve optimum number (e.g. 40 head of female goat/sheep per farmer). To support the health of goat/sheep of the project, it need 3 animal health center (AHC) that located in Susukan, Karangkobor, and Pucung with a staff in each AHC.

**94.** Goat farmer group will produce milk and young goat, whereas sheep farmer group will produce young sheep and sheep wool. Milk production from farmer group will be sold to Gapoktan for further processing by District Cooperative that will process to produce various milk-processed products (e.g. milk powder, etc.). While, young goat/sheep and post-productive will be sold to other farmers for fattening before for consumers after processed in slaughterhouses. In addition, manure from sheep/goat will be processed by farmer group to produce organic fertilizer to be applied for their coffee plant.

**95.** There are 2 types of coffee in Banjarnegara District, Arabica for land with altitude more than 1,500 m above sea level and Robusta for land with altitude less than 1,500 m above sea level. Coffee will be cultivated by farmers and will produce cherries coffee. Farmer group will collect the cherries and to be sold to Gapoktan. Gapoktan will be formed at village level and act as farmer-own business entity (e.g. KUBE). Gapoktan will process the cherries coffee to produce coffee bean with special processing methods, then sell it to cooperative at district level and also to coffee collector from district and other area such as Jakarta and Semarang.

**96.** Cooperative at district level will be formed and all Farmer Group or Gapoktan is the shareholder of the cooperative. The cooperative will has some of activities, such as process coffee bean to produce roasted coffee and sell various village-branded roasted and packaged ground coffee. Green coffee would be sold to Coffee Cafes which manage by the youth at district level. At the end, the coffee of Banjarnegara would be accepted by industries and consumers.

**Figure 6: Value Chain for Coffee Integrated Sheep and Goat of Banjarnegara District**

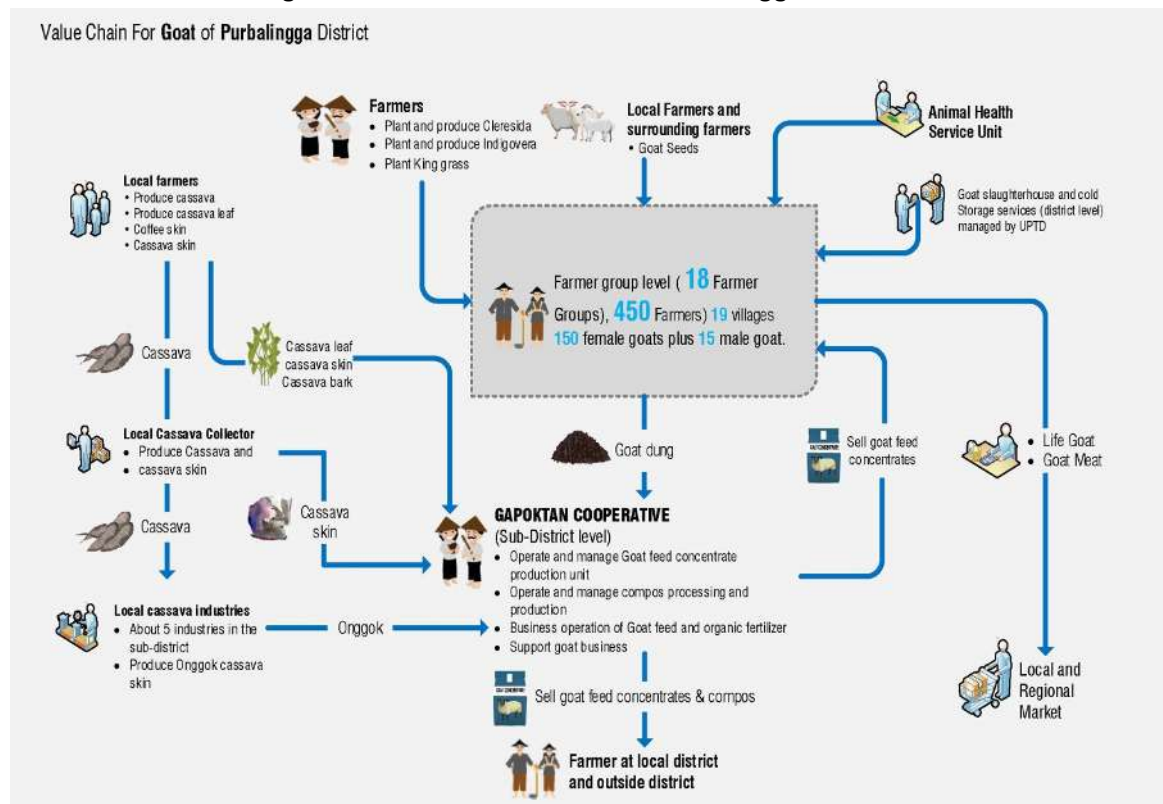




**87. Purbalingga District.** The project in Purbalingga District will develop goats/sheeps in communal cage that involve 450 farmers which divided into 18 Farmer Groups, located in 9 villages under Kejobong Sub-district. One farmer group will manage one communal cage that consists of 150 female goats plus 15 male goats. The Farmer Groups will get advantage from selling meat or life goat to local and regional market, also get advantage from selling goat dung to Gapoktan Cooperative.

**88.** To ensure that goat feed is always available in sufficient quantities and good quality, the Gapoktan Cooperative in sub-district level will produce the goat feed by using local raw materials, such cassava skin, *onggok* (side product of cassava industries), coffee skin, etc. This product could be called concentrates that will be sold to the Farmer Groups of goat. To support goat rising of Farmer Groups, the project will establish Animal Health Services Unit, Goat Slaughterhouse and cold storage services which could be managed by UPTD (*Unit Pelaksana Teknis Daerah*/ regional technical implementation unit).

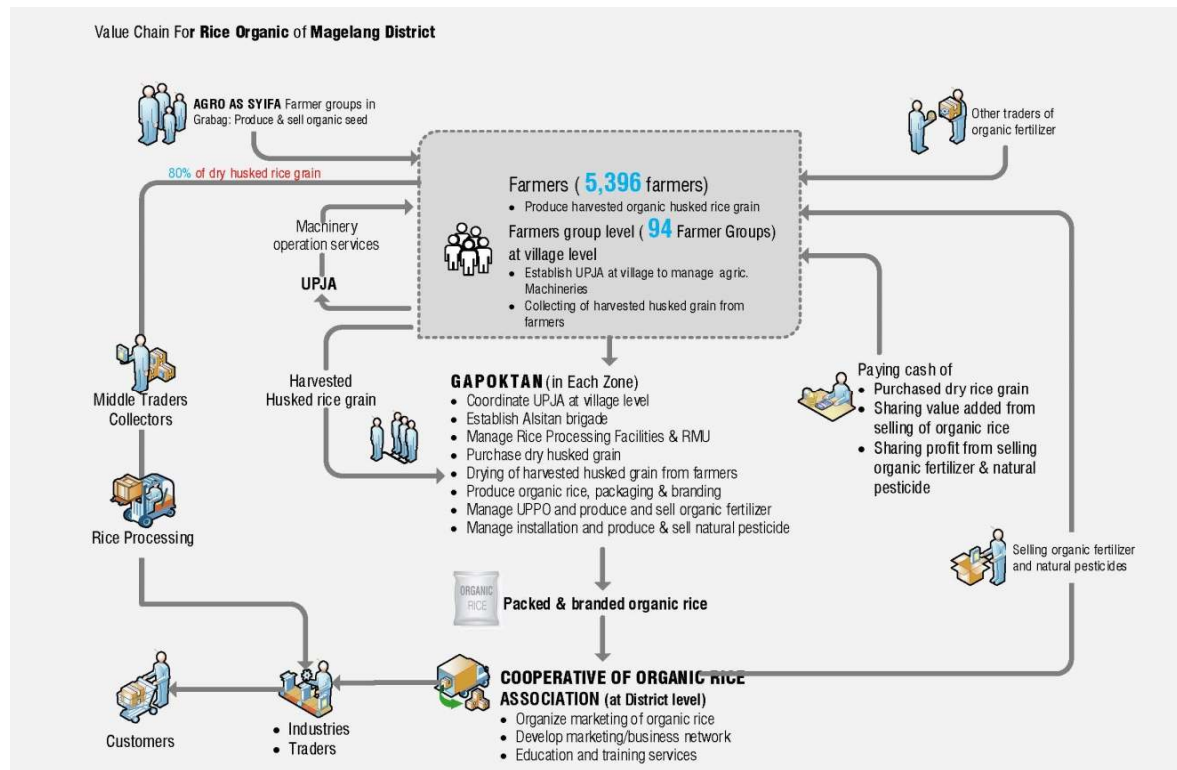
**Figure 7: Value Chain for Goat of Purbalingga District**



**89. Magelang District** The project in Magelang District will develop organic rice in area 2,000 hectares involve 5,396 farmers that located in 33 villages under 4 sub-districts and divided into 3 zones, namely Bandongan, Grabag and Sawangan. As much 1,030 ha of that area have got organic certification from Seloliman (LESOS) Mojokerto. Seed of the organic rice will be obtained from local farmers of Magelang, especially from AGRO AS SYIFA Farmer Group in Grabag.

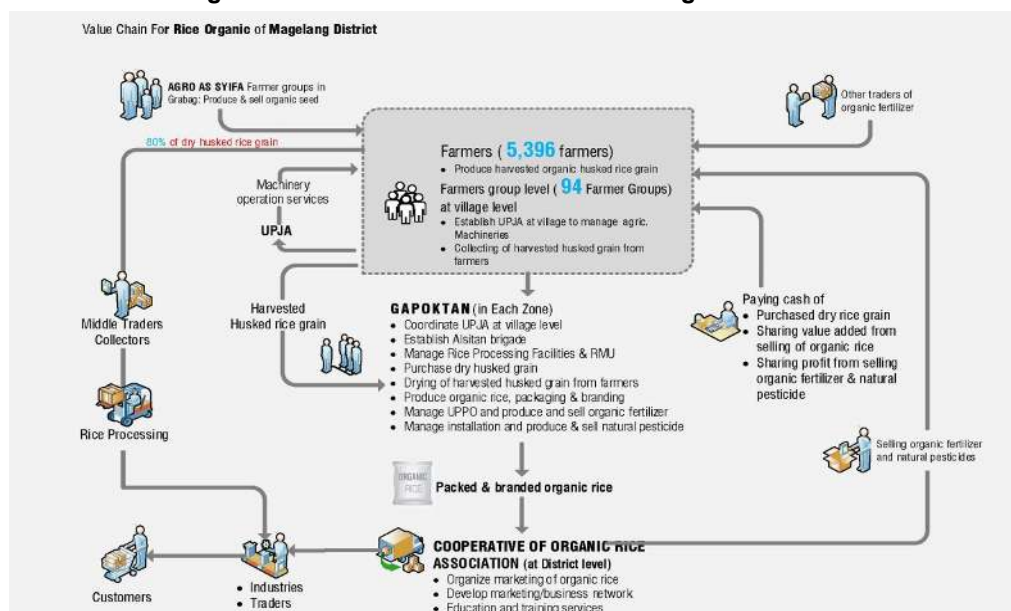
**100.** Total production of the organic rice for the project area 2,000 ha is estimated about 10,000 tons of dry husked rice grain per season. After harvesting, the product from farmers will be collected in Farmer Groups and about 80% of the total production will be distributed to middle trader and collector for Rice Processing Companies. While, 20% remain will be delivered to Gapoktan in each zone level. In Gapoktan, this dry husked rice grain will be process to be Packed & Branded Organic Rice, then distributed to Cooperative of Organic Rice Association at district level. Finally, this branded organic rice will be distributed to Industries and trader for consumers.

**Figure 8: Value Chain for Organic Rice of Magelang District**



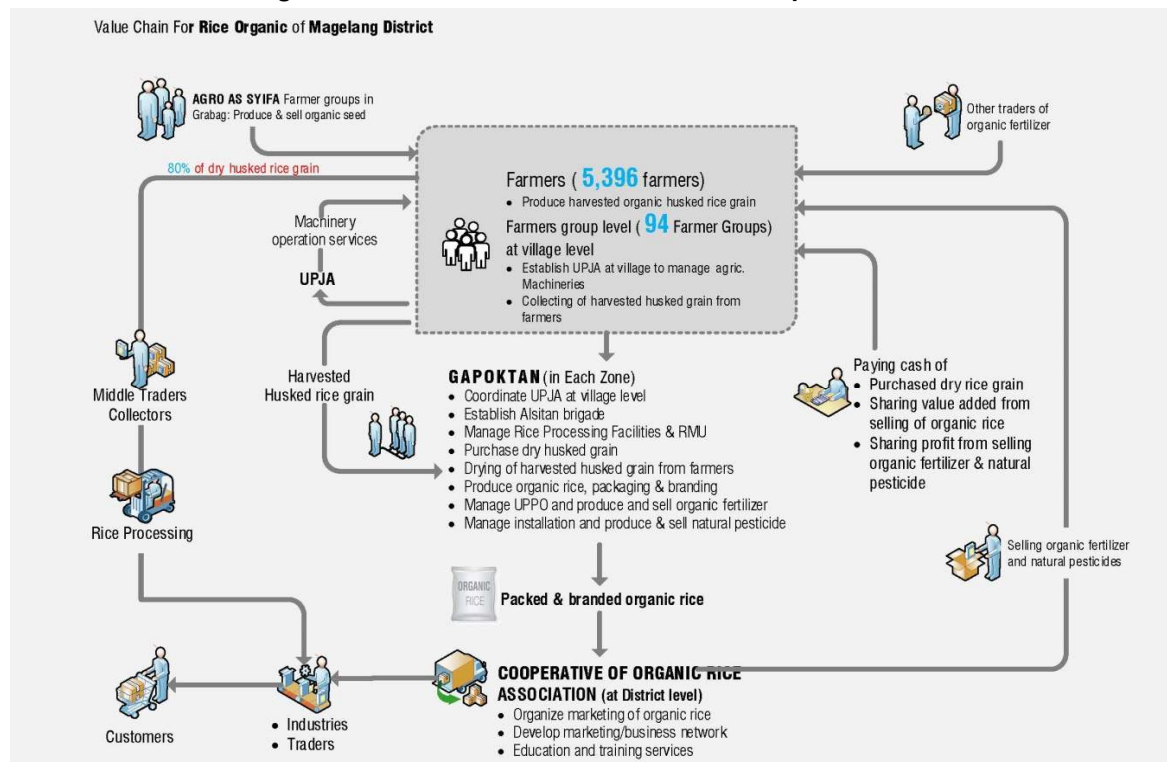
**101. Malang District** The project in Malang District will develop shallot in area 300 hectares involve 778 farmers divided into 11 Farmer Groups and located in 3 villages under 2 sub-district. Seed of the shallot will be obtained from local farmers and in the future may from Sumbawa farmers. Total production of shallot of this project is estimated about 3,000 tons. Most of the shallot would be delivered to Farmer Federation, cooperative and collectors. Then the products would be distributed to primary and secondary wholesaler, processors and retailer. At the end, the product would be delivered to consumers.

**Figure 9: Value Chain for Shallot of Malang District**



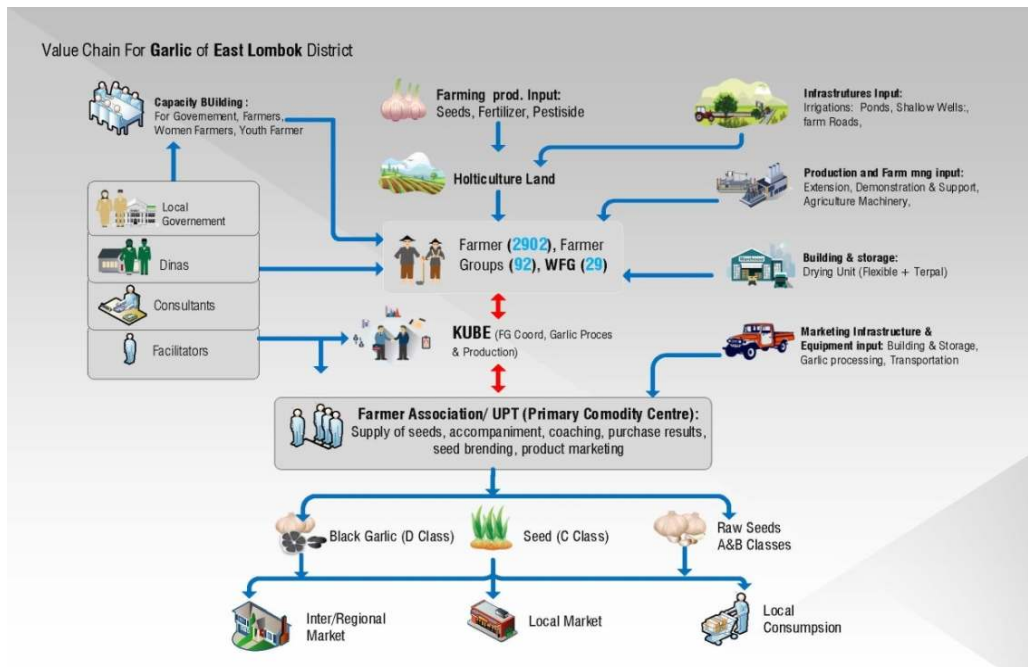
**102. Sumenep District** The project in Sumenep District will develop shallot in area 160 hectares involve 1,132 farmers divided into 53 Farmer Groups and located in 4 villages under 1 sub-district. Seed of the shallot will be obtained from local farmers and in the future may from Sumbawa farmers. Total production of shallot of this project is estimated about 1,600 tons. Most of the shallot would be delivered to Farmer Federation, cooperative and collectors. Then the products would be distributed to primary and secondary wholesaler, processors and retailer. At the end, the product would be delivered to consumers.

**Figure 10: Value Chain for Shallot of Sumenep District**



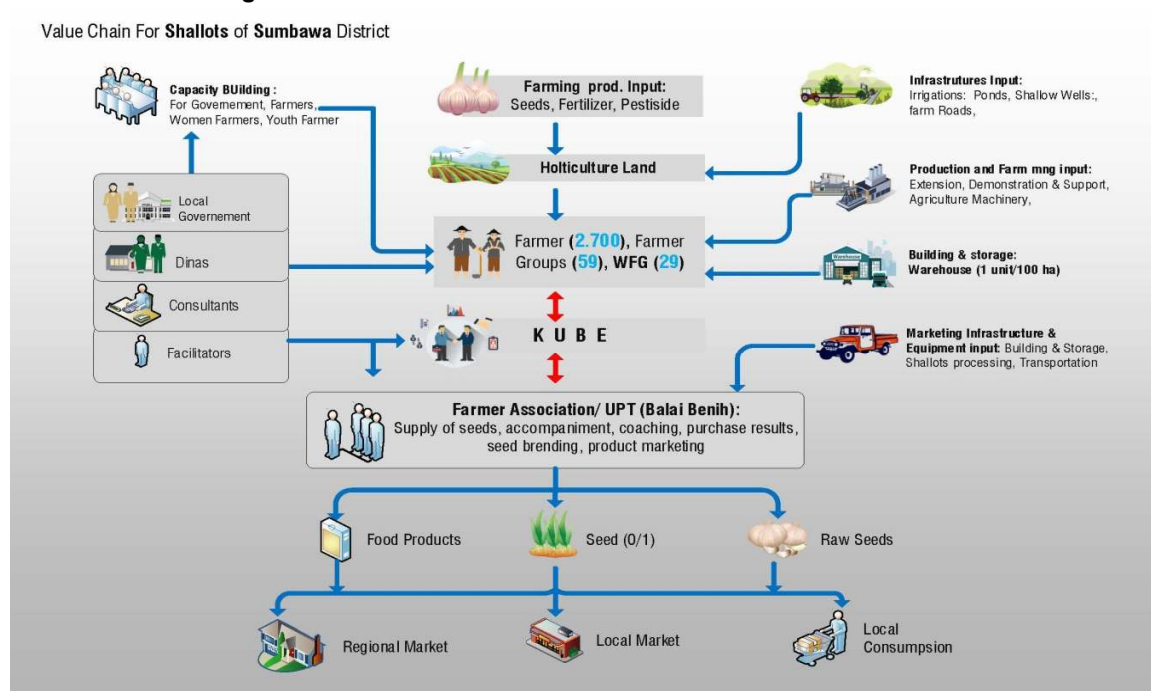
**103. East Lombok District** The project in East Lombok District will develop garlic in area 1,640 hectares involve 2,902 farmers divided into 92 Farmer Groups, located in 7 sub-districts and 26 villages. Seed of the potato will be obtained from local area. All production of garlic would be collected by Farmer Groups, then delivered to KUBE which 1 KUBE in 1 sub-district of project location. Furthermore, the product would be delivered to Farmer Association in district level and will be processed into 3 kinds of product, there are black garlic (D class), seed (C class), raw seed (A & B class). All kind of the products will be marketed for inter/regional market, local market, and for local consumption.

**Figure 11. Value Chain for Garlic of East Lombok District**



**104. Sumbawa District** The project in Sumbawa District will develop shallot seed in area 3,000 hectares involve 2,700 farmers divided into 59 Farmer Groups, located in 13 sub-districts and 26 villages. Seed of the shallot will be obtained from local area. All production of shallot would be collected by Farmer Groups, then delivered to KUBE which 1 KUBE in 1 sub-district of project location. Furthermore, the product would be delivered to Farmer Association in district level and will be processed into 3 kinds of product, there are Food Products, seed (0/1), and raw seed. All kind of the products will be marketed for regional market, local market, and for local consumption.

**Figure 12: Value Chain for Shallot Seed of Sumbawa District**

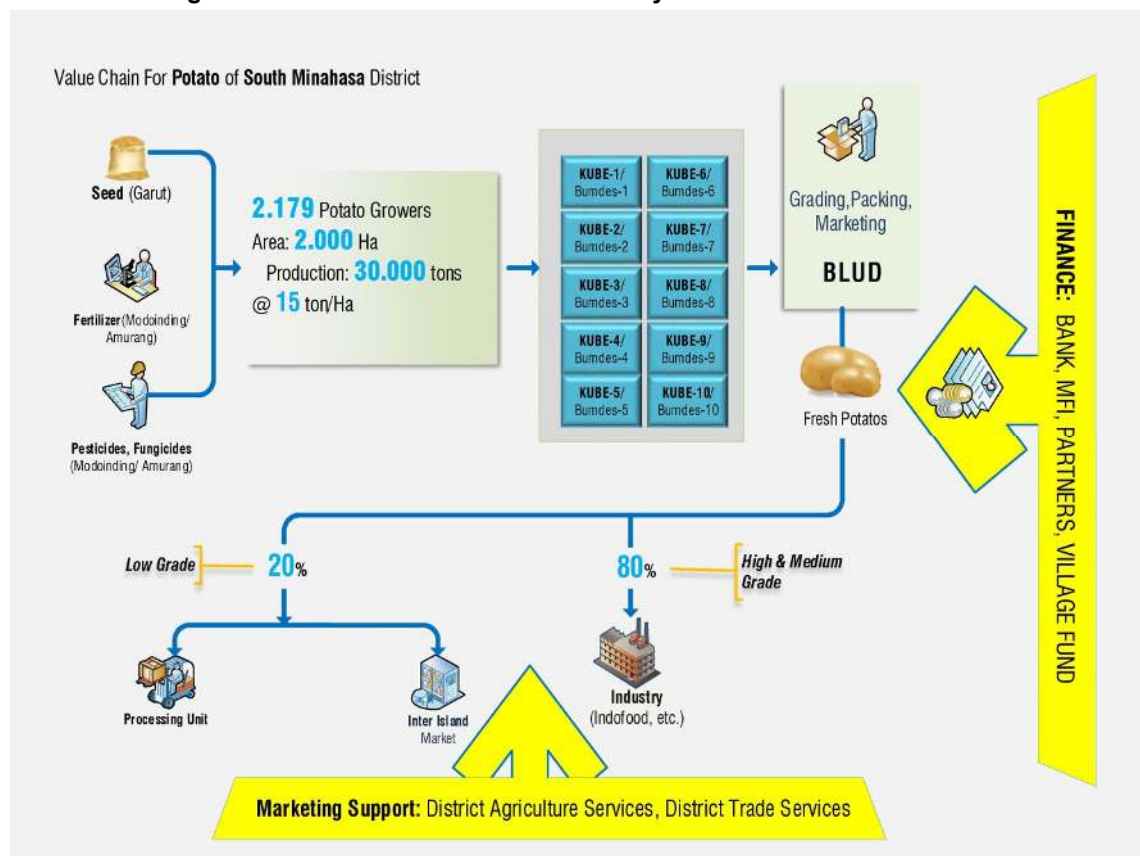




**105. South Minahasa District** The project in South Minahasa District will develop Potato for industry in area 2,000 hectares involve 2,179 farmers located in 10 villages of Modinding Sub-district. Seed of the potato will be obtained from potato seed farmers of Garut District. Total production of potato of this project estimated about 30,000 ton per season (4-5 months). All of potato production will be collected in KUBE (*Kelompok Usaha Bersama*/Joint Business Group). This Kube would be a business unit of Bumdes (*Badan Usaha Milik Desa*/Village-owned Business Entity) which currently exists and is already running. There are 10 Bumdes in project location (1 village 1 Bumdes). After the potatoes are collected in Kube, then would be delivered to BLUD (*Badan Layanan Umum Daerah*/Regional Public Service Agency). The main activities in Kube are grading, packaging, and marketing.

**106.** It is estimated that 80% of all production could be high grade and will be delivered to potato industries such Indofood, Nestle, etc. While 20% of production could be low grade and will be delivered to inter-island market and Processing Unit which managed by Women Farmers Groups. All of marketing activities would be supported by local government, especially District Agriculture Services and District Trade Services.

**Figure 13: Value Chain for Potato Industry of South Minahasa District**

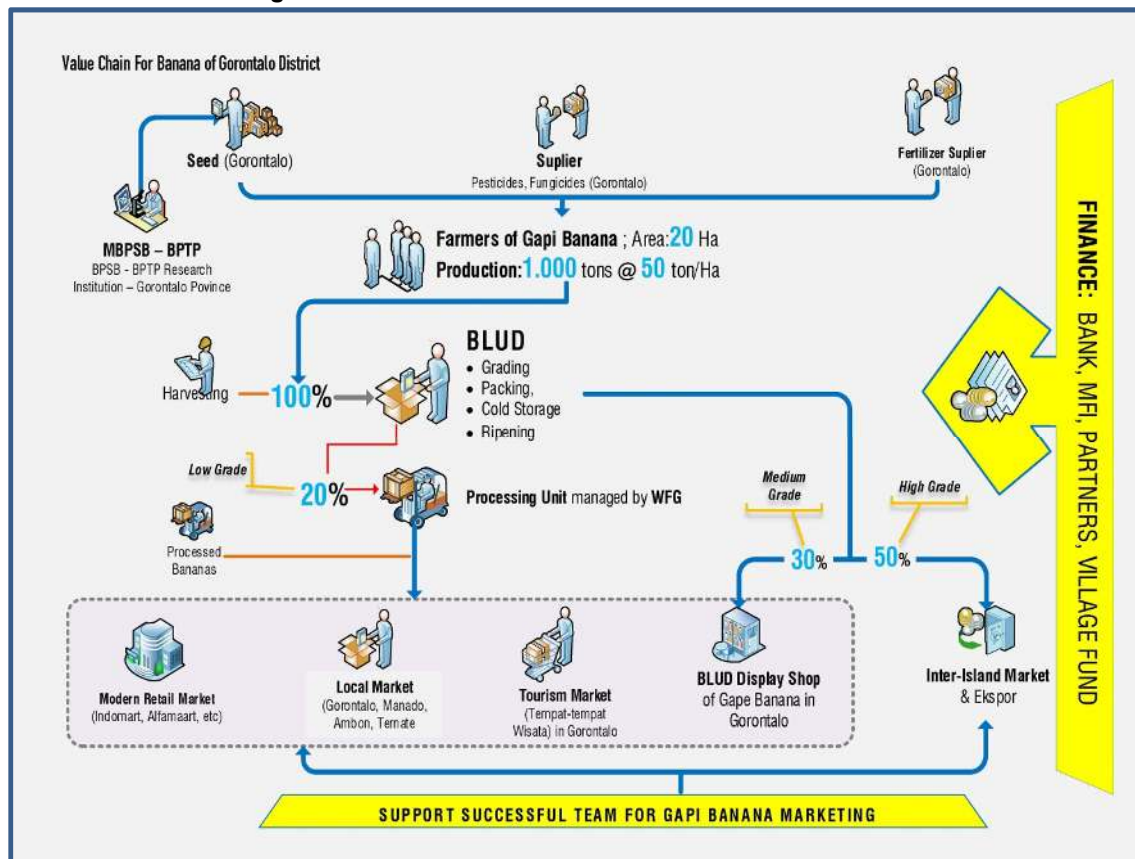


**107. Gorontalo District** The project in Gorontalo District will develop Gapi Banana (special local banana) in area 20 hectares of Pilot Project involve 26 farmers. Seed of the banana would be provided by Seed Plant Supervision and Certification of Food Crops and Horticulture (*Balai Pengawasan dan Sertifikasi Benih Tanaman Pangan dan Hortikultura*) of Gorontalo Province. It is estimated that total production of the banana about 1,000 tons per year. All of the harvested products would be delivered to Regional Public Service Agency (*Badan Layanan Umum Daerah/BLUD*) under District Government of Gorontalo.

**108.** Activities of the BLUD cover grading, packaging, cold storage and ripening of the Gapi Banana. It is estimated that high grade of banana about 50% and medium grade 30%. The high grade will be distributed to Inter-Island and export market, while the medium grade will be allocated for retail and local market. The 20% of low-grade banana would be delivered to Women Farmer Groups for processed bananas. The processed products will be distributed to local market. Banana marketing of the Pilot

project would be supported by Successful Team for Gapi Banana Marketing that the members consist of District Agriculture Services Staff, District Trade Services Staff, representative of Farmer Groups and Women Farmer Groups.

**Figure 14: Value Chain for Banana of Gorontalo District**



## Implementation Arrangements

**109. Executing Agency.** In general, Ministry of Agriculture through Directorate General of Agricultural Infrastructures and Facilities will be the Project Implementing Agency which in its daily implementation will be carried out by the National Project Management Unit (NPMU) in central government. While, implementing organizations at the district level is the District/City Agricultural Service which forms the District Project Implementing Unit (DPIU) which is responsible for the implementation of daily projects. NPMU in carrying out its duties should coordinate with DPIU. NPMU represents the whole DPIU in communicating and coordinating with IsDB and IFAD.

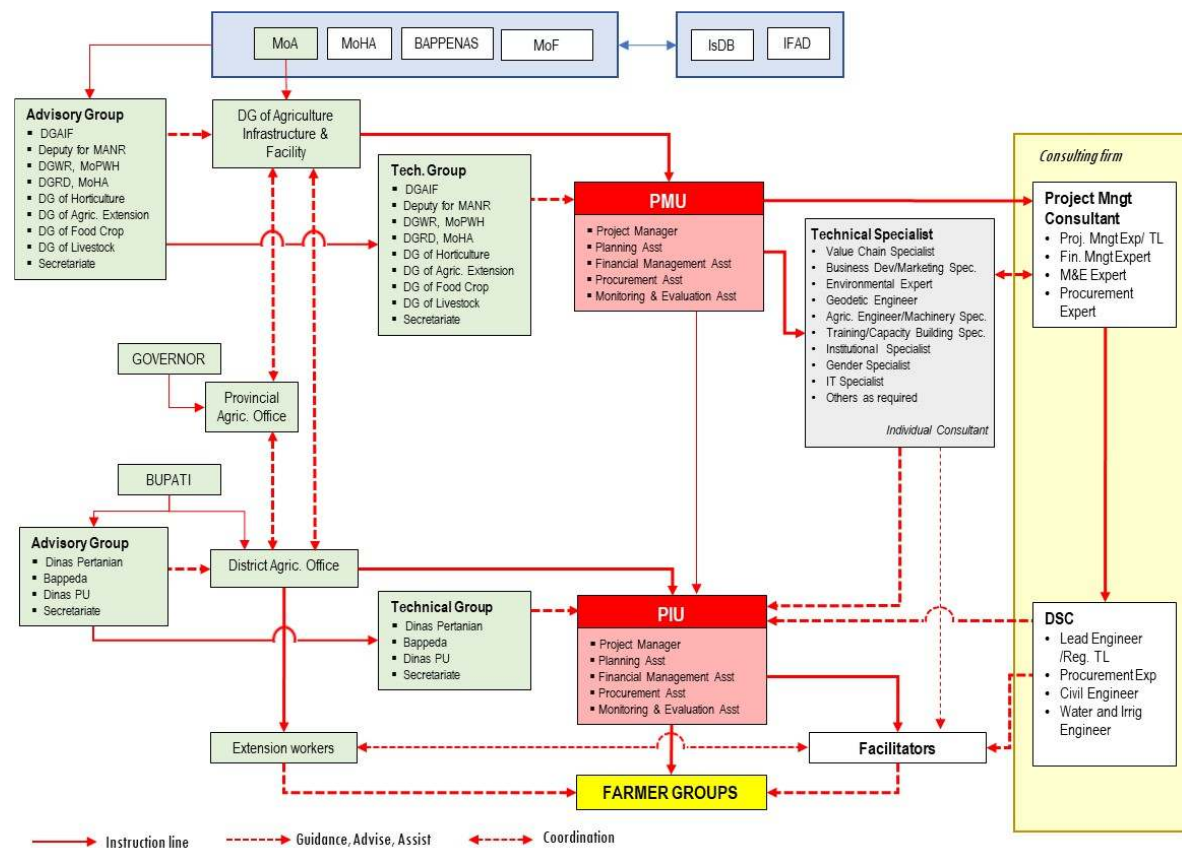
**110.** The main function of PMU is to regulate policies regarding project implementation and be responsible for project implementation from the planning, implementation, administration, monitoring and reporting of project activities. The project's daily executor is chaired by the Project Manager who is directly responsible to the Director General of Agricultural Infrastructure and Facilities. In carrying out its work PMU is assisted by a Project Management Consultant (PMC) whose job is to provide managerial input to PMU, Design and Supervision Consultants (DSC) in charge of designing and supervising infrastructure development, and individual technical experts tailored to the needs of each commodity and location. Procurement of consulting services for Project Management Consultants (PMC) and Design and Supervision Consultants (DSC) will be carried out through the implementation of Prequalification (Short Lists) for national consulting companies. While the procurement of technical experts is carried out individually. The procurement of PMC, DSC and technical experts is carried out by PMU. Besides that, in each village there will be a facilitator who will carry out the procurement by the PIU in the district.

111. While the PMU has overall responsibility for project delivery, each of the Components will have specific implementation arrangements:

- (a) **Component 1: District Agricultural Agencies (Dinas Pertanian)** will have prime responsibility for programme delivery within their district area. BAPPEDA will act as coordinator during the planning process while Dinas Pertanian will act as Programme Implementation Unit (PIU) supported with other relevant technical agencies. PIU will be supported by technical specialists and DSC implementing the physical infrastructure work assigned to each district and will work as an integrated part of the district implementation teams and be based in the Dinas Pertanian. The district teams will be provided with technical backstopping and monitoring by PMU team as well as the corresponding provincial agencies, especially the provincial Dinas Pertanian.
- (b) **Component 2: While the social mobilization and facilitation process under sub component 2.1 will be the responsibility of PIU, PIU will have primary responsibility for delivery of activities under 2 sub-components. The implementation of sub-component 2.4 on microfinance, will be under on-granting mechanism where District Government will appoint a regional development bank/ district level bank (BPDs/BPRs) to administer the revolving fund to be extended to farmer groups and its member.**
- (c) **Component 3: Training of GoI staff will be led and implemented by the PMU while adaptive research will be undertaken in consultation with relevant research institutes and district extension staff in the case of on-farm research.**

112. Figure 15 shows Organization Structure of the UPLANDs project.

**Figure 15: Organization Structure of the Project**



113. **Project Management Unit.** The PMU will coordinate the 14 district Project Implementation Units (PIU) which will be embedded at Dinas Pertanian (District Agricultural Agency). Main implementation

activities will be undertaken at district level. The PMU and PIUs will be staffed by dedicated full time staff and supported by technical and administrative staff to ensure timely project delivery.

114. The PMU has overall responsibility for project implementation and will be led by a Project Manager supported by a Planning Assistants to provide overall coordination and oversight of all project activities within a number of districts and ensure adequate presence and support of the project management out in the districts level. In addition, the Project Manager will be supported by Financial Management team, Procurement Officer and Monitoring and Evaluation officer that will oversee financial management, procurement and programme administration issues, including planning, M&E and reporting.

115. The NPMU will:

- Prepare guidelines as a reference in project implementation;
- Interact with the Advisory and Technical group regarding project preparation;
- Conduct socialization and preparation to district level;
- Provide training to the DPIU's staff in project management and implementation.
- Monitor program implementation to be in accordance with applicable norms and regulations;
- Monitor and coordinate relations with the Lender during project implementation;
- Responsible for all project implementation activities;
- Responsible for the overall sustainability of the project, during the pre-project period, project implementation and post-project period;
- Responsible for indicators of program success;
- Make and consolidate overall and annual work plans, budget plan and project implementation programs;
- Submitting project progress reports to relevant agencies and donor countries;
- Coordinate with relevant agencies;
- Make regular coordination with DPIUs;
- Evaluate the program;
- Prepare regular coordination meetings with related parties.



**Table 7: PMU Roles and Responsibilities**

<b>Occupation/ Position</b>	<b>Task and responsibility</b>
<i>PMU's Project Manager</i>	<ul style="list-style-type: none"> <li>Reported directly to the DG of Agriculture Infrastructure and Facilities (DGAIF);</li> <li>Coordinate the PMU staff, management consultant, technical consultant and Design and Supervision consultants in the preparation of project implementation and management guideline, preparation of overall and annual work plan and budgeting, project procurement at MoA level, project finance management, project monitoring and evaluation, and project reporting;</li> <li>Support the Agency at MoF in preparing grant agreement with participating districts;</li> <li>Maintain close coordination and communication with IsDB and IFAD and other related agencies at Bappenas, MoF and MoHA, as well as Provincial Agriculture Office;</li> <li>Maintain close coordination and communication with DPIUs, including conduct regular meeting and field supervision;</li> <li>Prepare and submit project management and implementation reports to DGAIF;</li> <li>In consultation with Advisory and Technical Groups and upon approval of DGAIF, IsDB/IFAD to take any actions to ensure the project implemented as plan and comply with the government regulations and Loan Agreement.</li> </ul>
<i>PMU's Planning Asst</i>	<ul style="list-style-type: none"> <li>Support the PMU Project Manager in preparing guideline in project planning and budgeting;</li> <li>Make coordination with DPIUs' planning assistants in preparing overall and annual work plan and budgeting, including train to the DPIUs' planning assistant in planning and budgeting procedures;</li> <li>In coordination with PMU's financial management assistant support the PMU manager in preparing overall and annual work plan and budgeting of activities at central level, and consolidating planning from DPIU level;</li> <li>Make coordination with procurement assistant in preparing procurement plan at central level.</li> </ul>
<i>PMU's Financial Management Asst</i>	<ul style="list-style-type: none"> <li>Support the PMU Project Manager and agency at MoF in making grant agreement with participating districts;</li> <li>Support the PMU Project Manager in preparing guideline in project finance management including the use of on-granting system;</li> <li>Make coordination with DPIUs' financial management assistants in the implementation of on-granting system, including working with appointed MoF staff to provide training the DPIUs in on-granting system and mechanism;</li> <li>Make coordination with DPIUs' financial management assssistant in the budgeting, disbursement and document verification, and reporting of project finance including preparation of statement of expenditure (SOE);</li> <li>Monitor and record the project project disbursement at central and district level;</li> <li>Support the PMU Project Manager in preparing regular project financial and disbursement report to be submitted to DGAIF, Bappenas, MoD, IsDB and IFAD.</li> </ul>
<i>PMU's Procurement Asst</i>	<ul style="list-style-type: none"> <li>Support the PMU Project Manager in preparing guideline in procurement which follow the recent government regulation, e.g. Prepress No. 16/2018;</li> <li>Make coordination with DPIUs' procurement assistants in the implementation of Prepres No. 16/2018 regarding the procurement of goods/services; and as necessary provide training in procurement procedures;</li> <li>Make coordination with DPIUs' procurement assssistant in the procurement plan at district level, and monitoring the progress of procurement activities at district level;</li> <li>Make coordination with <i>Pokja Pemilihan dalam Pengadaan Barang/Jasa</i> and/or PPK<sup>42</sup> in the MoA to support the PMU project manager/PPK in tender or selection of providers at central level, since preparation of Terms of Reference or Specification, other tender/selection document, announcement and tender process applying e-procurement;</li> <li>Monitor the progress of procurement activities at central and district level, and prepare regular report to PMU Project Manager.</li> </ul>

<sup>42</sup>PPK is abbreviated as Pejabat Pembuat Komitmen (Authorized Commitment Maker). PPK is part of Satker (Satuan Kerja or Working Unit). Satker is the Authorized Budget User/Goods User which is part of an organizational unit in the Ministry/Institution that carries out one or several activities of a program. Satker and its PPK is the program/project administrative and management entity in the government system. In some extend, the PPK and PMU Project Manager at central level or PPK and PIU Project Manager at regional level can be the same person.

Occupation/ Position	Task and responsibility
<i>PMU's Monitoring &amp; Evaluation Asst</i>	<ul style="list-style-type: none"> <li>• Support the PMU Project Manager in preparing guideline project monitoring and evaluation system; including developing on-line M&amp;E system;</li> <li>• Make coordination with DPIUs' monitoring and evaluation assistants in the implementation project monitoring and evaluation procedure, and as necessary provide training in procurement procedures;</li> <li>• Work with other PMU assistants to make coordination with DPIUs' monitoring and evaluation assistant in monitoring and evaluation of the project progress (physical and financial), and achievement of project output which refer to the Project Design and Monitoring Framework (DMF), including to make regular visit and to ensure that project progress and achievement are recorded and documented properly;</li> <li>• Support the PMU Project Manager in preparing regular Monitoring and Evaluation report of the project.</li> </ul>

**116. District Project Implementing Units.** The PIUs will be housed under the Dinas Pertanian in each district. With similar structure to PMU, PIU will be led by a District Project Manager and supported by the relevant support staff to provide implementation support and managing all project activities within number of villages. Similar to PMU, the PIU will be equipped with staff that will oversee financial management, procurement and programme administration issues, including planning, M&E and reporting.

**117.** The PIU will:

- Conduct socialization at village and farmer group level;
- Facilitate and monitor social preparation;
- Train all project actors at district and village level in project implementation guideline and procedure;
- Interact with the district's Advisory and Technical group regarding project preparation.
- Monitor program implementation at district level to be in accordance with applicable norms and regulations;
- Responsible for all project implementation activities at district level;
- Responsible for the sustainability of the project at district level, during the pre-project period, project implementation and post-project period;
- Prepare overall and annual work plans and budget plan;
- Submitting project progress reports to Head of Agriculture Office and PMU;
- Coordinate with relevant agencies at district level and with PMU;
- Evaluate the program implementation and output at district level;
- Prepare regular coordination meetings with related parties;
- Aligning the policies of the Directorate General related to the UPLANDs project.

Occupation/ Position	Task and responsibility
<i>PIU's Project Manager</i>	<ul style="list-style-type: none"> <li>Reported directly to the Head of District Agriculture Office and to the PMU in the project implementation;</li> <li>Coordinate the PIU staff and facilitators in the project preparation and implementation at district level including social &amp; institutional preparation at field level, preparation of overall and annual work plan and budgeting plan, project procurement, project finance management, project monitoring and evaluation, and project reporting;</li> <li>Maintain close coordination and communication with PMU Project Manager and other related agencies at district level (e.g. Bappeda, Dinas PU) as well as Provincial Agriculture Office in the project implementation;</li> <li>Prepare and submit project management and implementation reports to PMU and Head of District Agriculture Office;</li> <li>In consultation with District Advisory and Technical Groups and upon approval of Head of District Agriculture Office and PMU to take any actions to ensure the project implemented as plan and comply with the government regulations and Loan Agreement;</li> </ul>
<i>PIU's Planning Asst</i>	<ul style="list-style-type: none"> <li>Support the PIU's Project Manager in preparing guideline in project planning and budgeting;</li> <li>Make coordination with Facilitators (if any) and farmers' leader in preparing overall and annual work plan and budgeting;</li> <li>In coordination with DPIU's financial management assistant support the DPIU Project Manager in preparing overall and annual work plan and budgeting of activities at district level;</li> <li>Make coordination with DPIU's procurement assistant in preparing procurement plan at district level.</li> </ul>
<i>PIU's Financial Management Asst</i>	<ul style="list-style-type: none"> <li>Support the DPIU's Project Manager in preparing budgeting plan to enter the local DPA, and in the implementation of on-granting system with refer to the grant agreement made by Bupati and MoF;</li> <li>Support the DPIU's Project Manager in preparing document for disbursement to be submitted to MoA;</li> <li>Support the DPIU's Project Manager in monitoring and recording the project project expenditure and disbursement status;</li> <li>Support the DPIU's Project Manager in preparing regular project financial and disbursement report to be submitted to Head of District Agriculture Office and PMU.</li> </ul>
<i>PIU's Procurement Asst</i>	<ul style="list-style-type: none"> <li>Make coordination with <i>Pokja Pemilihan dalam Pengadaan Barang/Jasa</i> and/or District-level PPK to support the DPIUs project manager/PPK in tender or selection of providers of procurement of good/construction work/service implemented at district level, since preparation of Terms of Reference or work specifications, other tender/selection document, announcement and tender process applying e-procurement;</li> <li>Monitor the progress of procurement activities at district level, and prepare regular report to Head of District Agriculture Office and PMU Procurement Assistant;</li> <li>Work with related technical group and beneficiaries as well as supervision consultant or other assigned inspection staff to verify and check the delivery of goods/physical works/services;</li> <li>Make close coordination with PMU's Procurement Assistant.</li> </ul>
<i>PIU's Monitoring &amp; Evaluation Asst</i>	<ul style="list-style-type: none"> <li>Make coordination with PMU's monitoring and evaluation assistants in the implementation and to conduct project monitoring and evaluation procedure;</li> <li>Work with other DPIU's assistants in monitoring and evaluation of the project progress (physical and financial), and achievement of project output which refer to the project monitoring and evaluation guideline, including to ensure that project progress and achievement are recorded and documented properly; and delivered properly and on-time to PMU or through on-line M&amp;E system;</li> <li>Support the DPIU's Project Manager in preparing regular Monitoring and Evaluation report of the project.</li> </ul>

**11. Provincial Level.** While there will be no dedicated structure established at Provincial level, provinces will focus on coordination and monitoring support and as such will not lead any activities nor

manage activities in districts. They are considered necessary to provide closer support and backstopping to the District PIU during implementation.

**119. Project Management Consultants.** The PMU and PIU will be supported by a Project Management Consultants (PMC) team, on day to day management and coordination; a Design and Supervision Consultant (DSC) team that will specifically verify the engineer design of the infrastructure works and will supervise the construction works in the project area; and Technical Experts that will be highly focused teams in each district according to commodity needs. These experts will explicitly focus on advising and providing professional support in specific areas, such as value chain, water management, business development, microfinance, gender and other relevant technical areas. There will be a small number of individually recruited national and international technical experts, primarily at the PMU level and weighted towards the start of the programme to help establish the new programme systems and approaches.

**120.** The Project Management Consultant will:

- Support the PMU in project preparation, including preparation of project implementation and management guideline, provide training to DPIUs in project guideline;
- Support the PMU in making coordination with IsDB/IFAD, and the Advisory and Technical group regarding project preparation.
- Support the PMU in monitoring project implementation and management at district level to be in accordance with applicable norms and regulations;
- Support the PMU in preparing overall and annual work plans and budget plan;
- Support the PMU in procurement including preparation of Terms of Reference and other necessary procurement document, including coordination with *Pokja Pemilihan dalam Pengadaan Barang/Jasa* and/or PPK;
- Support the PMU in project finance management, including verification of disbursement document; monitoring and recording disbursement progress and status;
- Support the PMU in monitoring and evaluation of project implementation, activities progress, financial & disbursement progress, progress of output achievement; including developing on-line M&E system;
- Support the PMU in preparing required project management and implementation reports; including data on project progress and achievement status;
- Support the PMU in the IsDB/IFAD in supervision mission and mid-term review;
- Support the PMU in preparing necessary materials as required by the DGAIF;
- Support the PMU in preparing project completion report.

**121.** The Individual Technical Specialists will

- Provide PMU with technical supports, advices, recommendation in the project implementation based on assessment and/or findings;
- Provide PMU with technical concept, idea and other best practice which are applicable for the project implementation to get best performance of the project;
- Provide PMU with technical skill and expertise as requested and needed by the PMU for the project implementation;
- Prepare necessary proposals to conduct specials studies or assessment or other necessary works for review by PMU and Technical Group to enhance the project performance.

**122.** The Design Consultant will:

- Conduct survey and field investigation to prepare engineering design of construction work in assigned districts;
- Make coordination with farmer groups and DPIU staff as well as technical group in preparing detail design and specifications;
- Produce Detail Engineering Design document applicable for construction by local contractors, including technical drawing, technical specification, unit cost analysis and estimated construction costs, and O&M Manual as required;
- Prepare tender document including engineering estimate.

**123.** The Supervision Consultant will:



- Conduct construction supervision and site inspection in the construction works implemented by contractors or farmer groups; including joint review with contractors/farmer groups on the detail design and updated as necessary;
- Conduct review and give approval of the shop drawing prepared by contractors or technicians of farmer groups;
- Witness and/or conduct independent quality test of the materials, construction works;
- Monitor the physical progress including money value of construction progress; conduct field verification and check upon the payment claim submitted by the contractors or head of farmer group; and recommend to the DPIU or PMU for certification of construction progress;
- Maintain their independency in supervising and inspection of construction works;
- Conduct joint commissioning test (with contractors, DPIU staff, representative of beneficiaries) upon the completion of construction work, including review of as-built drawing and O&M manual prepared by the contractors;
- Provide regular (weekly and monthly) progress report detailing construction progress, financial progress, quality of work, environmental and social safeguard compliance;
- Provide recommendation to DPIU or PMU to take necessary actions regarding the performance of construction works.

**124. The Facilitators will:**

- Support the DPIU in mobilization of target beneficiaries;
- Work at field (village) level to establish, strengthen and develop farmer groups, farmer group federation or association, and facilitate in developing farmer-based organization (e.g. KUBE, Cooperative) in implementing and developing the agribusiness development supported by the project;
- Support the DPIU and facilitate the farmer groups in implementing community-contract of construction works applying Type-III *swake/ola*;
- Monitor and evaluate the performance of farmer groups, farmer group federations and other farmer-based organization in implementing the project, and provide necessary recommendation and input to DPIU in escalating and enhancing project performance, with particular attention given to the farmer-based agribusiness and value chain development;
- Provide DPIU with regular (monthly) reports.

**125. Advisory Group and Technical Group.** UPLANDs will be overseen by an Advisory Group to provide overall policy guidance and oversight to the Project Management Unit. The Advisory Group will be composed of echelon 1 from relevant Directorate General (DG) within MoA. Their advice will be important given the strong linkages that the project envisages with other sectors such as horticulture or agricultural extension and agri-business. For daily technical advice, there will be a national technical group that will provide technical guidance for implementation purposes. At each district, a District Working Group (POKJA) will be established and chaired by *Setda* with membership from BAPPEDA and other relevant technical agencies, including the procurement committee. District working groups are an effective way of keeping district government officials informed of the project progress and challenges as well as of seeking the active support of the Bupati (District Mayor), and any potential private sector players working in the project area. It will also identify opportunities for leveraging funds available from other sources e.g. Village Funds and District Governments, supporting the BLUD set up and, most importantly, ensure that on-granting funds are properly provisioned in district budgets. Private sector partners working in the relevant commodity value chain in each district may also provide support to the small holders in extension activities, and identifying markets and building commodity alliances.

**126.** Ministry of Agricultural covers 5 Directorate General, one of them is Directorate General of Infrastructure and Facilities, 4 Agencies, then a General Secretariat and a General Inspectorate. The Minister of Agricultural also supported by a number of experts such as show in the **Figure 18**. Meanwhile, Directorate General of Infrastructure and Facilities consist of 5 Directorates, one of them is Directorate of Agricultural Irrigation. Besides that, this directorate is supported by a Secretariat of Directorate such show in **Figure 16**.

**F**

figure 16. Organization Structure of Agricultural Ministry

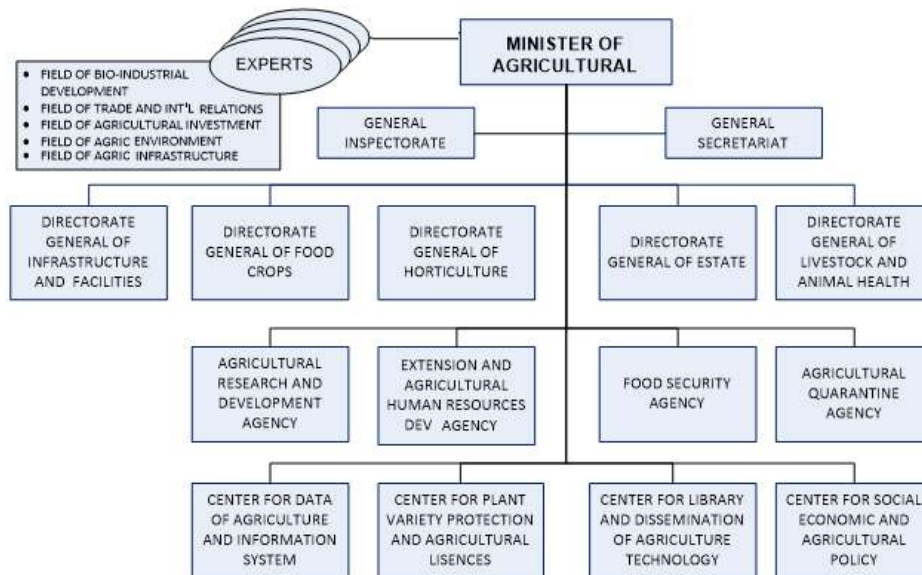
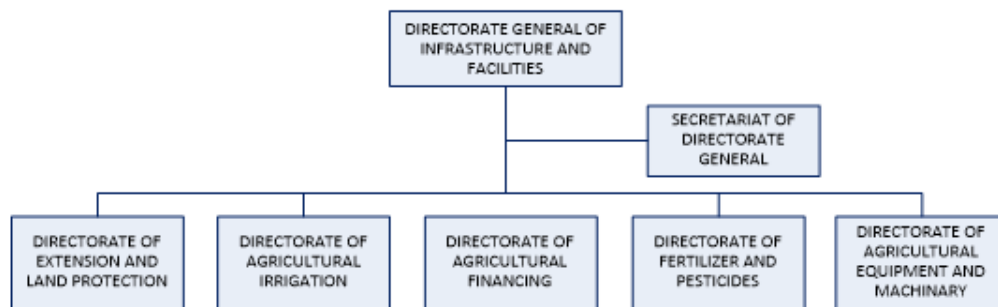


Figure 17:. Organization Structure of DG Infrastructure and Facilities



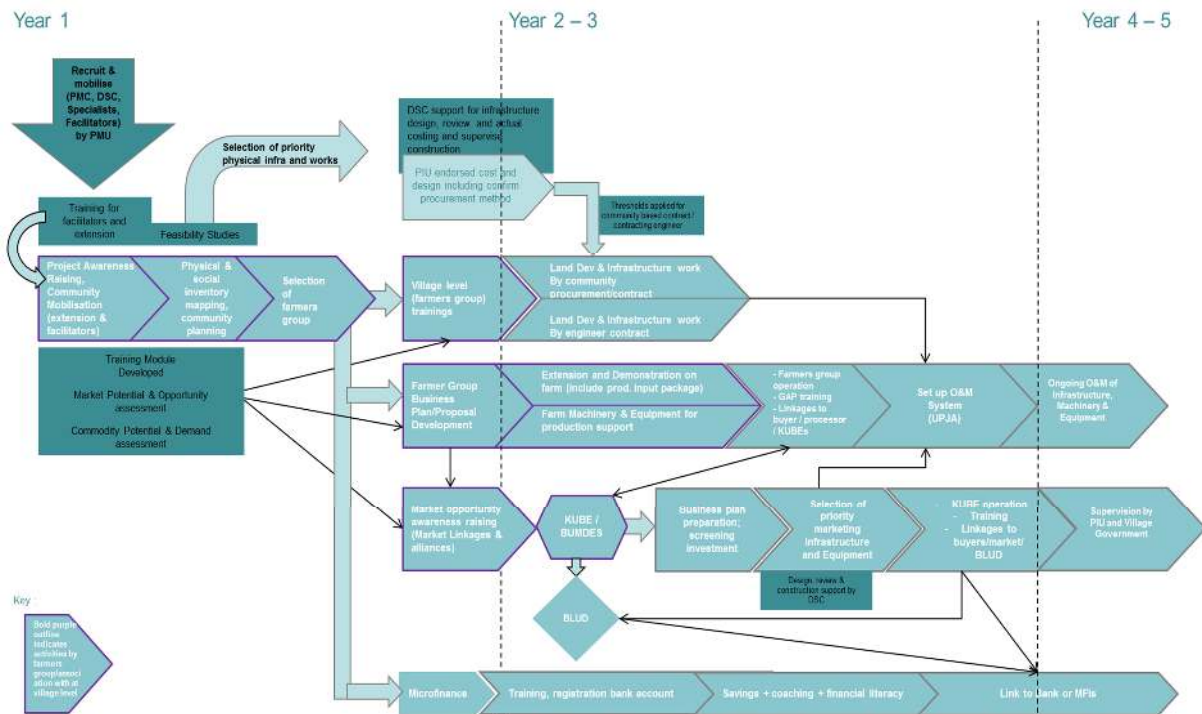
127. Based on organization structure of the project, the integrated UPLANDs project would be executed by Directorate General of Infrastructure and Facilities especially Directorate of Agricultural Irrigation. In district, this project would be executed by Field of Infrastructure and Facilities under *Dinas Pertanian* (District Agricultural Services). However, based on based on observations during the field survey, many staff do not ready and do not understand the project model both technically and administrative. This condition may be caused by limited staff capacity, rotation frequency is high, too busy with other tasks and limited number of staffs in *Dinas Pertanian*. Therefore, it needs some training for staff to increase their capability and knowledge of the project.

128. Ministry of Agriculture (MoA) has long experience in implementing and managing international supported projects, financed by ADB, the World Bank, IFAD, and IsDB. Particularly Directorate General of Infrastructure and Facilities has just completed the Agriculture component of the World Bank-funded WISMP-2 and IFAD-funded SOLID; in which the WISMP-2 applied on-granting mechanism. Ministry of Agriculture currently also manages on-going ADB-funded IPDMIP. Therefore, capacity of the MoA and the Directorate is no doubt. In the meanwhile, not all of District Government – particularly Agriculture Office – has experience on implementing and managing international-funded projects as well as familiar with on-granting system. Agriculture Office of Subang, Magelang, Purbalingga, Sumenep, Lombok Timur and Sumbawa had experience in WISMP-2 which implements on-granting system. Districts of Cirebon, Garut, Banjarnegara, Minahasa Selatan, and Lombok Timur currently are implementing the ADB-funded IPDMIP. Although most of districts have experience in implementing international-funded projects and applying on-granting system, in some extend the capacity of staff in project management and on-granting system need to be upgraded since mostly there are staff rotation and moving. In addition, the capacity of decentralized extension units/institutions (previously called as BPP) that have

responsibility in farmer extension, training and demonstration might need to be upgraded. Although staff of the decentralized extension institutions are mostly from the centralized BPP, but the senior staff could be retired and the new staff might lack experience in updated training and extension methodologies such as farmer field school and participatory field trials. In this regard the extension workers of Agriculture Office are suggested to be targeted for capacity building in technical aspects of farmer training and extension.

## Implementation Schedule

**129.** The Project is expected to be implemented within 5 years from the effective date of signing of the financing agreement within the period of 2019 to 2025. This expectation is based on the following assumptions: (i) The initial stage (assessment until the loan agreement) will be completed by the end of 2018; and (ii) Project implementation is expected to begin in early 2019, and the project is expected to be completed by mid of 2025. Tentative of project implementation schedule is shown in table below.



**130. On Farm Location and Farmer Selection.** The location of the project is prioritized in one stretch with an area adjusted to the availability of land in each region. The status of the land to be included in the location of the project must have clear ownership, in the form of community land and land owned by the local government such as village/crooked land that has been completed with official statements from the village head to be included in this program. For ex-plantation/forestry land has been completed with a land release letter.

**131.** In addition to the selection of program locations also need to be considered in the selection of farmers participating in the project, selected farmers are landowners and other farmers who are willing to manage village/crooked land and former plantation/ forestry land. Farmers participating in the project are required to join farmer groups/farmer groups combined to facilitate coaching by extension agents and other government officials.

**132.** The land that will be used for the construction site of physical facilities such as embung, warehouse, drying floor, etc. is a land that is free from disputes and no compensation for the use of this land. The land that will be used for the construction site of physical facilities such as embung, warehouse, drying floor, etc. is a land that is free from disputes and no compensation for the use of this land.



**133. Implementation On-Farm Activities.** The implementation of on-farm activities is carried out by farmers, accompanied by extension workers under the guidance of the local Agriculture Service and PMDSC consultant staff. The applied cultivation techniques refer to environmentally friendly cultivation techniques as well as the application of modern farming systems, which will be introduced to farmers through training to be carried out in this project. The pattern of implementation of on-farm activities is the provision of assistance for inputs and tools and agricultural machinery. Management of Tools and Machines at the on-farm level is carried out by the Joint Business Group (KUBE) using the mechanism of *Alsintan* Service Business (UPJA), where members of the farmer group can rent the *Alsintan* with an agreed rental fee.

**Table 8: Project Implementation Schedule**

No	Activities	2018	2019	2020	2021	2022	2023	
		JASON	JFMAN	JASON	JFMAN	JASON	JFMAN	JASON
I	Processing Financing Agreement							
1	Prepare and finalize Project Adm Doc (PAD)							
2	Loan Negotiation							
3	Loan Agreement Signing							
4	Effective date of financing agreement							
II	Project Preparation							
1	Processing grant agreement with participating districts							
2	Setting-up project organization at central and districts							
3	Preparation and Approval of Bidding Document							
4	Bidding Process of Consultant (PMDSC)							
	Contract Signing of Selected Consultant							
5	Preparation of PIM and project guidelines							
6	Project socialization and social/institutional preparation							
	- FGD, Research Proposal, Institutional Establishment/Legalization of FG							
7	Facilitate farmers' planning and proposal preparation							
III	Comp-1: Dev. for Productivity Enhancement & Resilience Building							
1	Preparation of DED of land, water and physical infrastructure							
2	Construction of physical works							
	- Water Infrastructure							
	- Land Infrastructure							
3	Procurement of Agro-input and farm machineries							
4	Implementation of Production and Farm Management							
5	Preparation of Training Material (Modul)							
6	Training delivery for Farmers/Farmers Groups							
IV	Comp- 2: Agribusiness Development & Livelihood Facilitation							
1	Facilitation in Farmer Institutional Dev. (KUBE, etc.)							
2	Facilitation in District level Cooperatives Establishment & Dev.							
3	Facilitate KUBE/Cooperative Business Planning							
4	Preparation of DED of Building/Warehouse/Storage							
5	Construction of Building/Warehouse/Storage							
6	Procurement of processing facilities & installation							
7	Operation and management of KUBE/Cooperatives							
8	Preparation of Training Material (Modul)							
9	Training delivery for KUBE/Cooperatives							
10	Strengthening Market Linkage & Alliances							
11	Facilitate farms in accessing Financial Services							
V	Comp-3: Strengthening Institutional Delivery Systems							
1	Training to MoA and District Staff							
2	Conduct Adaptive Researches							
VI	Comp-4: Project Management							
1	Preparation of overall and annual work plan (OWP and AWP)							
2	Project Monitoring and Evaluation							
3	Initial Report							
4	Mid-term review							
5	Progress report/Six Monthly Report							
6	Annual report							
7	Project Completion report							

**134. Post-Harvest Management and Marketing Results.** By providing post-harvest equipment and processing the results, it is expected that the products produced are processed goods so that the added value of the products can be enjoyed by farmers/farmer groups. By providing post-harvest equipment and processing the results, it is expected that the products produced are processed goods so that the added value of the products can be enjoyed by farmers/farmer groups. In its implementation, the Cooperative accommodates the harvested products by the Joint Business Group/*Kelompok Usaha Bersama* (KUBE) to process the harvests through product sorting, packaging, marketing, etc.

**135.** Management of Agricultural Cooperatives is accompanied and fostered by the Agriculture Services of each Regency. To increase the capacity of farmers and management officers, training and comparative studies need to be carried out to other regions that have advanced in post-harvest handling. Through the comparative study, a product marketing network can be established between farmer groups/farmer groups combined, thus commodity prices can be maintained. Marketing of these results can also be done online, such as marketing organic rice, shallots/white etc.

## **PLANNING, M&E, LEARNING AND KNOWLEDGE MANAGEMENT**

**136.** Planning processes and schedules within UPLANDs will be harmonized with the mainstream planning process of Gol, both at national and at district level.

**137. Annual Work Plan and Budget (AWPB) Approval Process:** Using log-frame indicators, AWPBs will be the primary basis for project monitoring. The PMU will prepare a consolidated Annual Work Plan and Budget (AWPB) and corresponding procurement plans for the project. Although each District would have to prepare its own AWPB considering the on-granting requirements to ensure the allocation of funds to be made available in their annual budget process (APBD). The AWPB would be used as a tool for specifying implementation priorities, identifying the financial and procurement requirements and establishing a work plan with specific targets at the district, provincial and national level. The AWPB would constitute the basis for release of funds and for financial management. Together with the quantified results-based indicators (log-frame), AWPBs would be the primary basis for monitoring the project.

**138.** The AWPB will be prepared by consolidating (i) the plans from each district, primarily covering Component 1; (ii) plans associated with each of the sub-components under Component 2 both at National and District level (iii) plans for overall management of UPLANDs; (iv) for Component 3 will be included in the PMU AWPB.

**139.** The programme monitoring and evaluation (M&E) and knowledge management (KM) system will draw on the experiences of two IFAD funded projects (Coastal Community Development Project (CCDP) and SOLID) to learn about effective monitoring of key, specific performance indicators without collecting excessive data that can never be effectively analysed. The M&E and KM will be developed in line with IFAD, IsDB and Gol requirements. The system will be setup and managed by the PMU and be connected and inter-linked at all levels. It will consider the effects/impacts of project investments on all project beneficiaries and key stakeholders. The system will use the UPLANDs logframe as the key document for establishing the monitoring and reporting system. A monthly dashboard will be established to report progress on the key outputs and objectives, disaggregated by gender and integrating physical progress and financial progress including procurement processes. AWPB-based progress monitoring will be used as a starting point to monitor progress at activity level. The project will hire M&E specialist who will be part of the PMC. This person will draw on the M&E experiences of other IFAD and IsDB funded projects e.g. CCDP and SOLID.

**140. Learning and knowledge management (KM).** The project will prepare a KM plan that is linked to the M&E and MIS system. The objective of KM is to ensure the project units are able to generate and document that knowledge that are useful to build practical knowledge and know-how that leads to improve project performance and results. The knowledge generated within the project is systematically identified, analysed, documented and shared, and should be used to: (i) improve project performance and delivery; (ii) allow flexibility to changing circumstances; (iii) document and share innovations, best practices, including project's successes and failures to improve project intervention (iv) support innovations and up-scaling; and (v) support country level policy engagement. Particular attention will be given to documenting innovative models that are being tested through the project. The concept of "Reverse Linkage" which is a technical cooperation mechanism enabled by the IsDB whereby the Bank's Member Countries exchange their knowledge, expertise, technology and resources to develop

capacities and devise solutions for the sake of their development in a mutually beneficial arrangement would also be used where required.

**141.** The MIS system will be gender-disaggregated on all outcomes, outputs and indicators related to individuals or households. The project will establish a tablet-based electronic data collection system from which field data would be directly input into a centrally maintained MIS system. This will reduce the time burden of M&E data collection and also improve timeliness and reliability of data, making the M&E system more robust and useful as a management tool. The project will produce one annual consolidated report for IFAD, the IsDB and Government. This report will highlight the key achievements of the project. The baseline survey to be completed early in the first year will provide the foundation for subsequent evaluations and for the Mid-Term Review and Project Completion Review. Thematic studies would be conducted on a needs basis to support programme activities, policy dialogue and scaling up. The project will conduct an annual outcome survey to show progress.

## **Financial Management, Audit and Governance**

**142. Financial Management System:** The project's financial management arrangements follow the government system, especially on budgeting, flow of funds, and the auditing mechanism. Overall, the financial management risk is rated as 'substantial' and 'moderate' before and after mitigation respectively. The project faces a major risk in staff capacity to manage project implementation, especially in managing the on-granting mechanism. To minimize the risks, financial management consultants will be hired to assist PMU/PIUs in financial management and conduct FM training for project staff at district level in particular.

**143.** The Ministry of Agriculture (MoA), through the Directorate General of Agricultural Infrastructure and Facilities (DGAIF) will have overall accountability for the project, including fiduciary aspects. The project will use "On-Granting" mechanisms to finance activities at the district level. DGAIF has extensive experience in managing similar programs using this particular fund flow mechanism (e.g. WISMP-2). Some of the selected districts are currently implementing IPDMIP or READSI projects (IFAD funded) which also apply the On-Granting mechanism. The government agrees that this mechanism is better suited to meet the objectives of supporting large decentralized investment delivery, and creating and enabling higher district level ownership.

**144. Funds Flow.** The fund flow of the project is described below. The project is applying 2 financing arrangement for the implementation at the district level. On Granting mechanism for the main activities and TP (Tugas Pembantuan) for other activities including training and management support.

**145. Designated - Account.** After loan entry into force, the Government will open two Designated Accounts in USD, in the name of the Ministry of Finance (MoF) at Bank Indonesia (BI). One account for the IFAD loan funds and another account for the IsDB loan funds. Funds in these accounts will be used to pay the eligible Project expenditures incurred by PMU and PIUs. The modalities of the designated account for the IFAD resources will be detailed in the Letter to the Borrower, which would be issued by IFAD. In general, there will be three types of disbursement mechanisms for the programme which consist of (i) Advance Withdrawal; (ii) Direct Payment; (iii) Reimbursement. The IFAD loan will be disbursed in accordance with IFAD Loan Disbursement Handbook. Considering the activities, the project will adapt imprest account arrangement, with advance payment and then followed by replenishment to the DA. Details of the specific names, titles and signature(s) of the persons authorized to operate these accounts must reach IFAD and IsDB before withdrawals are initiated. The flow of fund is described in the figure below:

**146. "On-Granting" Mechanism.** In conformance with Minister of Finance's Regulation (PERMEN KEU No. 188/PMK.07/2012), fund proceeds of subnational levels will be made available through "On-Granting Agreements" (OGA) or Perjanjian Hibah between the Ministry of Finance and the head of the relevant district administration. For this project, these OGAs will cover the funding of the majority of the activities at the district level. There would be separate OGAs based on the funding sources, one for the IFAD-funded activities, and one for the IsDB funded activities. Under this mechanism, the district will have to pre-finance the project activities using their own financial resources and through PMU. Systematic requests for reimbursement will be made to MoF.

**147.** The following procedures will be applied for entering into an OGA:

- (a) After Loan Agreement signing, DGAIF-MoA (NPMU), will request the Directorate General of Fiscal Balance (DGFB), MOF to issue a MOF decree on the loan allocation to be made available for the local governments based on the evaluation.
- (b) After issuance of the decree, NPMU will establish for every participating administrative an estimate for performance targets and related fund allocation to be confirmed by the participating administrative level
- (c) After the concerned administrative government has confirmed the performance target and related fund allocation, DGAIF/MOA will request to each participating district to prepare a formal request to MOF for the concerned on-granting amount
- (d) After issuance of these decrees, DGFB-MOF will prepare the formal on-granting agreements between MOF and the provincial/district governments, which indicate the total loan amount to be made available for the project activities including assessment, preparation of Sub-Project Summary Report (SSRs) and the drafting of the Overall Work Plan and Budget (OWPB)
- (e) Relevant district will assign the regional management units (Satuan Kerja/Organisasi Perangkat Daerah or SKPD/OPD) to prepare the budget for the first year
- (f) DGFB-MOF in close coordination with NPMU, MOA will prepare the work and budget plan for on-granting (RKA-HPD) which then will be submitted to Director General of Treasury (DGT)-MOF to produce a DIPA-HPD (Daftar Isian Pelaksanaan Anggaran-Hibah kepada Pemerintah Daerah)
- (g) In the first year, all participating administrations will prepare a comprehensive OWPB for review by the NSC
- (h) For any amendment to the OGA, the following procedures will be applied:
- (i) After endorsement of the OWPB by the NSC, the NPMU will request DGFB-MOF to issue a decree of Minister of Finance on loan re-allocation to be made available for local governments based on the values as included in the revised OWPB
- (j) After issuance of these decrees, DGFB will amend the formal on-granting agreements between MOF and the district governments. Relevant district agencies will assign their OPDs to prepare a revised AWPB based on the revised OWPB for endorsement by NSC
- (k) DGFB in close coordination with NPMU will prepare the work and budget plan of the on-granting (RKA-HPD) which then be submitted to DGT to produce DIPA-HPD
- (l) In parallel, the district governments will issue their own DIPA-SKPD (APBD)

148. With the amended OGA, the participating administrative units have a guarantee that activities as foreseen in the OWPB and included in the approved AWPB for the pre-agreed percentages to be reimbursed for under the loan after having been verified.

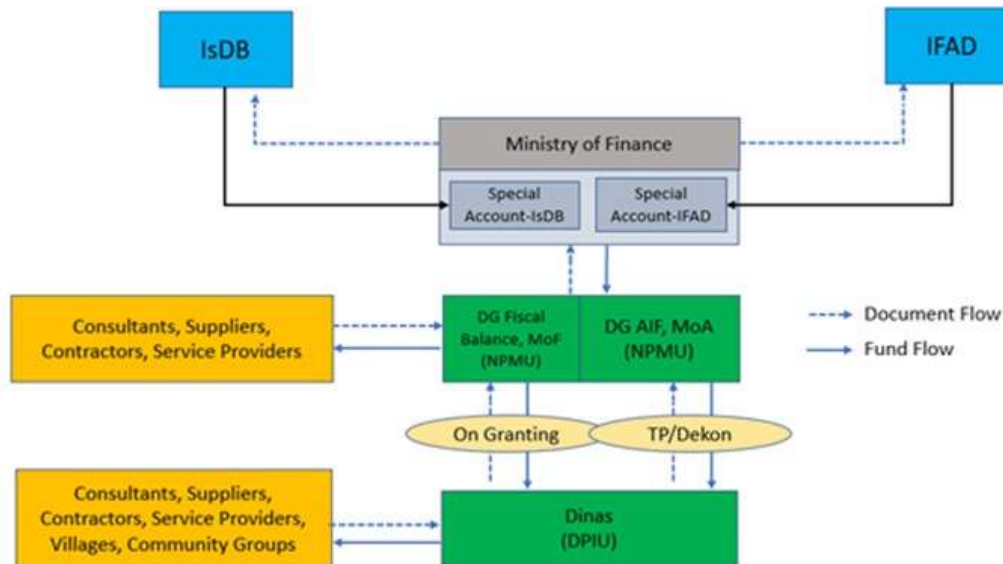
149. After the effectiveness of OGA, the OPD will start implementing their activities. The first step is to include the AWPB activities in the local DPA programme (APBD) for endorsement by the local DPRD as the activities have to be pre-financed by the local governments using their own resources (Dana Talangan). The local government will then request their local treasurer to use the budget available in the local government's general account (RKUD)

### On-Granting Budgeting

150. On-granting mechanism is used for activities at district level. It includes the following steps: (i) following financing agreement signing, DGAIF requests the DG FB, MOF to issue a decree by the Minister of Finance on loan allocation to be transferred to districts based on evaluation; (ii) after issuance of the degree, DGFB prepares the formal on granting agreements between MOF and the district governments, which describes activities and settles the budget allocation to be transferred every year during the project period; (iii) relevant district agencies assign their Organisasi Perangkat Daerah (OPD) to implement the project. (iv) DGFB, in close coordination with NPMU will prepare the work plan and budget of on-granting (RKA-HPD), which then will be submitted to DGT, MOF to produce DIPA-HPD; and (v) in parallel the district government will issue their own DPA-SKPD.



**Figure 18: Designed Fund Flow**



**151. Financial Management Organization & Staffing.** Overall, the project financial management will be responsibility of Project Management Unit (PMU) hosted by The Directorate General of Agricultural Infrastructure and Facilities (DGAIF), Ministry of Agriculture (MoA) in Jakarta. At the district level, a Project Implementation Unit will be based at the District Agriculture Agency (Dinas Pertanian) in the 14 selected districts in 7 Provinces. The financial management officers will be appointed at national level as part of PMU, assisted by a financial management specialist and two assistants from Project Management Consultant (PMC) team.

**152. Planning and Budgeting.** The NPMU and each DPIU will prepare annual work plans and budgets (AWPB), including procurement plan, showing supporting (general) and sub-project activities, which will be consolidated by the NPMU, to be submitted to IFAD and IsDB for review and no objection. The AWPB shall include the activities, respective costs, source of funds, schedules, and also procurement plan. The annual budget (DIPA) preparation will follow the annual government budget processing procedures and schedules including those for local areas.

**153.** The process and timeline for preparation of the local budget (APBD) is shown in Table below:

**Table 9: Local Budget Preparation**

No	Description	Period	Duration
1	Preparation of RKPD	End of May	
2	Submission of KUA and PPAS by the head of TAPD to Head of District	First week of June	1 week
3	Submission of KUA by Head of District to DPRD	Mid-June	6 weeks
4	KUA and PPAS agreed by Head of the District and DPRD	End of July	
5	Head of District's form letter regarding RKA-SKPD guideline	Early of August	1 week
6	Preparation and discussion of RKA-SKPD, RKA-PPKD and draft APBD	Early August – End Sept	7 weeks
7	Submission of draft APBD to DPRD	First week of October	2 months
8	Collective approval between DPRD and Head of District	One month before the relevant fiscal year	
9	Evaluation result of draft APBD	15 working days (Dec)	
10	Stipulation of local regulation and APBD elaboration in accordance with the evaluation result	End of December	

APBD: Anggaran Pendapatan dan Belanja Daerah (Local Government Budget)



DPRD: *Dewan Perwakilan Rakyat Daerah* (Regional representative assembly)  
KUA: *Kebijakan Umum Anggaran* (General budgetary policies)  
PPAS: *Prioritas Plafon Anggaran Sementara* (Interim budget priorities and funding ceilings)  
RKPD: *Rencana Kerja Pemerintah Daerah* (Local Government Work Plan)  
RKA-PPKD: *Rencana Kerja dan Anggaran Pejabat Pengelola Keuangan Daerah* (Work Plan and Budget of Local Government Financial Authority)  
RKA-SKPD: *Rencana Kerja dan Anggaran Satuan Kerja Perangkat Daerah* (Local Government Agency Budget and Work Plan)  
TAPD: *Tim Anggaran Pemerintah Daerah* (Local Government Budget Team)  
For preparation of State Budget (APBN), the process and timelines is described in the figure 1 below:

**154. Eligibility of Expenditure.** The eligibility of expenditure should require:

- (a) The expenditure shall meet the reasonable cost of goods, works and services required for the Project and covered by the relevant AWPB and procured in conformity with the procurement guidelines
- (b) The expenditure shall be incurred during the project implementation period, except that expenditures to meet the costs of winding up the project that may be incurred after the project completion date and before the closing date
- (c) The expenditure shall be incurred by a project party
- (d) If the agreement allocates the amount of the financing to categories of eligible expenditures and specifies the percentages of such eligible expenditures to be financed, the expenditure must relate to a category whose allocation has not been depleted, and shall be eligible only up to the percentage applicable to such category.
- (e) The expenditure shall be otherwise eligible in accordance with the terms of the financing agreement

**155.** Before disbursement can begin, IFAD must receive from the designated representative specified in the LTB, Section C a letter designating the name(s) of official(s) authorized to sign withdrawal applications, which includes their authenticated specimen signature(s). A sample form is provided in the LTB, Annex 1.

**156. Start-up costs:** The Borrower may request an advance withdrawal up to USD 300,000 from the Loan, to incur project start-up expenditures before the satisfaction of the additional (general/specific) conditions precedent to withdrawal, in accordance with FA, General Conditions, Section 4.02(b) and FA, Schedule 2. Any unused balance of the start-up advance will be treated as part of the initial advance under the authorized allocation.

**157. Withdrawal Applications** for Advance Withdrawal and Reimbursements may be submitted once ninety (90) days have lapsed from the submission of the previous withdrawal application. If, however, the requested withdrawal amount is at least thirty per cent (30%) of the advance described in LTB, paragraph 16, a withdrawal application may be submitted even if ninety (90) days have not lapsed.

**158.** The Direct Payment procedure should be used only for payments of more than USD 100 000 equivalent. Project expenditures below this threshold should be paid from the Project's Designated or operational accounts.

**159.** Withdrawal applications will be processed by the Accounting and Controller's Division (ACD) of IFAD. An application for withdrawal, accompanied by a summary of expenditure by category and by relevant forms and supporting documents, should be sent in original to IFAD.

**160. Refund of Withdrawals.** Any amount withdrawn from the project loan to finance any expenditure other than the eligible expenditure or will not be needed thereafter to finance the eligible expenditures, shall be promptly refunded to IFAD/IsDB. The refund shall be made in the currency used to disburse such withdrawal.

**161. Supporting Documents, Statement of Expenditures (SOE) and SOE Thresholds.** LDH, Section 4 provides details regarding the use of the Statements of Expenditures (SOE) facility to justify advances or seek reimbursement. The format for the SOE to be used for financing is attached as Annex 1. The applicable SOE threshold for withdrawal application, under procedure (i) "Advance Withdrawal", and under procedure (IV) "Reimbursement", is USD 50,000 for all expenditure categories. SOE thresholds can be changed by IFAD during the project implementation period by notification to the Borrower and Project Management.

**162.** Withdrawal applications for contracts or invoices with amounts higher than these SOE thresholds must be accompanied by copies of relevant supporting documents evidencing eligible expenditure (Refer to LDH, Section 3). The SOE and other documentation shall state amounts requested for withdrawal after excluding amounts financed from other financing sources or counterpart funds.

**163.** Withdrawal applications for Direct Payments must be accompanied by a signed copy of the contract and relevant supporting documents evidencing eligible expenditure (e.g. invoices, receipts, documentary evidence of completion of contracted goods and services, payee's bank identity certificate).

**164.** Withdrawal applications will be verified against the approved/agreed AWPB and Procurement Plan.

**165. Records Management.** The Project shall maintain separate accounts and records in accordance with consistently maintained appropriate accounting practices adequate to reflect the operations, resources and expenditures related to the Project until the Financing Closing Date, and shall retain such accounts and records for at least ten (10) years thereafter.

**166. Fixed Asset Management.** All assets procured under the project funds shall be registered following government system and procedures (SIMAK-BMN). Information on the assets should be included in the annual audit reports.

**167. Financial Reporting.** All financial transactions for the Project will be recorded in the government accounting system as well as included in the government accountability reports. In addition, the Project will prepare a separate set of Project financial reports that are suitable for project monitoring purposes. The project will prepare a separate consolidated project financial statement reports suitable for project monitoring purposes by extracting the data from the government accounting system and modified it to meet the project needs. Example of the financial report is attached in Annex 3 of this section.

**168.** The NPMU will be responsible to prepare the aggregate Interim Financial Reports (IFR) and submit them to IFAD and IsDB biannually on an agreed format within 45 days after the period end. The Project will also submit annual financial statement for each fiscal year that states all project operation, resources and expenditures. All financing resources (IFAD, IsDB, counterpart contribution, beneficiary contribution) shall be accounted in the report.

**169.** For joint supervision mission, NPMU should prepare consolidated financial reports for the mission review which include information on the: (i) annual approved/agreed AWPB; (ii) approved annual budget; (iii) annual budget expenditures; (iv) cumulative AWPB; (v) cumulative approved budget to date

**170. Special Considerations for Financing Arrangements.** For a selected number of activities, alternative/optional financing arrangements other than the OGAs may be applied, viz. (i) for infrastructure work where specific knowledge/technology is required; and/or those requiring multi-year contracts and/or those requiring large amounts of financial resources. These activities may be implemented by using APBN funds instead of "On-Granting" funds; (ii) for "soft" activities including training and several activities during the initial planning year, certain activities may be implemented using central budget (APBN) with *Tugas Pembantuan* (TP) procedures.

**171. Funding Plan** In terms of project funding, the Government of Indonesia through the Ministry of Agriculture proposed that projects could be funded from loans from the Islamic Development Bank (IsDB) and the International Fund for Agricultural Development (IFAD) with a total amount of IDR 1,533,884,452,000 or USD 108,786,000. Repayment of the loan will exceed a period of 25 years including a grace period of 7 years. The loan is in the form of a lump sum that does not exceed 1.25% of the loan amount if calculated on an annual basis. Indonesia will contribute in the form of goods and money for the project to cover costs related to project administration, monitoring and evaluation at the central and district levels.

**172.** The total project cost is estimated at IDR 1,533,884,452,000 or USD 108,786,000 will cover 4 components main activities and 14 districts. Summaries of project funding per component are shown in Table 10. While Table 11 shows estimate the project cost based on participant district. The highest cost of the project is for Production and Farm Management component (IDR. 522,681,100,000 or USD 37,070,000). Based on district, the highest cost of the project is in District Sumbawa IDR. 238,539,376,000 for 3,000 Ha areas.

**Table 10: Summary of Proposed Fund for UPLANDs per Component**

No.	Components	IDR	USD
1	Infrastructure Development for Productivity Enhancement & Resilience Building	938,496,065	66,560
1.1.	Land and Infrastructure Development	415,814,965	29,490
1.2.	Production and Farm Management	522,681,100	37,070
2.	Agri-business and Livelihoods Facilitation	403,733,197	28,634
2.1.	Farmer Institutional Development	107,218,958	7,604
2.2.	Market Infrastructure & Equipment	233,849,603	16,585
2.3.	Strengthening Market Linkage & Alliances	13,784,000	978
2.4.	Access to Financial Services	48,880,636	3,467
3.	Strengthening Institutional Delivery Systems	32,242,300	2,287
3.1.	Capacity building and institutional development of MOA & Districts	28,242,300	2,003
3.2.	Adaptive Research	4,000,000	284
4.	Project Management Support	159,412,890	11,306
4.1.	Project Management and Implementation Units	44,982,250	3,190
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)	114,430,640	8,116
<b>Total Base Cost</b>		<b>1,533,884,452</b>	<b>108,786</b>

**Table 11: Summary of Proposed Fund for UPLANDs Areas Project per District**

No.	District	Ha	Commodity	(IDR. 000,-)	USD (000)
1	Lebak	421	Mangosteen	62,272,140	4,416
2	Tasikmalaya	500	Organic Rice	41,186,580	2,928
3	Subang	2,000	Mangosteen	159,710,888	11,327
4	Cirebon	1,500	Manggo	156,315,580	11,086
5	Garut	200	Potato Seed	97,006,810	6,879
6	Banjarnegara	385	Sheep, Goat, Coffee	74,988,250	5,318
7	Purbalingga	0	Goat	31,214,060	2,213
8	Magelang	2,000	Organic Rice	110,091,570	7,807
9	Malang	300	Shallot	54,138,020	3,839
10	Sumenep	160	Shallot	50,712,180	3,596
11	Lombok Timur	1,640	Garlic	216,900,882	15,373
12	Sumbawa	3,000	Shallot Seed	238,539,376	16,917
13	Minsel	2,000	Potato for Industry	178,378,160	12,650
14	Gorontalo	20	Gapi Banana	13,185,100	955
15	NPMU			48,976,760	3,473
<b>Total (000)</b>		<b>14,329</b>		<b>1,533,884,452</b>	<b>108,786</b>

**173. Loan Withdrawal Plan Per Year.** Loan withdrawals per year for the Project until the end of 2023 are IDR 1,533,884,452,049 or USD 108,786,131.

- (a) First year: the project will carry out PMU component activities, Project Start Up Workshop, Consulting Services, Monitoring and Evaluation with a total budget of Rp76,094,722,002.43 (5%) or USD 5,439,306.57.
- (b) Second Year: the project will carry out a continuation of PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure, and Extension & Field Trial, Training with a total budget of IDR 306,776,890,409.71 (20%) or USD 21,757,226.54.
- (c) Third Year: the project will carry out a continuation of PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure, and Extension & Field Trial, Training with a total budget of IDR 613,553,780,819.42 (40%) or USD 43,514,226.54.
- (d) Fourth Year: the project will carry out a continuation of PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure, and Extension & Field Trial, Training with a total budget of IDR 383,471,113,012.14 (25%) or USD 27,198,532.84.
- (e) Fifth Year: overall the project will complete PMU component activities, Consulting Services, Monitoring and Evaluation, Infrastructure with a total budget of IDR 153,338,445,204.36 (10%) or USD 10,878,613.14.

**174. Internal Audit Process.** The internal audit of the MoF is conducted by the Inspectorate General (Itjen) who is reporting to the Minister. The Itjen Region will conduct internal monitoring of the Project

performance, financial management and administration through audit, review, evaluation and supervision. The project team at national and subnational level will engage the respective inspectorate to have the project included in the internal audit program during the project period.

**175. External Audit.** The audit for the financial statement of this Project will be carried out by an independent auditor acceptable to IFAD. BPK will be accepted as the Project auditor. The audit will include the assertion on the reliability of the Project financial statement, review and reconciliation of the DAs and examination of aspects of compliance and governance, internal control, and detection of fraud and corruption.

**176.** The audit will cover the entire Project, covering all sources and application of fund at national and sub national level. The auditor will visit the various implementation units as considered necessary for the audit. The audit coverage will consider the risk of material misstatement as a result of fraud or error.

**177.** The coverage areas of the audit will include:

- (a) *An assessment of whether the Project financial statement has been prepared in accordance with International Public Sector Accounting Standards (IPSAS);*
- (b) *A review of whether the DA and IPAs have been used and maintained in accordance with the financing agreement; necessary supporting documents and records have been kept properly and its reconciliation report;*
- (c) *An assessment of the internal control effectiveness over Project financial management, compliance and its capacity to eliminate opportunity for fraud and corruption;*
- (d) *The auditor needs to pay particular attention to the procurement process at national and provincial level*
- (e) *The annual audit report will be submitted to IFAD no later than six months after the end of the Government's fiscal year.*

**178. Audit log** of annual audit reports shall be prepared by each implementing agency on the auditor's findings, and recommendations, and the actions taken on the recommendations, including from the previous years.

**179.** Compliance with financial reporting and auditing requirements will be monitored by review missions and during normal program programme supervision, and followed up regularly with all concerned, including the external auditors. IFAD reserves the right for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to IFAD and IsDB, or if the audits are substantially delayed.

**180. Governance:** Indonesia has a 2017 Corruption Perception Index (CPI) score of 37/100 and is ranked 96 out of 180 countries. This Index indicates lack of transparency in certain government institutions. IFAD and IsDB will apply a zero-tolerance policy on appearances of corruption. The PMU will, with assistance from the financial management consultants, prepare a program framework for transparency and public notice including (i) annual financial audits, with a random sample of community and farmer-group grants. This will be performed in accordance with International Standards of Auditing by a professional external independent auditor; (ii) IFAD and IsDB's direct supervision process will specifically address fiduciary compliance and the implementation of the Project framework for transparency and public notice; (iii) Project stakeholders (especially farmers and their organizations) will be directly involved in programming, implementing and M&E of the project activities; and (iv) evaluation and impact assessment will be outsourced to professional independent institutions.

## Procurement

**181. Procedure for procurement of goods and services.** Procurement of goods, works, other services and services will refer to the Financing Agreement (FA), Letter To Borrower (LTB), and IFAD's Procurement Guidelines and Handbook. The procurement of goods and services in the UPLANDs shall be carried out in accordance with Presidential Regulation No. : 16/2018 with related Institutional Regulation of National Public Procurement Policy Agency (NPPA) and other related regulation to the extent such are consistent with the IFAD Procurement Guidelines. The Presidential Regulation is encouraging a procurement process that can provide "value for money", not only to procure the lowest prices. To achieve this objective, Presidential Regulation 16/2018 now provides a government e-

marketplace and simplification of procedures previously stipulated under Presidential Regulation 54/2010.

**182. Procurement Principles and Ethics.** Principles of procurement for goods/services. Procurement of goods/services should apply the following principles:

- (a) **Efficiency** - Procurement of goods/services must be conducted by utilizing the minimum amount of fund and effort to meet the expected quality within the specified time frame or by using the specified amount of fund to achieve the procurement target and outcome of maximum quality;
- (b) **Effectiveness** - Procurement of goods/services must be conducted in consistent with the specified requirements and target and must result in benefits to the maximum extent possible;
- (c) **Transparency** - All terms and conditions as well as information on Procurement of Goods/Services are clearly stated and accessible to the public and interested goods/service providers;
- (d) **Openness** - Procurement of goods/services is open to all goods/service providers meeting the conditions/criteria as clearly set out in the terms and procedure;
- (e) **Competitiveness** - Procurement of goods/services must be conducted through healthy competition among equal and qualified goods/service providers as many as possible in order to obtain competitive bids/proposals of goods/service without any intervention disrupting the market mechanism;
- (f) **Fairness** - Giving equal treatment to all prospective goods/service providers not having any tendency which may favour a certain party, and maintaining national interest; and
- (g) **Accountability** - Must be conducted in accordance with the relevant rules and regulations on Procurement of Goods/Services in order to ensure accountability.
- (h) **Ethics of procurement for goods/ services.**
- (i) All stakeholders involved in the process of procurement for goods/ services should follow the following ethics:
- (j) Conduct the tasks with discipline and responsibility to achieve targets, smoothness and accuracy in achieving the goal of procurement for goods/ services;
- (k) Work professionally and independent, keep secrecy of documents for procurement for goods/ services which nature should be kept in secret to avoid deviation in procuring goods/ services;
- (l) Not influence each other, directly or indirectly, leading to unfair competition;
- (m) Accept and responsible on any decision made as agreed by all concerned parties;
- (n) Avoid and prevent a conflict of interest among concerned parties, directly or indirectly, involved in the procurement process of goods/services;
- (o) Avoid and prevent state financial waste and leaks in the procurement of goods/service;
- (p) Avoid and prevent misconduct of authority and / or collusion for benefits of certain individual, groups or other parties, directly and indirectly which will harm the state; and
- (q) Not receive, not offer, or not promise to give or receive a gift, remuneration, commissions, rebates and in any form whatsoever from or to anyone known or reasonably suspected to be related to the Procurement of Goods / Services.

**183. Procurement plan of goods and services.** The initial step of the procurement process of goods and services is procurement planning. This involves identifying needs, determination of goods / services, methods, schedules and budgets. One of the procurement objectives means for creating right goods / services based on value for money that is measured by quality, quantity, time, cost, place and sourcing. Presidential regulation encourages the value for money to be achieved by improving the quality of procurement planning. There are consultants who responsible for preparing procurement planning at the national and district level or consolidating procurement of goods / services at the district

level which is then ready to be announced through a general procurement plan information system (<https://sirup.lkpp.go.id/sirup>). The procurement plan should be developed in a participatory manner with all Project Implementers in Districts. The consolidated procurement plan will be submitted to IFAD for review and granted "no-objection". The first year of the procurement plan should include procurement of goods and services for 18 (eighteen) months, then to be updated any time as required.

**164.** The Procurement Plan is an annex of AWPB which shall include as a minimum:

- (a) A brief description of each procurement activity to be undertaken during the period by each and every Project Party;
- (b) The estimated value of each procurement activity;
- (c) The method of procurement or selection to be adopted for each activity; and
- (d) An indication as to whether shall carry out prior or post review by IFAD in respect of each and every procurement activity.
- (e) Any amendments to the Procurement Plan shall be subject to the IFAD "No Objection".

**165.** Methods for procurement and IFAD review. The method of procurement of goods and services to be used should be consistent with the Government Regulations and its implementation guidelines.

**166.** IFAD will review the procurement of goods and services to ensure that procurement process is carried out in conformity with IFAD's Procurement Guidelines and LTB. The following procurement decisions shall be subject to prior review by IFAD for the award of any contract for goods, equipment, works, materials, consultancy and services under the UPLANDs :

- (a) Procurement of consulting firm services:
  - (i) Prequalification documents and shortlist when prequalification is undertaken;
  - (ii) Request for Proposal;
  - (iii) Technical evaluation report;
  - (iv) Combined (technical and financial) evaluation report and the recommendation for award; and
  - (v) Contract and amendments.
- (b) Procurement of individual consultants
  - (i) The terms of reference of the assignment
  - (ii) The evaluation report and recommendation for selection
  - (iii) Contract and amendments.

**167. Prior or Post Review.** Except as IFAD may otherwise agree, the prior or post which applies to various procurement of goods, works and consultant recruitments shall be defined as follows, see Table 12:

**Table 12: List of thresholds to define IFAD Prior or Post Review**

Procurement method	Prior or Post	Comments
<b>Goods and Services (non-consulting)</b>		
NCB (between USD 100,000 and above)	Prior	All contracts as the stated threshold. Amount below are post review.
Shopping	Post	All contracts
Direct Goods	Prior	Except procurement valued below USD 25,000 or exception as approved by IFAD
<b>Recruitment of Consulting Firms</b>		
Quality and Cost-Based Selection (QCBS); Fixed Budget Selection (FBS); Least Cost Selection (LCS); Selection Based on Consultants Qualification (CQS)	Prior	Except procurement valued below USD 50,000
Sole Source Selection (Single Source Selection)	Prior	All contracts except for exception as approved by IFAD
<b>Recruitment of Individual Consultants</b>		
Individual Consultants (Single Source Selection)	Prior	All contracts except for exception as approved by IFAD
Individual Consultants (Competitive Selection Process)	Prior	Except procurement valued below USD 15,000

### **The implementation of the Procurement of Goods/ Services**

**120.** It takes place by means of self-management; and/or the selection of a Provider of Goods/Services.

**121. Procurement of Goods/ Services by Self-Management.** At the implementation level, this method was technically guided by Institutional Regulation of NPPA No. 8 Year 2018: Self-Management. Community participatory procurement under UPLANDs will be implemented in certain areas. It will be included procurement for small infrastructure at village under Component 1.

**122. Community participatory procurement** should apply the following principles:

- (1) Efficiency - Procurement of goods/services must be conducted by utilizing the minimum amount of fund and effort to meet the expected quality within the specified time frame or by using the specified amount of fund to achieve the procurement target and outcome at maximum quality;
- (2) Effectiveness - Procurement of goods/services must be conducted in consistent with the specified requirements and target and must result in benefits to the maximum extent possible;
- (3) Transparency - All terms and conditions as well as information on Procurement of Goods/Services are clearly stated and accessible to the public and interested goods/service providers;
- (4) Community Empowerment - Procurement of goods/services must become vehicle of learning for community in managing the village;
- (5) Team Work – Provision of labor by community for development activity implementation at the village; and
- (6) Accountability - Must be conducted in accordance with the relevant rules and regulations on Procurement of Goods/Services in order to ensure accountability

**123.** Ethics of community participatory procurement should follow the following ethics:

- (1) Responsible;
- (2) Prevent leakage;

- (3) Prevent financial waste;
- (4) Comply to rules and regulations.

**192. Procedures of procurement.** The procurers of procurement involving the community should follow the existing government regulation (central and local). Detail technical implementation manual of procurement involving community will be prepared in a separate manual.

**193. The requirement of the community (recipient):** The farmer groups that will conduct procurement should have a legal status by registering at district government through a decree of Bupati or a relevant district dinas. Hence, the farmer groups are legally qualified to receive the UPLANDs Community Matching Grant. In addition, the farmer groups should have capacity in managing government grant, conducting procurement, and its administration in utilizing the purchased good.

**194.** The UPLANDs Community Matching Grant will be provided based on proposals prepared by eligible farmer groups of UPLANDs beneficiaries, and submitted to DSC. Each proposal should explain types, spec and quantity of goods to be purchased, as well as contributions of group members either in cash or in kind.

**195.** Special requirement on procuring farm equipment in which UPLANDs will contribute financial support, Farm Machinery Service Unit (UPJA) with approved proposal, this UPJA should provide an evidence of advance payment of 25% of the price which has been approved by PPIU. Based on that evidence, PPIU will transfer UPLAND's financial contribution of 75% the total price, or maximum IDR 25 millions to purchase basic equipment and IDR 50 millions to purchase approved advance equipment.

**196. Responsibility of farmer groups :** Group leaders are responsible in the following : Conduct procurement of goods approved by PPIU, and implement principles of procurement as indicated in the government regulation which is in line with IFAD procurement guidelines

- (a) Conduct procurement of goods approved by PPIU, and implement principles of procurement as indicated in the government regulation which is in line with IFAD procurement guideline;
- (b) The distribution of goods should be in accordance with the approved proposal. For small infrastructure, the farmer groups are responsible in the implementation of the approved construction;
- (c) Document all process of procurement properly for audit purposes;
- (d) Monitor the utilization of purchased goods by the group members, and results generated by each of the group members;
- (e) Operation and maintenance of the farm machinery and equipment;

**197. Responsibility of PPIU**

- (a) Review the appropriateness of proposals submitted by farmer groups;
- (b) Monitor the implementation of procurement by farmer groups;
- (c) Monitor the utilization of goods procured by farmer groups.

**198. Responsibility of Facilitators (Village and Sub district level) :**

- (a) Provide guidance to farmers' groups and their members in preparing proposals under UPLANDs;
- (b) Provide guidance to farmer groups in the conduct of procurement;
- (c) Provide guidance to farmer group leaders in administering procurement activities;
- (d) Facilitate farmers in utilizing goods, and ensure that goods are used as approved by DSC in increasing the productivity of their farms.
- (e) The procurement mechanism of community participatory for farm machinery, community grant, and village infrastructure as shown in Diagram 8.2, 8.3, 8.4 consecutively.



## Procurement of Goods / Services by Providers

199. At the implementation level, this method was technically guided by Institutional Regulation of NPPA No. 9 Year 2018 : Provider. It will be included procurement for small infrastructure at village under Component 1, 2 and 3. The methods of selecting goods/ services consist of:

- (a) **E-Catalog:** E-catalog is an electronic information comprising information related to price, types, technical specifications, unit cost, and suppliers of goods. The price listed in e-Catalog is the smallest unit cost which usually includes tax and distribution cost. To confirm the price listed in e-catalog, it should be checked to the concerned supplier. Procurement of goods which are included in e-Catalog, should be conducted using e-Purchasing mechanism, as a direct appointment by a concerned Working Unit. The conduct of Procurement of Government Goods/Services using electronic purchasing is mentioned as method of selecting at Chapter 38 Article (1) Presidential Regulation No. 18 Year 2018. At the implementation level, this method were executed by Electronic Procurement Service as was technically guided by Institutional Regulation of NPPA No. 11 Year 2018 : Electronic Procurement System.
- (b) **Direct procurement.** Direct Procurement for Other Goods / Services whose prices are certain with a maximum value of IDR 50,000,000 (fifty million rupiah). Direct Procurement can be used for (i) Consultancy Services with a maximum value of IDR 100,000,000 (one hundred million rupiah); (ii) Other goods/ services with a value above IDR 50,000,000 (fifty million rupiah) up to the most value IDR 200,000,000.00 (two hundred million rupiah); and (iii) Construction work with the most value IDR 200,000,000.00 (two hundred million rupiah);
- (c) **Direct appointment** is made by the Procurement Officer for procurement of goods / works / other service that are valued at a maximum of Rp. 200,000,000.00 (two hundred million rupiah) and for procurement of consultancy services that are worth at most Rp. 100,000,000.00 (one hundred million rupiah). Direct appointment is made by the Electoral Working Group for procurement of Other Construction / Services Work / Goods with a value of at least more than Rp. 200,000,000.00 (two hundred million rupiah) and for the procurement of Consultancy Services worth at least above Rp. 100,000,000 (one hundred million rupiah).
- (d) **Quick Tender** Presidential Regulation 18/2018 introduces quick tender as a new method of selection for the procurement of goods/construction work/other services, which may be conducted if the specification and work volume has been determined in detail and the contractor is qualified under the provider performance information system (sistem informasi kinerja penyedia). It do not requires qualification assessment, evaluation of administrative offers, evaluation of technical offers, objections and objections. Quick Tender can be done for Procurement of Goods / Works / Other Services with criteria:

200. **Selection.** Each contract for the selection of consultancy services shall be selected in accordance with any one of the selection methods as per IFAD Procurement Guidelines and Procurement Handbook. UPLANDs will procure consulting services through consulting firm and individual consultant. The procurement method for procuring consulting firm services, UPLANDs will use QCBS as explained below :

### 201. Quality and Cost Based Selection (QCBS):

- (a) **Draft contract** should be prepared and submitted to IFAD for no objection/Request for Proposal (RFP) and Terms of Reference (TOR). The employer is responsible in preparing RFP and TOR. The TOR should define clearly the following aspects: objective, targets, and scope of works including back ground of the concerned tasks (including relevant studies and baseline data) to assist consultants in preparing a proposal. If transfer of knowledge or training is the objective of the task, this should be specifically explained in detail including number of staff to be trained, etc., to ensure a consultant estimate number of resources to be mobilized. Technical assistance, survey, expected outputs (such as reports, maps, data, etc) should be clearly defined in a TOR. The responsibilities of the employers and consultants should be clearly defined in a TOR. The draft of Request for Proposal (including TOR) should be reviewed by IFAD for no objection.

- (b) **Budget estimates.** Budget is estimated based on an estimate of required resources to perform the assigned task, including staff, time, logistics and other physical inputs (vehicles, equipment). The Budget should be divided into two categories: (i) remuneration (based on type of contract used); and (ii) reimbursable. If necessary, this cost could be split as local cost and foreign costs. Presidential Regulation 16/2018, Chapter 25 can be a reference to setting up estimate budget (HPS.)
- (c) **Long list of consultants.** ULP is responsible to prepare a short list of the consultants, and identify consulting firms which have submitted an interest and having required qualification. A short list consists of three – six consulting firms from different regions. IFAD could request to add or reduce the list. The short list should be cleared by IFAD. The Project is not allowed to add or remove a consultant from the short list which has been cleared by IFAD.
- (d) **A short list could consist of national consultants only** ( a consulting firm which main holder is registered in Indonesia) if the following occurs : (1) the estimated budget is below the threshold as stated in a Financing Agreement / Letter to the Borrower; (2) at least three consulting firms meet the requirement and competitive Price offered; and (3) competition with foreign consulting firm is not possible. Nevertheless, foreign consulting firms have been submitted an interest need to be considered. Pre-qualification and shortlist evaluation is subject to IFAD Prior Review as stipulated in the LTB.
- (e) **Technical evaluation.** PSU should evaluate technical proposals following criteria: (i) relevance experience with the assigned tasks; (ii) quality of methodology; (iii) qualification of key staff; (iv) transfer of knowledge; and (v) involvement of key staff in the assigned tasks. Each criteria should be given a proper value weight. The value weight should be indicated in RFP and to be used in the process of technical evaluation.
- (f) **PSU should evaluate each proposal responding to TOR.** A proposal is considered not appropriate or rejected if a proposal does not respond properly to the critical aspects of TOR or not able to address minimum technical score as indicated in RFP.
- (g) **At the end of the process, as this is a prior review ULP should prepare a Technical Evaluation Report (TER) and submit it to IFAD for review and clearance.** The TER should explain the results of evaluation including strength and weakness of each proposal. Overall note related to evaluation should be documented and kept up to end of the project for audit purpose.
- (h) **Financial evaluation.** Upon approval of technical evaluation by IFAD, ULP will inform to all participating consulting firms which proposals failed to meet the minimum score or not responsive to RFP and TOR, that their financial proposal will be returned without opening it upon the procurement process is completed. Simultaneously, PSU informs participating consulting firms which proposals meet the minimum score regarding date and venue of the opening for financial proposal. The date of the opening for financial proposal should allow the consulting firms present. The opening of financial proposal is open to representatives of consulting firms who are willing to attend. Name of consulting firms, scores of technical and financial proposals should be announced in the meeting or submitted online and recorded. PSU prepares a minute of a meeting, and submit a copy to IFAD and all participating consulting firms submitted proposals. As stipulated in LTB, the project should submit combined evaluation report (technical and financial evaluation) and recommendation for award to IFAD for no objection
- (i) **If PSU finds an arithmetic error in evaluation financial proposal, then it should be corrected.** To compare each proposal, the budget should be converted to the same currency (local currency or foreign currency) as indicated in RFP. PSU will convert the currency using an exchange rate released by the Indonesia Central Bank. RFP should explain the source of exchange rate to be used, and the dates of exchange rate released should not be earlier than four weeks of the submission of financial proposal or after the expired date of proposal validity.
- (j) **"Budget" should not include local tax, but should include reimbursable expenditures such as travel cost, translation, printing of reports or administrative cost.** Financial proposal with the lowest price should be scored 100, and other proposals should be scored in proportion. Other methods could be used, and should be defined in RFP.

- (k) **Final Evaluation.** A total score is calculated by providing a weight score for quality and finance, and add-up both scores. Weight value for "budget" is 20 per cent of the total score 100. This weight value should be indicated in RFP. A consulting firm with highest score is invited for a negotiation and determine the winner.

**202. Selection of individual consultants.**

- (a) Individual consultants are selected on the basis of their qualifications for the assignment of at least three (3) candidates among those who have expressed interest in the competitive selection process. Individuals employed by the NPMO, PPSUs and DSCs shall meet all relevant qualifications and shall be fully capable of carrying out the assignment. Capability is judged on the basis of academic background, experience and, as appropriate, knowledge of the local conditions, such as local language, culture, administrative system, and government organization.
- (b) Individual consultants or consultancy firms may be selected on a sole-source basis with due justification in exceptional cases such as: (a) tasks that are a continuation of previous work that the consultant has carried out and for which the consultant was selected competitively; (b) assignments lasting less than six months; (c) emergency situations resulting from natural disasters; and (d) when the individual consultant is the only consultant qualified for the assignment.

**Contract Management**

**203.** All contracts should be recorded and systematically monitored the bidding process until the contract completed including what is planned and its implementation, payment phase, issues and solution during the contract period.

**204.** All contracts will be listed in the Register of Contracts (Annex 6 to the Loan Disbursement Handbook) by NPMO as required by IFAD. PPSUs and DSCs should update annually, and NPMO will consolidate and submit it to the IFAD Country Director every tri-semester.

## **Annex 1 Terms of Reference**

### **1. Agricultural Technical Specialist (agronomy)**

The Agricultural Technical Specialist will report directly to the PIU Manager and work collaboratively with District Government and other PIU personnel. She/he will have the following main responsibilities:

- Guide the development and implementation of UPLANDs agricultural training and technical activities for Farmers and Farmer Groups/Associations through provision of agronomic advice to support extension programs for farmers, including women and youth;
- In collaboration with Extension Workers, oversee the development of Demonstration Plots, researching, developing, and promoting farming practices or products that enhance farm productivity;
- Visiting farms to collect seed, plant, and soil samples and testing samples for nutritional deficiencies, diseases, or other changes;
- Assisting with seed and plant selection processes and the development of planting, cultivation and water management schedules, budgets, and timelines;
- Researching, developing, and promoting farming Good Agricultural Practices or products that diminish the effects of changes in soil, climate, and weather or prevent damage from pests;
- Assisting farmer groups and associations in the preparation of project proposals and Business Plans especially those related to agricultural inputs and farm machinery
- Collaborate with the PIU and Technical Specialist team so that UPLANDs responds effectively to farmers' and traders' priority information needs and incorporates good practices;
- Other tasks that may be assigned by the PMU or District PIU Manager

### **Qualifications and Experience**

- A Bachelor or higher degree in agricultural agronomy or agricultural science;
- Extensive knowledge of contemporary issues in production and processing systems within the agricultural sector;
- A minimum of five years at a senior level in a relevant public sector, private sector or NGO, with proven skills in the management and coordination of agricultural/agronomic initiatives and programmes within the agricultural sector;
- Computer literacy is a prerequisite, as is a very good command of spoken and written English and Bahasa Indonesia;
- Fully aware of and alert to the crosscutting issues of gender, youth, and poverty targeting

## **2. Business Development Technical Specialist**

The Business Technical Specialist will report directly to the PIU Manager and work collaboratively with District Government and other PIU personnel. She/he will have the following main responsibilities:

- Facilitate, guide and oversee the implementation of UPLANDs Business Development activities for Farmers and Farmer Groups/Associations, including farm production, processing and marketing;
- Support the progressive development of farmer organisations, including those working at KUBE and BLUD level;
- Provide technical support and guidance/training to assist farm business and enterprise development programs for farmers, including women and youth;
- Assist farmer groups and associations in the preparation of project proposals and Business Plans including financial budgets and support their subsequent business activities and performance;
- Assist in the formation and further development of micro SME and SME enterprises, including Women Farmer Groups involved in producing, processing and marketing of target commodities
- Collaborate with the PIU and Technical Specialist team so that Uplands responds effectively to farmers' and traders' priority information needs and incorporates good practices;
- Other tasks that may be assigned by the PMU or District PIU Manager

### **Qualifications and Experience**

- A Bachelor or higher degree in commerce, accounting, agricultural economics, agribusiness, business administration, or related discipline relevant to Uplands;
- Extensive knowledge of contemporary issues in production, processing and marketing within the agricultural sector;
- A minimum of five years at a senior level in a relevant public sector, private sector or NGO, with proven skills in the management and coordination of agricultural business initiatives and programmes within the agricultural sector;
- Computer literacy is a prerequisite, as is a very good command of spoken and written English and Bahasa Indonesia is essential;
- Fully aware of and alert to the crosscutting issues of gender, youth, and poverty targeting.

### **3. Food Processing Technical Specialist**

Focus will be on assistance to micro SMEs and SMEs (less than 100 employees) already processing grains, fruits or vegetables, as well as farmer organisations starting new food processing/business enterprises.

The Food Processing Technical Specialist will report directly to the PIU Manager and work collaboratively with District Government and other PIU personnel. She/he will have the following main responsibilities:

- Support the establishment and progressive development of UPLANDs Food Processing initiatives of farmer organisations, from micro SME level through to medium scale enterprises operating at KUBE and BLUD level;
- Assist the Business Management Technical Specialist in working with farmer groups and associations in the preparation of project proposals and Business Plans, in particular, recommendations and specifications for purchasing suitable Food Processing equipment and the description of processing systems;
- Provide on-site technical training and support for UPLANDs beneficiary groups on;
  - basic food microbiology and quality assessments based on physical parameters
  - understanding and compliance with relevant food standards
  - various methods of processing and preservation of grains, fruits and vegetables, as applicable
  - packaging and storage techniques
  - quality assessments of raw materials, packaging materials and finished products
  - operation and maintenance of processing machineries and equipment
  - Understanding and implementation of GMP, HACCP and QMS
- Collaborate with the PIU and the Technical Specialist team so that UPLANDs responds effectively to farmers' and traders' priority information needs and incorporates good practices;
- Other tasks that may be assigned by the PMU or District PIU Manager

#### **Qualifications and Experience**

- The Food Processing Specialist will have a Master's degree in food science or a related field;
- Her/his background must include thorough training in food processing and engineering specifically related to fruits and/or vegetables and/or grains, food chemistry and plant sciences and experience working in the commercial food processing industry;
- Extensive knowledge of contemporary issues in food processing systems within the agricultural sector;
- Computer literacy is a prerequisite, as is a very good command of spoken and written English and Bahasa Indonesia;
- Fully aware of and alert to the crosscutting issues of gender, youth, and poverty targeting.

#### **4. Value Chain Technical Specialist**

The Value Chain Technical Specialist will report directly to the PIU Manager and work collaboratively with District Government and other PIU personnel. She/he will have the following main responsibilities:

- Facilitate, oversee and guide the implementation of UPLANDs Value Chain activities from farm to end markets;
- Support the progressive development of farmer organisations and their related downstream Value Chain activities;
- Identify Value Chain bottlenecks and constraints and provide technical guidance and capacity building services to make corrections for improvement;
- In collaboration with farmer organisations, maintain regular contact with end buyers and monitor market development and opportunities;
- Provide guidance/training on Value Chain development and activities to assist extension and technical support programs for farmers, including women and youth;
- Develop Quality Assessment procedures for the target commodity under the project MIS and provide training and on-the-job guidance for Quality Assessment trainees
- Assist farmer groups and associations in the preparation of project proposals incorporating Value Chain development and oversee their resultant Value Chain activities and performance;
- Collaborate with the PIU and Technical Specialist team so that UPLANDs responds effectively to farmers' and traders' priority information needs and incorporates good practices;
- Other tasks that may be assigned by the PMU or District PIU Manager

#### **Qualifications and Experience**

- A Bachelor or higher degree in agricultural economics, agricultural science, agribusiness, marketing, business administration, or related discipline relevant to UPLANDs;
- Extensive knowledge of contemporary issues in production and Value Chain systems within the agricultural sector;
- A minimum of five years at a senior level in a relevant public sector, private sector or NGO, with proven skills in the management and coordination of value chain initiatives and programmes within the agricultural sector;
- Computer literacy is a prerequisite, as is a very good command of spoken and written English and Bahasa Indonesia;
- Fully aware of and alert to the crosscutting issues of gender, youth, and poverty targeting.

**5. National Village Facilitation Team Director.**

- 1) Oversee, detail and implement the community mobilization process as defined in the Project Implementation Manual in the 14 project districts
- 2) Coordinate with the Nutrition Specialist and the Value Chain Specialist to ensure that the community mobilization is aligned with the nutrition-sensitive value chain approach and gender issues are being addressed at every stage
- 3) Manage and participate in the capacity-building for the Community Mobilization Staff of the project
- 4) Ensure that the gender and youth strategy of the project is disseminated to project staff and implemented
- 5) Supervise and provide support to provincial, district, and sub district supervisors, as well as Village Facilitators in building their capacity and in implementing project activities;
- 6) Analyze and consolidate reports submitted by district managers and prepare recommendations for improvement and follow up;
- 7) Prepare reports on the results of facilitation carried out by Village Facilitators to be submitted to PMU.

**Qualification:**

- 1) Master's Degree in social sciences;
- 2) Experience at least five years in community empowerment
- 3) Sound understanding of gender mainstreaming concepts
- 4) Experience in managing and delivering training
- 5) Able to operate computer and MS-Office;
- 6) Good communication (written and oral) in Bahasa Indonesia and English in writing and oral;
- 7) Willing traveling to remote areas.



## **6. District Village Facilitation Team Manager**

- 1) Coordinate with national facilitation team Director and Technical Specialists in the PIU
- 2) Guide and supervise the implementation of the project's community mobilization, gender and nutrition sensitive value chain activities in target villages
- 3) Ensure that the mobilization process is inclusive of women, youth and ethnic minorities
- 4) Supervise, provide feedback and recommendations to sub district coordinators and VFs;
- 5) Monitor and supervise the implementation of the project's community mobilization at sub district level and villages at least three times / month to ensure the project is implemented as planned, and provide recommendations for improvement and follow up;
- 6) Prepare consolidated monitoring progress reports (gender and youth disaggregated) on the implementation of project activities at district, sub district, and village level and submit to national facilitation director, copied to PMU.
- 7) Provide recommendations for more effective implementation of project activities.
- 8) Assist in the conduct of training, preparing technical guidelines and advocacy to local government
- 9) Facilitate the documentation of success stories and best practices of the project

### **Qualification:**

- 1) Bachelor's Degree in social sciences;
- 2) Experience at least five years in community empowerment
- 3) Experience in managing and delivering training
- 3) Understanding of mainstreaming gender
- 4) Able to operate computer and MS-Office;
- 5) Good communication (written and oral) in Bahasa Indonesia and English
- 6) Willing traveling to remote areas.
- 7) At least a Bachelor's degree in Agricultural Socio-Economy or Rural Sociology;
- 8) Experience in training (preferable)
- 9) Able to operate computer and MS-Office;
- 5) Willing to go travelling in remote areas.

#### **7. Sub-district Village Facilitation Team Coordinator.**

- 1) Mentor and support VFs, providing encouragement and support as necessary;
- 2) Assist VFs in solving problems encountered during facilitation at villages;
- 3) Assist and advise VFs on establishing & maintaining productive relations with village heads;
- 4) Assist and supervise Village Facilitators in coordinating and implementing project activities especially streamlining farmer's groups and forming new groups where necessary
- 5) Collaborate with relevant institutions at sub-district level to ensure the project is well supported and synergized
- 6) Provide technical supports to Village Facilitators in the conduct of monitoring and evaluation;
- 7) Consolidate, analyze reports submitted by Village Facilitators and prepare recommendations and follow up actions;
- 8) Prepare regular reports (monthly) on the progress and achievement of the assignment and submit it to DCM&EO.

#### **Qualification:**

- 1) Diploma in agriculture/ socio-economic/ rural development;
- 2) Preferably from the sub-district that s/he will be supervising
- 3) Experience in rural community empowerment, at least 2-3 years
- 4) Able to operate computer and MS-Office;
- 5) Good communication in Bahasa Indonesia, written and oral;
- 6) Willing to travel to remote villages.

## **8. Village Facilitator**

Village Facilitators will work at village level as catalysts for inclusive development. They will be in charge of implementing the project's community mobilization strategy and coordinating and supporting all the project activities that are to take place at village level. They will be involved in making farmer's groups inclusive, facilitating their empowerment through GALs training and through sharing guidelines on group management, financial management etc. and providing basic information for M&E.

- 1) Introduce Project to Village and establish rapport, credibility and trust in Year 1
- 2) Facilitate the inclusion of project's target group by identify women and men farmers, youth who need to be included in existing farmers groups or organized into new groups
- 3) Collaborate with village extension officer to ensure formation of functional farmer extension groups and facilitate their ongoing engagement with FFFs and Demplots;
- 4) Ensure farmer extension groups are actively engaged as the entry point for project support e.g. micro-credit, crop insurance, market feedback,
- 5) Ensure active and equitable engagement with women farmers and youth wherever possible.
- 6) Facilitate the capacity building of women, men and youth farmer groups to ensure optimal engagement with project activities;
- 7) Coordinate with Extension Officer to organize and follow up project activities
- 8) Liaise with Village Head on a monthly basis to facilitate his/her ownership and involvement in project activities
- 9) Conduct regular monitoring in a participatory manner on the progress and achievement of project activities
- 10) With extension officer, support UPLANDs M&E staff to ensure functional and timely operation of UPLANDs M&E systems
- 11) Document village level activities per format provided and submit report to VF superiors on a monthly basis.

### **Qualification:**

- 1) Hold Senior High School Certificate,
- 2) Belong preferably to the village or sub-district they are going to work in.
- 3) Positive, enthusiastic and energetic.
- 4) 1-2 years' experience in village & community activities.

## **9. Nutrition Specialist**

1. Provide technical assistance in the design, implementation and analysis of nutrition of the 14 Nutrition Studies to identify interventions at different stages of the Value Chain and nutritional challenges in each project district
2. Disseminate the findings of the Nutrition Studies to the Project management from National to District level.
3. Design the Nutrition Intervention Packages for the project area in close collaboration with the Value Chain Specialist and Extension staff with feedback from District PIUs
4. Design and deliver the TOT for community mobilization staff to familiarize them with content and strategies for implementing the Nutrition package in their district
5. Oversee the implementation of the nutrition packages through working closely with Value Chain Specialist, Extension staff and District PIUs
6. Support and monitor the mainstreaming of nutrition in the project through field visits, providing course correction.
7. Document lessons learnt and achievements in mainstreaming nutrition in the project.

### **Educational Qualification**

- 1) Postgraduate degree (or equivalent) in food security management, nutrition, public health or related discipline. >
- 2) Understanding of economic, cultural and gender dynamics that affect nutrition
- 3) At least 6-7 years relevant professional experience
- 4) Good writing skills in Bahasa and English
- 5) Willingness to travel to remote areas

## **10. Assistant Nutrition Specialist**

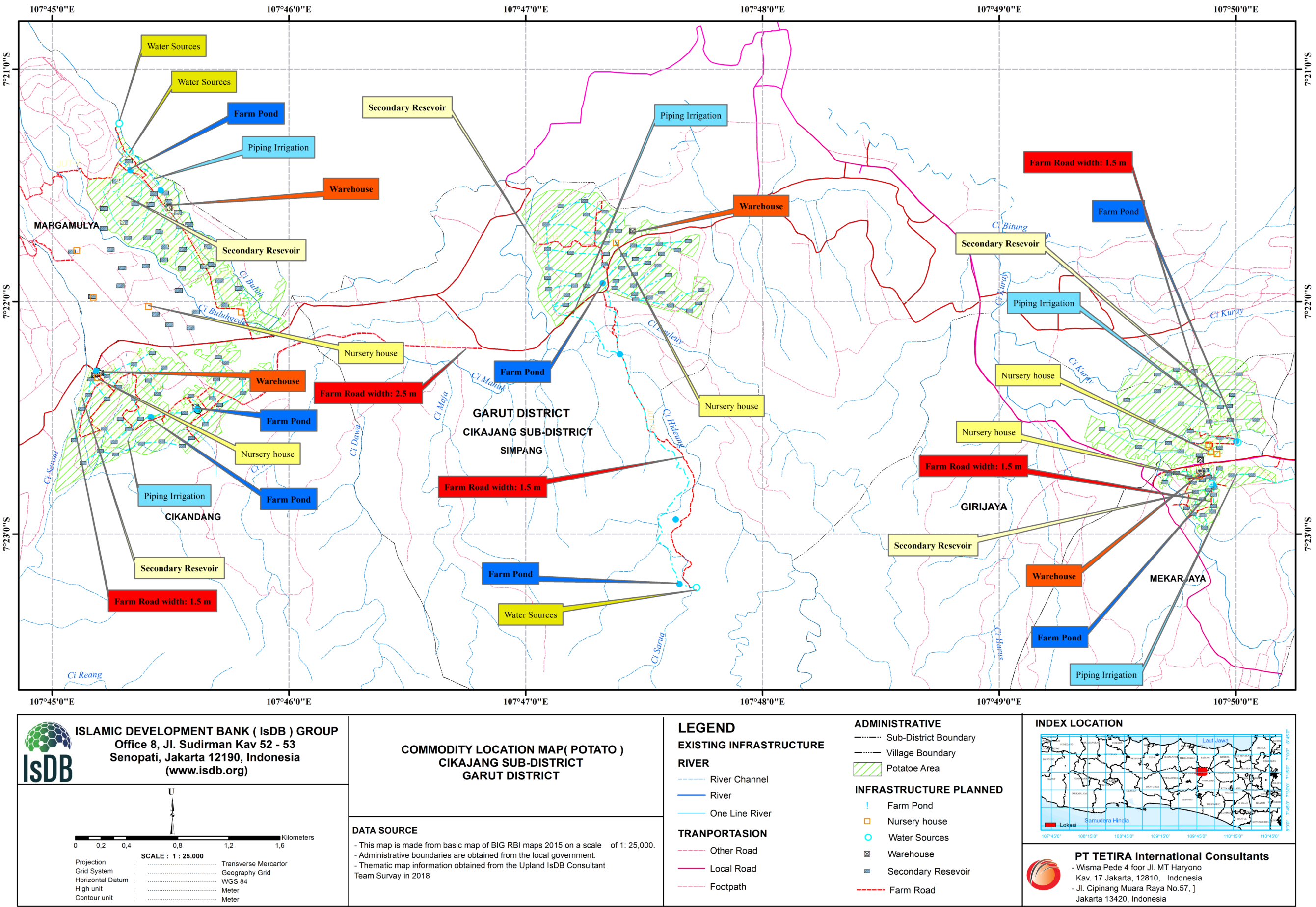
1. Assist in designing and supervising the 14 Nutrition Studies to identify interventions at different stages of the Value Chain and nutritional challenges in each project district
2. Assist in disseminating the findings of the Nutrition Studies to the Project management from National to District level.
3. Assist in designing the Nutrition Intervention Packages for the project area in close collaboration with the Value Chain Specialist and Extension staff with feedback from District PIUs
4. Assist in designing and deliver the TOT for community mobilization staff to familiarize them with content and strategies for implementing the Nutrition package in their district
5. Field visits to support and monitor implementation of the nutrition packages through working closely with Value Chain Specialist, Extension staff and District PIUs.
6. Assist in documenting lessons learnt and achievements in mainstreaming nutrition in the project.

### **Educational Qualification**

- 1) Postgraduate degree (or equivalent) in food security management, nutrition, public health or related discipline.
- 2) Understanding of economic, cultural and gender dynamics that affect nutrition
- 3) At least 2-3 years relevant professional experience
- 4) Good writing skills in Bahasa and English
- 5) Willingness to travel to remote areas

## **Annex 2 Detailed District Mapping and Project Proposals**

Mapping (Farm Area and Infrastructure)



## **Summary Project Proposal Banjarnegara District – Central Java**

### **1. Agriculture's Profile**

In Banjarnegara land use divided into 14.269 ha of wetland (13.34% from the total area of Banjarnegara) and 77.789 ha of non-wetland (68,05% from the total area of Banjarnegara). Than non-agriculture land is 19.913 ha (18,682%) Unemployment rate 5.05%, Poverty rate 17,21%, The main occupation in Banjarnegara is trading accounted for 24% of the total occupation in Banjarnegara. The major agricultural product in Banjarnegara are paddy (292.758 ton in 2015) Wetland area in Banjarnegara is 63, 558 ha and Sweet Potato with production of 250,453 ton per year in the area of 9682 ha.

Banjarnegara Regency has tropical climate, rainy season and dry season after year. Wet moons are generally more than dry months. The highest rainfall in 2016 occurred in Wanadadi Sub-District as many as 5,473 mm3 per year with 224 days of rainy days. While the lowest rainfall occurred in District Kalibening is 745 mm per year with 43 days of rain.

In general, the problems of agricultural sector development which include food crops, horticulture and animal husbandry in 2016, among others:

- a) Agricultural commodities are largely influenced by climatic conditions. By 2016 the high rainfall intensity causes the plants to be less able to carry out the production process and also the cause of many plant-disturbing organisms such as those affecting corn, rice and soybeans;
- b) b. The attack of plant-disturbing organisms that attack rice, corn and soybeans is a stem borer attacking rice crops in Sigaluh, Mandiraja, Purwanegara and Wanadad sub-districts, wereng in Bawang sub-district, attacks in Susukan sub-district are almost evenly caused pusoo area of 7 ha 40-50 days after planting, attack in the sub-district of Mandiraja, Susukan, Purwanegara and Wanadadi. Rotten neck and crackle attacks in Bawang district;
- c) Agricultural human resources both farmers and officers both in terms of capacity and. The number of technicians is reduced by the capacity that still needs to be fixed. The number of farmers is also decreasing; the younger generation is not much interested to cultivate this sector. Labor in the agricultural sector in general is an old person with a level of ability;
- d) Prices of fertilizer production facilities, pesticides/medicines, seeds/seeds and fish feed and livestock are relatively high;
- e) Prices of agricultural products are fluctuating, but farmers/producers have not yet mastered market access;
- f) Degradation of agricultural resources (land degradation, seed quality/parent) and the transfer of agricultural land to non-agricultural land;
- g) Limited business capital owned by farmers.

### **2. Planned Commodity and Area**

- The proposed commodities and area: Extension area of coffee plantation (385 ha), sheep (1032 head of Batur sheep) and goat (3,085 head of Ettawa-breeds). Type of coffee are Arabica (for land with high altitude, > 1,500 from sea level) and Robusta (for land with lower altitude, > 1,500 from sea level);
- Coffee will be planted in the famers' land which is distributed in the village area;
- The selected (participated) farmers must have their own land;
- Except in Batur sub-district, about 25% space of coffee land area will be used for forage crop to produce forage for goat and sheep. The forage crop will be planted in-between

coffee row. Therefore, the density of coffee tree is 1,200 trees/ha (normally 1,600 per ha);

- In Batur sub-district, horticulture crops - such as cabbage, carrot or potatoes -are the main farming crop which is primary source of farmers' income, and the sheep is a secondary source of livelihood In Batur sub-district, the coffee trees will be planted along the shoulder bund of terrace;
- Goat or sheep culture will be raised at communal cage, managed by farmer group.

Description	Sub-District					Total
	Batur	Pejawaran	Kalibening	Pegentan	Wanayasa	
# Goat		765	885	815	620	3085
# Sheep	1032					1032
Coffee area (ha)		132 Arabica	92 Arabica	107 Arabica	54 Robusta	385

### 3. Beneficiaries

- The targeted beneficiaries are about 875 farmers organized in 37 farmers groups;
- Women groups of farmer household will take role in coffee harvesting, and milking goat.

Description	Sub-District					Total
	Batur	Pejawaran	Kalibening	Pegentan	Wanayasa	
Current situation						
# Village	6	6	4	5	5	26
# Farmer group	13	6	6	5	7	37
# women group (member)			5 (141)			5 (141)
# Gapoktan	1	-	-	1	-	2
# Farmer	258	153	177	163	124	875
Current agriculture practices	Vegetable farmer, and sheep cultivation as secondary income. Not experience in coffee cultivation	Experience in sheep cultivation by applying communal cage; less experience in coffee	Best experience in coffee	Best experience in coffee	experience on cattle & goat cultivation and have not experience in coffee	



NO	SUB-DISTRICT	VILLAGE	FARMER GROUP	CHAIRMAN	#MEMBER	PROPOSED				
						COFFEE (HA)	SHEEP (LIVELIHOOD)		GOAT (COMMERCIAL)	
							FEMALE	MALE	FEMALE	MALE
1	BATUR	1 Batur	1 Elf Farm	Ahmad Hidayatusibyan	18		72	7		
			2 Mantap	Faizin	19		76	8		
			3 Sido Dadi	Haryanto	26		104	10		
			4 Tilaga Merah Delima	Kliwon Al Prayit	12		48	5		
		2 Sumberejo	5 Bumi Lestari	Wendie Rais	20		80	8		
			6 Giri Mulya 2	Ainu Rofik	26		104	10		
			7 Sido Mukti	Martono	30		120	12		
		3 Pasurenan	8 Anugrah	Hartanto	17		68	7		
			9 Tulung Agung	Sutopo	20		80	8		
		4 Pekasiran	10 Maju Bersama	Sahudi	20		80	8		
			11 Muda Mandiri	Sohibul Farihin	15		60	6		
		5 Karangtengah	12 Sendang Merdada	Mahmud Sutikno	20		80	8		
		6 Kepakisan	13 Mandiri	Dafid Amrulloh	15		60	6		
2	Pejawaran	7 Karangsari	14 Gema Tani	Mukotip	24	15			120	12
		8 Pejawaran	15 Tani Makmur	Hadi Ratmo	20	20			100	10
		9 Penusupan	16 Ngudi Kaharjaning Tani	Supriyanto	29	30			145	15
		10 Pegundungan	17 Sari Tani	Muharjo	20	40			100	10
		11 Ratamba	18 Sido Mulya	Harjono Rahono	25	20			125	13
		12 Semangkung	19 Gedong Sari	Tursono	35	20			175	17
3	Kalibening	13 Karanganyar	20 Sido Mulya	Nurkholis	55	15			275	27
		14 Kalibombong	21 Tani Mulya 2	Daryo	32	15			160	16
			22 Tani Mulya	Noto Suwarno	22	10			110	11
		15 Kertosari	23 Ngudi Rejeki 3	Sugeng	20	15			100	10
		16 Majatengah	24 Tunas Harapan	Darsano	23	5			115	12
4	Pagentan		25 Ngudi Mulya	Kusen	25	7			125	12
		17 Babadan	26 Gapoktan Sido Makmu	Turno	33	30			165	16
		18 Majasari	27 Margo Mulya	Slamet Santoso	33	12			165	16
		19 Kasmaran	28 Guyub Rukun	Sugiman Sudarso	30	30			150	15
		20 Pagentan	29 Bulu Bhakti	Sahim	31	10			155	15
5	Wanayasa	21 Tegal jeruk	30 Gapoktan Tani Indah	Supangat	36	30			180	18
		22 Pesantren	31 Utomo Sentosa	Abu Dakir	15	10.9			75	8
		23 Wanayasa	32 Sido Dadi 2	Harnoto	15	20			75	8
		24 Kubang	33 Margo Tani	Sunaryo	25	10			125	12
		25 Dawuhan	34 Sari Tani	Sai'in	17	4.1			85	9
		26 Pandansari	35 Karya Sejahtera	Hartoto	13	8			65	7
		27 Karangtengah	36 Sumber Rejeki	Setio Khayan	22	5			110	11
			37 Sido Maju	Sucipto	17	3			85	9

- From the goat/sheep raising, the farmers can get benefit from lamb produce by mature female goat/sheep. Adult female goats/sheep give birth 3 times for two years, each giving birth produces 1-2 lamb, where the price of 4-6 month old lamb is about in average IDR 1.2 million;
- A mature female Ettawa-breed can produce 1-1.5 liters milk a day, and its price is about IDR 15,000 – IDR 20,000 per liter fresh milk;
- Goat/Sheep dung will be composed to produce organic fertilizers for own use or sold;

- From the coffee plantation, the farmers can get benefit from the coffee production and/or value added of processed coffee (green bean or roasted coffee). A productive Arabica coffee tree (5-7 years) can produce 7 kg cherry/year or equivalent with 1 kg green bean/year or equivalent with 0.8 kg roasted coffee/year. Price of Arabica cherry is about IDR 12,000/kg, price of green bean is about IDR 60,000 – IDR 90,000 per kg, and price of roasted coffee is about R. 300,000 – IDR 400,000 per kg.

#### **4. Project Concept**

- Coffee will be cultivated by each farmer, and the farmers will produce cherries coffee. Farmer group will collect the cherries production to be sold to Gapoktan. Gapoktan will be formed at village level and act as farmer-own business entity (e.g. KUBE). Gapoktan will process the cherries coffee to produce coffee bean with different processing methods, and sell it to cooperative at district level;
- Cooperative at district level will be formed, and all Farmer Group or Gapoktan is the shareholder of the cooperative;
- Farmer group will manage communal cage of sheep/goat. Goat farmer group will produce milk and young goat, whereas sheep farmer group will produce young sheep and sheep wool. Milk production from farmer group will be sold to Gapoktan for further processing and then it is sold to District Cooperative for further process to produce various milk-processed products (e.g. milk powder, etc.);
- Manure from sheep/goat will be processed by farmer group to produce organic fertilizer to be applied for their coffee plant and forage;
- Farmer group will raise the goat/sheep until the female and male population & composition achieve optimum number (e.g. 40 head of female goat/sheep per farmer). Young goat/sheep and post-productive goat/sheep will be sold by farmer groups to local market;
- The District Cooperative will process coffee bean to produce roasted coffee; do marketing of various village-branded roasted and packaged ground coffee; do milk processing to produce milk powder, etc.; do marketing of processed milk; and do marketing wool products produced by farmer groups.

### Attachement 1. Documentation of Assessment and Validation Project Location at Banjarnegara District



FGD With Dinas



Land of farming System



With Bupati of Banjarnegara



Discussion with Farmer Group



FGD With Farmer Group



*Rusted Cofee of Banjarnegara*



Female Group In Upland



## **5. Proposed Land Development and Agriculture Infrastructure**

- Farm road for all sub-districts, about 42 km;
- Piping for irrigation (in sub-districts of Kalibening and Pejawaran), Power sprayer + pipe in sub-districts of Batur and Pagentan;

## **6. Proposed Production and Farm Management**

### For Goat/Sheep Cultivation at Farmer Group:

- Compos processing equipment (37 unit, one per farmer group);
- Milk Processing unit (Goat) covering cooling milk can, bottle, showcase, drying (about 24 units);
- Goat & sheep houses & equipment;
- Forage legume seed;
- Goat for farmer group;
- Sheep for farmer group.

### For Coffee cultivation at farmer group:

- Coffee seedling for 385 ha (@1,200 plant), total about 462,000 cuttings;
- Organic fertilizer (2 tons/ha) and biological agency (10 liter/ha) for 565 ha;
- Chemical fertilizer (used only for first seedling plant), 500 kg/ha;
- Pruning shears.

### Facilities for farmer group and extension worker:

- Three-wheel vehicle for each farmer group (37 units) and one unit for UPTD;
- Motorcycle for extension workers (26 units, one per village).

## **7. Proposed Marketing Infrastructure & Equipment**

- Animal market at Batur sub-district;
- Production and warehouse for Cooperative as district level;
- Coffee processing unit (grinder, sun ride, weighing scale, sealer, peel machine, packing machine) at village level (34 units);
- Drying houses and shelves at village level (34 units).

## **8. Proposed training and capacity building activities**

- For government staff:
  - Training to Government staff on livestock farming (cultivation, breeding, product processing, feed processing, entrepreneurship);
  - Training to Government staff on artificial;
  - Training to Government staff on coffee farming (cultivation, nursery, post-harvest processing & packaging, entrepreneurship).

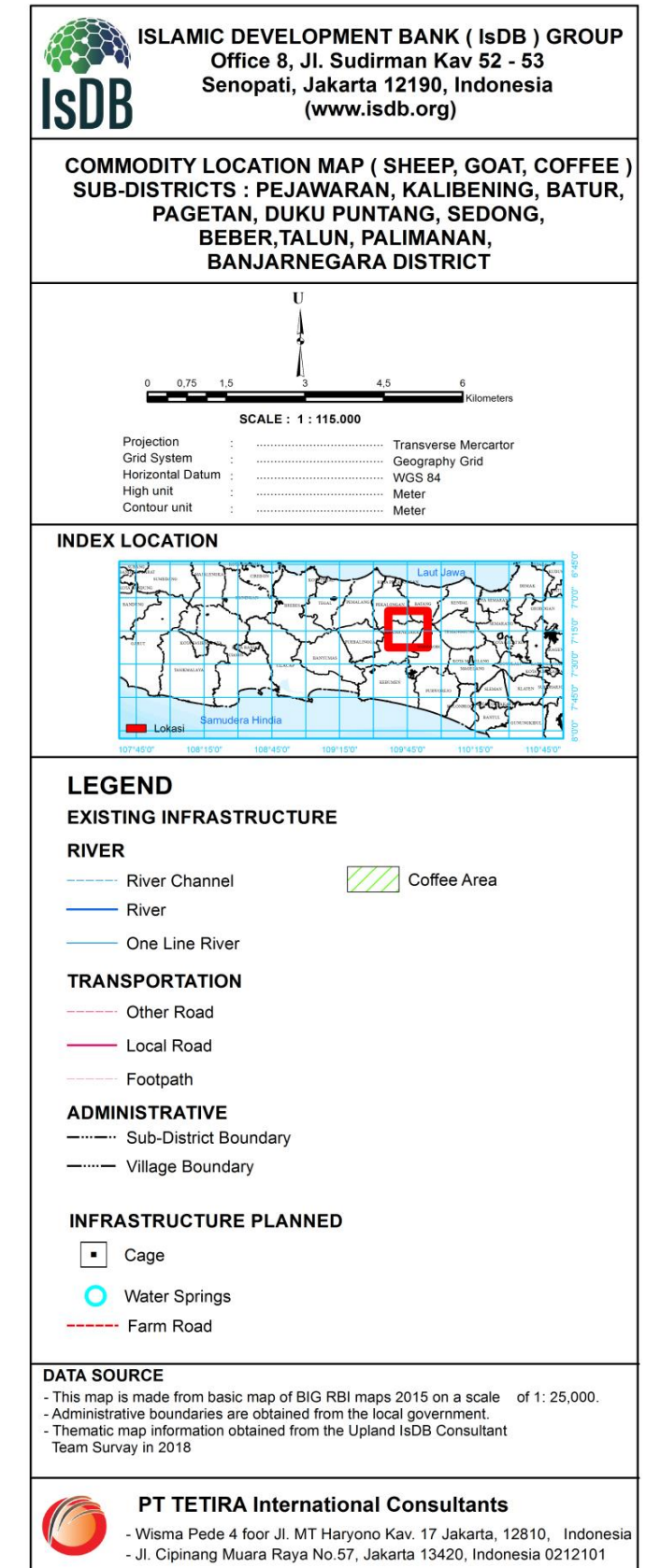
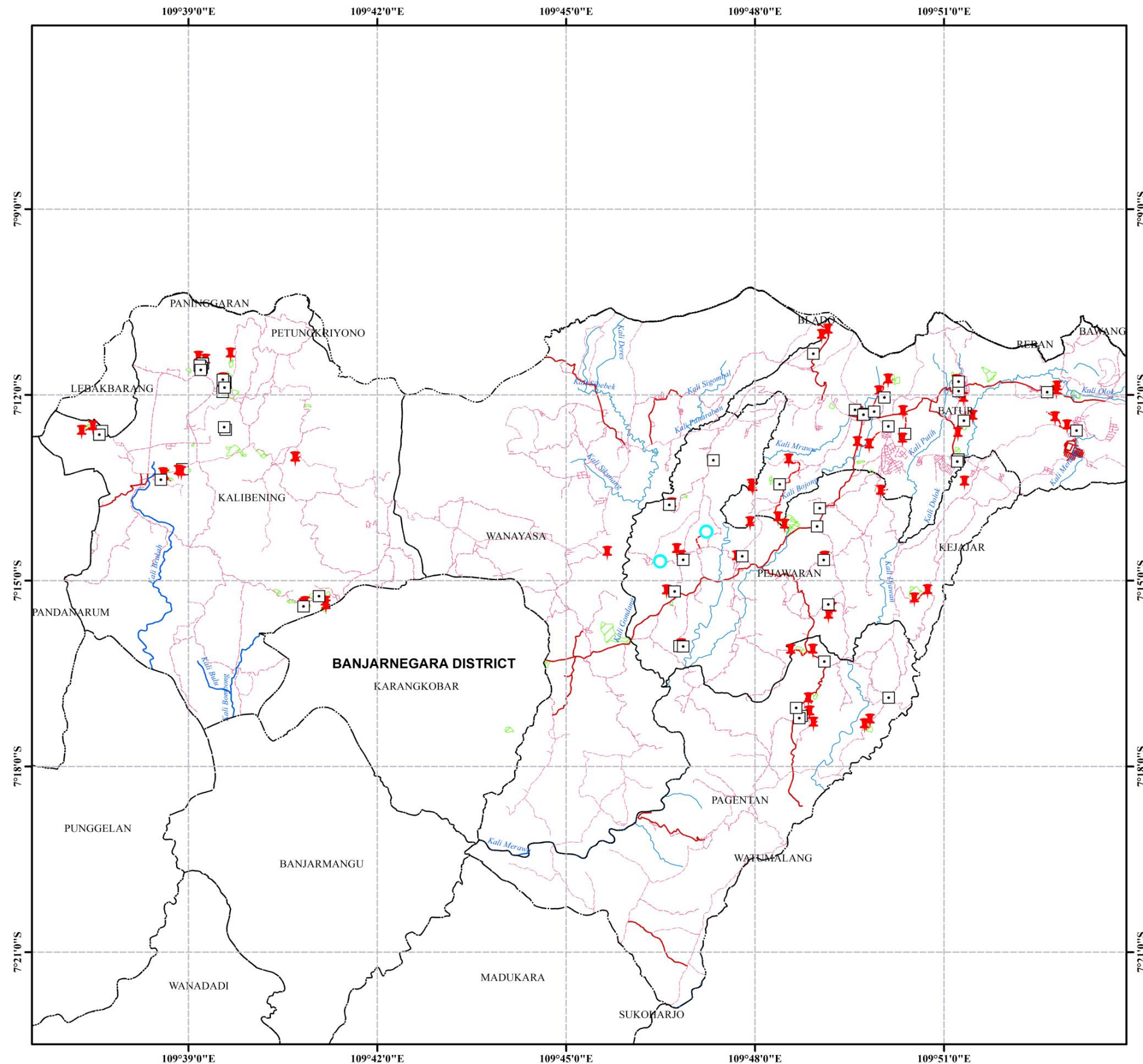
- For Farmers:
  - Livestock farming (cultivation, breeding, product processing, feed processing, entrepreneurship);
  - Coffee farming (cultivation, nursery, post-harvest processing & packaging, entrepreneurship).
- For Youth:
  - Training in coffee roasting;
- Business contact/event;
- Post-harvest processing and marketing research for coffee.

## **9. Village Facilitation and Technical Assistance**

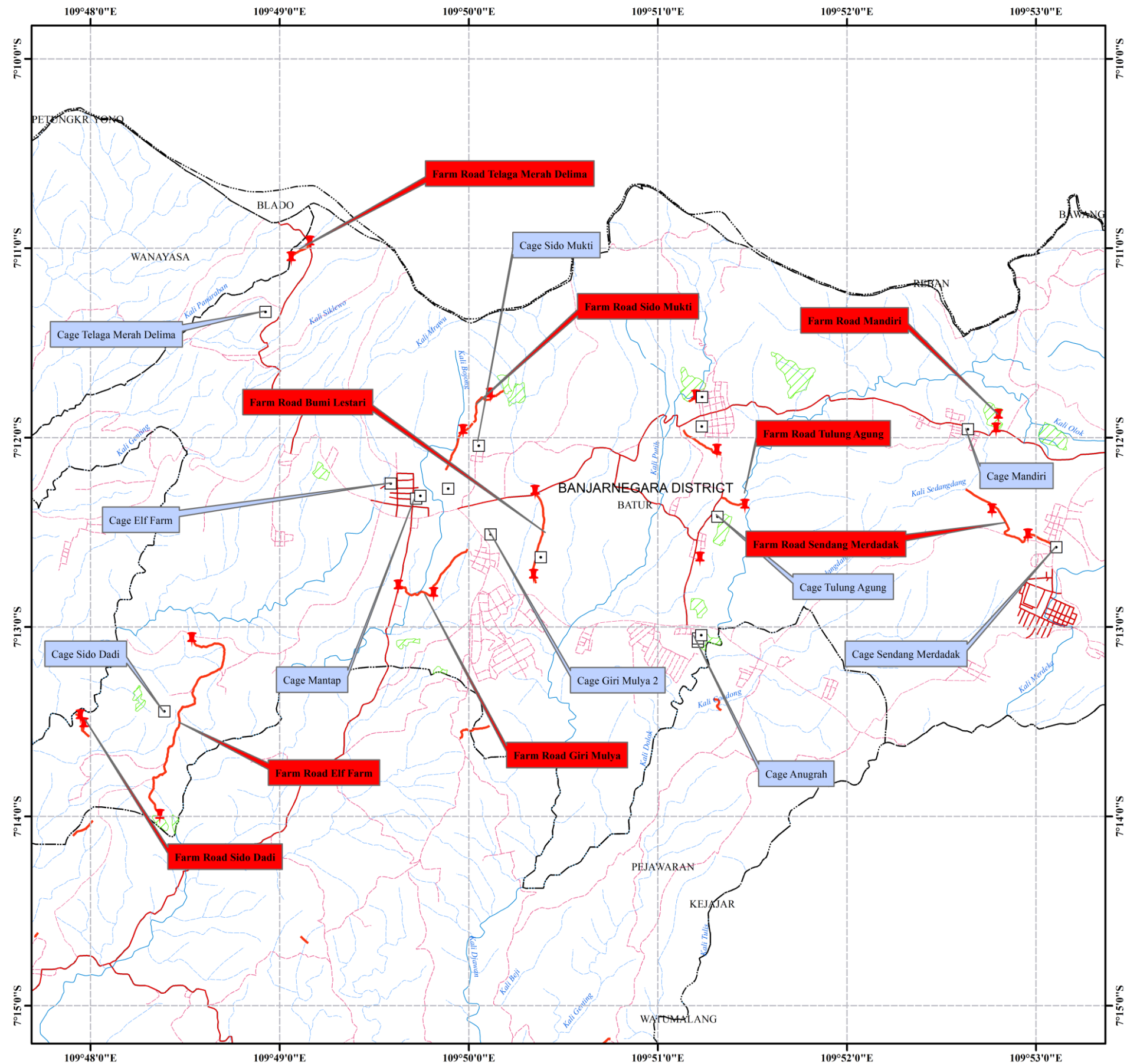


## Map of Proposed Agriculture Infrastructure and Facilities

### A. Banjarnegara District



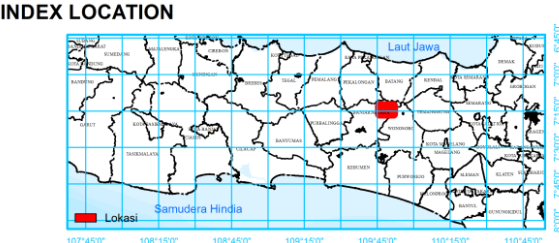
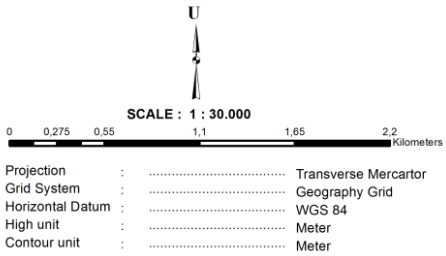
B. Batur Sub-District





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( SHEEP, GOAT, COFFEE )  
BATUR SUB-DISTRICT  
BANJARNEGARA DISTRICT



LEGEND

INFRASTRUCTURE EXISTING

RIVER

TRANSPORTATION

ADMINISTRATIVE

INFRASTRUCTURE PLANNED

Sheep Cage


Water Sources

Farm Road

Coffee Area

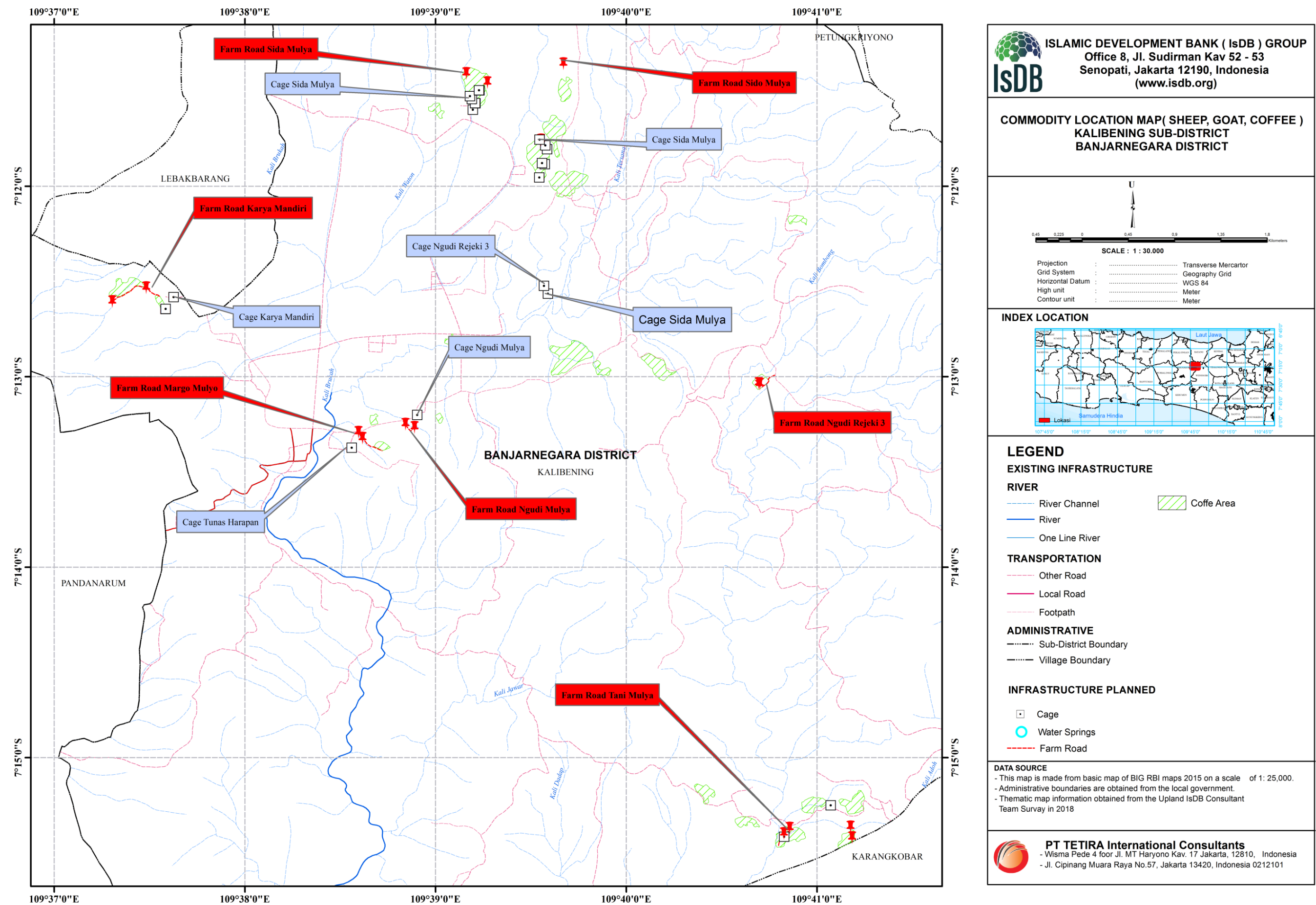
DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018

 **PT TETIRA International Consultants**  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia 0212101

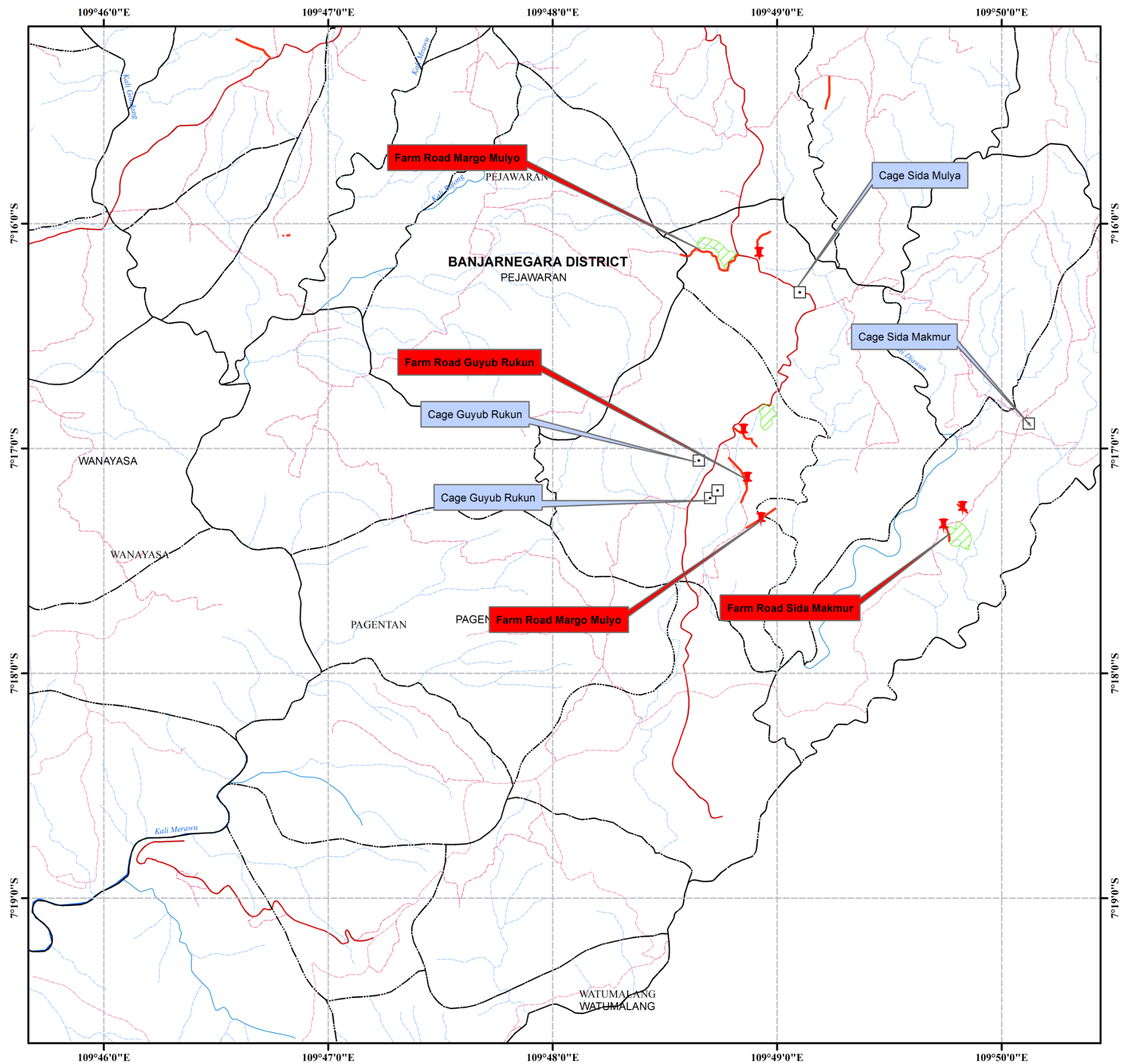


C. Kalibening Sub-District



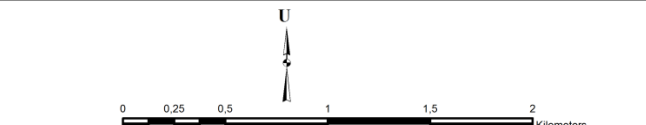


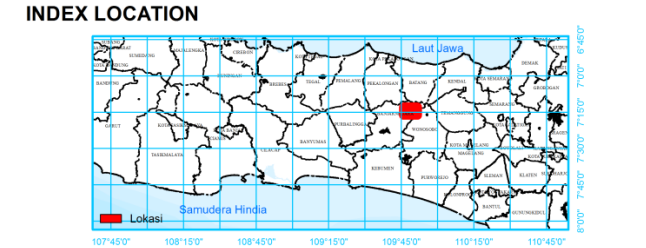
Pagentan Sub-District



 **ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP**  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

**COMMODITY LOCATION MAP( SHEEP, GOAT, COFFEE )  
PAGETAN SUB-DISTRICT  
BANJARNEGARA DISTRICT**

  
0 0.25 0.5 1 1.5 2 Kilometers  
**SCALE : 1 : 30.000**  
Projection : ..... Transverse Mercator  
Grid System : ..... Geography Grid  
Horizontal Datum : ..... WGS 84  
High unit : ..... Meter  
Contour unit : ..... Meter



**LEGEND**

**INFRASTRUCTURE EXISTING**

**RIVER**

- River Channel
- River
- One Line River

**TRANSPORTATION**

- Other Road
- Local Road
- Footpath

**ADMINISTRATIVE**

- Sub-District Boundary
- Village Boundary

**INFRASTRUCTURE PLANNED**


- Sheep Cage
- Water Sources
- Farm Road

**COFFEE AREA**

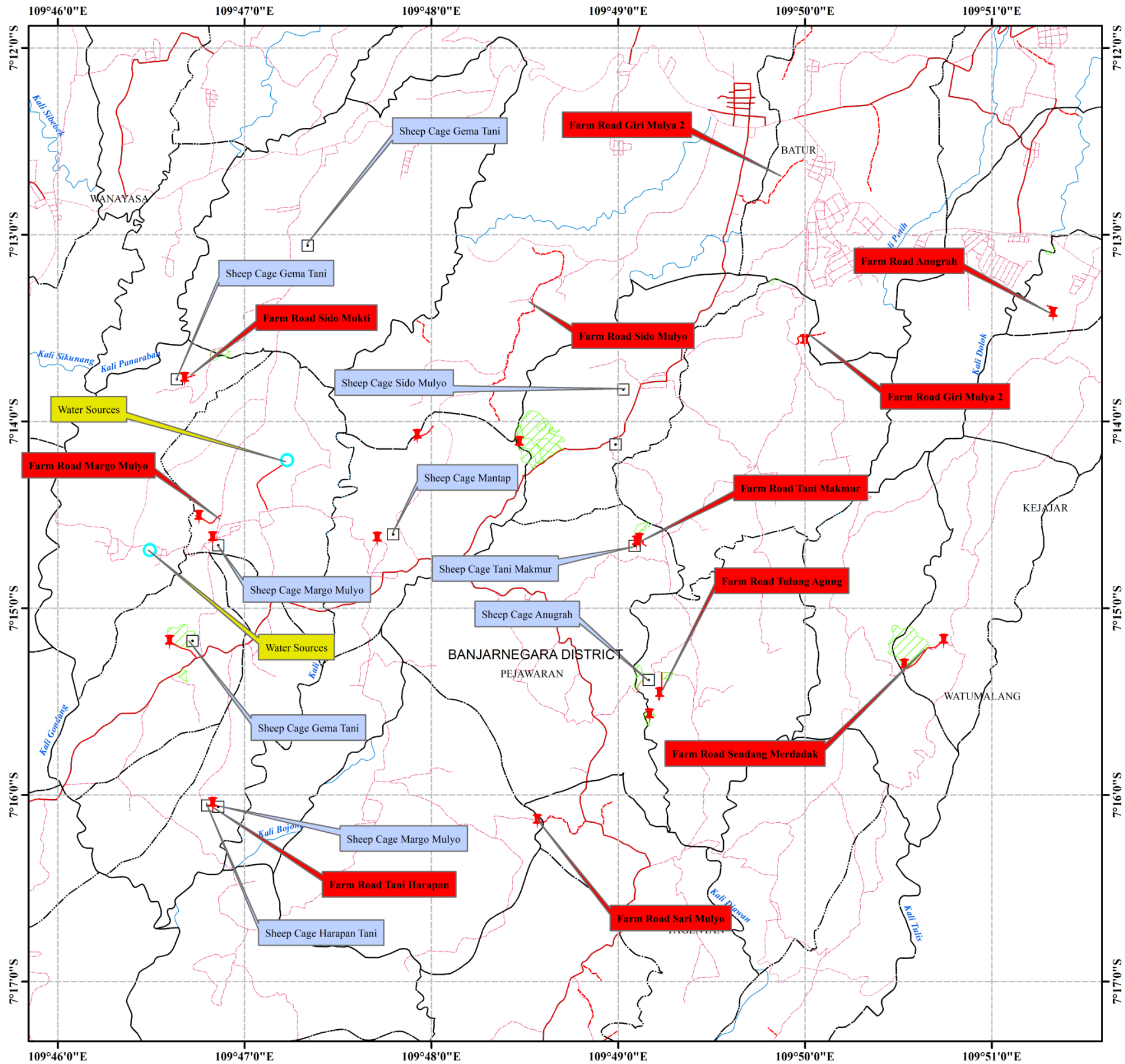
- Coffee Area


**DATA SOURCE**

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018

 **PT TETIRA International Consultants**  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia 0212101

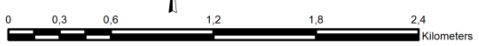

D. Pajawaran Sub-District





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

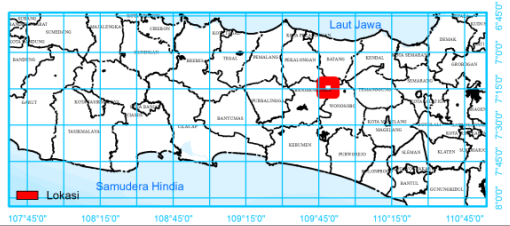
COMMODITY LOCATION MAP( SHEEP, GOAT, COFFEE )  
PEJAWARAN SUB-DISTRICT  
BANJARNEGARA DISTRICT



SCALE : 1 : 40.000

Projection	Transverse Mercator
Grid System	Geography Grid
Horizontal Datum	WGS 84
High unit	Meter
Contour unit	Meter


INDEX LOCATION





LEGEND

EXISTING INFRASTRUCTURE


RIVER


 River Channel


 River

 One Line River


TRANSPORTATION


 Other Road

 Local Road


 Footpath


ADMINISTRATIVE


 Sub-District Boundary

 Village Boundary

INFRASTRUCTURE PLANNED

 Sheep Cage

 Water Sources


 Farm Road

DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.

- Administrative boundaries are obtained from the local government.

- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



PT TETIRA International Consultants

- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia

- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia 0212101

209

## 10. Risk Assessment of the program and Mitigation Measures

Risks	Impact on Project	L	I	R	Mitigation	Residual risks (R)
The goat/sheep are sold by farmer for cash	Loss of farmer income from goat/sheep agribusiness, in turn lack of organic fertilizer for coffee plantation which could reduce the coffee productivity	P	Si	MH	<ul style="list-style-type: none"> <li>Strengthen the farmer groups &amp; GA-POKTAN that manage the communal livestock, incl. training in goat/sheep raising and milk production; and developing rule of communal-managed goat/sheep.</li> <li>Inform and educate farmers with business plan of integrated farming system; and the importance of livestock assets</li> <li>Develop market for goat milk products which benefit significantly felt by farmers</li> </ul>	LM
Price & market volatility of coffee bean due to high competition of coffee market	Reduced farmer income from coffee	P	Mo	Me	<ul style="list-style-type: none"> <li>Strengthen GAPOKTAN and cooperative to develop market, and produce roasted coffee;</li> <li>Train farmer in continual improvement of efficient &amp; good practices of coffee cultivation and processing</li> </ul>	Lw
Erosion	Reduce productivity of coffee	P	Mo	Me	<ul style="list-style-type: none"> <li>Train farmer in soil and water conservation practices, and support them to implement it (e.g. terracing, use cover crops, mulch, organic fertilizers, etc.)</li> </ul>	Lw
Lack of O&M of agriculture infrastructures (farm road, irrigation, etc.)	Reduce productivity of coffee and increase transportation cost	L	Mo	Me	<ul style="list-style-type: none"> <li>Strengthen the farmer groups &amp; GA-POKTAN in O&amp;M of agricultural infrastructures, including charging farmers with agreed fee for O&amp;M of agric. Infrastructure &amp; machineries</li> </ul>	Lw
Unfunctional of GAPOKTAN and Cooperative	Untrusted of farmer to GAPOKTAN and Cooperatives which in turn could treat the business sustainability	P	Si	MH	<ul style="list-style-type: none"> <li>Strengthen the GAPOKTAN and Cooperative to make it sustainably operational &amp; functional through intensive facilitation and mentoring; including market development</li> <li>Capacity building of extension workers and local partners</li> </ul>	LM

### Note:

L : Likelihood (Very Unlikely/VU, Unlikely/U, Possible/P, Likely/L, Very Likely/VL);

I : Impact level (Negligible/N, Minor/Mi, Moderate/Mo, Significant/Si, Severe/Sv);

R : Risk level (combination of likelihood and impact level) = Low (Lw), Low-Medium (LM), Medium (Me), Medium-High (MH), High (H).

## **Summary Project Proposal Purbalingga District – Central Java**

### **1. General Condition**

- Purbalingga has wetland area of 40.366 ha with 225.204-ton production per year. Unemployment rate is 4,84%, Poverty rate 18,8%. The main occupation in Purbalingga are in the sector of Agriculture, Plantation, Forestry, and Fisheries which accounted for 36% of the total occupation in Purbalingga;
- Food Crops sub-sector is one of the agricultural sub-sectors. This subsector includes wetland paddy and dry land paddy, maize, cassava, sweet potatoes, peanuts and soybeans. Harvested Area wetland paddy in 2015 increased by 11,67 percent when compared with 2014. Production reached 248.332 ton increase when compared to 2014 which only reached 172.421 ton with productivity 62,27 kw/ha.

### **2. Planned Commodity and Area**

- The proposed commodities and area: Raising of local goat (Kejobong) managed by farmer group through communal cage. Each farmer group gets 150 female goats plus 15 male goats;
- There are 18 participated farmer groups distributed in one kecamatan Kejobong;
- To support sustainable goat raising, an integrated goat feed processing (to produce feed concentrate) and compos production is proposed to be developed. Materials for goat feed production is available in the kecamatan, e.g. cassava (leaf, tuber, cassava skin, bark) and side product of cassava industries (*onggok*), coffee skin;
- Production of compos is intended to get value added in goat raising. In addition to further increase the value added, a Slaughterhouse for goat completed with cold storage is also proposed to be established since there is no goat slaughterhouse in the District;
- An animal health unit will be established to support the goat health service.

### **3. Beneficiaries and Benefit**

- About 450 farmer-households of 18 farmer group (goat-raising group) will be benefited from the project. They will get benefit from selling life goat, where a young goat (5-6 months) is priced at IDR 700,000 and an adult goat is priced at IDR 2-2.5 million. Within 2 years, mature female goat can get birth 3 times, and produce 2-3 lamb for each get birth;
- Farmer group will get better access to goat feed concentrates which expectedly lower cost of feed concentrates; and better opportunities to get value added from selling goat meat rather than life goat;
- Currently, the 17 farmer groups (goat raising group) are active conditions, and 1 farmer group has been just activated. These 18 farmer groups will be benefited on improved goat cultivation and compos business;
- Most farmers will also be benefited from the use of organic fertilizers for their farming of commercial crops (e.g. white pepper), and from selling the agricultural residues (skin cassava, cassava leaf, cassava bark) for goad feed processing unit.

#### **4. Project Concept**

- There are captive markets for Kejobong goat. Delivery of Kejobong goat from the District to Jabodetabek is estimated at 15 head per day. During the Idul Adha period, formal record shows the delivery of 160 truck to outside area (including to Jabodetabek), in which there are 60-70 head per truck. In the meanwhile, the local need for goat Kejobong is estimated only 25 head per day;
- The farmer (goat raising) group will manage the goat raising in communal cage. Forage for goat feeding will be obtained from *Cressida* plant (gamal) that are abundantly available in the area, since the farmer plant the crop for their goat and to propagate pepper plant. Farmer group will also plant king grass and *Indigo Vera* in their land. Leaf of plants are source for goat forage;
- The farmer groups will also collect the goat dung and deliver to compos processing unit that will be managed by cooperative own by Gapoktan;
- The farmer group will form a Gapoktan which further establish a Cooperative at Sub-District level. The cooperative will be managed by professional team recruited by the Gapoktan, applying agreed terms and conditions;
- The Gapoktan cooperative will organize and facilitate in marketing of goat production, manage and operate feed production unit to produce and sell goat feed-concentrates, and managed & operate UPPO to produce and sell organic fertilizers. Organic fertilizer will be sold to local farmers and/or farmers outside the district.

#### **5. Proposed Land Development and Agriculture Infrastructure**

- Farm road for all sub-districts, about 6.5 km

#### **6. Proposed Production and Farm Management**

- Sub-district animal Health Centre comprising new vet building and completed with facilities of refrigerator, scales, drug stock, veterinary equipment, and vet USG as well as motorcycles;
- Production Facilities at farmer group to raise communal goat, e.g. water installation, goat houses/cage, forage legume seed;
- Goat procurement for farmer groups (each farmer group will receive 150 female goats plus 15 male goats);
- Three-wheel vehicle for farmer group to collect and transport goat dung to processing unit.

#### **7. Proposed Marketing Infrastructure & Equipment**

- Facilities for the feed processing and production unit (concentrate and compos) for Gapoktan/Cooperative e.g. feed production building, equipment& instruments, feed materials, feed factory and supporting facilities;
- Compos processing unit (UPPO) manage by Gapoktan/Cooperative comprising building, UPPO equipment, UPPO machine, sewing machines for packaging, sieve machine, sealer, packaging material;
- Four-wheel vehicle for operation of integrated feed and compos processing10. Slaughter house;
- Slaughterhouse managed by UPDT: New building & equipment of Goat Slaughterhouse, cold storage for goat meat, and upgrading IPAL of Cattle Slaughterhouse.



## 8. Proposed training and capacity building activities

- Training in feed processing;
- Training in dug processing;
- Information campaign for farmers;
- Workshop Development of GAPOKNAK;
- Training government staff in project management;
- Equipping the Dinas with 4-wheel vehicle (2 units, one of them is pick-up).

## 9. Village Facilitation and Technical Assistance

## 10. Documentation of Assessment and Validation Project Location at Purbalingga



FGD at Distan Purbalingga



FGD with Farmer Group



Goat Market at Purbalingga



Communal Cage and Access Farm Road  
at KTT Bina Usaha

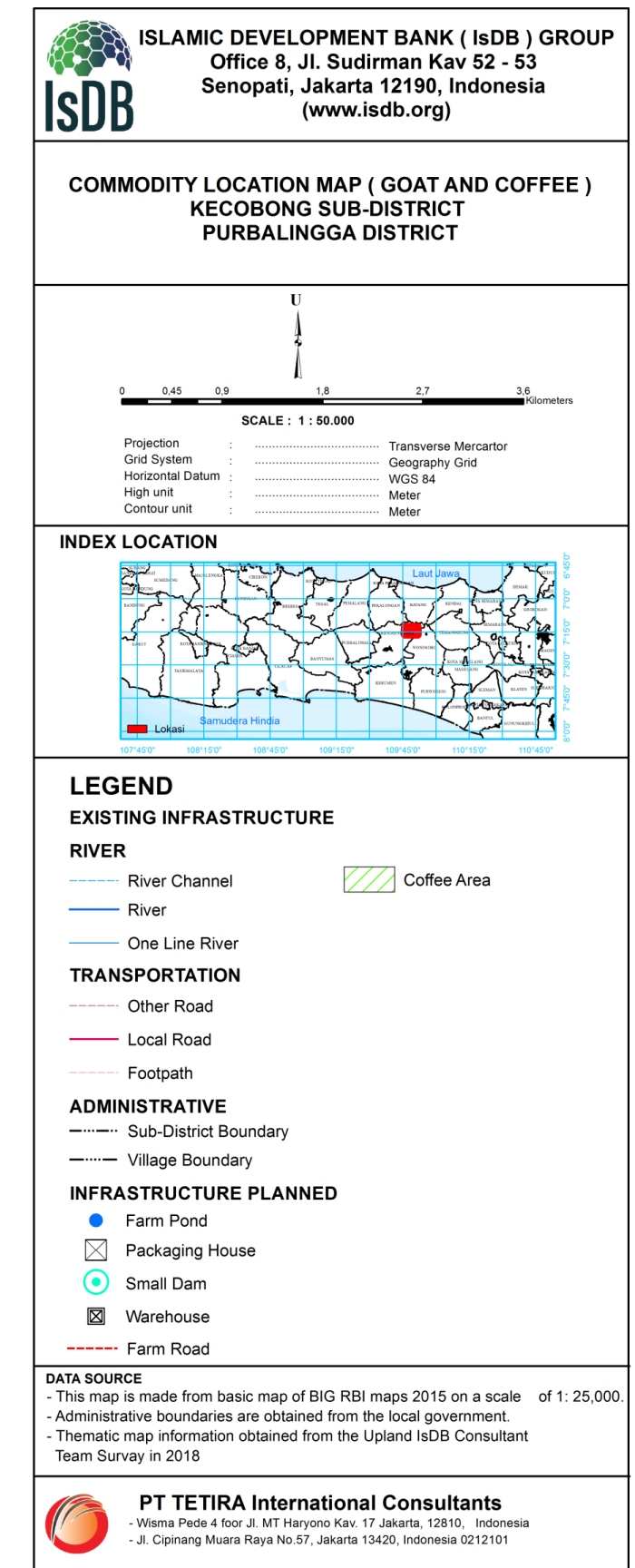
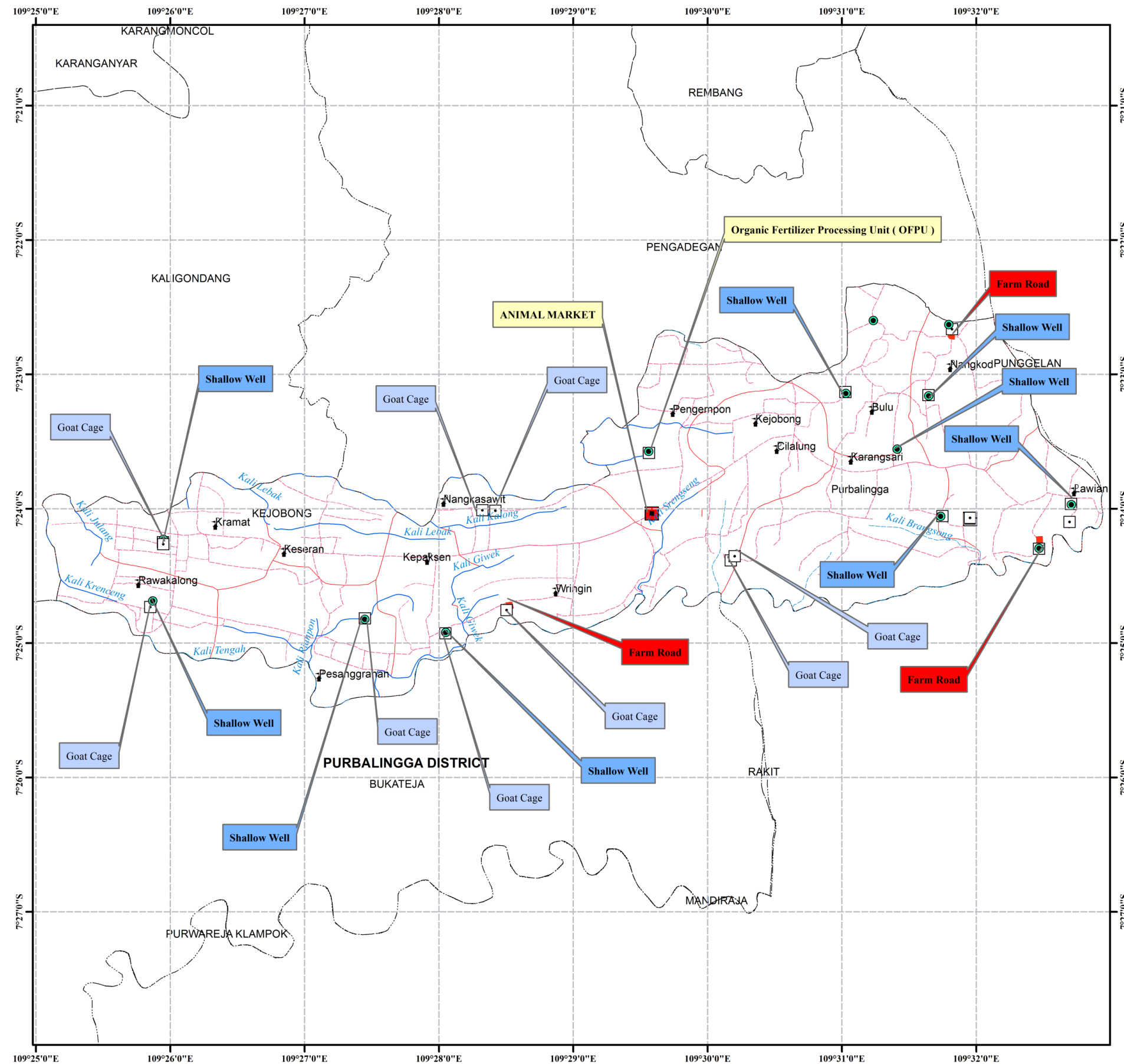


Goat Market at Kecobong Subdistrict



RPH and IPAL Unit

## 11. Map of Proposed Agriculture Infrastructure and Facilities





## 12. Risk Assessment of the program and Mitigation Measures

Risks	Impact on Project	L	I	R	Mitigation	Residual risks (R)
The goats are sold by farmer for cash	Loss of farmer income from goat/sheep agribusiness, in turn lack of organic fertilizer for coffee plantation which could reduce the coffee productivity	P	Si	MH	<ul style="list-style-type: none"> <li>Strengthen the farmer groups that manage the communal livestock, incl. training in goat raising, developing rule of communal-managed goat; and in accessing finance institutions including developing credit-saving managed by farmer group with tight control;</li> <li>Inform and educate farmers with business plan of goat-based agribusiness; and the importance of livestock assets for sustainable income;</li> <li>Develop value added goat through selling goat meat;</li> </ul>	LM
Price & market volatility of goat	Reduced farmer income from coffee	UL	Mo	LW	<ul style="list-style-type: none"> <li>Strengthen Farmer Group to produce and develop market of goat meat.</li> </ul>	Lw
Lack of O&M of agriculture infrastructures (farm road, irrigation, etc.)	Reduce productivity of goat	L	Mo	Me	<ul style="list-style-type: none"> <li>Strengthen the farmer groups in O&amp;M of agricultural infrastructures, including charging farmers with agreed fee for O&amp;M of agric. Infrastructure &amp; machineries.</li> </ul>	Lw
Unfunctional of GAPOKTAN and Cooperative	Untrusted of farmer to GAPOKTAN and Cooperatives which in turn could treat the business sustainability	P	Si	MH	<ul style="list-style-type: none"> <li>Strengthen the GAPOKTAN/Cooperative to make it sustainably operational &amp; functional through intensive facilitation and mentoring; including market development;</li> <li>Capacity building of extension workers and local partners;</li> <li>Capacity building of Cooperative management.</li> </ul>	LM

### Note:

- L : Likelihood (Very Unlikely/VU, Unlikely/U, Possible/P, Likely/L, Very Likely/VL).  
I : Impact level (Negligible/N, Minor/Mi, Moderate/Mo, Significant/Si, Severe/Sv).  
R : Risk level (combination of likelihood and impact level) = Low (Lw), Low-Medium (LM), Medium (Me), Medium-High (MH), High (H).

### 13. Proposed of Farmer Group

No	Name of farmer Group	District	Name of Village	Number of Member
1	Mendo Mulyo	Kejobong	Ds. Bandingan	10
2	Rejo Mulyo	Kejobong	Ds. Krenceng	10
3	Margo Mulyo	Kejobong	Ds. Nangkasawit	15
4	Sido Makmur	Kejobong	Ds. Pangempon	15
5	Ngudi Rahayu	Kejobong	Ds. Kejobong	10
6	Sido Dadi	Kejobong	Ds. Langgar	15
7	Terpadu	Kejobong	Ds. Langgar	15
8	Ngudi Dadi	Kejobong	Ds. Kedarpan	225
9	Margo Rukun	Kejobong	Ds. Langgar	17
10	Ngudi Rejeki	Kejobong	Ds. Kedarpan	12
11	Sri Rejeki	Kejobong	Ds. Timbang	10
12	Mugi Lestari	Kejobong	Ds. Timbang	10
13	Muji Lestari	Kejobong	Ds. Timbang	10
14	Sido Maju	Kejobong	Ds. Nangkod	15
15	Jawara	Kejobong	Ds. Lamuk	16
16	Bina Usaha	Kejobong	Ds. Nangkod	13
17	Maju Makmur	Kejobong	Ds. Pandansari	10
18	Karya Munjul	Kejobong	Ds. Sokanegara	20

## Summary Project Proposal Magelang District – Central Jawa

### 1. General Condition

Kabupaten Magelang has unemployment rate is 5,16%, Poverty rate is 12,42%, The main occupation in Magelang are in the sector of Agriculture, Plantation, Forestry, and Fisheries which accounted for 28% of the total occupation in Magelang or about 223.266 people of the number 127. 898 (57.2%) are male and 95.368 (42.7%) are female. Magelang has 59,084 wetland areas and produce 366,981 ton per year paddy rice another major production in Magelang is Sweet Potato with 957 ha area and 21,940 ton per year. Several problems in Magelang Agriculture are uneven infrastructure development and low educational level.

### 2. Planned Commodity and Area

- The proposed commodities and area: Organic rice in 2,000 ha distributed in 3 zones. The zone basically represents 3 main sub-districts, except Bandongan zone which include 2 villages of 2 sub-districts;
- Of the proposed 2,000 ha there is now 1,030 ha that have got organic certification from Seloliman (LESOS) Mojokerto;
- Water source of irrigation are spring, waterfall. Some area – especially in Grabag sub-district - has lack of water resources for irrigation. Ground water irrigation using shallow or deep well will be an alternative to be developed. For the location with good water availability, the farmer plant rice 5 times in 2 years, this is estimated about 60%. The other is 2 times a year;
- The rice organic farming need support of the availability of organic fertilizer and biological pest control practices. Therefore, livestock raising (cattle and goat) are also proposed in each zone completed with livestock cage and UPPO (processing unit of organic fertilizer). In addition, natural pesticide production facilities and owl house are also proposed to be developed in each zone;
- One farmer group in Grabag zone - namely AGRO AS SYIFA – is specialized to produce seed of organic rice;
- All farmer groups has developed an association at district level which purchase dry grain from farmers at price IDR 4,500/kg and produce packaged organic rice. However, due to capital limitation of the association, currently 80% paddy production is sold to middlemen in the form of dry grain at price IDR 4,000/kg, because of financial limitation of the association. In this regard, accessibility to financing source is required to increase the financial capacity of associations.

Description	Zone			Total
	Bandongan*)	Grabag	Sawangan	
Paddy field Area (ha)	800.08	600	600	2000.08
# Village	15	11	7	33
# Farmer Group	29	32	33	94
#Farmer	1,646	2,103	1,647	5,396

\*) include Bandongan sub-district (13 villages), 1 village from Kaliangkrik sub-district, and 1 village from tempuran sub-district.

### 3. Beneficiaries and Benefit

About 5,390 farmer-households will be benefited from the project through getting value added through:

- Selling their organic rice organized through the association rather than selling dry grain. Price of organic rice range from IDR 14,000/kg (for white rice) up to IDR 20,000/kg (for black rice), and in average IDR 16,000/kg;
- Increased cropping intensity and productivity (currently 5-6 tone dry husk grain per ha) due to better access to irrigation water, quality of seed, and organic fertilizers. In case SRI method is applied, the productivity can incredibly raise at about 9-10 tone dry husk grain per ha;
- Reduced farming cost due to better access to organic fertilizers, the use of agriculture machineries, lower transport cost, etc.

### 4. Project Concept

- The association now has captive market for organic rice (e.g. PT. Boga Sarana about 40 tones/month, company from Tegal, Kalimantan, Jakarta, etc. Each zone has developed their own brand, i.e. SekarLangit (Grabag), Gatos (Sawagan), and Bandongan Mitayani (Bandongan);
- Farmer group will collect production and drying of harvested husked grain from farmer, and sell it to GAPOKTAN at zone (sub-district) level. The farmer group will also develop and establish UPJA, and provide service on the operation of agric. Machineries;
- GAPOKTAN will be formed at zone level (sub-district) composed by farmer groups as member, with roles in: coordinating UPJA at village level including establishing *Alsitan* brigade, manages Rice Processing Facilities & RMU, purchase dry husked grain from farmer groups, produce organic rice, packaging & branding the organic rice (*Sekar Langit brand* in Grabag), *Gatos brand* in Sawagan, and *Bandongan Mitayani* in Bandongan); manage livestock and UPPO and produce & sell organic fertilizer to farmers, and manage installation and produce and sell natural pesticide to farmers;
- Existing organic rice association will form a Cooperative that will operate at district level. The roles of cooperative are: organize marketing of organic rice that have been packed and branded at GAPOKTAN level, develop marketing/business network, and Education and training services.

***Value chain for Magelang district is attached.***

### 5. Proposed Land Development and Agriculture Infrastructure

- Farm ponds for Tirto village (Kecamatan Grabag);
- Rehabilitation of tertiary system about 18,850m<sup>3</sup> (equivalent with 32 km) for sub-district of Sawagan and Drabag;
- Rehabilitation of Farm road (about 15,250m<sup>3</sup> (equivalent to 28 km);
- Small dam (20 unit) complete with gate;
- Shallow/deep Ground Well (18 units consisting of 3units in Bandongan; and 15 units in Grabag);
- Surface piping irrigation (about 3,500 m) complete with retention & distribution facilities.

## **6. Proposed Production and Farm Management**

### For rice field at farmer level:

- Seed (20kg/ha x2000 ha x 2 years);
- Organic fertilizer (1000kg/ha x2000ha x2 years);
- Biofertilizer (60kg/ha x2000ha x 2 years).

### Farmer group-managed machineries:

- Hand Tractor (46 units);
- Power weeder (90 units);
- Paddy mower (90 units);
- Power thresher (36 units);
- Hand Sprayer (210 units);
- Water Pump (30 units);
- Water Pump 8,5 HP (3 units);
- Mini Rice Transplant (30 units);
- Seeding Tray (5,000 units).

### GAPOKTAN-managed machineries & facilities:

- Power sprayer (3 unit);
- Natural pesticide laboratory (30 m<sup>2</sup>) and equipment (3 units);
- Owl House (200 units);
- Organic Fertilizer Processing Unit for Cattle (24 packages), complete with cattle, warehouse, cages, fermentation boxes, compos processors, three-wheel vehicle;
- Organic Fertilizer Processing Unit for Goat livestock (12 packages) complete with organic fertilizer processing unit, warehouse, cages, fermentation boxes, compos processors;
- Cages and cattle (5 packages: 2 for Bandungan, 2 for other zones, and 1 for Agro As Syifa); each unit consist of 10 cattle and cage;
- Cages and cattle (5 packages: 2 for Bandungan, 2 for other zones, and 1 for Agro As Syifa); each unit consist of 20 goats and cage;
- Bio Gas Installation (2 units) in Grabag zone.

## **7. Proposed Marketing Infrastructure & Equipment**

### GAPOKTAN-managed processing facilities:

- Warehouse (100 M<sup>2</sup>), 5units (2 for Bandungan, 2 for other zones, and 1 for Agro As Syifa);
- 2-Storey Office and Equipment Warehouse (100 M<sup>2</sup>), 4units (2 units or Bandungan).
- Drying floors (1000 M<sup>2</sup>), 4 units (2 units or Bandungan);
- RMU House (250 M<sup>2</sup>), 3 units;
- Vertical Dryer House (100 M<sup>2</sup>), 3 units;
- Electrical installation, 3packages;
- Vertical dryer (10 ton), 3units;
- RMU& Equipment (integrated RMU 1-1.5 ton/hours), 3 packages;
- Rice Color Sorter, 3 units;
- Grain suction machine, 5 units;
- Seed Cleaner + Elevator for Nursery, 1 unit (for AgroSifa);

- Separator for Nursery, 2 units (for AgroSifa);
- Packaging equipment (1 package for each Gapoktan plus Agro-sifa): seller, vacuum seller, packaging printing machine, sewing machine, plastic packaging (5kg), plastic vacuum packaging, 5 kg sacks;
- Ancillary equipment (vacuum cleaner, compressors), 2 packages for each Gapoktan;
- Truck, 3 units;
- Pick-up vehicles (Mitsubishi L300), 4 units (for 3 Gapoktans plus 1 nursery/ Agrosyifa);
- Tricycle motorcycle, 24 units (for 3 gapoktans plus 1 nursery/Agrosyifa);
- Organic Rice Certification.

#### COOPERATIVE OF ORGANIC RICE ASSOCIATION

- Establishment of primary commodity center (600m2) – DED has been available;
- Establish P3O (*Pusat Pelatihan Pertanian Organik*/Organic Farming Training Center) completed with training equipment, furniture, training tools;
- Light Truck.

### **8. Strengthening Market Linkages and Alliances**

- Events for business development and market linkages.

### **9. Access to Financial Services**

- Establishment of finance institution services.

### **10. Proposed training and capacity building activities**

- Community Mobilization Farmer Institutions
  - Institutional Strengthening of Farmer Groups;
  - Strengthening Farmer Economic Institutions;
  - Institutional Strengthening of Organic Fertilizer Processing Units;
  - Institutional Strengthening of Agricultural Machinery Equipment Services Management Unit;
  - Organic Rice Field Trip;
  - Comparative study of organic farming;
  - English language training;
  - Organic farming internship;
  - Organic farming workshop;
  - Mobilizing extension workers.
- Farmer Trainings:
  - Organic rice agribusiness management training;
  - Farmer business plan training;
  - Group Business Plan Training;
  - Good Agricultural Practices (GAP) Field School;
  - Good Handling Practices Field (GHP) Field School;
  - Good Manufacturing Practices (GMP) Field School;
  - Organic Land Certification Training;
  - Internal Control System Training;
  - Training in drafting a Definitive Plan for Group Needs;
  - Field School for Controlling Plant Pest Organisms;

- Organic Fertilizer Making Training;
  - Group managerial training;
  - Administration and bookkeeping training for group administrators;
  - Maintenance training of agricultural machinery;
  - Agricultural machinery engineering training;
  - Organic fertilizer processing unit management training;
  - Seedling training;
  - Business contact/event.
- Training for government officials/staff (subject for discussing with Dir. PSP)

## 11. Village Facilitation and Technical Assistance

- Sub-district facilitator;
- District facilitator.

Cost-tab for Magelang district is attached (subject for discussion).

## 12. Proposed of Farmer Group

No.	Farmer Group	Member	Area (Ha)	Village
<b>A</b>	<b>Grabag</b>			
1	Tlogo Sari	38	19.13	Tlogorejo
2	Tlogo Mulyo	89	18.92	Tlogorejo
3	Tlogo Rejo	88	18.40	Tlogorejo
4	Lestari Makmur	42	11.60	Kartoharjo
5	Rejo Mulyo	31	7.81	Sambungrejo
6	Sido Rukun	85	13.74	Sambungrejo
7	Karanglo	67	13.30	Sambungrejo
8	Sido Rejo	31	6.19	Sambungrejo
9	Dadi Makmur	23	8.06	Sambungrejo
10	Tlogosari	179	19.93	Ngasinan
11	Sejahtera	97	20.16	Ngasinan
12	Sidodadi	36	17.90	Kleteran
13	Loh Jinawi	55	18.02	Kleteran
14	Sayuk Rukun	137	46.46	Citrosone
15	Gotong Royong	97	29.78	Citrosone
16	Sumber Rejeki	45	25.00	Citrosone
17	Tejosari 2	98	17.45	Banyusari
18	Tani Makmur 3	66	25.20	Banyusari
19	Ngudi Raharjo	75	16.43	Tirto
20	Sri Rejeki	47	6.03	Tirto
21	Andong Jinawi	39	13.02	Tirto
22	Tekad Manunggal	41	11.03	Sidogede
23	Sido Asri	41	20.00	Sidogede
24	Sido Mukti	35	15.07	Sidogede
25	Kwt Sido Arum	123	10.60	Sidogede
26	Berkah Tani Nyiur Hijau	51	10.28	Kartoharjo
27	Sugeng Makmur	13	15.08	Kartoharjo

No.	Farmer Group	Member	Area (Ha)	Village
28	Sido Harjo	35	10.20	Kartoharjo
29	Ngudi Luhur	100	22.45	Kalikuto
30	Rukun Estu Kiyat	117	30.35	Grabag
31	Subur	13	47.00	Grabag
32	Agro As Syifa	69	35.41	Ngasinan
<b>Total</b>		<b>2,103</b>	<b>600.00</b>	
33	Mekar Sari	78	30.00	Sidorejo
34	Tani Mulyo	32	32.30	Rejosari
35	Pendowo Limo	64	44.00	Rejosari
36	Loh Joyo	31	34.00	Rejosari
37	Srigati	46	13.00	Sukosari
38	Al Huda	58	25.00	Sukosari
39	Sri Rejeki	69	25.00	Sukosari
40	Al Mukmin	24	8.00	Sukosari
41	Al Irsyad	88	63.30	Gandusari
42	Tansah Makmur	45	15.60	Gandusari
43	Sumber Rejeki Amanah	65	27.00	Bandongan
44	Jaya	45	20.60	Tonoboyo
45	Karangrejo	64	22.40	Tonoboyo
46	Ngudi Makmur	71	25.90	Tonoboyo
47	Bangkit	90	63.00	Banyuwangi
48	Mureh Rejo	42	20.00	Sukodadi
49	Bumi Lohjinawi	41	16.90	Kebonagung
50	Ngudi Makmur	108	29.20	Kebonagung
51	Guyub Rukun	92	29.53	Kebonagung
52	Subur Rahayu	41	12.00	Ngepanrejo
53	Karya Ngudi Rahayu	68	24.80	Kedungsari
54	Karya Bhakti	67	26.05	Kedungsari
55	Makmur Jaya	34	15.90	Kalegen
56	Lohjinawi	41	14.60	Kalegen
57	Bangkit Sejahtera	25	22.00	Trasan
58	Bina Karya	52	27.00	Trasan
59	Al Ikhlas	25	16.00	Trasan
60	Sumber Rejeki	85	75.00	Sumber Arum, Kecamatan Tempuran
61	Kuppo Sumbingrejo	55	22.00	Girirejo Kecamatan Kaliangkrik
62	Gapoktan Gemah Ripah	207	199.50	Sawangan
63	Ngudi Makmur	31	9.40	Sawangan
64	Sumber Pangan 1	27	7.50	Sawangan
65	Sumber Makmur	43	13.25	Sawangan
66	Permata Tani	51	17.80	Sawangan
67	Kebokuning	31	11.05	Sawangan
68	Margorejo	112	34.40	Sawangan
69	Pastimulyo	126	36.50	Sawangan
70	Sumber Pangan 2	56	16.25	Sawangan
71	Maju Lancar	41	11.30	Sawangan



No.	Farmer Group	Member	Area (Ha)	Village
72	Tirto Semaren	64	18.00	Sawangan
73	Lohjinawi	19	8.80	Krogowanan
74	Guyup Rukun	23	5.00	Krogowanan
75	Tani Makmur	12	2.00	Krogowanan
76	Maju Makmur	19	4.00	Krogowanan
77	Karya Tani	35	9.00	Butuh
78	Rukun Tani	37	5.90	Butuh
79	Cowor	24	4.30	Butuh
80	Tri Rejeki	48	11.30	Butuh
81	Pambudi Lestari	65	12.25	Mangunsari
82	Sedyo Raharjo	32	9.20	Mangunsari
83	Sedyo Rukun	27	15.70	Mangunsari
84	Sido Mulyo	57	18.45	Mangunsari
85	Ngudi Rejeki	50	7.60	Mangunsari
86	Sediyo Utomo	66	20.80	Mangunsari
87	Suko Tulodo	62	15.00	Podosoko
88	Rukun Lestari	12	2.70	Tirtosari
89	Sumber Rejeki	63	8.00	Tirtosari
90	Denokan	66	10.00	Tirtosari
91	Rukun Makmur	26	9.45	Tirtosari
92	Pahitan	14	4.70	Tirtosari
93	Piyungan	19	13.00	Tirtosari
94	Ngudi Rejeki	82	27.90	Kapuhan
<b>Total</b>		<b>1,647</b>	<b>600.00</b>	

## Attachement 1. Documentation of Assessment and Validation Project Location at Magelang



Discussion with Dinas



Access Farm Road at Village of Sawangan



FGD and Interview with Farmer Group



Organic Rice at Sawangan Subdistrict

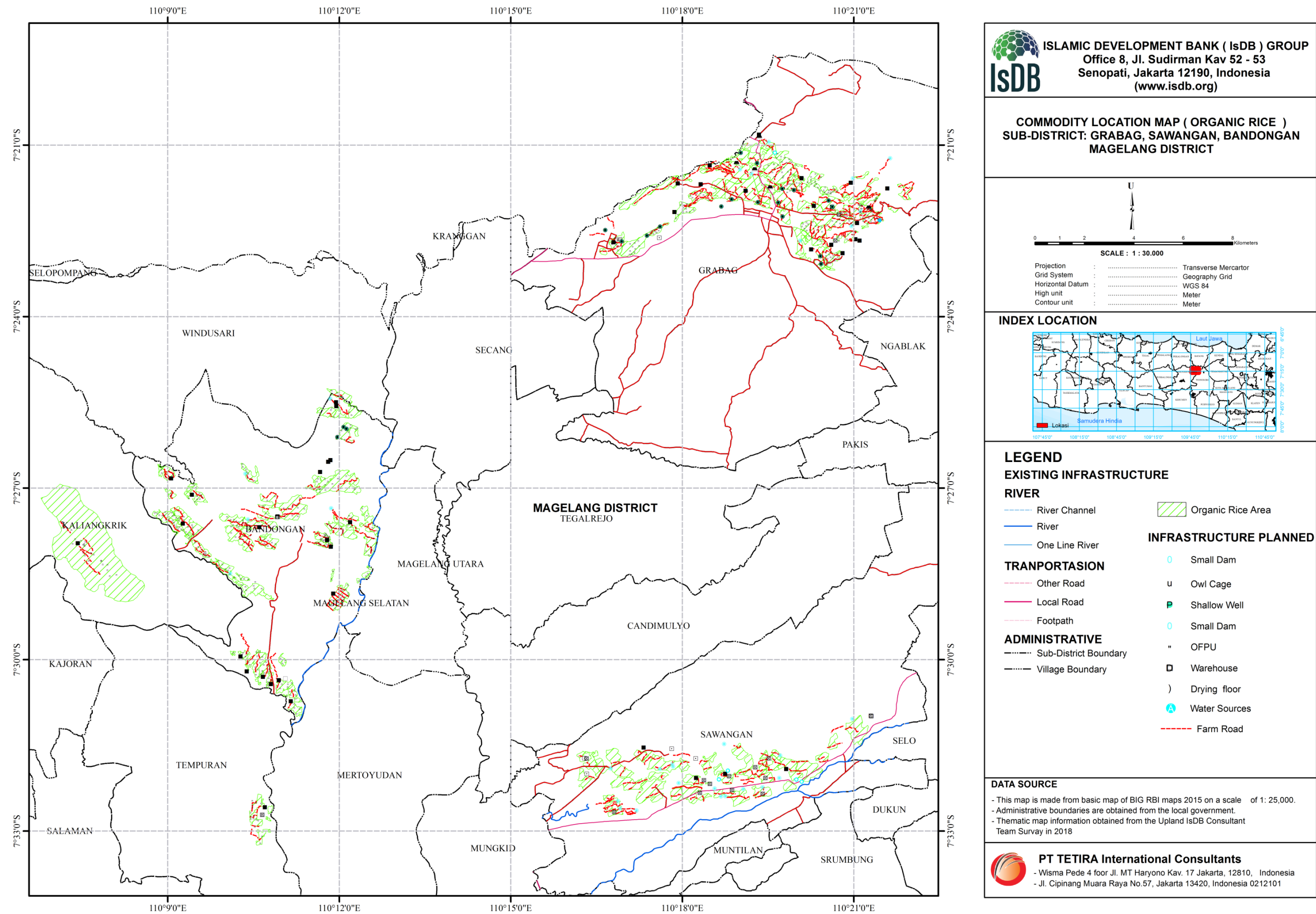


Mapping Location

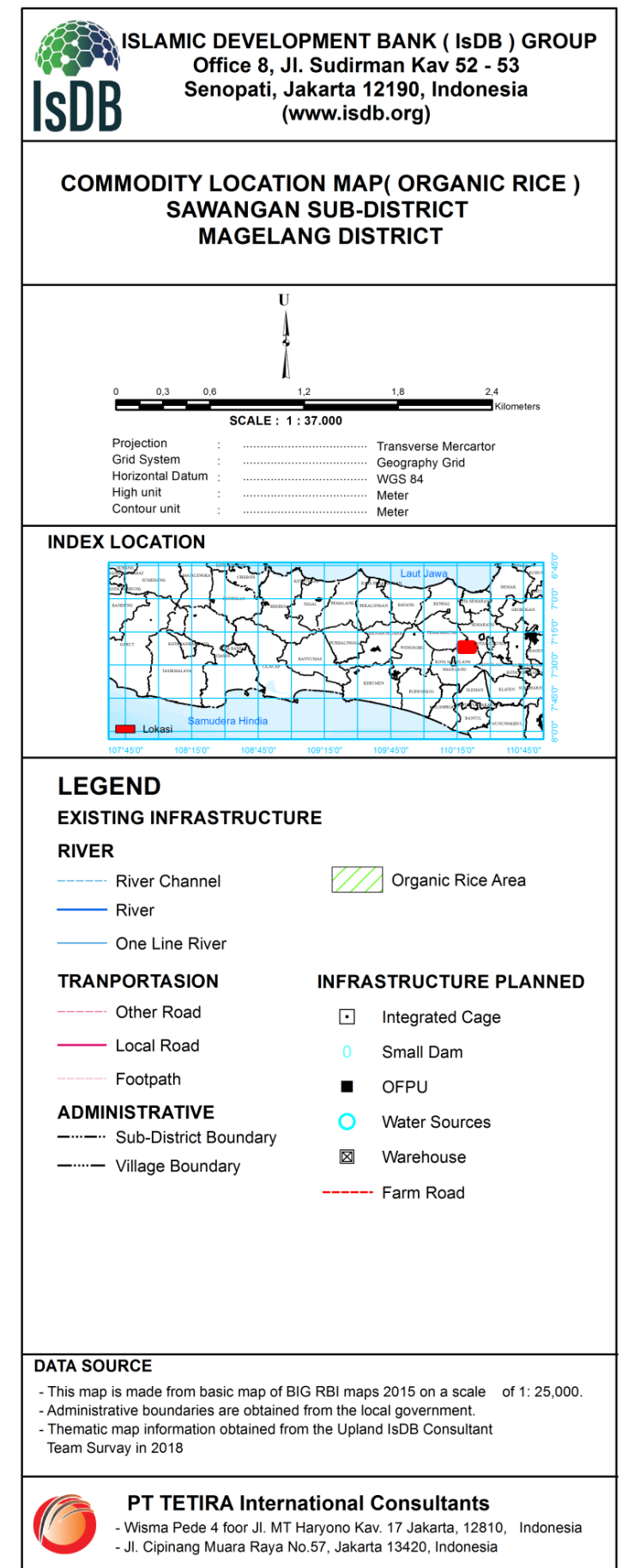
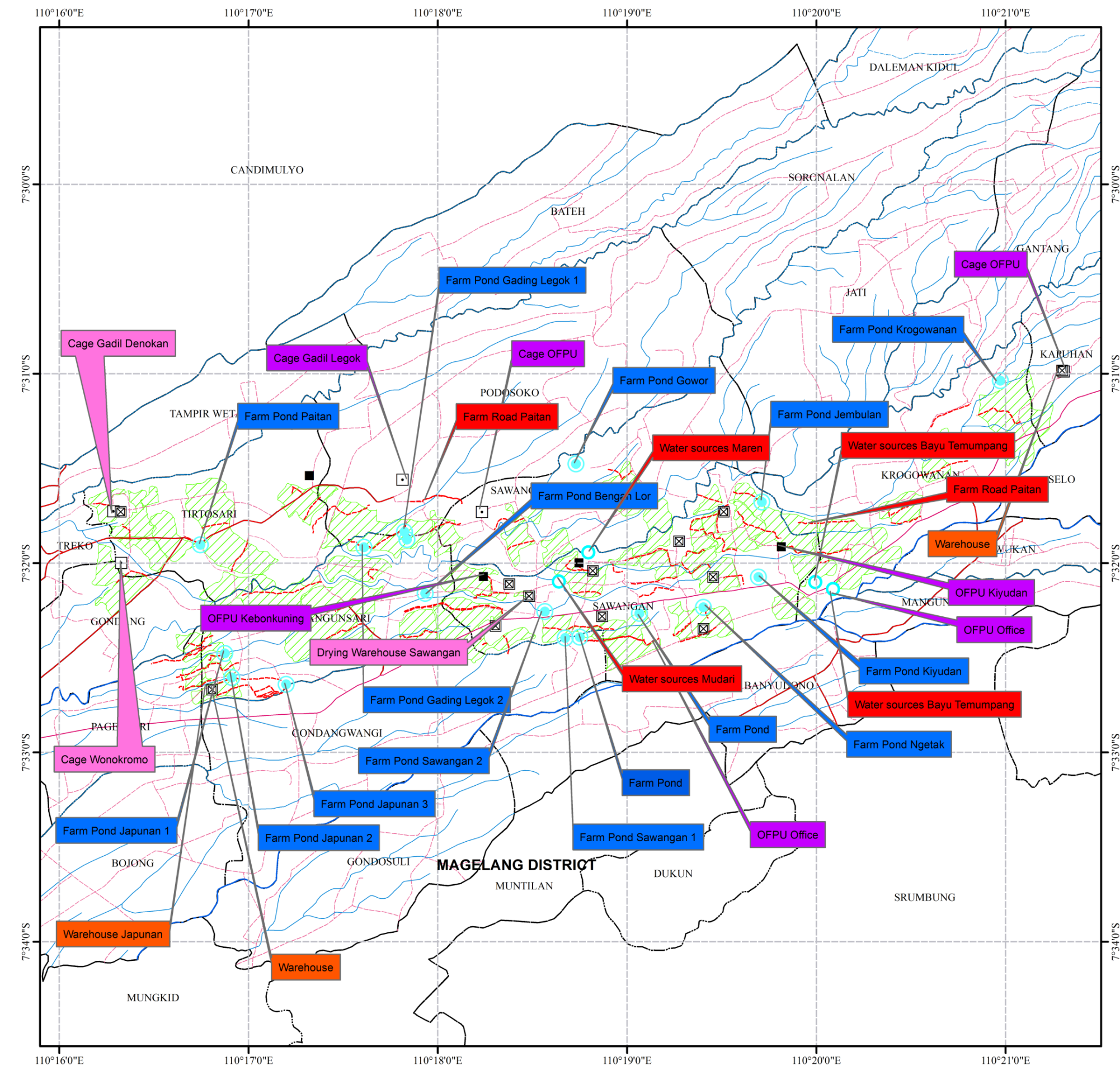


Tersier Irrigation at Village of Sawangan

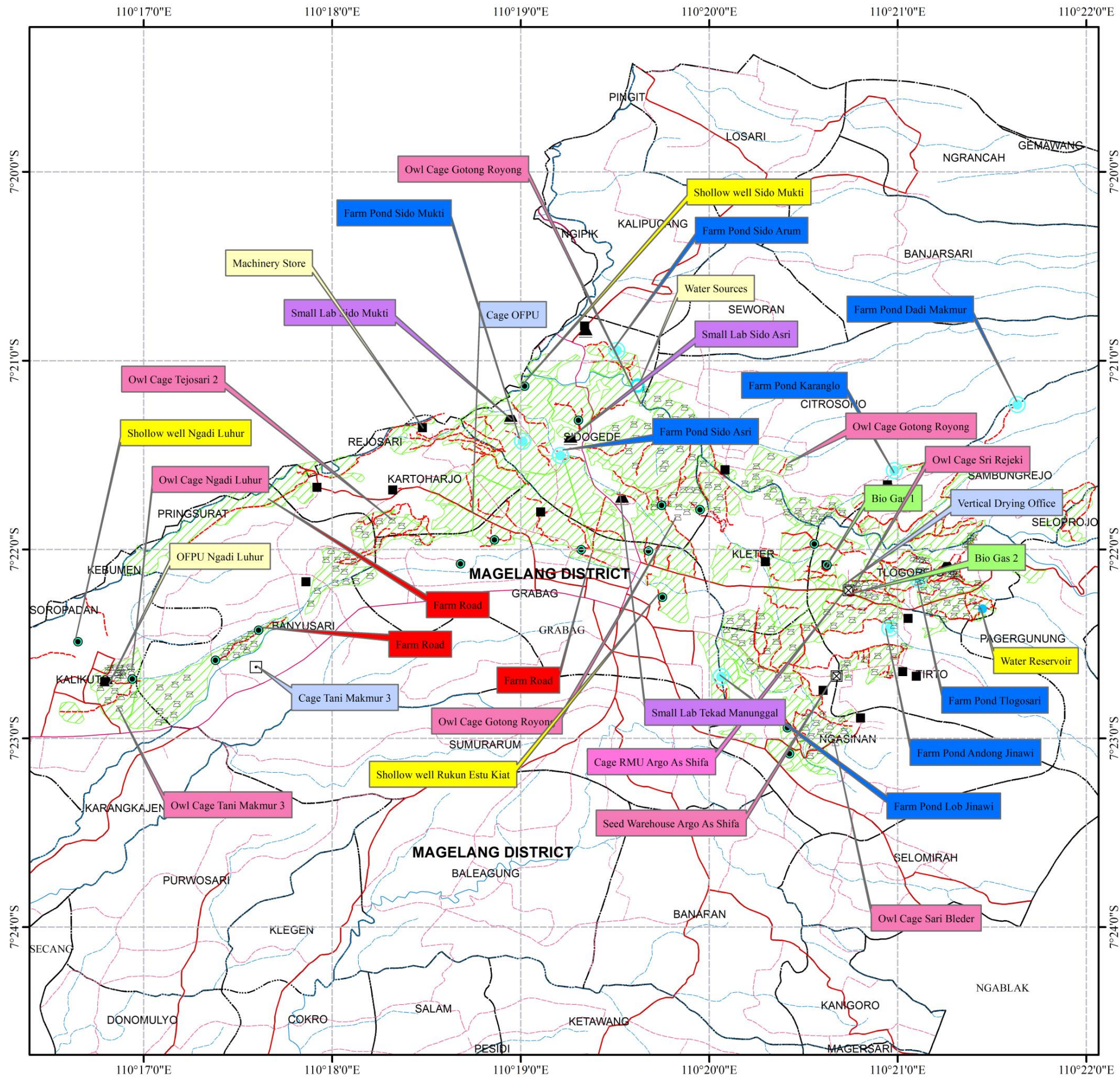
Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities
















ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

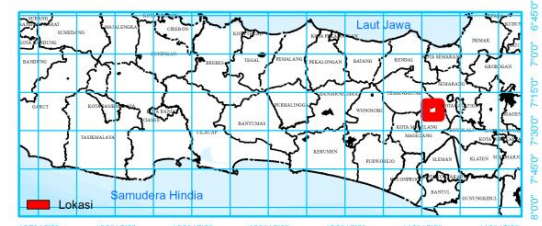
### COMMODITY LOCATION MAP( ORGANIC RICE ) GRABAG SUB-DISTRICT MAGELANG DISTRICT



SCALE : 1 : 40.000

Projection : Transverse Mercator  
Grid System : Geography Grid  
Horizontal Datum : WGS 84  
High unit : Meter  
Contour unit : Meter

#### INDEX LOCATION



#### LEGEND

##### EXISTING INFRASTRUCTURE

**RIVER**


- River Channel
- River
- One Line River

**TRANSPORTATION**

- Other Road
- Local Road
- Footpath

**ADMINISTRATIVE**

- Sub-District Boundary
- Village Boundary


 Organic Rice Area

**INFRASTRUCTURE PLANNED**

- Bio gas
- Cage
- Farm Pond
- Mini Lab
- Owl Cage
- Shallow Well
- Small Dam
- OFPU
- Water Source
- Warehouse
- Farm Road

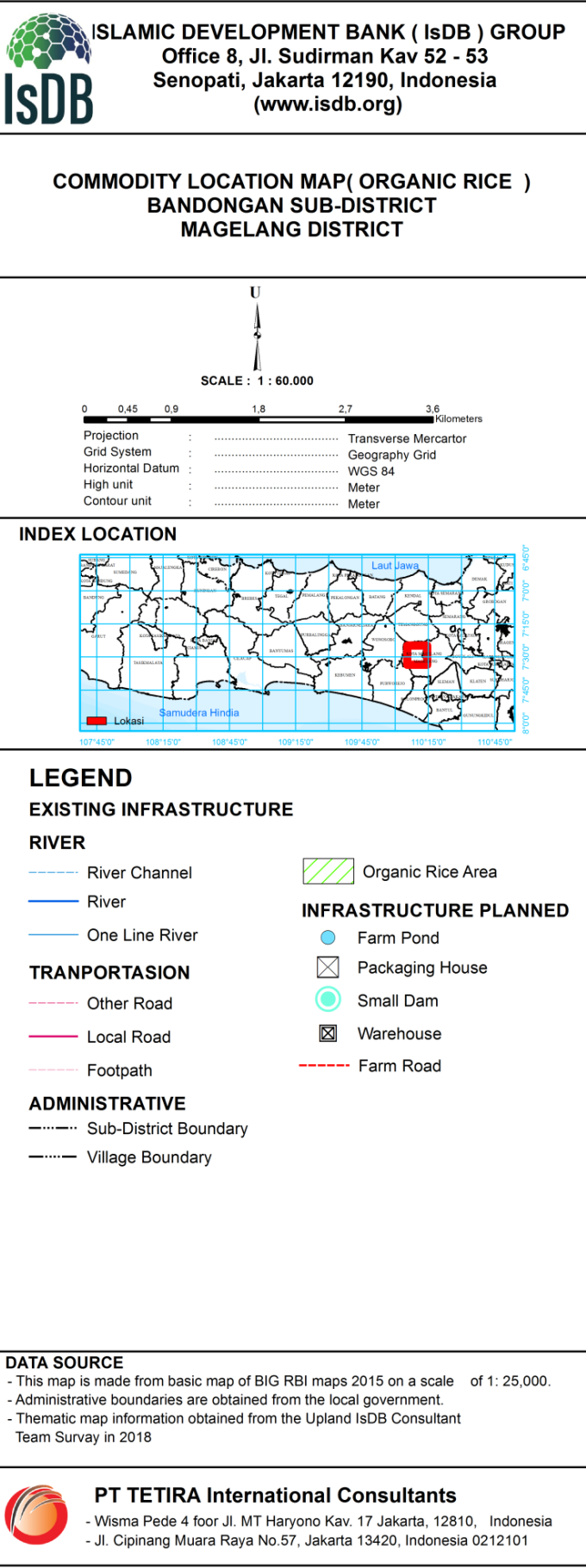
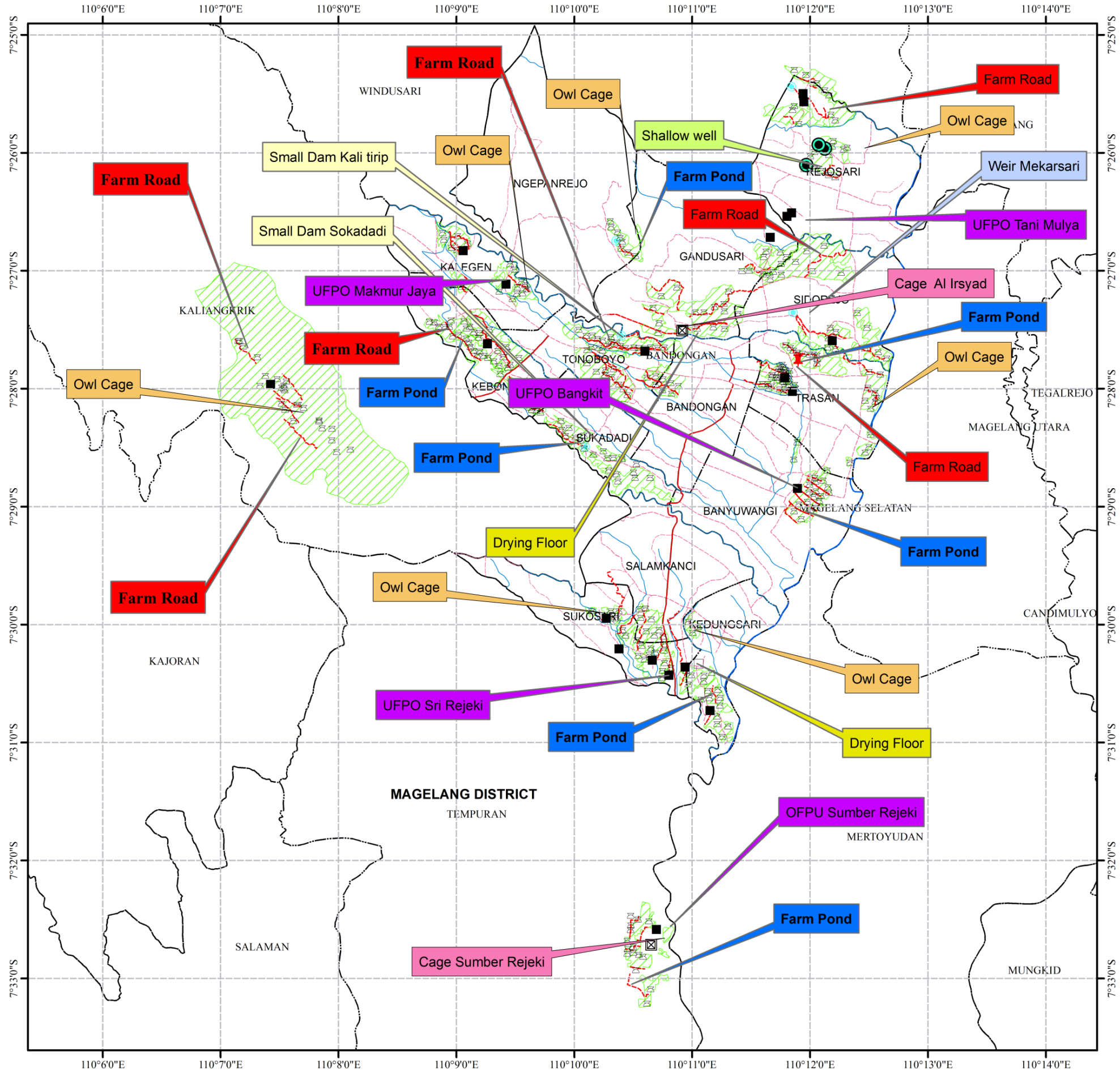
#### DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



**PT TETIRA International Consultants**  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia 0212101





#### 14. Risk Assessment of the program and Mitigation Measures

Risks	Impact on Project	L	I	R	Mitigation	Residual risks (R)
Appearance of crops pest and diseases	Loss of production and farmer income	UL	Si	MH	<ul style="list-style-type: none"> <li>Strengthen the farmer groups with continual improvement of organic farming practices and better cropping pattern</li> <li>Strengthen cooperation GAPOKTAN and Dinas in continuous actions for implementing participatory field trial</li> </ul>	Lw
Lack of finance capacity of GAPOKTAN and Association Cooperative to purchase farmers' production	Loss of farmer trust in organic farming	VL	Sv	H	<ul style="list-style-type: none"> <li>Strengthen the GAPOKTAN and Association cooperative to Access Financial Institutions; develop partnership with private sectors, and develop market</li> </ul>	Lw
Price & market volatility of organic due to high competition	Reduced farmer income	P	Mo	Me	<ul style="list-style-type: none"> <li>Strengthen GAPOKTAN and cooperative to develop market, and stock management</li> </ul>	Lw
Lack of O&M of agriculture infrastructures (farm road, irrigation, etc.) and machineries	Reduce production of organic rice and increase transportation cost	L	Mo	Me	<ul style="list-style-type: none"> <li>Strengthen the farmer groups &amp; GA-POKTAN in O&amp;M of agricultural infrastructures, including charging farmers with agreed fee for O&amp;M of agric. Infrastructure &amp; machineries</li> </ul>	Lw
Unfunctional of GAPOKTAN and Cooperative	Untrusted of farmer to GAPOKTAN and Cooperatives which in turn could treat the business sustainability	P	Si	MH	<ul style="list-style-type: none"> <li>Strengthen the GAPOKTAN and Cooperative to make it sustainably operational &amp; functional through intensive facilitation and mentoring; including market development</li> <li>Capacity building of extension workers and local partners</li> </ul>	LM

#### Note:

- L : Likelihood (Very Unlikely/VU, Unlikely/U, Possible/P, Likely/L, Very Likely/VL).  
I : Impact level (Negligible/N, Minor/Mi, Moderate/Mo, Significant/Si, Severe/Sv).  
R : Risk level (combination of likelihood and impact level) = Low (Lw), Low-Medium (LM), Medium (Me), Medium-High (MH), High (H).

## 15. Farmer Group

No	Farmer Group	Member	Area (Ha)	Village
<b>A</b>	<b>Grabag</b>			
1	Tlogo Sari	38	19.13	Tlogorejo
2	Tlogo Mulyo	89	18.92	Tlogorejo
3	Tlogo Rejo	88	18.40	Tlogorejo
4	Lestari Makmur	42	11.60	Kartoharjo
5	Rejo Mulyo	31	7.81	Sambungrejo
6	Sido Rukun	85	13.74	Sambungrejo
7	Karanglo	67	13.30	Sambungrejo
8	Sido Rejo	31	6.19	Sambungrejo
9	Dadi Makmur	23	8.06	Sambungrejo
10	Tlogosari	179	19.93	Ngasinan
11	Sejahtera	97	20.16	Ngasinan
12	Sidodadi	36	17.90	Kleteran
13	Loh Jinawi	55	18.02	Kleteran
14	Sayuk Rukun	137	46.46	Citroso
15	Gotong Royong	97	29.78	Citroso
16	Sumber Rejeki	45	25.00	Citroso
17	Tejosari 2	98	17.45	Banyusari
18	Tani Makmur 3	66	25.20	Banyusari
19	Ngudi Raharjo	75	16.43	Tirto
20	Sri Rejeki	47	6.03	Tirto
21	Andong Jinawi	39	13.02	Tirto
22	Tekad Manunggal	41	11.03	Sidogede
23	Sido Asri	41	20.00	Sidogede
24	Sido Mukti	35	15.07	Sidogede
25	Kwt Sido Arum	123	10.60	Sidogede
26	Berkah Tani Nyiur Hijau	51	10.28	Kartoharjo
27	Sugeng Makmur	13	15.08	Kartoharjo
28	Sido Harjo	35	10.20	Kartoharjo
29	Ngudi Luhur	100	22.45	Kalikuto
30	Rukun Estu Kiyat	117	30.35	Grabag
31	Subur	13	47.00	Grabag
32	Agro As Syifa	69	35.41	Ngasinan
	<b>Jumlah</b>	<b>2,103</b>	<b>600.00</b>	
33	Mekar Sari	78	30.00	Sidorejo
34	Tani Mulyo	32	32.30	Rejosari
35	Pendowo Limo	64	44.00	Rejosari
36	Loh Joyo	31	34.00	Rejosari
37	Srigati	46	13.00	Sukosari
38	Al Huda	58	25.00	Sukosari
39	Sri Rejeki	69	25.00	Sukosari
40	Al Mukmin	24	8.00	Sukosari
41	Al Irsyad	88	63.30	Gandusari
42	Tansah Makmur	45	15.60	Gandusari
43	Sumber Rejeki Amanah	65	27.00	Bandongan
44	Jaya	45	20.60	Tonoboyo
45	Karangrejo	64	22.40	Tonoboyo
46	Ngudi Makmur	71	25.90	Tonoboyo
47	Bangkit	90	63.00	Banyuwangi
48	Mureh Rejo	42	20.00	Sukodadi
49	Bumi Lohjinawi	41	16.90	Kebonagung
50	Ngudi Makmur	108	29.20	Kebonagung
51	Guyub Rukun	92	29.53	Kebonagung
52	Subur Rahayu	41	12.00	Ngepanrejo



No	Farmer Group	Member	Area (Ha)	Village
53	Karya Ngudi Rahayu	68	24.80	Kedungsari
54	Karya Bhakti	67	26.05	Kedungsari
55	Makmur Jaya	34	15.90	Kalegen
56	Lohjinawi	41	14.60	Kalegen
57	Bangkit Sejahtera	25	22.00	Trasan
58	Bina Karya	52	27.00	Trasan
59	Al Ikhlas	25	16.00	Trasan
60	Sumber Rejeki	85	75.00	Sumber Arum, Kecamatan Tempuran
61	Kuppo Sumbingrejo	55	22.00	Girirejo Kecamatan Kaliangkrik
	<b>Total</b>	<b>1,646</b>	<b>800.08</b>	
62	Gapoktan Gemah Ripah	207	199.50	Sawangan
63	Ngudi Makmur	31	9.40	Sawangan
64	Sumber Pangan 1	27	7.50	Sawangan
65	Sumber Makmur	43	13.25	Sawangan
66	Permata Tani	51	17.80	Sawangan
67	Kebokuning	31	11.05	Sawangan
68	Margorejo	112	34.40	Sawangan
69	Pastimulyo	126	36.50	Sawangan
70	Sumber Pangan 2	56	16.25	Sawangan
71	Maju Lancar	41	11.30	Sawangan
72	Tirto Semaren	64	18.00	Sawangan
73	Lohjinawi	19	8.80	Krogowanan
74	Guyup Rukun	23	5.00	Krogowanan
75	Tani Makmur	12	2.00	Krogowanan
76	Maju Makmur	19	4.00	Krogowanan
77	Karya Tani	35	9.00	Butuh
78	Rukun Tani	37	5.90	Butuh
79	Cowor	24	4.30	Butuh
80	Tri Rejeki	48	11.30	Butuh
81	Pambudi Lestari	65	12.25	Mangunsari
82	Sedyo Raharjo	32	9.20	Mangunsari
83	Sedyo Rukun	27	15.70	Mangunsari
84	Sido Mulyo	57	18.45	Mangunsari
85	Ngudi Rejeki	50	7.60	Mangunsari
86	Sediyo Utomo	66	20.80	Mangunsari
87	Suko Tulodo	62	15.00	Podosoko
88	Rukun Lestari	12	2.70	Tirtosari
89	Sumber Rejeki	63	8.00	Tirtosari
90	Denokan	66	10.00	Tirtosari
91	Rukun Makmur	26	9.45	Tirtosari
92	Pahitan	14	4.70	Tirtosari
93	Piyungan	19	13.00	Tirtosari
94	Ngudi Rejeki	82	27.90	Kapuhan
	<b>Total</b>	<b>1,647</b>	<b>600.00</b>	

## **Summary Project Proposal Malang District – East Java**

### **1. General Condition**

- Malang Regency is an area located in the center south region of East Java Province. With an area of about 2,977.05 km<sup>2</sup> (source: Division of Village Government of Malang Regency), Malang Regency is located on the sequence of the second largest area after Banyuwangi Regency of the 38 districts in East Java Province. Based on monitoring results of three. Climatology station post-monitoring, Karangploso Malang, in 2016 the average air temperature is relatively medium, ranging between 23,3o C to 27.1oC.
- Farming sector is the main sector in Malang Regency economy. According to Food Crops, Horticulture and Plantation Service of Malang Regency, most of the area of Malang Regency is a farming field, which is about 14.31 percent (45,888 ha) is wet land field, 35.45 percent (113,664 ha) is dry field, 7.06 percent (22,643 ha) is plantation area and 12.50 percent (40,079 ha) is forest. The facility of irrigation system has been build include dam, water source sluice gate, and drainage ditch for completing the needs of field irrigation of 46,033 ha (Department of Irrigation). Most of irrigation system is technical irrigation that irrigate about 28,228ha (61,32 percent) fields. While semi technical irrigation is about 11,319 ha (24.59 percent) and simple irrigation is about 6,486 ha (14.09 percent).
- Based on the note of Department of Irrigation, during 2016, there was no field mutation. Food production, especially rice at 2016 reached 505,138 tons, increase from the last year, even compared than 2015. Corn, cassava, peanut and soybean production as substitution commodities increase from the last year. While the other commodities of secondary crop like sweet potatoes decrease. Unemployment rate in Malang is 4,95% and Poverty rate is 11,04%, The main occupation in Malang are in the sector of Agriculture, Plantation, Forestry, and Fisheries which accounted for 33% of the total occupation in Malang.

### **2. Planned Commodity and Area**

- The proposed commodity is shallot in 2 sub-districts, namely Pujon and Ngantang. In Pujon, there are 2 villages, namely Pujon Kidul and Ngabab, which is chosen to be included in this Project. While in Ngantang only one village: Purworejo. Total area of the project is 300 hectares (optimization) which distributed to 3 villages, 100 hectares each. Shallot variety that mostly planted by farmer in Pujon and Ngantang is Batu ijo variety (released by BPTP East Java, 368/Kpts/Lb.240/6/2004). This is a local variety that suitable with upland agro climate.
- Besides planting shallot, farmer in Malang is also cultivating horticulture such as chili, maize, carrot, cabbage, mustard greens. Some of them are also raise dairy and fattening cattle for livelihood.

### **3. Beneficiaries**

- The targeted beneficiaries are about 778 farmers organized in 11 farmers groups. There are 3 beneficiaries Gapoktan in the project area, 1 Gapoktan in each village. According to Dinas staff, so far, only 1 Women Farmer Group exists, in Pujon Kidul.

- Besides assisting in cultivating shallot, women farmer takes main role in planting, weed control, and post-harvest processing.

**Table 1.**  
**Name of Poktan and Its Members in Kecamatan Pujon and Kecamatan Ngantang, Kabupaten Malang**

No.	Village	Name of Poktan	Number of Members	
			Male	Female
1	Pujon Kidul, Pujon	Sari Agung I	49	0
2	Pujon Kidul, Pujon	Sari Agung II	37	1
3	Pujon Kidul, Pujon	Sari Agung III	30	20
4	Ngabab, Pujon	Sumber Makmur I	25	8
5	Ngabab, Pujon	Sumber Makmur II	20	5
6	Ngabab, Pujon	Sumber Makmur III	15	5
7	Ngabab, Pujon	Sumber Makmur IV	25	3
8	Purworejo, Ngantang	Karya Bakti I	151	4
9	Purworejo, Ngantang	Karya Bakti II	83	3
10	Purworejo, Ngantang	Karya Bakti III	160	3
11	Purworejo, Ngantang	Karya Bakti IV	126	5
<b>TOTAL</b>			<b>721</b>	<b>57</b>

**Source:** Dinas Tanaman Pangan, Hortikultura, dan Perkebunan, Kabupaten Malang, 2018.

#### 4. Project Concept

Gapoktan will play important role in the smoothness and sustainability of the project implementation.

- Gapoktan will manage distribution of agricultural inputs such as (fertilizer, pesticides/fungicides, etc);
- Gapoktan will manage the infrastructure that will be built under this project such as farm ponds, warehouse, agricultural machinery etc. Farmer will use these facilities and of course he/she will pay fee for operation and maintenance of these facilities;
- Gapoktan will assist farmer in practicing good agriculture practice, farm production, processing, farm product marketing, and channeling micro-finance;
- Since water availability and sustainability is important factors in farming system, farmer will be trained on how to conserve water for agricultural purposes.

## 5. Proposed Land Development and Agriculture Infrastructure

- Under this Upland project, farm road within 3 villages will be built.
- Besides farm road they also plan to build farm ponds in the project area.

## 6. Proposed Production and Farm Management

- As typical agriculture in upland area, water shortage is a challenge especially in long dry season. Farmer in Pujon and Ngantang, planting shallot in rainy season as well as in dry season. This is because Pujon and Ngantang variety is resistant to Fusarium wilt which usually attack shallot.

## 7. Proposed training and capacity building activities

- For Farmer:
  - Good practices of shallot farming (cultivation, product processing, entrepreneurship).
- For Women Farmer Group:
  - Training in shallot post-harvest practices, processing, and marketing.
- Business contact/event.

## 8. Risk Assessment and Mitigation Plan

Risk	Impact	Severity	Likelihood	Risk Level	Mitigation	Residual Risk
Water security due to encroachment of the water catchment area	Productivity	Moderate	Very Unlikely	Low Med	<ul style="list-style-type: none"> <li>• Protect the catchment area</li> <li>• Farmer education and participation to protect the catchment area</li> </ul>	Low
Workplace safety, equipment and pest and disease control	Injury to farmers	Moderate	Possible	Medium	<ul style="list-style-type: none"> <li>• Training for farmers on operating equipment</li> <li>• Training for farmers on integrated pest and disease management (IPDM)</li> <li>• Training on Organic Farming</li> </ul>	Low
Land slide /collapse	Damage to farming environment	Moderate	Possible	Medium	<ul style="list-style-type: none"> <li>• Protection of catchment area</li> </ul>	Low

Risk	Impact	Severity	Likelihood	Risk Level	Mitigation	Residual Risk
					<ul style="list-style-type: none"> <li>• Training for farmers on prepared-ness</li> <li>• Mapping the risk area</li> </ul>	
Erosion	Reducing Productivity	Moderate	Unlikely (because land hasbeen terracing)	Low Med	<ul style="list-style-type: none"> <li>• To strengthen the terrace</li> <li>• Use organic fertilizer</li> <li>• Protection of catchment area</li> </ul>	Low
Market volatility	Farmers lose interest in the crops	Minor	Likely	Low Med	<ul style="list-style-type: none"> <li>• Storage of product to be sold in the off season (higher prices)</li> <li>• Process product</li> <li>• Train the farmer concerning to market information</li> </ul>	Low
Changes in government policy.	Impacts on the market and price	Moderate	Possible	Medium	<ul style="list-style-type: none"> <li>• Strengthen Gapoktan and Poktan on the marketing</li> <li>• Training on Good Agriculture Practice (efficient dan competitive)</li> </ul>	Low
Lack O&M of Agriculture Infrastructure and Machinery	Reducing Production and Productivity	Significant	Likely	Med Hi	<ul style="list-style-type: none"> <li>• Strengthen Gapoktan and Poktan on O&amp;M (Financing and farmer fee etc)</li> </ul>	Low

### Attachement 1. Documentation of Assessment and Validation Project Location at Malang District



Field Discuss



Discuss with Farmer



Shallot Farmer in Purworedjo



Pujon Kidul at Malang



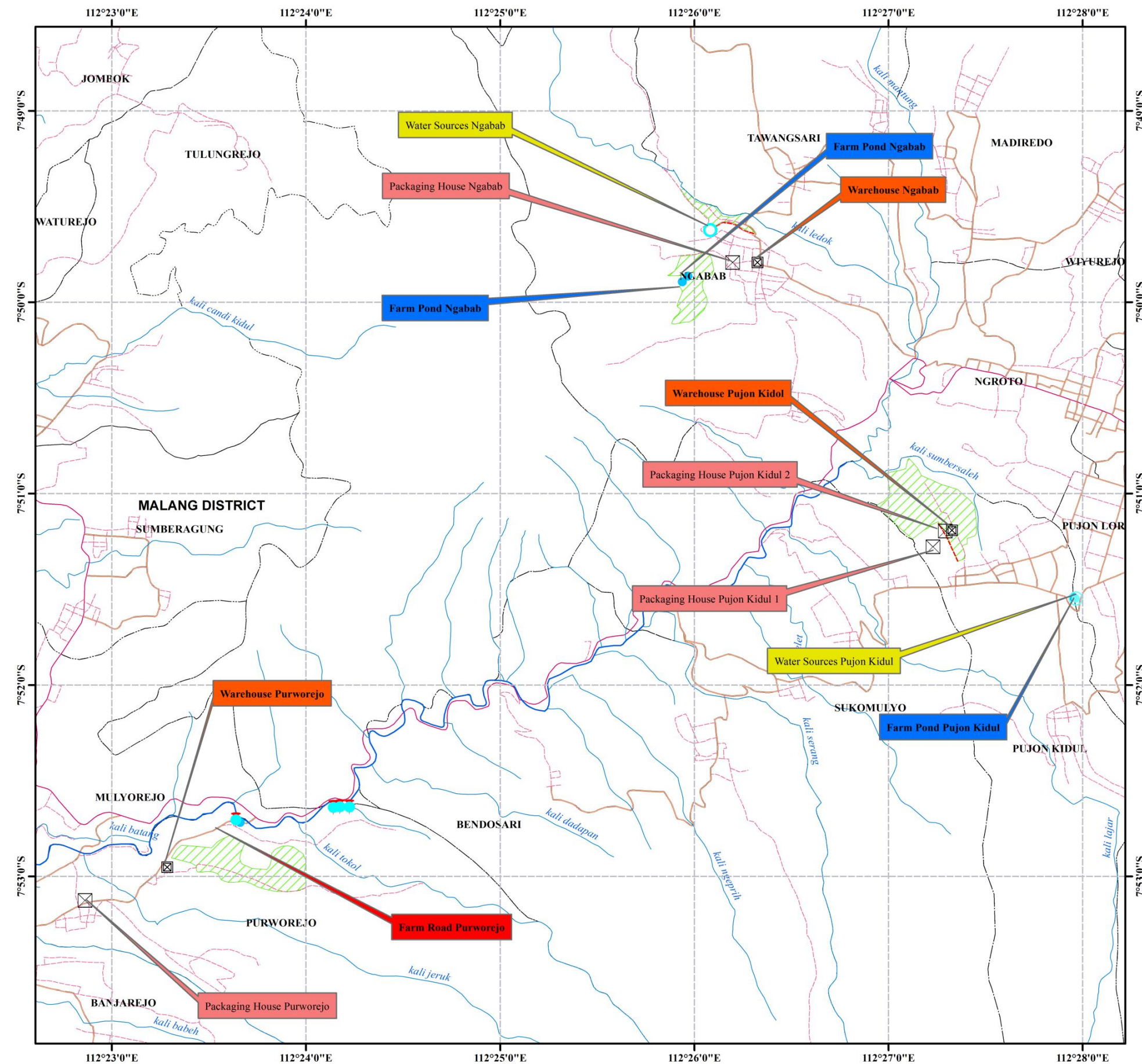
Pujon Kidul




Pujon Kidul



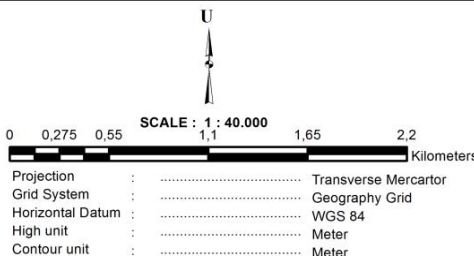
## Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities





**ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP**  
**Office 8, Jl. Sudirman Kav 52 - 53**  
**Senopati, Jakarta 12190, Indonesia**  
**(www.isdb.org)**

# **COMMODITY LOCATION MAP( Shallot )** **PUJON SUB-DISTRICT, NGANTANG SUB-DISTRICT** **MALANG DISTRICT**




U

**SCALE : 1 : 40.000**

0    0,275    0,55    1,1    1,65    2,2    Kilometers

Projection	:	.....	Transverse Mercator
Grid System	:	.....	Geography Grid
Horizontal Datum	:	.....	WGS 84
High unit	:	.....	Meter
Contour unit	:	.....	Meter

## **INDEX LOCATION**







The index map shows the Indonesian archipelago with a grid overlay. A red square highlights the location of Malang District in East Java. Labels include 'Selat Madura' and 'Samudera Hindia'. Coordinates are marked along the bottom (111°0'0" to 114°0'0") and right side (8°30'0" to 7°30'0"). A legend indicates 'Lokasi' with a red square.

## **LEGEND**




### **EXISTING INFRASTRUCTURE**

#### **RIVER**







-  River Channel
-  River
-  One Line River

 Shallot Area



#### **TRANSPORTATION**

-  Other Road
-  Local Road
-  Footpath

#### **INFRASTRUCTURE PLANNED**


-  Farm Pond
-  Small Dam
-  Water Sources
-  Warehouse
-  Warehouse Proses
-  Farm Road

#### **ADMINISTRATIVE**

-  Sub-District Boundary
-  Village Boundary

#### **DATA SOURCE**

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



**PT TETIRA International Consultants**

- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
 - Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop)

## **Summary Project Proposal Sumenep District – East Java**

### **1. General Condition**

- Unemployment rate 2,07%, Poverty rate 19,62%, The main occupation in Sumenep are in the sector of Agriculture, Plantation, Forestry and Fisheries which accounted for 44% of the total occupation in Sumenep. Sumenep Regency territory consists of mainland and islands. There are 126 islands (according to synchronized results wide Sumenep regency 2002). The weather condition in Sumenep are between 25°C-30°C.s;
- The Broad fields in Sumenep 25,681.69 ha. Consists of an area of 4,650.44 ha irrigation technical, semi technical irrigation area of 1,837.95 ha, simple irrigation area of 2,028.73 ha, 173.00 ha area of the village irrigation, and rain-fed area of 16,991.84 ha. Fields including land use rather than the yard, dry land, plantation, farm, field for dry rice cultivation, grassland, while the cultivated land, forests, state forests, marshes, ponds, pools. Production according to the district. Include paddy rice, upland rice, maize, cassava, sweet potatoes, peanuts, soybeans, green beans, and vegetable crops. The main commodity is coconut with the wide area of 51,120.170 ha and 43,075,760 ton per year.

### **2. Planned Commodity and Area**

- The proposed commodity is shallot in Rubaru sub-district with total area of 160 hectares (optimization). There are four villages that will include in the project, namely: Mandala, Basoka, Karangnangka, and Bunbarat. Shallot variety that mostly planted by farmer is Rubaru. This variety is suitable with upland agro climate;
- The Land status owned by farmers. It is in the range 0,75 – 1 hectare per farmer;
- Planting shallot in upland area is different compare to lowland area such as in Brebes, Nganjuk, or Probolinggo. Shallot is planted in rainy season in upland area, while in lowland shallot is planted in dry season. In Rubaru Sumenep (upland area), shallot is planted in rainy season;
- Besides planting shallot, farmer in Rubaru is also cultivating horticulture such as tobacco, chili, maize. Some of them are also raise cattle for livelihood.

### **3. Beneficiaries and Benefit**

- The targeted beneficiaries are about 1,713 farmers organized in 80 farmers groups. This has included 27 Women Farmer Group (581 members);
- Besides assisting in cultivating shallot, women farmer takes main role in post-harvest processing;
- Farmer in Rubaru planting shallot twice a year. Cropping pattern is as follows, starting from rainy season (November/December): shallot – shallot – tobacco/temporary palawija. Water availability is a constraint for farmer in their on-farm activity. They do hope that, if water is available during dry season, they are able to grow shallot 3 times a year;
- Main activity of this Project is to build irrigation infrastructure that will enable farmer grow shallot 3 times a year. (shallot – shallot – shallot – tobacco/temporary palawija);



- Based on data provided by *Dinas Pertanian* Kabupaten Sumenep, dried shallot price at farmer level (2017) is IDR 23,000/kg that bought by local trader. Local trader sells shallot to market in Surabaya with price of IDR 28,000/kg. When price of fresh shallot falls down such as that occurred in 2014 which was IDR 7,000/kg, farmer reacted with processing 40% harvested shallot to be fried shallot which can be stored longer, and the rest was stored to be used as seedlings;
- Average of shallot production per hectare in normal condition (no planting delay and controlled plant pests and disease) is 8 tons. Meanwhile, cost production of shallot per hectare is in the amount of IDR 58,639,000, which consist of: (i) IDR 40 million for seedling, (ii) IDR 7,425,000 for farm labor (land preparation, planting, weed control, and harvesting), (iii) IDR 8,014,000 for fertilizer, pesticide/fungicide, and (iv) IDR 3,200,000 for transportation cost;
- By this project investment, farmer will get benefit in the form of:
  - Increase production as well as increase in cropping intensity;
  - Decrease in transportation cost from IDR 3.2 million per ton to be IDR 2.4 million per ton;
  - By procuring agriculture machinery, it will reduce delay in planting and harvest fail, thus 8 – 10 tons/ha can be achieved;
- Women farmer will get benefit from this project in the form of:
  - To be trained in post-harvest processing (fried shallot). If 1 kg fresh ia processed to be fried shallot, the conversion is 33.33%. It means that 1 kg fresh shallot to be 3 ounce fried shallot. Price of 1 ounce fried shallot at farmer level is IDR 11,000.

**Table 1.**  
**Name of Poktan/Gapoktan and Number of Its Members in Kecamatan Rubaru, Sumenep**

No.	Village	Name of Poktan/ Gapoktan	Number of Members (persons)	Area (ha)
1	Bunbarat	Serbaguna III	20	2
2	Mandala	Sumber Rejeki Sinar Madura	27	2
3	Mandala	Surya Mandala	20	2
4	Mandala	Haromain	30	2
5	Mandala	Al Hidayah	20	2
6	Mandala	Putra Agung Mandala	22	2
7	Mandala	Tumpeng Mas	26	2
8	Mandala	Mekar Sari	22	2
9	Mandala	Suka Makmur	24	2
10	Mandala	Batu Kencana	26	2
11	Mandala	Sumber Bumi	19	2
12	Mandala	Banyu Urip Mandala	22	2
13	Mandala	Anugerah	20	2
14	Mandala	Al Jihad	20	2
15	Mandala	Cahaya Mandala	21	2
16	Mandala	Cakrawala	25	2
17	Mandala	Jaya Mulya Mandala	21	2
18	Mandala	Karang Jati	20	2
19	Mandala	Karang Abadi	22	2
20	Mandala	Tunas Muda Mandala	22	2

No.	Village	Name of Poktan/ Gapoktan	Number of Members (persons)	Area (ha)
21	Mandala	ZamZamTzani	23	2
22	Mandala	IvomaPermai	21	2
23	Mandala	Sari Rejeki Mandala	21	2
24	Mandala	La Tanza	25	2
25	Mandala	Mandala Putra	24	2
26	Mandala	NailulAmwal	26	2
27	Basoka	Jokotole Basoka	24	2
28	Basoka	Samurai	20	2
29	Basoka	Berkah Basoka	23	2
30	Basoka	Putra Mandala	22	2
31	Basoka	Putra Toguluk	21	2
32	Basoka	An Nur	21	2
33	Basoka	AdiPoday	26	2
34	Basoka	Budiman	22	2
35	Basoka	Perintis	19	2
36	Basoka	Putra Basoka	20	2
37	Basoka	Al HikmahBasoka	20	2
38	Basoka	Syafaah	20	2
39	Basoka	Adi Rasa	20	2
40	Basoka	SumberUrip	20	2
41	Basoka	Jaya Abadi	21	2
42	Basoka	Naga Sari	20	2
43	Basoka	Tunas MudaTani	20	2
44	Basoka	Daun Emas	20	2
45	Karangnangka	Sumber Rejeki	20	2
46	Karangnangka	Gemar Tani	22	2
47	Karangnangka	Surya Abadi	20	2
48	Karangnangka	Telaga Biru	20	2
49	Karangnangka	Bunga Melati	20	2
50	Karangnangka	Ampal Agung	22	2
51	Karangnangka	Rejeki	20	2
52	Karangnangka	Rampak Naong	20	2
<b>TOTAL</b>			<b>1,132</b>	<b>104</b>

**Source:** Dinas Pertanian Tanaman Pangan, Hortikultura, dan Perkebunan, Kabupaten Sumenep, 2018

**Table 2.**  
**Name of Women Farmer Group and Number of Its Members in Kecamatan Rubaru, Sumenep District**

No.	Village	Name of KWT (Kelompok Wanita Tani/Women Farmer Group)	Number of Members (persons)	Area (ha)
1	Mandala	Ash Shafa	22	2
2	Mandala	PutriTumpeng	21	2
3	Mandala	Bunga Jaya	29	2
4	Mandala	PutriAbadi	20	2
5	Mandala	MulyaSafitri	20	2
6	Mandala	Primadona	20	2
7	Mandala	Lestari Mandala	20	2

No.	Village	Name of KWT (Kelompok Wanita Tani/Women Farmer Group)	Number of Members (persons)	Area (ha)
8	Mandala	Teratai	21	2
9	Mandala	Tunas Mekar Mandala	21	2
10	Mandala	Melati Mandala	20	2
11	Mandala	Bunga Citra Lestari	25	2
12	Mandala	Bunga Harapan	20	2
13	Mandala	Merpati Putih	21	2
14	Mandala	Sekar Tanjung	25	2
15	Basoka	Nabila	20	2
16	Basoka	Putri Kendedes Basoka	20	2
17	Basoka	Nurul Hidayah	20	2
18	Basoka	Putri Kenanga	22	2
19	Basoka	Mukarromah	21	2
20	Basoka	Al Barokah	23	2
21	Basoka	Cemara	22	2
22	Basoka	Putri Madura	20	2
23	Karangnangka	Bunga Makmur	19	2
24	Karangnangka	An Nur	22	2
25	Karangnangka	Ar Rizqi	20	2
26	Karangnangka	Telaga Tani	21	2
27	Karangnangka	Tunas Harapan	26	2
<b>Total</b>			<b>581</b>	<b>54</b>

**Source:** Dinas Pertanian Tanaman Pangan, Hortikultura, dan Perkebunan, Kabupaten Sumenep, 2018

#### 4. Project Concept

Gapoktan will play important role in the smoothness and sustainability of the project implementation.

- Gapoktan will manage distribution of agricultural inputs such as (fertilizer, pesticides/fungicides, etc);
- Gapoktan will manage the infrastructure that will be built under this project such as farm ponds, warehouse, agricultural machinery etc. Farmer will use these facilities and of course he/she will pay fee for operation and maintenance of these facilities;
- Gapoktan will assist farmer in practicing good agriculture practice, farm production, processing, farm product marketing, and channeling micro-finance.

#### 5. Proposed Land Development and Agriculture Infrastructure

- Under this Upland project, farm road within 4 villages will be built;
- Besides farm road they also plan to build farm ponds and small farm ponds in the project area.

#### 6. Proposed Production and Farm Management

- As typical agriculture in upland area, water shortage is a challenge especially in long dry season. Farmer in Rubaru, planting shallot in rainy season as well as in dry season. This is because Rubaru variety is resistant to Fusarium wilt which usually attack shallot.

## **7. Proposed Marketing Infrastructure & Equipment**

- Since shallot planting areas is mainly hilly, the project will procure mini truck to collect shallot from field to be brought to drying floor;
- The project will build 2 warehouses and 1 processing and warehouse for Cooperative as sub-district level;
- These ware houses will be equipped with wheel barrow, tarpaulin, electric scale, and hand sewing machine.

## **8. Proposed training and capacity building activities**

- For Farmer:
  - Good agricultural practices of shallot farming (cultivation, product processing, entrepreneurship).
- For Women Farmer Group:
  - Training in shallot post-harvest practices, processing, and marketing.
- Business contact/event.

## 9. Risk Assessment and Mitigation Plan

Risk	Impact	Severity	Likelihood	Risk Level	Mitigation	Residual Risk
Water security due to encroachment of the water catchment area	Productivity	Moderate	Very Unlikely	Low Med	<ul style="list-style-type: none"> <li>Protect the catchment area;</li> <li>Farmer education and participation to protect the catchment area;</li> </ul>	Low
Workplace safety, equipment and pest and disease control	Injury to farmers	Moderate	Possible	Medium	<ul style="list-style-type: none"> <li>Training for farmers on operating equipment;</li> <li>Training for farmers on integrated pest and disease management (IPDM);</li> <li>Training on Organic Farming.</li> </ul>	Low
Land slide /collapse	Damage to farming environment	Moderate	Possible	Medium	<ul style="list-style-type: none"> <li>Protection of catchment area;</li> <li>Training for farmers on prepared-ness;</li> <li>Mapping the risk area.</li> </ul>	Low
Erosion	Reducing Productivity	Moderate	Unlikely (because land has been terracing)	Low Med	<ul style="list-style-type: none"> <li>To strengthen the terrace.</li> <li>Use organic fertilizer.</li> <li>Protection of catchment area.</li> </ul>	Low
Market volatility	Farmers lose interest in the crops	Minor	Likely	Low Med	<ul style="list-style-type: none"> <li>Storage of product to be sold in the off season (higher prices);</li> <li>Process product.;</li> <li>Train the farmer concerning to market information.</li> </ul>	Low
Changes in government policy	Impacts on the market and price	Moderate	Possible	Medium	<ul style="list-style-type: none"> <li>Strengthen Gapoktan and Poktan on the marketing;</li> <li>Training on Good Agriculture Practice (efficient and competitive).</li> </ul>	Low
Lack O&M of Agriculture Infrastructure and Machinery	Reducing Production and Productivity	Significant	Likely	Med Hi	<ul style="list-style-type: none"> <li>Strengthen Gapoktan and Poktan on O&amp;M (Financing and farmer fee etc).</li> </ul>	Low



### Attachement 1. Documentation of Assessment and Validation Project Location at Sumenep District



Focus Group Disscusion (FGD)



Mapping Location



Rubaru Village at Sumenep



Traditional water basket in Rubaru

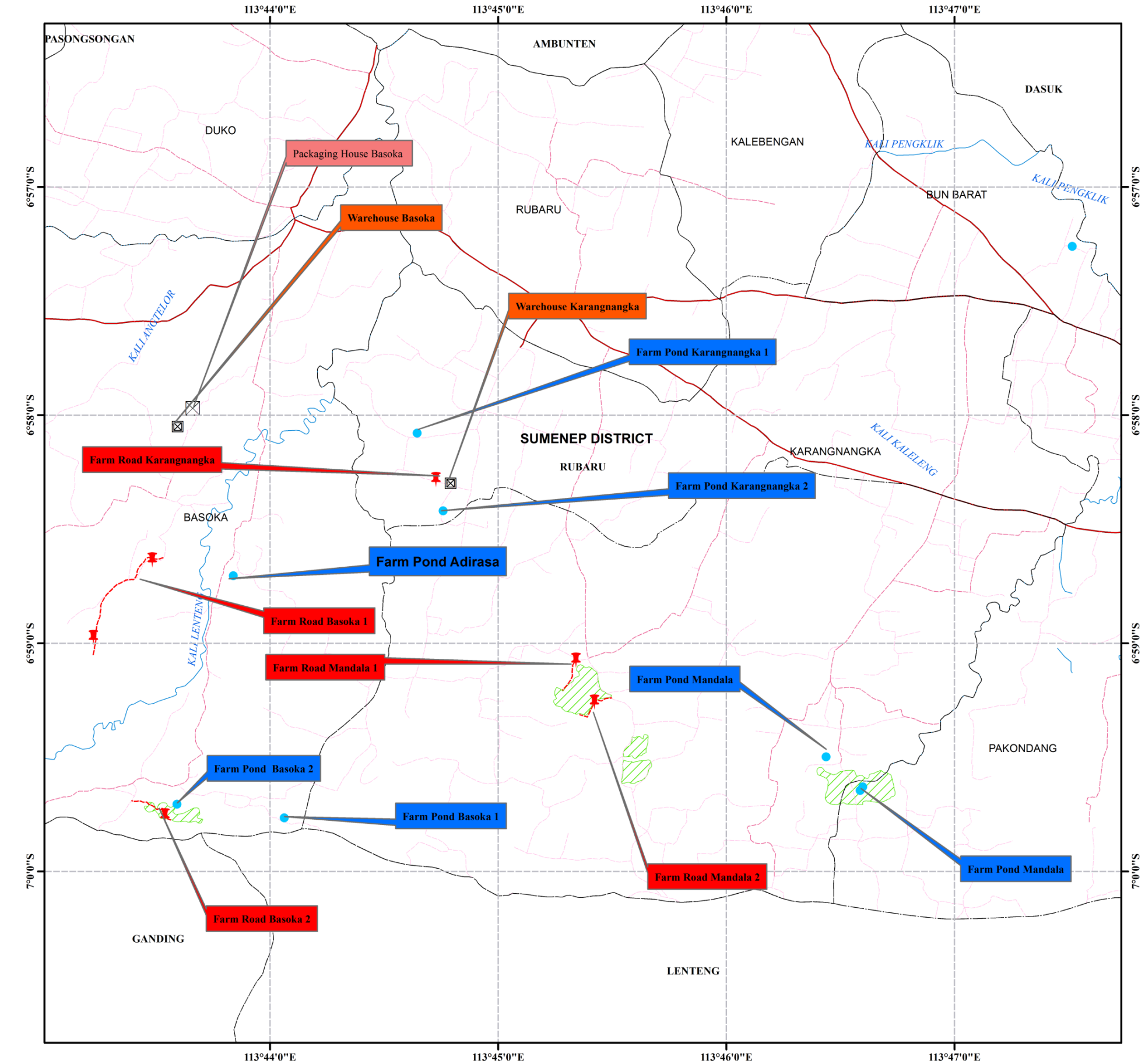



Basoka village at Sumenep



Mandala Village at Sumenep

Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( Shallot )  
RUBARU SUB-DISTRICT  
SUMENEP DISTRICT


U

SCALE : 1 : 38,000

0 0.25 0.5 1 1.5 2 Kilometers

Projection : Transverse Mercator  
Grid System : Geography Grid  
Horizontal Datum : WGS 84  
High unit : Meter  
Contour unit : Meter

INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

RIVER

River Channel

River

One Line River

TRANSPORTATION

Other Road

Local Road

Footpath

ADMINISTRATIVE

Sub-District Boundary

Village Boundary

INFRASTRUCTURE PLANNED

Farm Pond

Water Souces

Warehouse

Warehouse Proses


Farm Road

DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.

- Administrative boundaries are obtained from the local government.

- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )



## Summary Project Proposal East Lombok District – NTB

### 1. Socio-Economic Condition

Unemployment rate 6,46%, Poverty rate 18,28%, The main occupation in East Lombok are in the sector of Agriculture, Plantation, Forestry, and Fisheries which accounted for 46% of the total occupation in East Lombok.

The surface area of Lombok Timur Regency covers 33.88 percent of the island of Lombok, or 7.97 percent of the land area of Nusa Tenggara Barat. Utilization of land in East Lombok Regency is mostly used for agriculture. Total rice area in 2016 covering an area of 4,7763ha, which is about 30,02 percent from total areas of regency. The rice field is mostly planted with rice (93.64%), either once, twice, or three times a year. Wetland in Lombok Timur regency reached 47,763 ha, about 29.7 percent of the land area. Almost the garlic land are horticultural land (wetland). There are planted with garlic two or three times a year, another time for strawberry, tomato, vegetables or corn. The garlic production in Sembalun is 15 - 20 ton/ha/time season.

### 2. Planned Commodity and Area

- The proposed commodities area: Extension area of Seed Garlic Cultivation (1,640 ha);
- Garlic will be planted in the farmers' land which is distributed in the village area;
- The location of the land is in 7 sub-districts, consisting of 26 villages, 92 farmer groups and 2,902 farmers;
- All reserved land is non-forestry land, in the form of flat to sloping land designated as horticultural agricultural land.

Sub-District	Village	Area (ha)	Farmer Group	Member of Farmer Group	Men Farmer	Women Farmer	Current agriculture practices
1. Aikmel	4	46	5	65	44	21	Rice, corn and horticulture
2. Suela	2	43	2	89	63	26	Rice, corn and horticulture
3. Montong Gading	3	15	3	71	49	22	Rice, corn and horticulture
4. Pringgasela	2	118	6	202	138	64	Rice, corn and horticulture
5. Sikur	4	35	4	97	71	26	Rice, corn and horticulture
6. Wanasaba	4	29	12	138	101	37	Rice, corn and horticulture
7. Sembalun	5	1.354	60	2.240	1.661	579	vegetable and horticulture
<b>TOTAL</b>	<b>24</b>	1.640	92	2.902	2.127	775	

### 3. Beneficiaries

- The targeted beneficiaries are about 2,902 farmers organized in 92 farmers groups;
- Women groups of farmer household will take role in shallots planting, garlic grading, and garlic processing unit;
- In Sembalun district there are already home industries that produce “**black garlic**”. This business is managed by a women's farmer group. But since the earthquake, all production stopped.

### 4. Project Concept

- Garlics will be cultivated by each farmer, and the farmers will produce seeds. Farmer group will collect the seeds production to be sold to Gapoktan. Gapoktan will be formed at village level and act as farmer-own business entity (e.g. KUBE);
- The association at the district level will be formed, and all Farmer Groups or Gapoktan are cooperative shareholders;
- The association at the district level will foster farmers, provide seeds, fertilizers, pesticides, assistance, and buy results.

***Value chain for East Lombok district is attached***

### 5. Proposed Land Development and Agriculture Infrastructure

- Land Development (preparation), about 1.640 ha;
- Piping for irrigation, about 50 km for 7 Sub district;
- Farm Ponds (embung), about 5 unit (1 unit for Aikmel, 3 unit for Sembalun, and 1 unit for Wanasaba); shallow wells, about 16 unit (1 unit for Aikmel, 14 unit for Sembalun, 1 unit for Pringgasele); and water ponds 14 unit (2 unit for each sub-district);
- Farm road for all sub-districts, about 35 km.

### 6. Proposed Production and Farm Management

- Extension, Demonstration & Support (1 unit for each sub district);
  - Seed, fertilizer & pesticides for 1.640 ha;
- Agriculture Machinery:
  - Cultivator, about 656 unit (1 unit for 3 ha);
  - Powersprayer (840 unit);
  - Hands tractor (50 unit);
  - Water Pump 5,5 HP (52 unit);
- Class A and B will be sold in markets, supermarkets and exported;
- Class C is used for seeds;
- Class D is used for *Black Garlic*.

## **7. Proposed Marketing Infrastructure & Equipment**

- Farmer Federation development (KUBE), 1 unit for each sub district;
- Building & Storage;
  - Warehouse, about 7 unit (1 unit for KUBE/sub district);
  - Primary commodity center (1 unit for district level);
  - Flexible Drying Unit (120 Unit at farmer group level);
- Harvesting Garlic at KUBE / sub district level;
- Fermenter Black Garlic Unit at district level;
- Transportation (truck 4 unit, pick up 7 unit and 3-wheeled vehicles 100 unit);
- Certification, patent rights and packaging;
- Need to redevelop black garlic home industries;
- The Garlic Commodity Center Building in Aikmel as the center of the management of garlic commodities which will be managed by Association;
- There are processing and drying warehouses in KUBE.

## **8. Proposed training and capacity building activities**

- For government staff:
  - Training for trainer to Government staff and Facilitators.
- For Farmers:
  - Garlic farming/cultivations.
  - Technology of Black Garlic processing.

## **9. Village Facilitation and Technical Assistance**

***Cost-tab for East Lombok district is attached (subject for discussion).***

### Profile of Farmer Group at East Lombok

NO.	Sub District	Village	Area (Ha)	Name of FG	# Member
1	2	3	4	5	6
1	Aikmel	Kembang Kerang Daya	10.0	Darussalam I	10
			10.0	Darussalam II	10
		Aik Prapa	10.0	Pejanggik	15
		Aikmel Utara	5.7	Mandiri II	10
		Toya	10.0	Aik Lomaq	20
2	Suela	Suela	28.0	Lemor Baru	58
		Sapit	15.0	Dasan Esot	31
3	Montong Gading	Pringga Jurang Utara	5.0	Family Sejahtera	21
		Pringga Jurang	5.0	Berikuk Maju	19
		Pesanggrahan	5.0	Camek IV	31
4	Pringgasela	Pengadangan Barat	8.0	Mekar Indah I	17
			16.0	Mekar Indah II	23
			20.0	Mekar Indah III	35
			20.0	Pade Pasu	24
			20.0	Sukatain	34
		Pengadangan	34.0	Montor Dakok	69
5	Sikur	Kembang Kuning	5.0	Hidup Rukun	15
		Tete Batu Selatan	5.0	Harapan Tani I	6
		Jeruk Manis	10.0	Sejahtera II	24
		Tete Batu	15.0	Sasak Lebung	52
6	Wanasaba	Karang Baru	1.0	Paok Dangka II	5
			2.0	Montong Bila I	10
		Bebidas	5.0	Bebidas I	15
			7.0	Bebidas III	17
		Jineng	2.0	Tampatan II	16
			2.0	Tibu Lampi II	13
			3.0	Cempaka I	23
		Beriri Jarak	1.0	Tutuk Balung I	6
			2.0	Kuang Landak	12
			2.0	Sengaton I	10
			2.0	Lendang Tapen I	11
				Lendang Kambal	40

### Profile of Farmer Group at East Lombok (Continued)

NO.	Sub District	Village	Area (Ha)	Name of FG	# Member
1	2	3	4	5	6
7	Sembalun	Sembalun Bumbung	20.2	Subur Tani	35
			24.1	Sumur Lemokek	30
			20.0	Hijau Daun	25
			31.6	Mojo Wangi	35
			15.0	Mangun Jaya	18
			23.5	Sumur Lembokek	30
			23.5	Bumbung Hijau	30
			23.5	Rimbun Bedurik	30
		Sembalun Timba Gading	22.4	Urat Kemitan	57
			28.3	Kali empit	55
			28.3	Orong Kebon	55
			21.0	Lendak Kute Lauk	50
			27.0	Dalem Petung	75
			12.5	Orong Timba Gading	25
			3.5	Loang Pekat	27
			10.0	Tunas Baru	27
		Sembalun	21.7	Lendang Berkarya	50
			24.4	Pada Angen	55
			42.9	Punik Baru	50
			21.8	Penangkar Makem	41
			12.4	Swara Alam	40
			23.8	Tibu Segara	40
			14.7	Lembah Rinjani	40
			14.5	Orong Surga	26
			14.9	Lendang Guar	25
			16.0	Orong Rembuk	35
			20.8	Lauk Loko'	23
			19.2	Langsuna Emas	32
			25.2	Dalem Petung	39
			25.0	Pelita Harapan	22
			30.5	Rinjani Putra	17
			20.1	Tunas Harapan	17
			13.5	Segundi Lestari	19
			25.0	Tunas Mekar	20
		Sembalun Lawang	20.0	Gureja Paok	34
			25.5	Rante Mas	37
			36.8	Fajar Darna	36
			16.5	Orong Sada	23
			17.5	Lembah Pusuk	31
			25.9	Dapur Blek	38
			31.5	Putra Mangku Bumi	27
			19.5	Pade Angen	39
			47.3	Horsela	60
			15.2	Alam Lestari	26
			15.5	Rante Mas	26
			20.5	Pada Kumpul	25
			36.0	Sebun Kedit	59
			78.9	Artamih	227
			18.0	Tunas Muda	32
			21.0	Aur Ketu	32
			28.9	Sopok Angen	37
			19.6	Pansor gunung	30
			21.5	Tunas Harapan	32
			12.3	Lendak Kuta Daya	25
			13.5	Orong Buatan	20
		Sajang	15.0	Pasir Hitam	30
			17.8	Hijau Lestari	30
			19.0	Tunas Baru	30
			18.4	Lendang Tinggi	29
			22.8	Olor Kedondong	30
	7	24	1,640	92	2,942



## Attachement 1. Documentation of Assessment and Validation Project Location at East Lombok District



FGD at Distan East Lombok



Garlic Warehouse Plan



Interview with Farmer Group



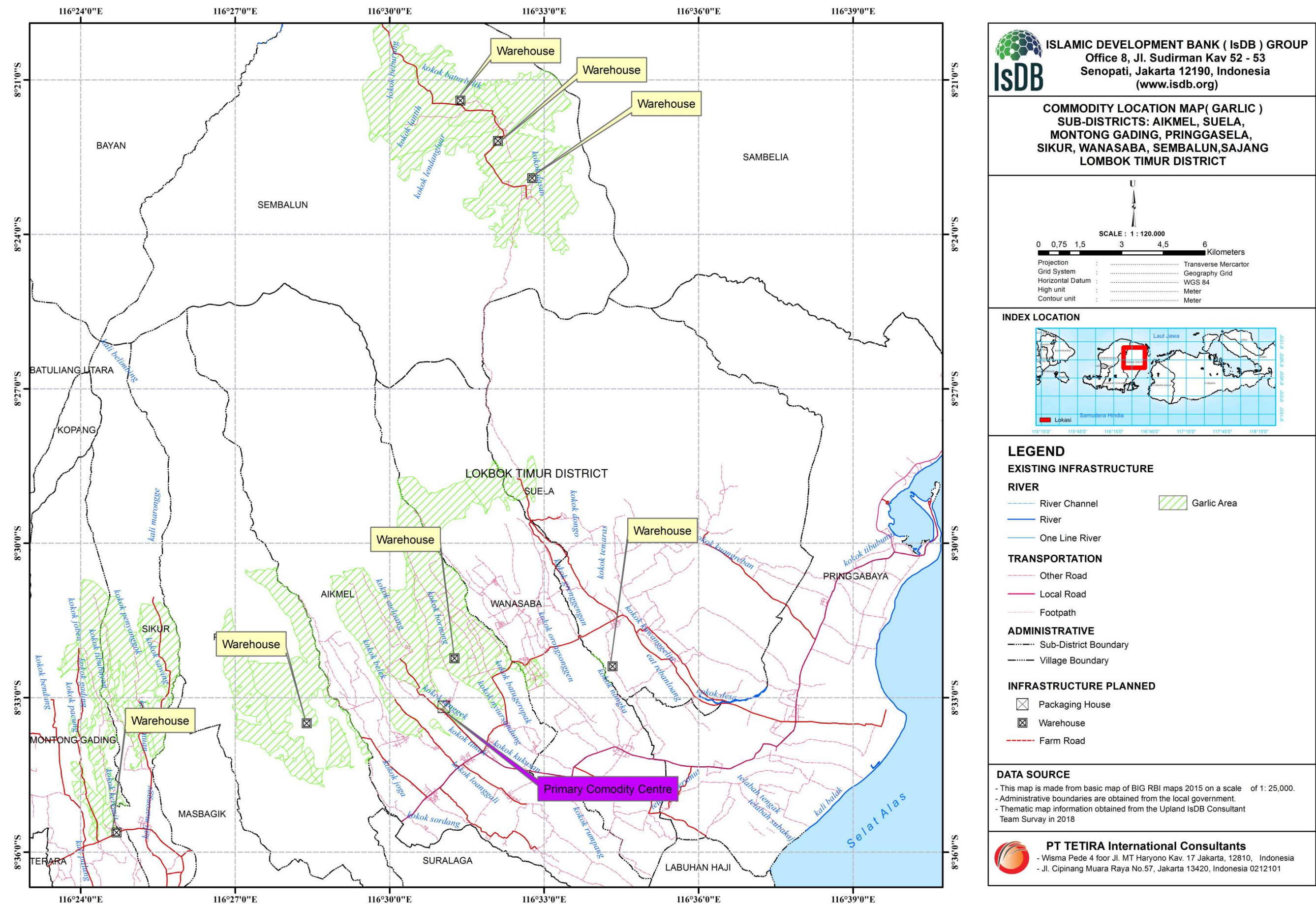
Garlic Area at Sembalun



Garlic Product ("Black Garlic")



Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities





## 10. Risk Assessment of the program and Mitigation Measures

Risks	Impact on Project	L	I	R	Mitigation	Residual risks (R)
there is a decrease in the weight of the Garlic, between the weight of the harvest and the sale	Reduce production and farmer income	L	Mo	Me	<ul style="list-style-type: none"> <li>It is necessary to calculate the weight depreciation of production.</li> </ul>	LM
Weakness of O&M of building, infrastructure, transportation and machineris	Disfunction of building, infrastructures, transportation and machineris	P/L	Mo	LM	<ul style="list-style-type: none"> <li>clear SOP's and implemented with discipline.</li> </ul>	Lw
Unfunctional of Association/UPT (Primary Comodity Centre)	Uncontrolled price stability	P	Si	MH	<ul style="list-style-type: none"> <li>strengthening alliances institutional development.</li> <li>need for guidance and close supervision.</li> <li>strengthening market linkages.</li> </ul>	Lw

## Summary Project Proposal Sumbawa District – West of Nusa Tenggara

### 1. Socio-Economic Condition

Sumbawa's unemployment rate is 4,20% and Poverty rate is 15,31%, The main occupation in Sumbawa are in the sector of Agriculture, Plantation, Forestry, and Fisheries which accounted for 53% of the total occupation in Sumbawa which consist of 46,81 % female and 56,12% male.

Sumbawa Regency is a tropical area that is affected by the rainy season and dry season. Rainy season in December to March, and dry season in April to November. In 2015 the maximum temperature reached 35,5°C which occurred in November and minimum temperature were 20,7°C occurred in August. Shallots are grown on dry land or horticulture land in dry season. Irrigation needs are met from shallow wells or ponds. There are planted with Shallots two time a year, another time for paddy or corn. The shallots production in Sumbawa is 12 ton/ha/time season.

### 2. Planned Commodity and Area

- In generally, the Sumbawa district reserved as shallots is dry land that does not have technical irrigation;
- In the rainy season between December and March the land is planted with rice;
- In the dry season in April to October the land is planted with horticulture including shallot. This season the need for irrigation of shallots is filled with ground water by pumping from wells, rivers or ponds;
- The proposed commodities area: Extension area of shallots seed center (3.000 ha). Type of shallot seed is Super Philips Sumbawa (for land with high altitude 100-250 from sea level);
- The selected (participated) farmers must have their own land.

Sub-District	Village	Area(ha)	Farmer Group	Member of Farmer Group	Women Farmer Group	House Hold (HH)	Current agriculture practices
1. Empang	4	265	9	316	6	292	
2. Tarano	3	255	10	321	5	298	
3. Plampang	4	1925	17	1393	6	111	
4. Moyo Hulu	2	115	4	127	1	107	
5. Lape	3	105	5	119	3	114	
6. Moyo Utara	1	30	1	34	-	21	
7. Maronge	1	20	1	31	1	31	
8. Moyo Hilir	1	60	3	112	2	80	
9. Utan	3	125	5	126	2	113	
10. Lunyuk	1	20	1	28	1	28	
11. Ropang	1	30	1	18	-	18	
12. Alas	1	30	1	51	1	45	
13. Sumbawa	1	20	1	24	1	24	
<b>TOTAL</b>	26	3.000	59	2.700	29	2285	

### **3. Beneficiaries**

- The targeted beneficiaries are about 2,700 farmers (Male: 2.581 and Female: 115) organized in 59 farmers groups;
- Women groups of farmer household will take role in shallots maintenance, harvesting and processing unit (off farm);
- The processed shallots products include fried shallots and wet seasonings.

### **4. Project Concept**

- Shallots seed will be cultivated by each farmer, and the farmers will produce shallots seed. Farmer group will collect the seed production to be sold to Gapoktan. Gapoktan will be formed at one or two sub-district level and act as farmer-own business entity (e.g. KUBE);
- Cooperative at district level will be formed, and all Farmer Group or Gapoktan is the shareholder of the cooperative.

***Value chain for Shallots Seed Center at Sumbawa district is attached***

### **5. Proposed Land Development and Agriculture Infrastructure**

- Land Development (preparation), about 3.000 ha;
- Piping for irrigation, about 50 unit (1 unit for 60 ha);
- Ponds, about 50 unit (1 unit for 60 ha); and shallow wells, about 300 unit (1 unit for 10 ha);
- Farm road for all sub-districts, about 70 km.

### **6. Proposed Production and Farm Management**

- Extension, Demonstration & Support (3 unit of demfarm);
  - Shallow Seed (white label - G0) (600 ton);
  - Shallow Seed (G1 farmers) (1.800 ton);
  - Fertilizer & pesticides for 3.000 ha;
- Agriculture Machinery:
  - Cultivator (100 unit);
  - Small scale precision seed planters (12 unit);
  - Hands sprayer (300 unit);
  - Hands tractor (50 unit);
  - Terpal (300 unit);
  - Mist Blower (300 unit);
- Organic Fertilizer Processing Unit (UPPO) (8 unit).

### **7. Proposed Marketing Infrastructure & Equipment**

- Building & Storage;
  - Warehouse, about 30 unit (1 unit for 100 ha);
  - Central Warehouse, about 5 unit (4 unit for KUBE, 1 unit for district level);
  - Primary commodity center (1 unit for district level);
- Shallots processing, about 30 unit;
- Transportation (truck 10 unit and 3-wheeled vehicles 30 unit).

## **8. Proposed training and capacity building activities**

- For government staff:
  - Training to Government staff on seed breeding, product processing, seed certification and entrepreneurship;
  - Training to Government staff on project management.
- For Farmers:
  - Training to farmer on seed breeding, cultivation, product processing, and entrepreneurship.
- For Women Farmers and Youth:
  - Training in shallots processing and packaging.
- Post-harvest processing and marketing research for shallots.

## **9. Village Facilitation and Technical Assistance**

***Cost-tab for Sumbawa district is attached (subject for discussion).***

### Profile FG Upland at Sumbawa District

No	Sub District	Village	Farmer Grup (FG)		
			Name of FG	# Member FG	Area (ha)
1	Empang	Lamenta	Ai Pet	35	25
		Boal	Klongkong	48	40
			Brang Lapote	31	20
			Tiu Meda	33	30
			Unter Sepang	36	30
			Orong Gaelanag	45	40
		Bunga Eja	Orong Pemasar	28	25
		Gapit	Kokar Dalap	21	25
			Ai Ngemung	39	30
2	Tarano	Bantu Lanteh	Saling Jonyong 2	26	20
			Berora Tebal	34	25
			Panto Daeng	45	35
		Pidang	Sampar Dangar	41	30
			Pidang Jaya	26	20
			Bako Mate	37	20
			Robong Jaya	27	25
			Robong Jayaket	23	25
		Banda	Orong Tangko	23	30
			Sampar Panulang	39	25
3	Plampang	Muer	Maris Gama	13	20
			Telaga Bage	21	30
			Harapan Mulya	30	20
			Tiu Seruk	30	25
			Sadan Jaya	14	30
			Totang Jangi	32	20
			Tiu Batu	20	15
			Lampas Rinding	20	20
			Komplek Cetak Sawah Baru	950	1500
		Lab. Ala	Batu Lapar	30	30
			Sadan Utara 2	33	30
		Brang Kolong	Balong Niat	24	25
			Brang Beru	20	20
			Ai Gilar 2	20	20
			Tiu Sane	65	50
			Telaga Urug	51	50
		Plampang	Ai Ramena	20	20

### Profile FG Upland at Sumbawa District (*Continued*)

No	Sub District	Village	Farmer Grup (FG)		
			Name of FG	# Member FG	Area (ha)
4	Moyo Hulu	Lito	Buin Tui	45	40
			Unter Jati	25	25
			Olat Samoko	29	25
		Semamung	Silamo	28	25
5	Lape	Hijrah	Ai Rantok	22	20
			Ai Petung	16	20
		Bage Tango	Perintis	31	20
		Lape	Tanah Turan	20	20
			Ai Bua	30	25
6	Maronge	Simu	Poto Layang	34	30
7	Moyo Hilir	Serading	Buin Sepit	49	20
			Telaga Terong	27	20
			Buin Sarumung	36	20
8	Moyo Utara	Pungkit	Brang Gola	31	20
9	Utan	Orong Bawa	Uma Perang	38	30
		Jorok	Satu Hati	17	20
			Tendri Untung 3	17	20
		Motong	Saling Santuret	30	25
			Ai Surik	24	30
10	Lunyuk	Emang Lestari	Panti Selatan	28	20
11	Ropang	Labangkar	Benteng Desa	18	30
12	Alas	Dalam	Tangian Mandiri	51	30
13	Sumbawa	Lempeh	Suka Nyata 2	24	20
<b>Jml</b>	<b>13</b>	<b>26</b>	<b>59</b>	<b>2,700</b>	<b>3,000</b>



**Attachment 1.**  
**Documentation of Assessment and Validation Project Location at Sumbawa District**



Focus Group Discussion (FGD) at Dinas



Discuss with Dinas



Deep Well at Muer Village



Alas Sub District



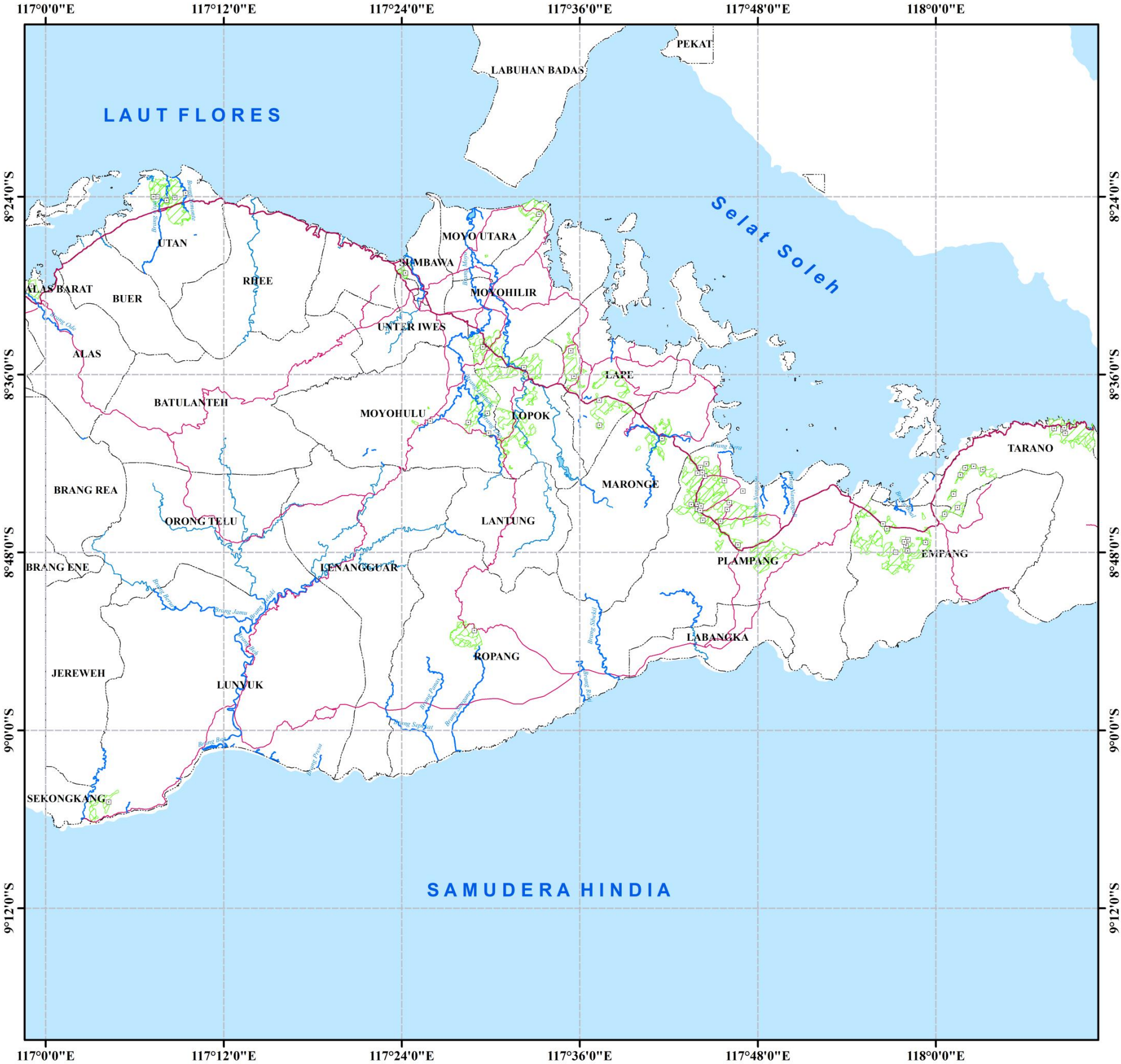
Discuss with Farmer




Pump Irrigation




Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
SUB-DISTRICTS: EMPANG, TARANO, PLAMPANG,  
MOYO HULU, LAPE, LAPE, MOYO HILIR, MOYO UTARA,  
UTAN, LUNYUK, ROPANG, ALAS, SUMBAWA,  
SUMBAWA DISTRICT

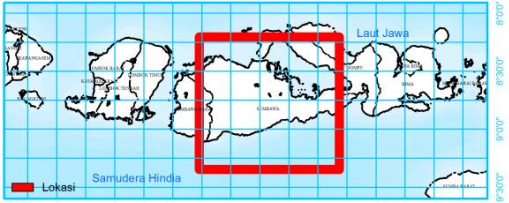


SCALE : 1 : 500,000

0 3.5 7 14 21 28 Kilometers

Projection : Transverse Mercator  
Grid System : Geography Grid  
Horizontal Datum : WGS 84  
High unit : Meter  
Contour unit : Meter

INDEX LOCATION



**LEGEND**

**EXISTING INFRASTRUCTURE**

RIVER

- River Channel
- River
- One Line River

**TRANSPORTATION**

- Other Road
- Local Road
- Footpath

**ADMINISTRATIVE**


- Sub-District Boundary
- Village Boundary

**INFRASTRUCTURE PLANNED**

- Garlic Seed Area
- Warehouse
- Warehouse Proses
- Farm Road

**DATA SOURCE**

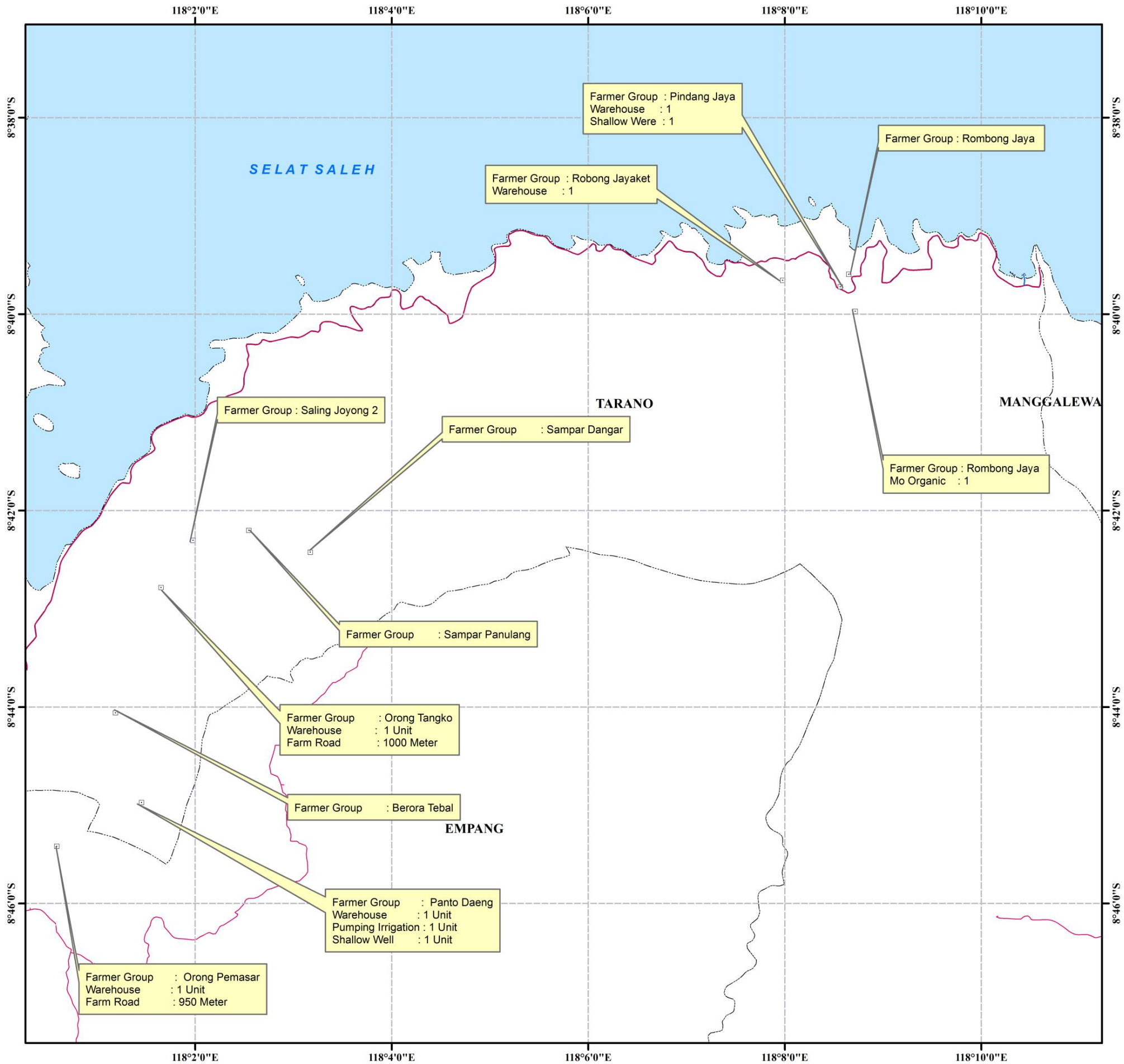
- This map is made from basic map of BIG RBI maps 2015 on a scale of 1 : 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



**PT TETIRA International Consultants**

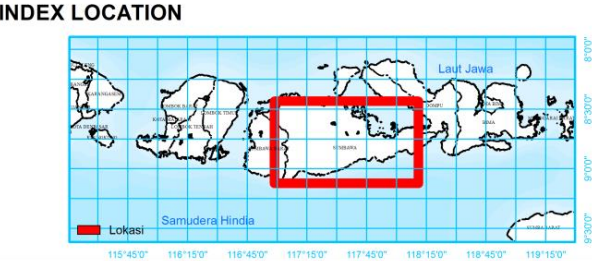
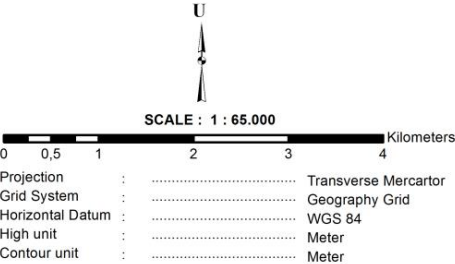
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )





 **ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP**  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

**COMMODITY LOCATION MAP ( garlic seed )**  
**TARANO SUB-DISTRICT**  
**SUMBAWA DISTRICT**

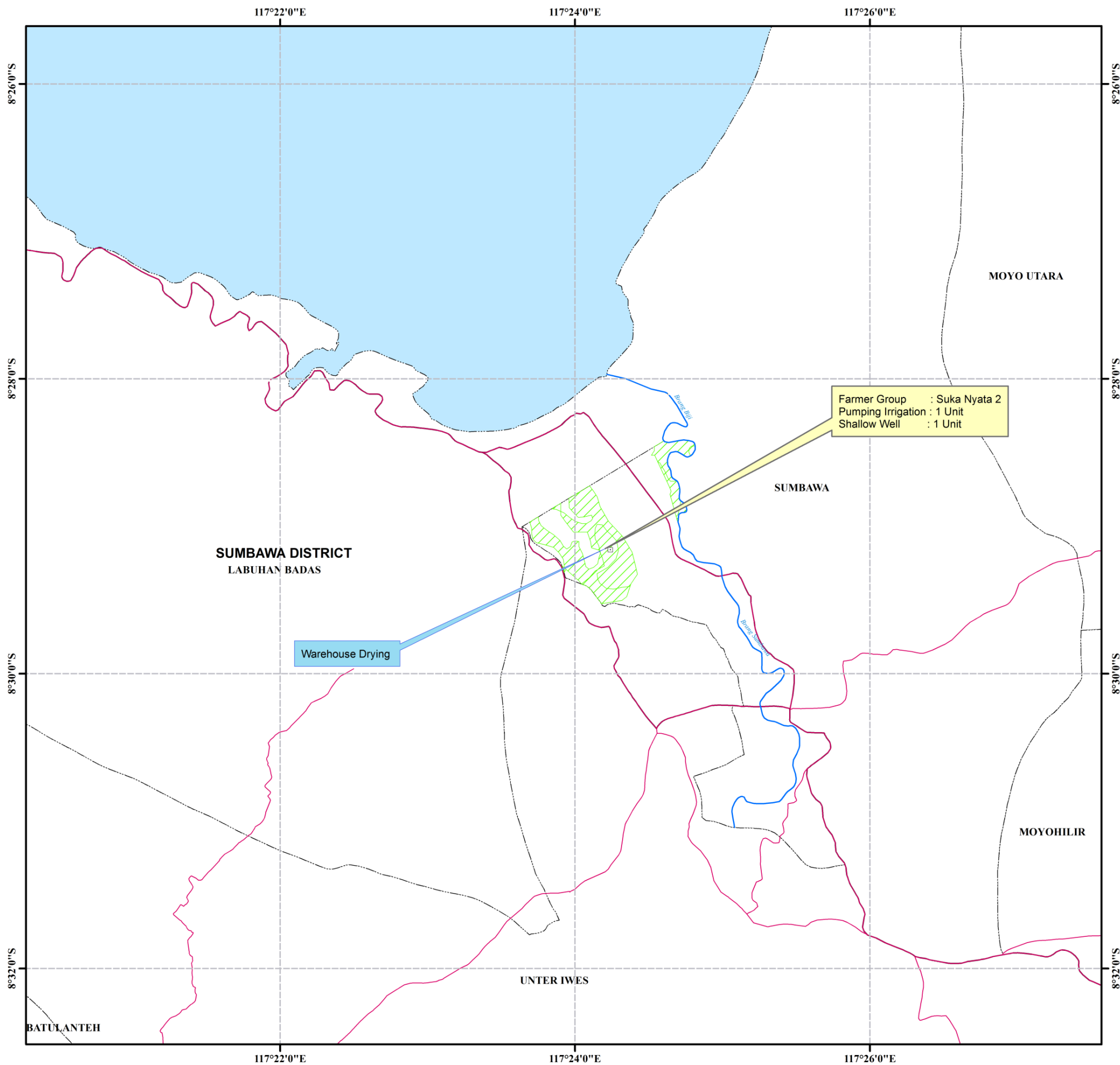



- LEGEND**
- EXISTING INFRASTRUCTURE**
- RIVER**
- River Channel
  - River
  - One Line River
- TRANSPORTATION**
- Other Road
  - Local Road
  - Footpath
- ADMINISTRATIVE**
- Sub-District Boundary
  - Village Boundary
- INFRASTRUCTURE PLANNED**
- Warehouse
  - Warehouse Proses
  - Farm Road
- Area garlic seed**

**DATA SOURCE**

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018

 **PT TETIRA International Consultants**  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org) is an international

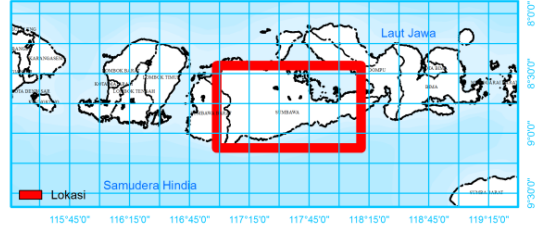
COMMODITY LOCATION MAP( garlic seed )  
SUMBAWA SUB-DISTRICT  
SUMBAWA DISTRICT

SCALE : 1 : 65.000

0 0,35 0,7 1,4 2,1 2,8 Kilometers

Projection : ..... Transverse Mercator  
Grid System : ..... Geography Grid  
Horizontal Datum : ..... WGS 84  
High unit : ..... Meter  
Contour unit : ..... Meter

INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

RIVER

- River Channel
- River
- One Line River

Garlic Seed Area

TRANSPORTATION

- Other Road
- Local Road
- Footpath

ADMINISTRATIVE


- Sub-District Boundary
- Village Boundary

INFRASTRUCTURE PLANNED

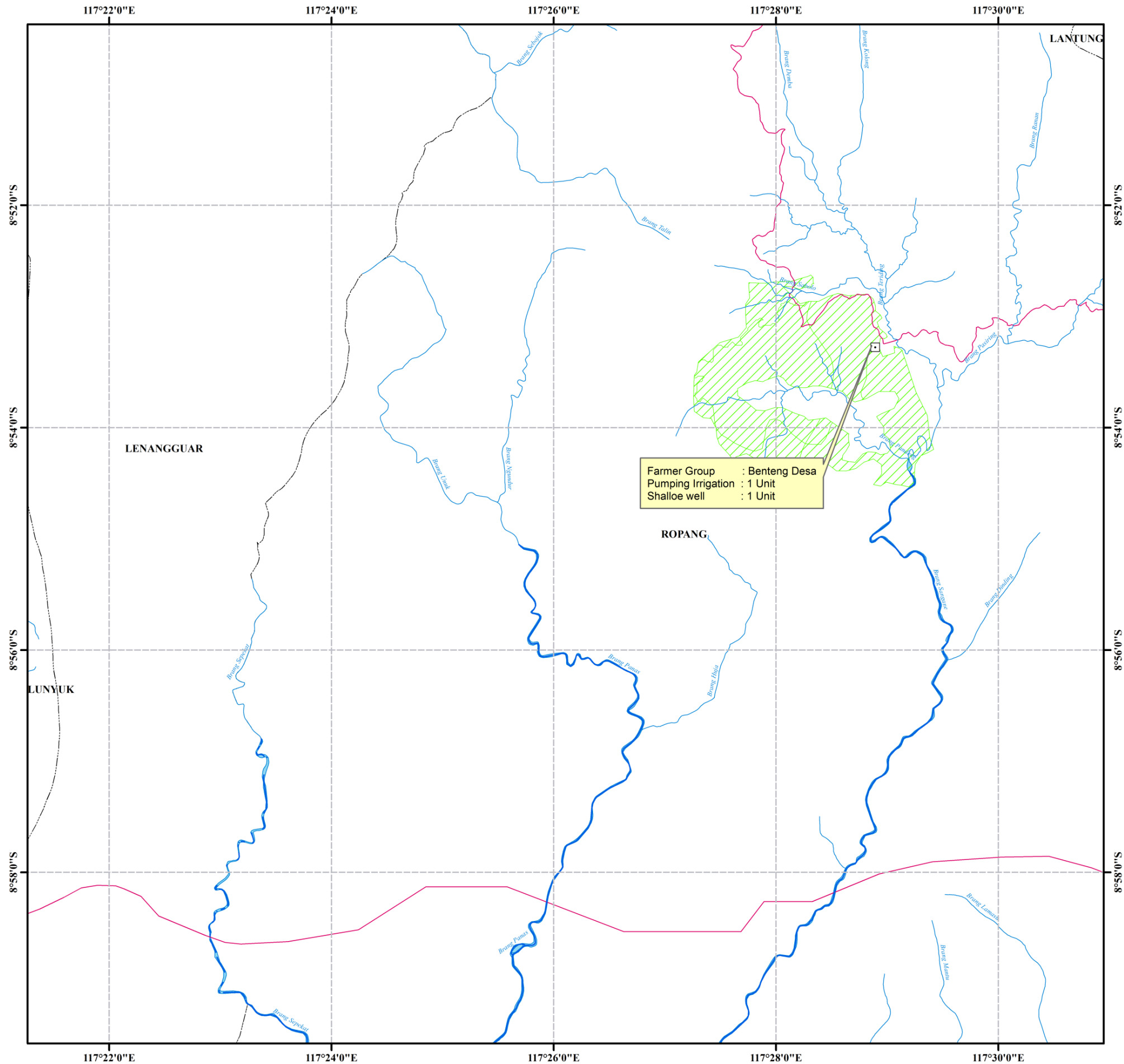
- Warehouse
- Warehouse Proses
- Farm Road


DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018




PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )






ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
ROPANG SUB-DISTRICT  
SUMBAWA DISTRICT

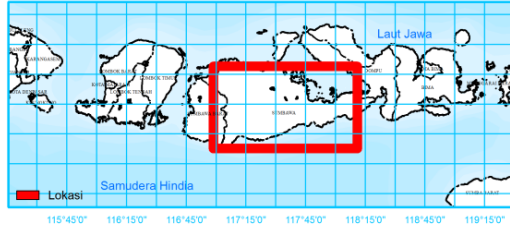


SCALE : 1 : 65.000



Projection : ..... Transverse Mercator  
Grid System : ..... Geography Grid  
Horizontal Datum : ..... WGS 84  
High unit : ..... Meter  
Contour unit : ..... Meter




INDEX LOCATION




**LEGEND**




**EXISTING INFRASTRUCTURE**

**RIVER**



-  River Channel
-  River
-  One Line River

 Garlic Seed Area




**TRANSPORTATION**

-  Other Road
-  Local Road
-  Footpath

**ADMINISTRATIVE**


-  Sub-District Boundary
-  Village Boundary

**INFRASTRUCTURE PLANNED**

-  Warehouse
-  Warehouse Proses
-  Farm Road

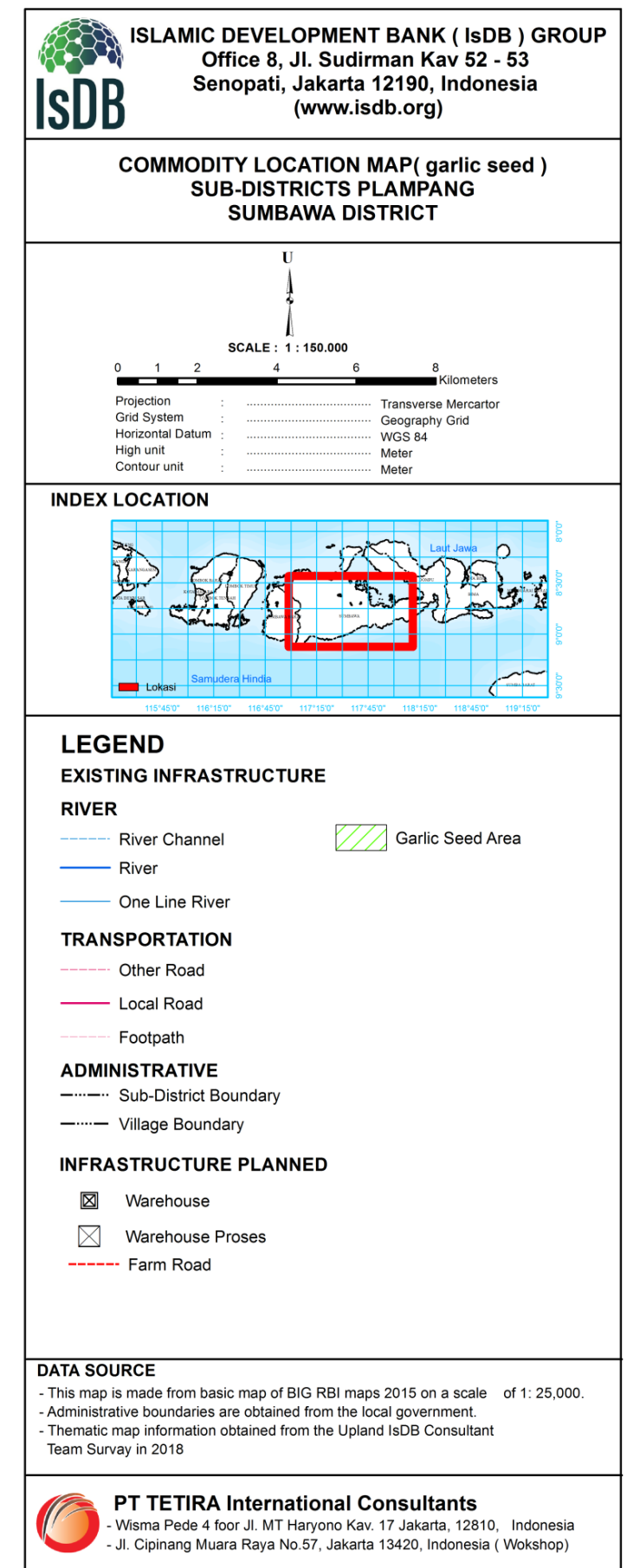
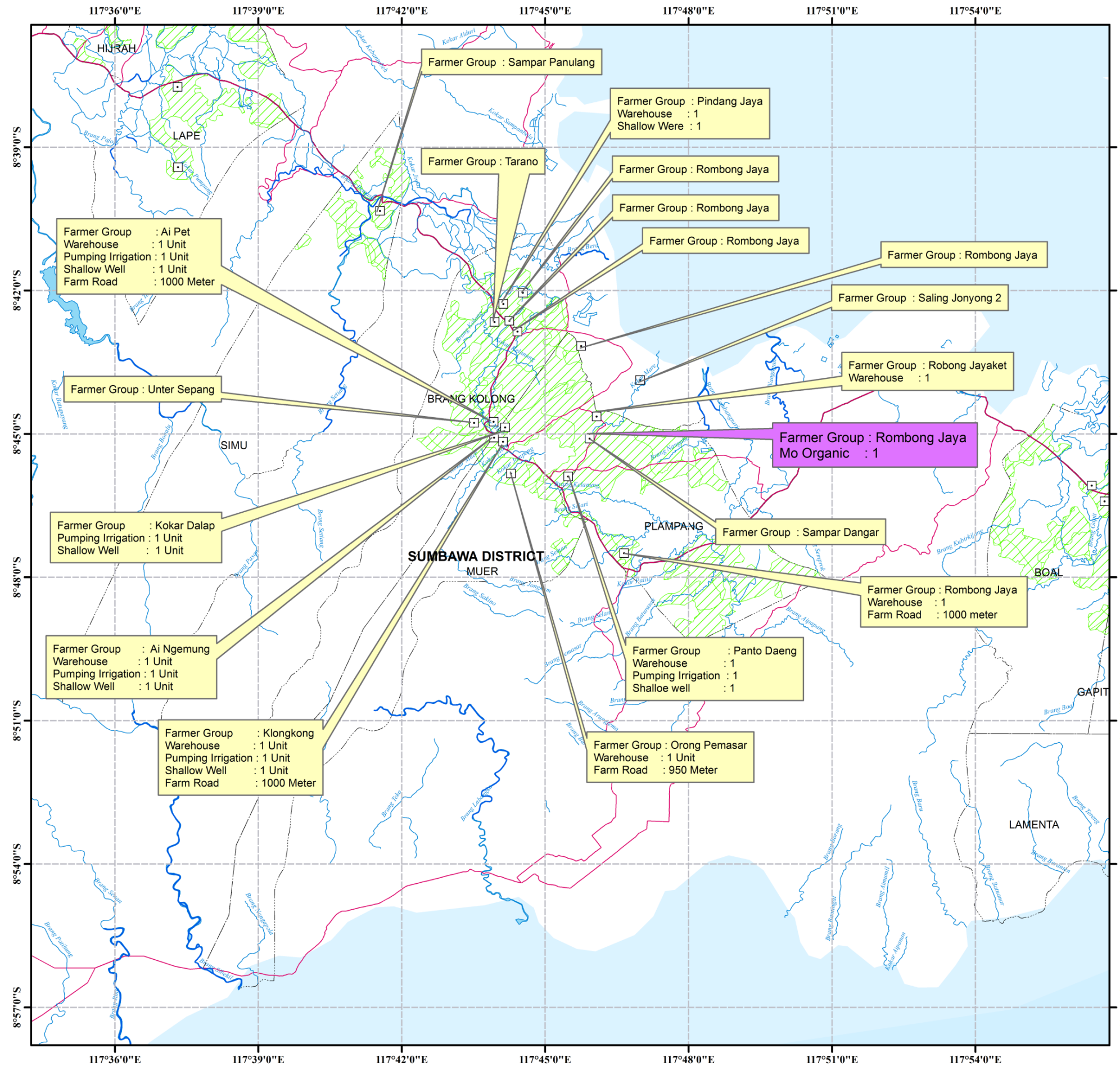
**DATA SOURCE**

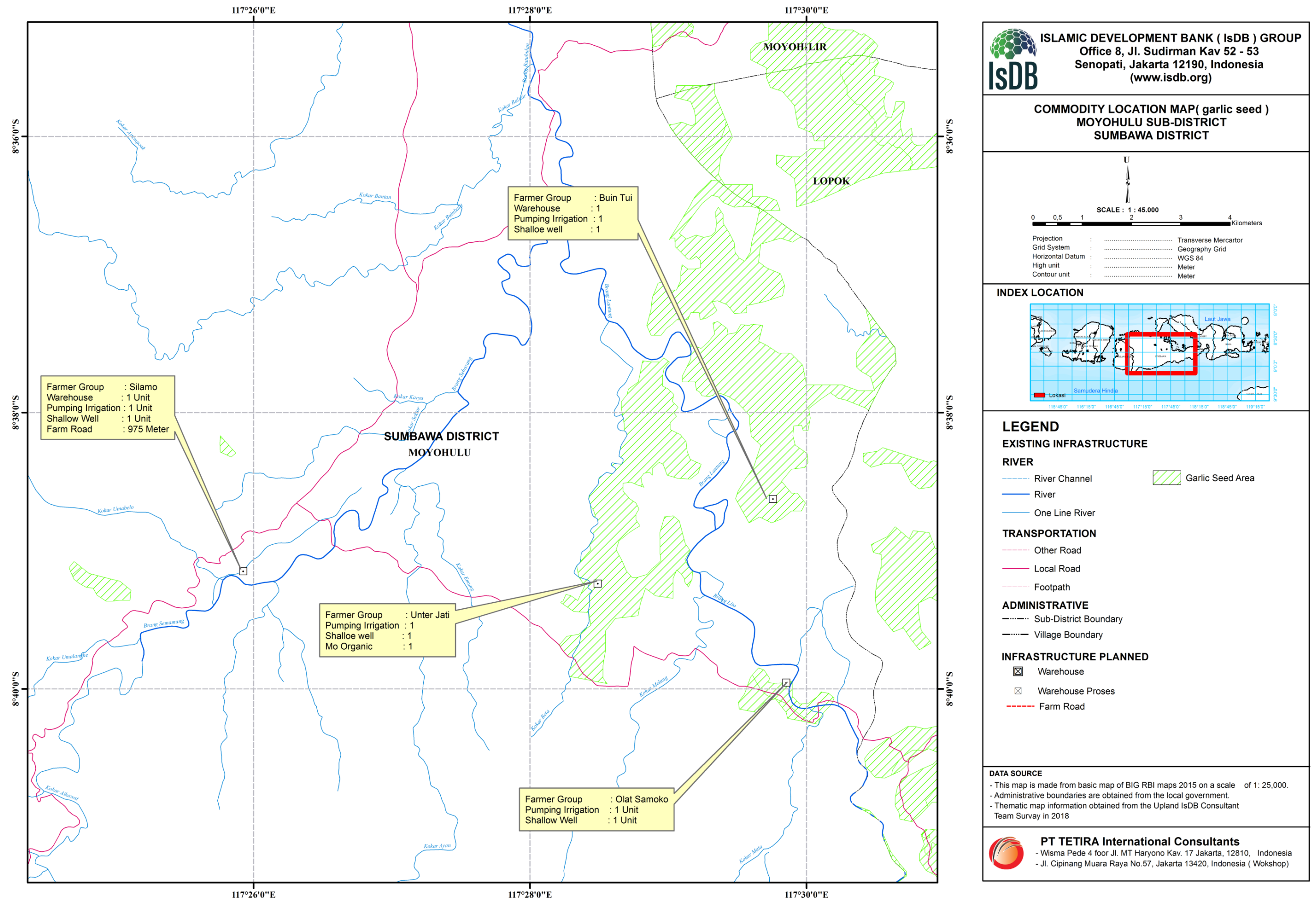
- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



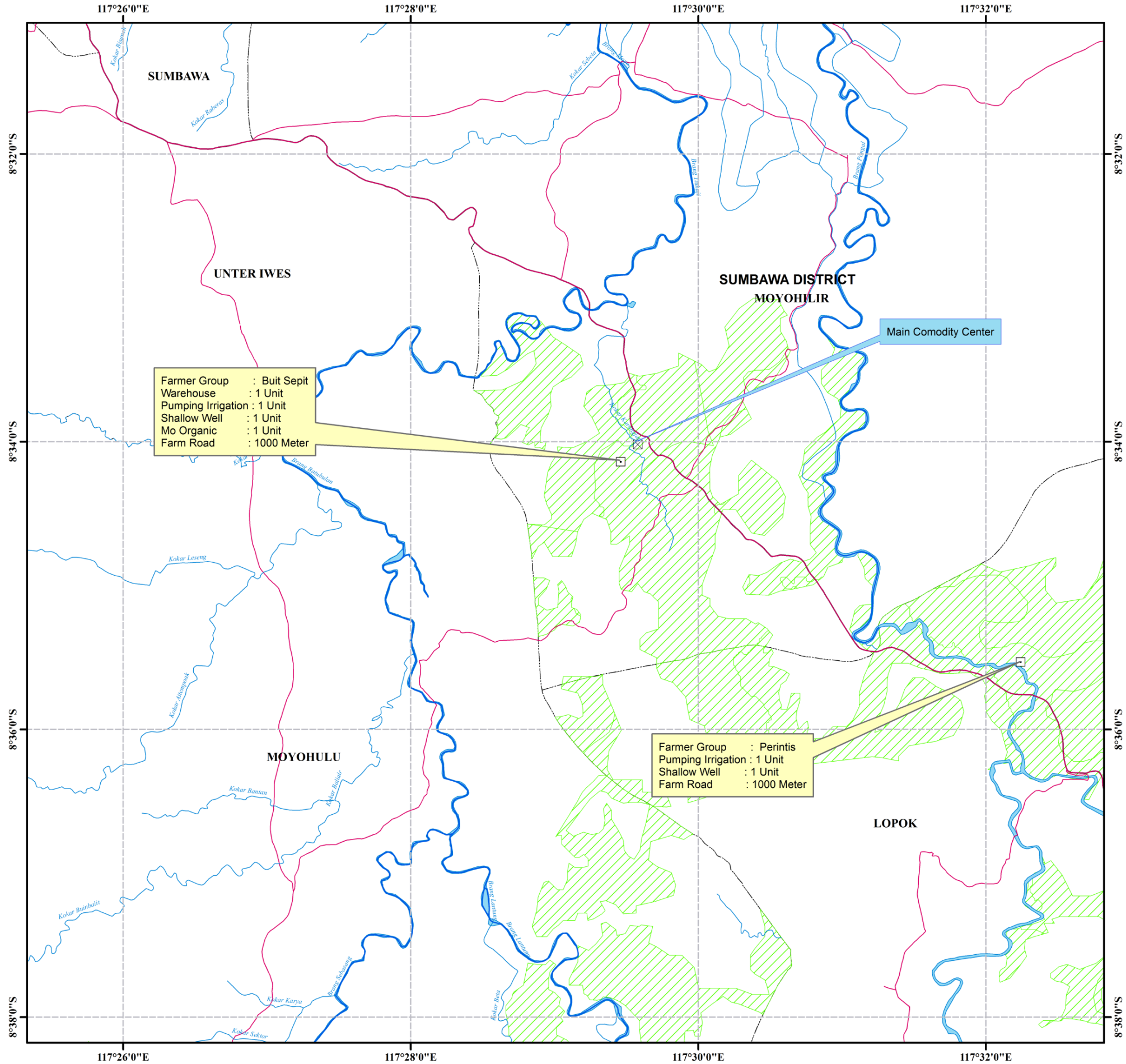
PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )





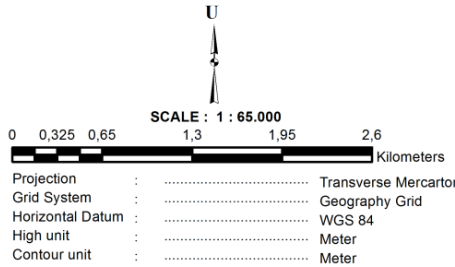




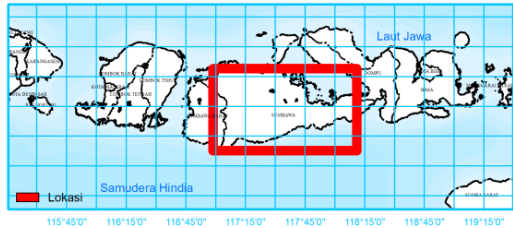


ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
MOYOHILIR SUB-DISTRICT  
SUMBAWA DISTRICT



INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

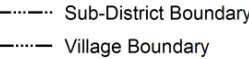
RIVER



TRANSPORTATION



ADMINISTRATIVE



INFRASTRUCTURE PLANNED



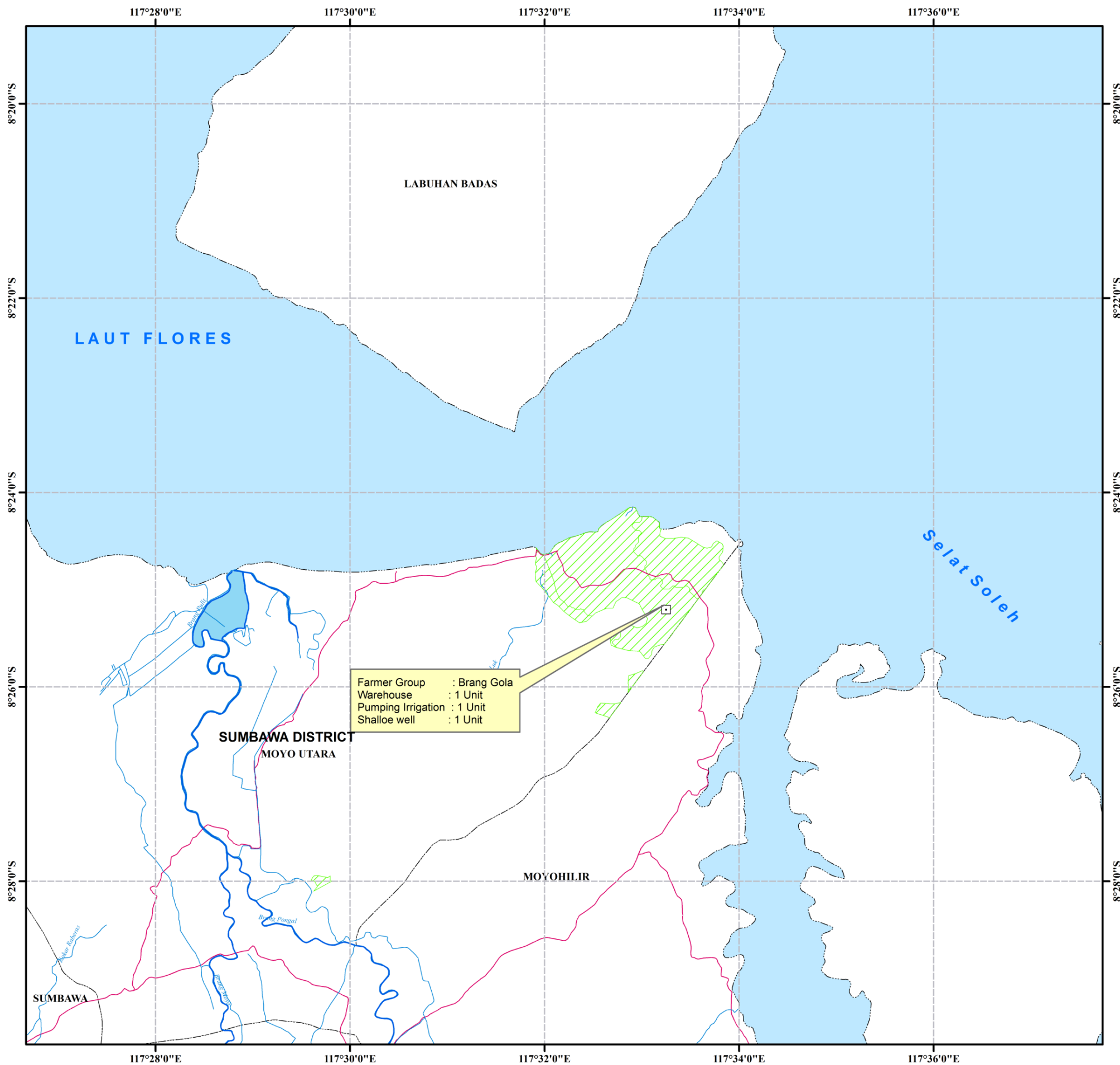
DATA SOURCE


- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )








ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
MOYOUTARA SUB-DISTRICT  
SUMBAWA DISTRICT



SCALE : 1 : 75.000

0

1

2

4

6

8

Kilometers

Projection : Transverse Mercator

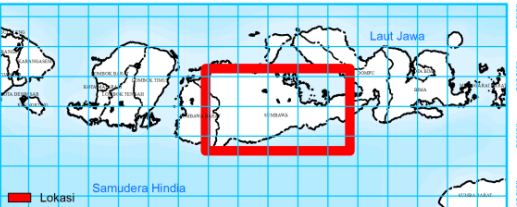
Grid System : Geography Grid

Horizontal Datum : WGS 84

High unit : Meter

Contour unit : Meter

INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

RIVER

- River Channel
- River
- One Line River

TRANSPORTATION

- Other Road
- Local Road
- Footpath

ADMINISTRATIVE

- Sub-District Boundary
- Village Boundary


INFRASTRUCTURE PLAN

- Warehouse
- Warehouse Proses
- Farm Road

Garlic Seed Area

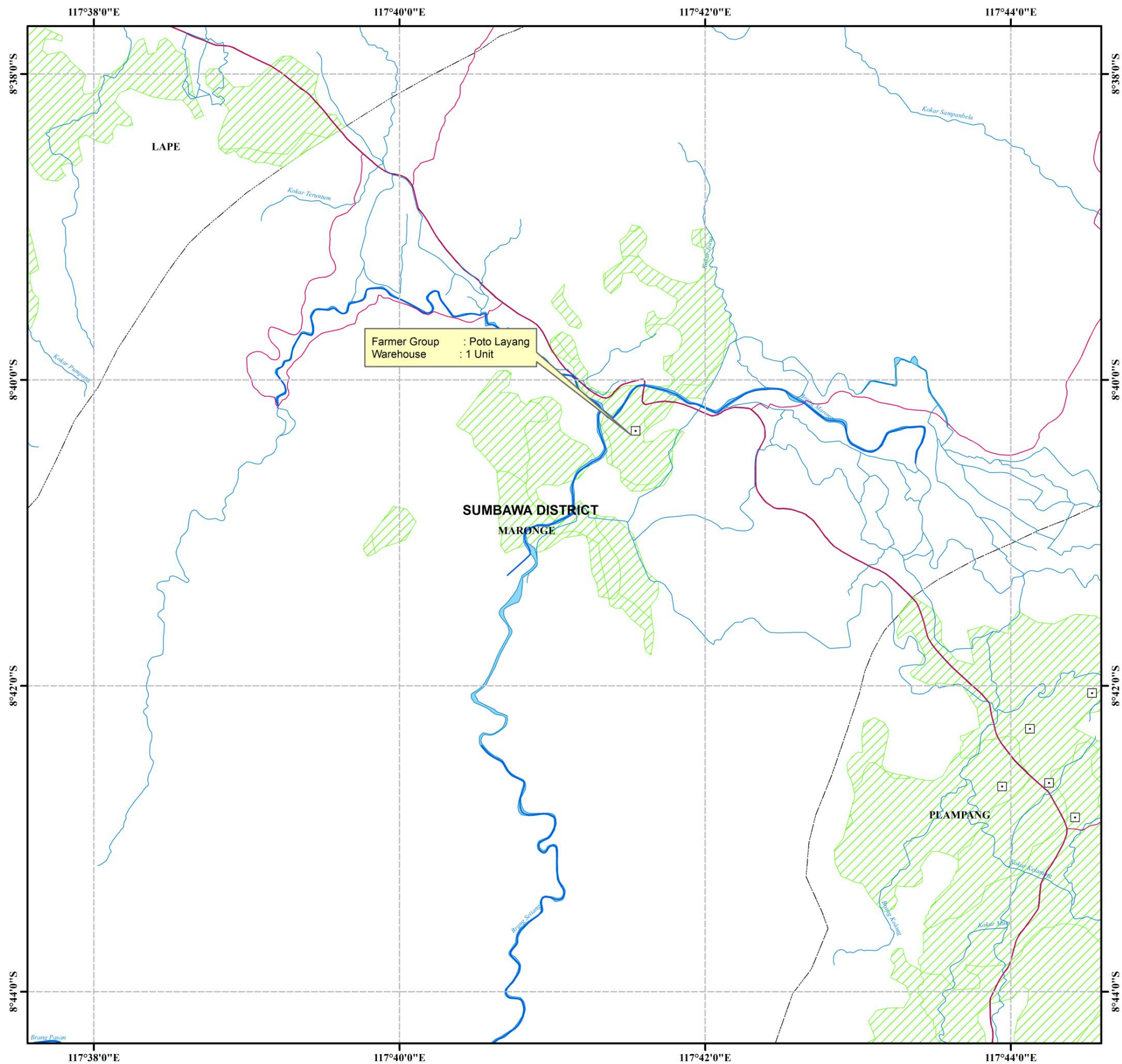
DATA SOURCE


- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



PT TETIRA International Consultants


- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
MORONGE SUB-DISTRICT  
SUMBAWA DISTRICT




SCALE : 1 : 50.000

0 0,35 0,7 1,4 2,1 2,8 Kilometers

Projection : Transverse Mercator  
Grid System : Geography Grid  
Horizontal Datum : WGS 84  
High unit : Meter  
Contour unit : Meter

INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

RIVER

- River Channel
- River
- One Line River

TRANSPORTATION

- Other Road
- Local Road
- Footpath

ADMINISTRATIVE

- Sub-District Boundary
- Village Boundary


INFRASTRUCTURE PLANNED

- Warehouse
- Warehouse Proses
- Farm Road

Garlic Seed Area

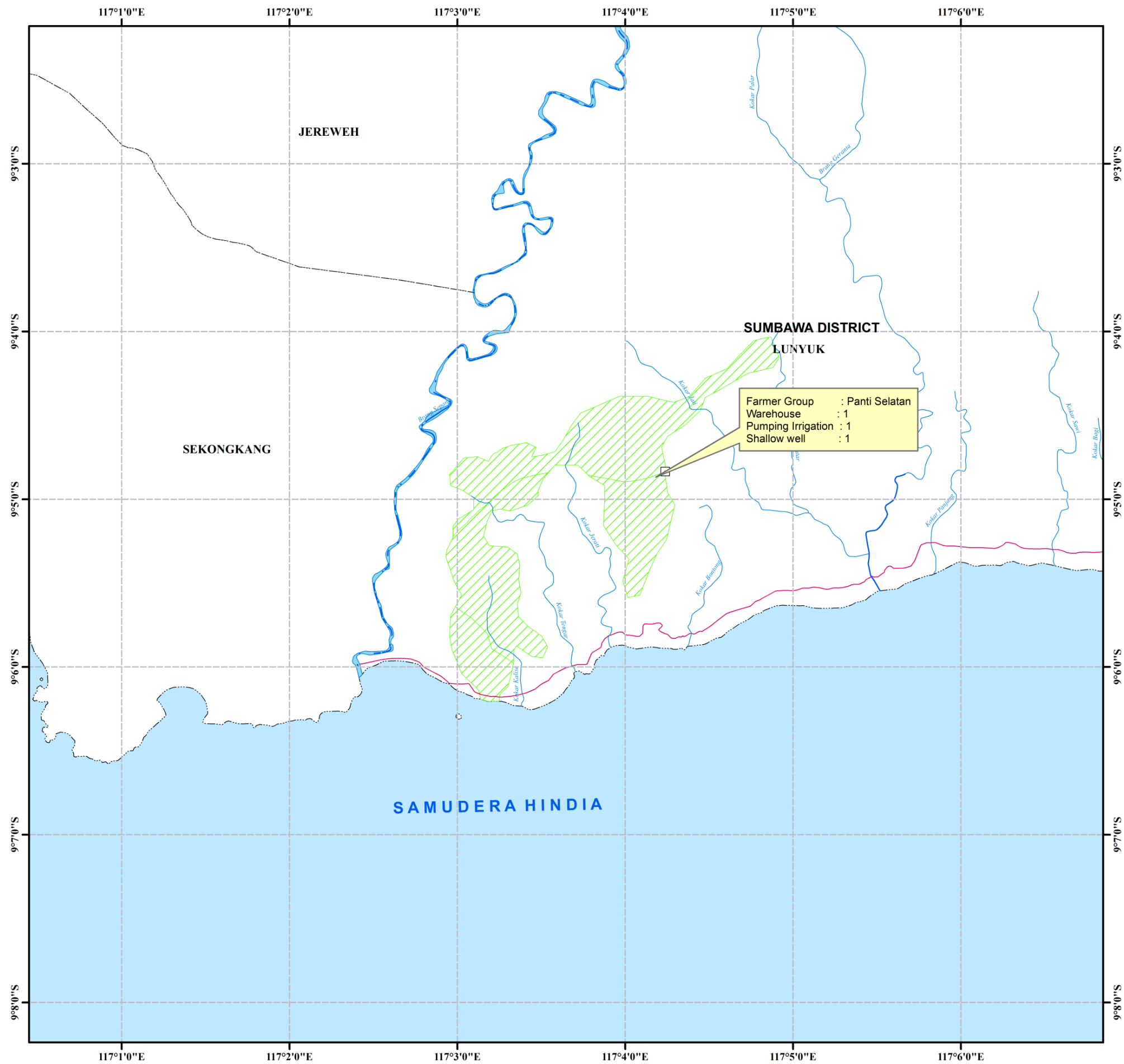
DATA SOURCE


- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop)








ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
LUYUK SUB-DISTRICT  
SUMBAWA DISTRICT

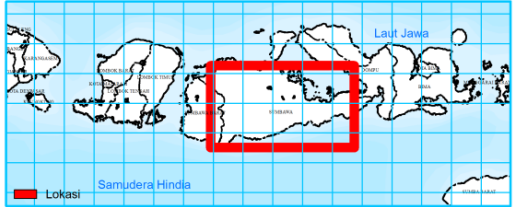


SCALE : 1 : 75.000

0 0.4 0.8 1.6 2.4 3.2 Kilometers

Projection : ..... Transverse Mercator  
Grid System : ..... Geography Grid  
Horizontal Datum : ..... WGS 84  
High unit : ..... Meter  
Contour unit : ..... Meter

INDEX LOCATION





Lokasi


LEGEND


EXISTING NFRASTRUCTURE

RIVER


 River Channel


 River


 One Line River

 Garlic Seed Area


TRANSPORTATION


 Other Road

 Local Road


 Footpath


ADMINISTRATIVE


 Sub-District Boundary

 Village Boundary

INFRASTRUCTURE PLANNED

 Warehouse

 Warehouse Proses


 Farm Road

DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.

- Administrative boundaries are obtained from the local government.

- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018

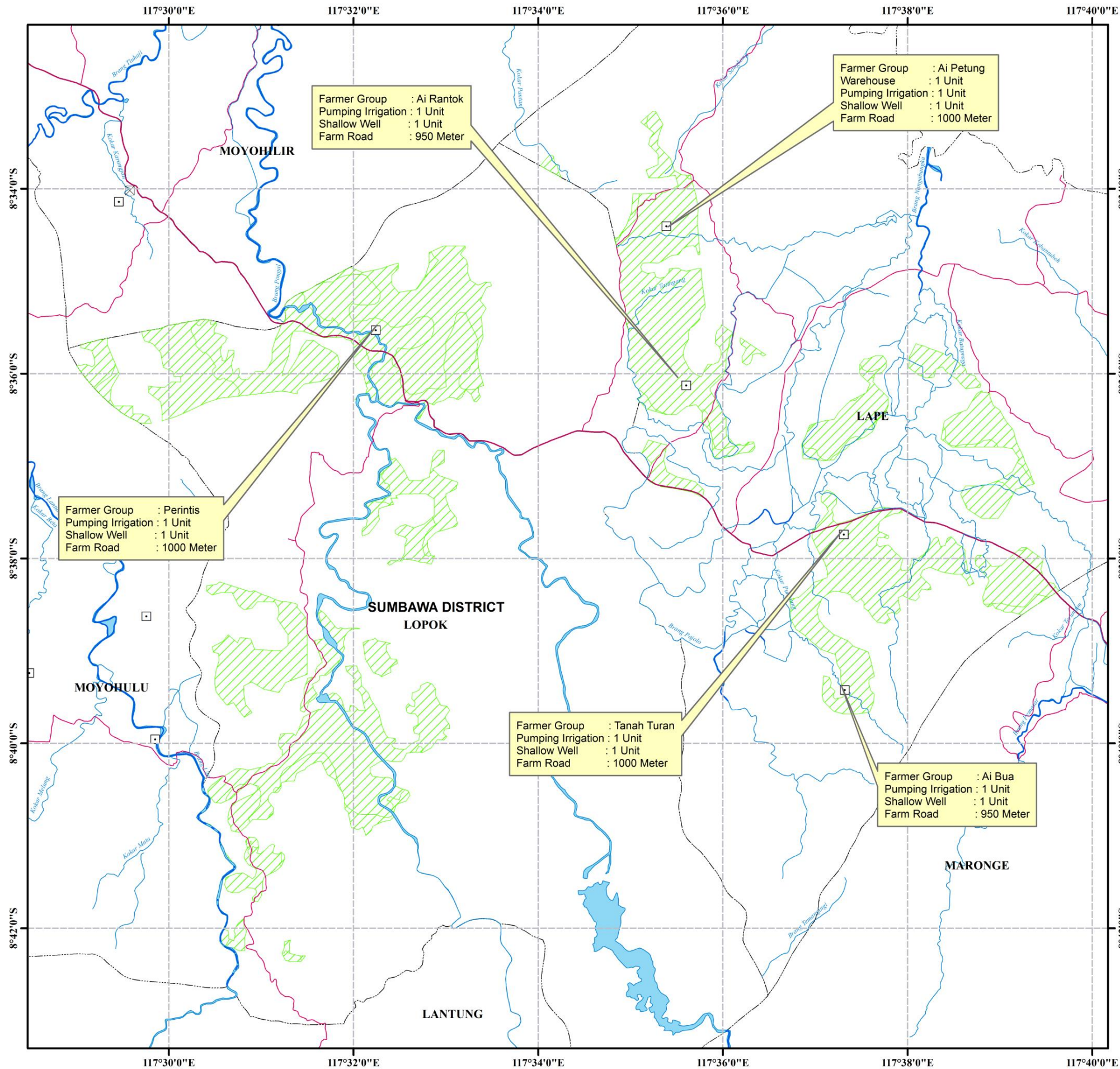



PT TETIRA International Consultants

- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia

- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop)







ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP ( garlic seed )  
LAPE LOPOK SUB-DISTRICT  
SUMBAWA DISTRICT

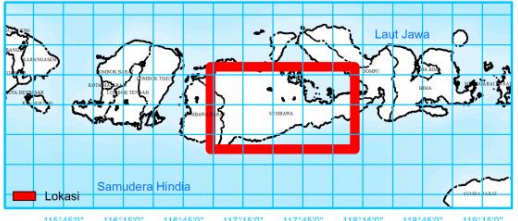
U

SCALE : 1 : 75.000

0 1 2 4 6 8 Kilometers

Projection : Transverse Mercator  
Grid System : Geography Grid  
Horizontal Datum : WGS 84  
High unit : Meter  
Contour unit : Meter

INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

RIVER

- River Channel
- River
- One Line River

TRANSPORTATION

- Other Road
- Local Road
- Footpath

ADMINISTRATIVE

- Sub-District Boundary
- Village Boundary


INFRASTRUCTURE PLANNED

- Warehouse
- Warehouse Proses
- Farm Road

Garlic Seed Area

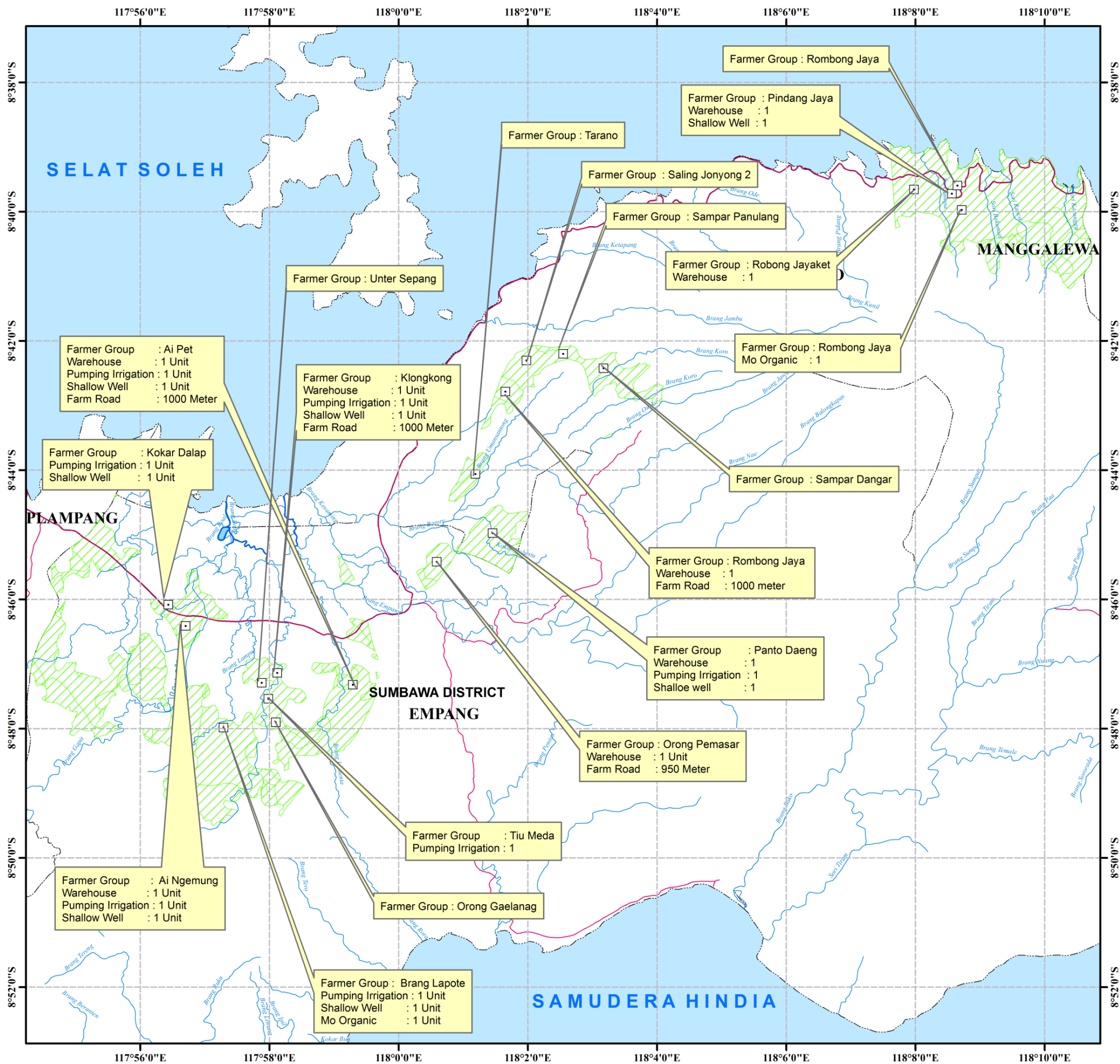
DATA SOURCE


- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )







ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
EMPANG SUB-DISTRICT  
SUMBAWA DISTRICT

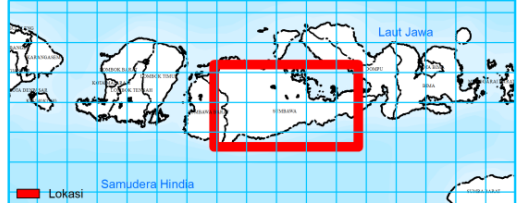
U

SCALE : 1 : 100.000

0 0.75 1.5 3 4.5 6 Kilometers

Projection : Transverse Mercator  
Grid System : Geography Grid  
Horizontal Datum : WGS 84  
High unit : Meter  
Contour unit : Meter

INDEX LOCATION



LEGEND

EXISTING INFRASTRUCTURE

RIVER

- River Channel
- River
- One Line River

TRANSPORTATION

- Other Road
- Local Road
- Footpath

ADMINISTRATIVE

- Sub-District Boundary
- Village Boundary


INFRASTRUCTURE PLANNED

- Warehouse
- Warehouse Proses
- Farm Road

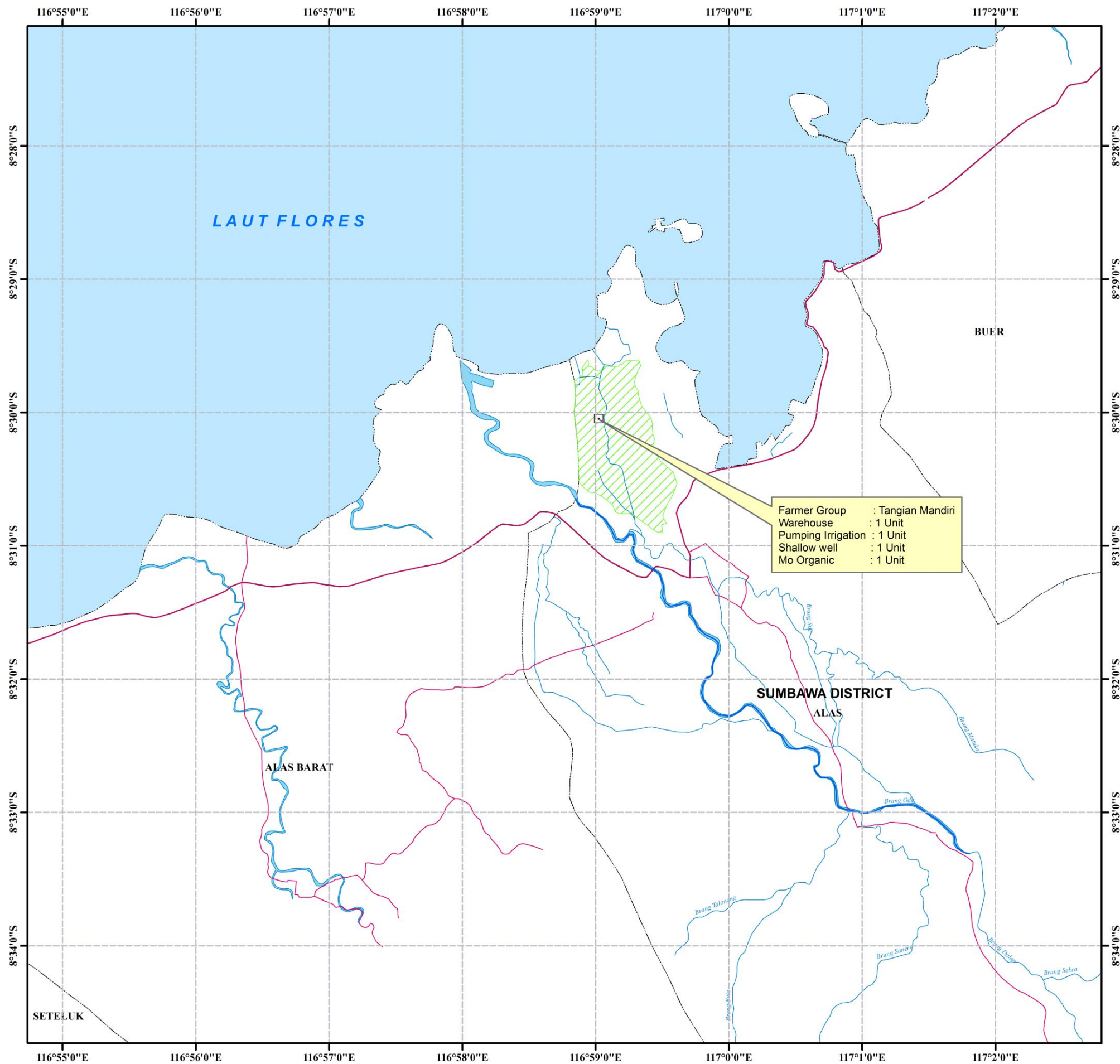
Garlic Seed Area


DATA SOURCE

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1: 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018




PT TETIRA International Consultants  
- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )





ISLAMIC DEVELOPMENT BANK ( IsDB ) GROUP  
Office 8, Jl. Sudirman Kav 52 - 53  
Senopati, Jakarta 12190, Indonesia  
(www.isdb.org)

COMMODITY LOCATION MAP( garlic seed )  
ALAS SUB-DISTRICT  
SUMBAWA DISTRICT

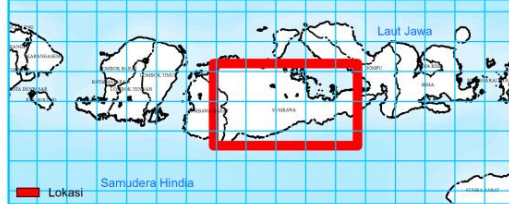


SCALE : 1 : 55.000

0 0,375 0,75 1,5 2,25 3 Kilometers

Projection : ..... Transverse Mercator  
Grid System : ..... Geography Grid  
Horizontal Datum : ..... WGS 84  
High unit : ..... Meter  
Contour unit : ..... Meter

INDEX LOCATION



**LEGEND**

**EXISTING INFRASTRUCTURE**

**RIVER**

- River Channel
- River
- One Line River

**TRANSPORTATION**

- Other Road
- Local Road
- Footpath

**ADMINISTRATIVE**


- Sub-District Boundary
- Village Boundary

**INFRASTRUCTURE PLANNED**

- ☒ Warehouse
- ☒ Warehouse Proses
- Farm Road

**DATA SOURCE**

- This map is made from basic map of BIG RBI maps 2015 on a scale of 1 : 25,000.
- Administrative boundaries are obtained from the local government.
- Thematic map information obtained from the Upland IsDB Consultant Team Survey in 2018



**PT TETIRA International Consultants**

- Wisma Pede 4 floor Jl. MT Haryono Kav. 17 Jakarta, 12810, Indonesia  
- Jl. Cipinang Muara Raya No.57, Jakarta 13420, Indonesia ( Wokshop )



Risks	Impact on Project	L	I	R	Mitigation	Residual risks (R)
price fluctuations affected by the market	Loss of production and deficit farmer income	L/VL	Si	MH	<ul style="list-style-type: none"> <li>The supply of seeds, fertilizers and pesticides and purchase of production is controlled by the same institution;</li> <li>The association (institution) seeks price stability.</li> </ul>	Lw - LM
there is a decrease in the weight of the shallot, between the weight of the harvest and the sale	Reduce production and farmer income	L	Mo	Me	<ul style="list-style-type: none"> <li>It is necessary to calculate the weight depreciation of production.</li> </ul>	LM
not all regions have qualified farmers in shallot farming	Production is not optimal	P	Mi	LM	<ul style="list-style-type: none"> <li>There needs to be assistance in processing land and farming systems.</li> </ul>	Lw
Weakness of O&M of building, infrastructures, transportation and machineris	Disfunction of building, infrastructures, transportation and machineris	P/L	Mo	LM	<ul style="list-style-type: none"> <li>clear SOP's and implemented with discipline</li> </ul>	Lw
Unfunctional of Association/UPT (Balai Benih)	Uncontrolled price stability	P	Si	MH	<ul style="list-style-type: none"> <li>strengthening alliances institutional development;</li> <li>need for guidance and close supervision;</li> <li>strengthening market linkages.</li> </ul>	Lw

## Summary Project Proposal Minahasa Selatan District – North Sulawesi

### 1. Socio Economic Condition



South Minahasa District is one district in North Sulawesi Province with capital in Amurang, covers area 1.454,64 km<sup>2</sup> consist of 17 sub-district and 177 villages. In 2016 average temperature was 26,67°C, humidity 84.17% and rain fall 207.75 mm.

The population in 2016 was 206,603 people with sex ratio 106,65 and population density was 142 people/km<sup>2</sup>. The working population is 89,811 people, consist of 710 whom are male and 26,101 female.

Labor force in 2015 was 96.420 people consist of who worked 89.811 people and unemployment 6.609 people. Related this data, Labor Force Participation Rate (LFPR) in 2015 was 63,34% and unemployment rate was

6,65, that is comparison of the number of unemployment to the number of forces work. Meanwhile, poverty line in 2016 was Rp 283,561 per capita per month and percentage of poor people was 9,92%.

Wetland area of South Minahasa District in 2016 was 5,491 hectares consist of half technical irrigation 3,572 hectares, village irrigation 1,490 hectares and rainfed 429 hectares. Furthermore, area of yard was 10,422 ha, dryland/upland was 54,473 ha and estate was 30,355 ha.

Harvested area of wetland paddy in 2016 was 11,432 ha with total production 60,938 tons and dryland paddy 395 ha with total production 1,032 tons. Harvested area of corn was 20,671 ha with total production 81,511 tons. Meanwhile, shallot, potato, cabbage and chinesecabbage only produced by Modinding Sub-district cover total harvested area was 4,328 ha with total production 100,988 tons.

Modinding Subdistrict is one of seventeen subdistricts in South Minahasa District that located in southern of the district area with elevation 1,000 – 1,200 meters above sea level. No irrigated area in this subdistrict, only upland area that produced vegetables for whole South Minahasa Area and other region such as Minahasa, Manado, Gorontalo, even Kalimantan, South and Central Sulawesi and Papua.

Modinding Subdistrict consist of 10 villages with total area 7122,25 ha, while total agriculture area in 2015 was 4,782 ha cover upland area 4.446 ha, forest area 240 ha, swamp 46 ha and others 50 ha.

### 2. Planned Commodity and Area

- The proposed commodity is Potato for industry on area 2,000 Ha with elevation 1,000 – 1,200 m above sea level. The location cover 10 villages in Modinding Subdistrict;

- The project is on existing area 4,446 Ha of vegetables including SupeJohn Potato (local variety). Kind of vegetables that already farmed by farmers, mainly are potato, carrot, cabbage, spring onion and garlic;
- Seed of potato for industry will be supplied from Garut District.

### **3. Beneficiaries**

- The targeted beneficiaries are about 2.179 farmers organized in 118 farmers groups and 321 women organized in 31 Women Farmer Groups (see Attachment of Farmer Groups);
- Women groups of farmer household will take role in potato processing.

### **4. Project Concept Farmer Group and Kube**

- 118 Farmer Group of project participants will be organized in 10 Gapoktan (*Gabungan Kelompok Tani*). One village one Gapoktan. Each Gapoktan consist of 10 – 15 Farmer Group, each Farmer Group consist of 10 – 25 Farmers (see Attachment of Farmer Groups);
- This Kube is a part of Bumdes (Badan Usaha Milik Desa) that now already established. In Indonesia, Bumdes is a program of Government especially *Kementerian Desa, Pembangunan Daerah Tertinggal dan Transmigrasi* based on *UU Desa No. 6 Tahun 2014 tentang Desa*;
- At the present, all of 10 project participant villages already have Bumdes with a little activity.

### **Commodity Flow**

- Potato of project will be cultivated by participant farmers, then the farmers will sell all of the product through Kube. Furthermore, Kube will grades those potatoes. It is estimated that 80% of project potatoes are High Grade dan 20% are Low Grade;
- High grade potato will be sold to industry through BLUD (Badan Layanan Umum Daerah);
- Meanwhile, the low grade of potato would be processed by KUBE to be potato chips or other processed products;
- Most of those processed potatoes, would be sold to local market, modern retailer (Indomart, Alfamart, etc) and tourism market through cooperative Sub District level and small part would be directly sold by KUBE to the above markets.

**Table 1. The Number of Participants**

No	Sub-District	Village	No.	Farmers Group		
				Name	Number of Members	Area (ha)
1	Modoinding	1. Pinasungkulan Utara	1	Matuari	15	18,00
			2	Tani Jaya	12	15,00
			3	Sanubari	10	15,00
			4	Makapetor	20	18,00
			5	Triko Jaya	22	20,00
			6	Matuari Waya	25	20,00
			7	Serba Bisa	20	18,00
			8	Maesaan	25	20,00
			9	Suka Maju	20	20,00
			10	Tumou Tou	15	18,00
			11	Maju Bersama	15	18,00
		<b>Total</b>		<b>11</b>	<b>199</b>	<b>200,00</b>
		2. Pinasungkulan	1	Anugera	15	15,00
			2	Karya Bersama	20	18,00
			3	Maju Bersama	25	20,00
			4	Matuari	20	18,00
			5	Prisma	20	18,00
			6	Syalom	15	15,00
			7	Bersinar	15	15,00
			8	Tunas Muda	15	14,00
			9	Suka Maju	15	15,00
			10	Prisma Tani	20	18,00
			11	Esa Waya	20	18,00
			12	Citra Abadi	15	15,00
			13	Kembang Tani	15	15,00
			14	Tiberias	20	18,00
			15	Sinar Harapan	20	18,00
		<b>Total</b>		<b>15</b>	<b>270</b>	<b>250,00</b>
		3. Makaaruyen	1	Makaruyen Indah	20	17,00
			2	Sejahtera	21	17,00
			3	Didian	12	15,00
			4	Modopolag	15	15,00
			5	Maesaan	20	18,00
			6	Syalom	25	20,00
			7	Karaya Sejahtera	20	18,00
			8	Matuari	25	20,00
			9	Mawar	20	18,00
			10	Permata	15	17,00
			11	Anugera	12	15,00
			12	Bunga Kentang	25	20,00
			13	Wuata	25	20,00
			14	Makaaroyen II	24	20,00
		<b>Total</b>		<b>14</b>	<b>279</b>	<b>250,00</b>
		4. Palelon	1	Malilian	20	20,00
			2	Masawangan	19	20,00
			3	Maesaan	17	20,00
			4	Esa Kamang	18	20,00
			5	Penabur	25	24,00
			6	Esa Waya 4	18	20,00
			7	Mandiri	20	20,00
			8	Cahaya Pelita	25	24,00

No	Sub-District	Village	No.	Farmers Group		
				Name	Number of Members	Area (ha)
			9	Tani Abadi	20	20,00
			10	Bunga Kentang	20	20,00
			11	Palelon Jaya	20	20,00
			12	Boswisen	24	22,00
		Total		12	246	250,00
		5. Wulurmaat	1	Sibow	23	22,00
			2	Waya	25	24,00
			3	Esa Waya 1	21	20,00
			4	Esa Waya 2	16	18,00
			5	Esa Waya 3	18	20,00
			6	Esa Waya 4	18	20,00
			7	Cita Waya	25	25,00
			8	Matuari Waya	24	25,00
			9	Imanuel	15	16,00
			10	Bunga Kentang	23	22,00
			11	Esa Genang	16	18,00
			12	Narwastu	20	20,00
		Total		12	244	250,00
		6. Mokobang	1	Masawangan	23	10,00
			2	Karya	23	10,00
			3	Teguh Bersinar	25	12,00
			4	Usaha Maju	20	10,00
			5	Teguh Bersinar Jaya	21	10,00
			6	Mitra Tani	20	10,00
			7	Maesaan	21	10,00
			8	Melati	20	10,00
			9	Sinar Tani	23	10,00
			10	Maando	16	8,00
		Total		10	212	100,00
		7. Sinsir	1	Esa Genang	15	14,00
			2	Matuari	15	14,00
			3	Wiraswasta	20	16,00
			4	Penabur	20	16,00
			5	Doluong	15	14,00
			6	Anugerah	15	14,00
			7	Berkarya	15	14,00
			8	Buah Hati	15	14,00
			9	Esa Karya	20	16,00
			10	Karya Usaha	20	18,00
		Total		10	170	150,00
		8. Kakenturan Barat	1	Karya Usaha	15	14,00
			2	Doluong	15	18,00
			3	Kakenturan Indah	15	10,00
			4	Rejeki	15	12,00
			5	Mapalus Jaya	15	12,00
			6	Moyobua	15	12,00
			7	Madu	15	14,00
			8	Tumoutou	15	12,00
			9	Lobo	15	12,00
			10	Usaha Bersama	15	12,00
			11	Tumoutou I	15	12,00
			12	Berkarya	15	10,00
		Total		12	180	150,00

No	Sub-District	Village	No.	Farmers Group		
				Name	Number of Members	Area (ha)
		9. Kakenturan	1	Mapalus	15	14,00
			2	Saruntawaya	15	12,00
			3	Bersama	15	14,00
			4	Ma'Tawoi	15	12,00
			5	Mawar	15	14,00
			6	Bolang	15	12,00
			7	Gunung Payung	15	14,00
			8	Berkarya	25	20,00
			9	Masawangan	24	18,00
			10	Mawali-wali	25	20,00
		Total		10	179	150,00
		10. Linelean	1	Tagoy	20	22,00
			2	Anugrah	15	20,00
			3	Melati	15	20,00
			4	Kemala	15	21,00
			5	Maesaan	15	20,00
			6	Betania	20	22,00
			7	Barito	20	22,00
			8	Permata	15	20,00
			9	Pinawali-Walian	15	20,00
			10	Tani Jaya	15	20,00
			11	Donata	20	22,00
			12	Anggora	15	21,00
		Total		12	200	250,00
Total	1	10		118	2.179	2.000,00

Value chain for Minahasa Selatan District is at Attachment-1

## 5. Proposed Land & Infrastructure Development

### 5.1. Construction of Terraces 500 Ha

### 5.2. Physical Infrastructure

Proposed physical infrastructures is in Table below.

**Table 2. Proposed Infrastructures for Industry Potato, South Minahasa District**

No,	Village	Access Road (Km)	Farm Pond/ Embung (Unit)	Deep Well (Unit)	Small dam/ Reservoir (Unit)	Warehouse+ Processing house of KUBE (Unit)	Warehouse/ Packing/ Grading of BLUD (Unit)
1.	Mokobang	2	3	5	3	1	-
2.	Wulurmaatut	1	2	1	1	1	1
3.	Palelon	-	2	9	2	1	-
4.	Makaaroyen	1	2	1	3	1	-
5.	Pinasungkulan Utara	2	3	2	1	1	-
6.	Pinasungkulan	2	2	2	1	1	-
7.	Sinisir	2	2	1	1	1	-
8.	Kakenturan Barat	1	1	2	1	1	-
9.	Kakenturan	1	2	1	1	1	-
10.	Linelean	1	1	2	1	1	1
Total		13	20	26	15	10	2



## **6. Proposed Production and Farm Management**

### **6.1. Crop input of potato 2.000 Ha**

#### **6.2. Agricultural Machinery**

- a. Cultivator 500 units;
- b. Power sprayer/hand power sprayer electric 2.197 units;
- c. Powered hand harvesting equipment 100 units;
- d. Post-harvest handling equipment 10 package;
- e. Tractors & trailers 10 units.

#### **6.3. Marketing Infrastructure & Equipment**

##### **a. Building/Storage**

- Warehouse (of KUBE) 10 units;
- Processing House (of KUBE) 10 units;
- Central warehouse (of BLUD) 1 unit;
- Central Grading and Packing House (of BLUD) 1 unit;
- Primary commodity centre (office, display room, meeting room) of BLUD 1 unit.

##### **b. Processing Facilities**

- Post-Harvest Handling;
  - 50-ton weigh bridge 2 units;
  - Containers (bins) 11,000;
  - Packaging machines 22 units;
- Processing of Potato;
  - Processing equipment 10 packages.

##### **c. Transportation Units;**

- Truck (of KUBE) 10 units;
- Truck (of BLUD) 1 unit;
- 3-wheeled vehicles (of KUBE) 20 units;

## **7. Proposed Training and Capacity Building Activities**

- Extension, Demonstration & Support 4 packages;
- Farmer Federation Development including KUBE and BLUD 4 packages;
- Capacity Building for Government Staff 4 packages.

## **8. Map of Proposed Agriculture Infrastructure and Facilities**

Map of proposed agriculture infrastructure and facilities for Minahasa Selatan District is present on Attachment-2.

## **9. Cost-tab for Minahasa Selatan District**

Cost-tab of the project for Minahasa Selatan District is shown on Attachment-3

## 10. Risk Assessment of the program and Mitigation Measures – POTATO FOR INDUSTRY

Risks	Impact on Project	L	I	R	Mitigation	Residual risks (R)
Land tenure security	Access to finance	P	Si	Me	<ul style="list-style-type: none"> <li>Village title and statement of commercial arrangement</li> </ul>	Lw
Water security	<ul style="list-style-type: none"> <li>Impacting on productivity</li> </ul>	L	Si	Me	<ul style="list-style-type: none"> <li>Focus on existing schemes with authorized offtake</li> <li>Concentration on water use efficiency based on GAP</li> </ul>	Me
Irrigation water supply	<ul style="list-style-type: none"> <li>Impacting on productivity would be decreased</li> </ul>	L	Si	Me	<ul style="list-style-type: none"> <li>Provide irrigation water infrastructure according to the potential of the project location</li> </ul>	Me
Grower uptake	<ul style="list-style-type: none"> <li>Impacting on processing viability</li> </ul>	P	Mo	Me	<ul style="list-style-type: none"> <li>Good basis of crop production and market</li> <li>Improved profitability due to GAP</li> <li>Extension officers and farmers trained</li> </ul>	Lw
Private sector involvement	<ul style="list-style-type: none"> <li>Management capacity for processing</li> <li>Limited investment from private sector</li> </ul>	P	Mo	Me	<ul style="list-style-type: none"> <li>Implementation of BLUD system</li> <li>Management training</li> </ul>	Lw
Workplace safety, equipment	<ul style="list-style-type: none"> <li>Injury to farmers</li> </ul>	P	Mi	Me	<ul style="list-style-type: none"> <li>Training for operator</li> </ul>	Lw
Landslips and erosion	<ul style="list-style-type: none"> <li>Damage to the farming environment</li> </ul>	P	Mi	Me	<ul style="list-style-type: none"> <li>Land development strategies</li> <li>Selection of suitable, existing farm land</li> </ul>	Lw
Market volatility	<ul style="list-style-type: none"> <li>Farmers lose interest in the crop</li> </ul>	P	Me	Me	<ul style="list-style-type: none"> <li>Production of high value end products</li> <li>Development of new markets</li> <li>Shorten VC to increase return</li> </ul>	Me
Change in government policy	<ul style="list-style-type: none"> <li>Impact on the market and price</li> </ul>	P	Me	Me	<ul style="list-style-type: none"> <li>Farmers supported to be competitive in the market</li> </ul>	Me
Viability of marketing infrastructure and equipment	<ul style="list-style-type: none"> <li>Financing, who will invest in the facility.</li> <li>Insufficient quality and quantity of potato to supply the facility</li> </ul>	L	Me	Me	<ul style="list-style-type: none"> <li>Indepth feasibility and business assessment before processing.</li> <li>Expand the supply base of quality potato.</li> </ul>	Me

### Note:

L : Likelihood (Very Unlikely/VU, Unlikely/U, Possible/P, Likely/L, Very Likely/VL);

I : Impact level (Negligible/N, Minor/Mi, Moderate/Mo, Significant/Si, Severe/Sv);

R : Risk level (combination of likelihood and impact level) = Low (Lw), Low-Medium (LM), Medium (Me), Medium-High (MH), High (H).

**Attachement 1.**  
**Documentation of Assessment and Validation Project Location at South Minahasa District**



FGD at Dinas Minahasa Selatan



Water Spring for Dam



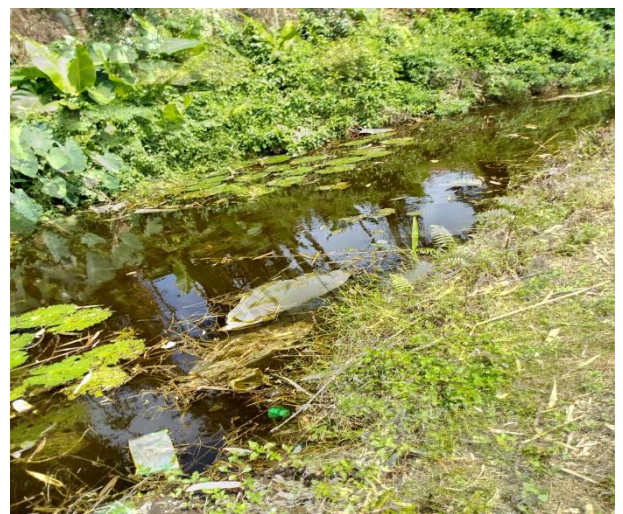
Potato Land (Project Area)



Potato Farm



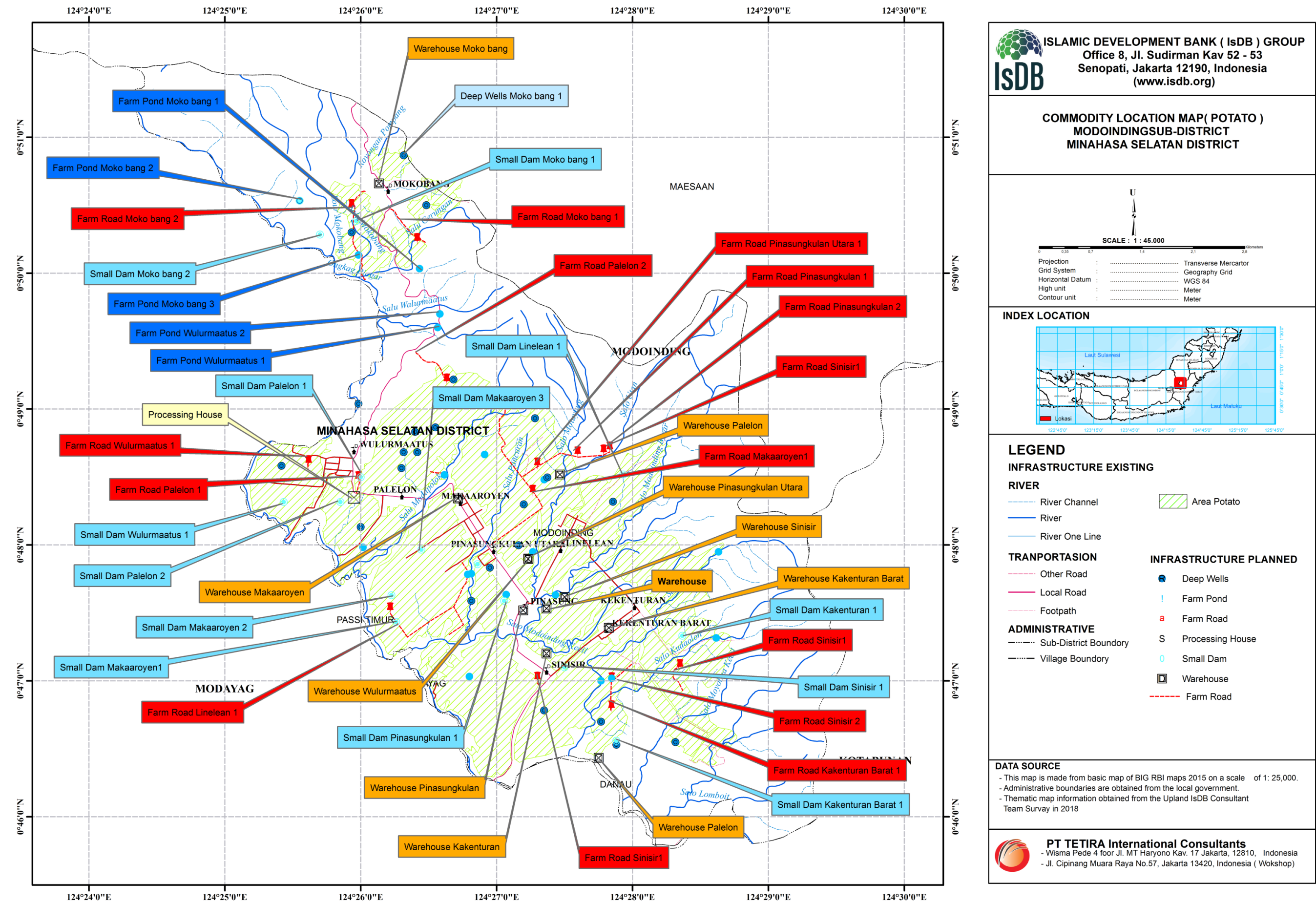
Potato Land



Water Spring for Dam



Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities of Minahasa Selatan District



## Summary Pilot Project Proposal Gorontalo District

### 1. Socio Economic Condition



Land area of Gorontalo District is 2,125.47 Km<sup>2</sup> consist of 19 sub-district and 205 villages with capital in Limboto. Average height is 50 meters above sea level. During 2016, average temperature was 27.3°C, number of rainy days was 174 days/year and the humidity was 79.4%. The population in 2016 was 392,673 people with sex ratio 101,30 and population density was 185 people/Km<sup>2</sup>. Number of head of family was 117,183 persons with the average number of family members was 3,35 persons/family. Meanwhile, poverty line in

2016 was Rp 368,863/capita/ month and percentage of poor people was 21,03%. Related to employment, Economically Active Participation Rate in 2015 was 61,63 and the Open Unemployment Rate was 3.62.

Potential land or wetland area of Gorontalo District in 2016 was 17,008 hectares consist of irrigation land 11,588 hectares, rainfed 2,700 hectares and tidal land 10 hectares. Main commodities in Gorontalo District are paddy, corn, and coconut. Paddy only planted in irrigation area with frequency 2 – 3 times a year, harvesting area in 2016 was 29,817.3 hectares. Corn was planted both in wetland and rainfed area with harvesting area in same year was 60,896.5 hectares. Meanwhile, most of coconut was be planted in upland with plant area in 2016 was 31,596.50 hectares.

Pulubala Sub-district is one of nineteen sub-districts in Gorontalo District with area 240,57 km<sup>2</sup> and 26,196 people of population. This sub-district has 11 villages, one of them is Bakti Village with population 3.130 people in area 39 km<sup>2</sup>.

### 2. Planned Commodity and Area

- The proposed pilot project commodity is Gapi Banana (local variety) on area 20 Ha in Bakti Village, Pulubala Sub-district, Gorontalo District;
- Gapi Banana is local variety that has begun to be promoted by district government on each event because they thought has good market prospect, both local dan export market.

### 3. Beneficiaries

- The targeted beneficiaries of the pilot project are 26 participant farmers;
- Some women will be involve in banana processing activities.

### 4. Project Concept

#### Farmer Group and BLUD

- 26 participant farmers will be organized in 6 Farmer Groups;
- For post-harvest handling and marketing purpose, each the Farmers Groups would be directly work with the BLUD.



## Commodity Flow

- Banana of pilot project will be cultivated by participant farmers, then the farmers will sell all of the product directly to BLUD through Farmer Group;
- Furthermore, BLUD will handle, grade, and packing of those fresh bananas. It is estimated that high grade of banana about 80% and low grade is 20%;
- As much as 50% of high-grade banana would be sold to inter-island market and export, then 30% for local market such as modern retail (Indomart, Alfamart, etc), local market (Gorontalo, Manado, Ambon and Ternate) and Tourism Market;
- Meanwhile, 20% low grade banana would be processed to be banana chips, *Banana Sale*, or others potato processed. This activity would involve Women Farmer Groups (WFG);
- Those bananas processed would be sold at local market;
- To ensure that banana marketing running well, it would be supported by A Successful Team For *Gapi* Banana Marketing.

## Value chain for Gorontalo District is at Attachement-1

### 5. Proposed Land &Infrastructure Development

#### 5.1. Construction of Terraces:

#### 5.2. Physical Infrastructure

- a. Farm pond/embung: 2 units;
- b. Main reservoir tanks 2 unit;
- c. Secondary reservoir tanks 8 units;
- d. Connector pipes 3,600 m;
- e. Access/farm road 3,000 meters.

### 6. Proposed Production and Farm Management

#### 6.1. Crop input of *Gapi* Baanana 20 Ha.

#### 5.2. Agricultural Machinery

- f. Cultivator:8 units;
- g. Power sprayer/hand power sprayer electric:26 units;
- h. Hoe/*Cangkul*: 26 units;
- i. Sickle/*sabit*: 26 unit;
- j. Water pump of Embung: 2 units.

#### 5.3. Marketing Infrastructure & Equipment

- a. Building/Storage
  - Packinghouse & Warehouse :1 unit;
  - Cold storage/ripening house: 1 units;
  - Cold storage unit: 1 unit;
  - Ripening unit: 1 unit;
  - Processing house: 1 unit;
  - Shallow wells: 1 unit;
  - Stand Room (display room).

b. Processing Facilities

- Post-Harvest Handling;
  - Banana covers: 20.000 units;
  - Barrow/*gerobak dorong*: 26 units;
- Processing of Potato;
  - Processing equipment 1 packages.

c. Transportation Units

- Truck: 1 unit;
- 3-wheeled vehicles FG: 8 units;
- Trail bike (to monitor banana farm): 2 units.

**7. Extension Services and Training**

- Extension worker: 36 months;
- Comparative study: 35 persons.

**8. Map of Proposed Agriculture Infrastructure and Facilities**

Map of proposed agriculture infrastructure and facilities for Gorontalo District is present on **Attachement-2**.

**9. Cost-tab for Minahasa Selatan District**

Cost-tab of the project for Gorontalo District is shown on **Attachement-3**

## Attachement 1. Documentation of Assessment and Validation Project Location at Gorontalo District



FGD at Village of Bakti



Project Area (Banana Demplot)



Interview with Farmer Group



Access Farm Road



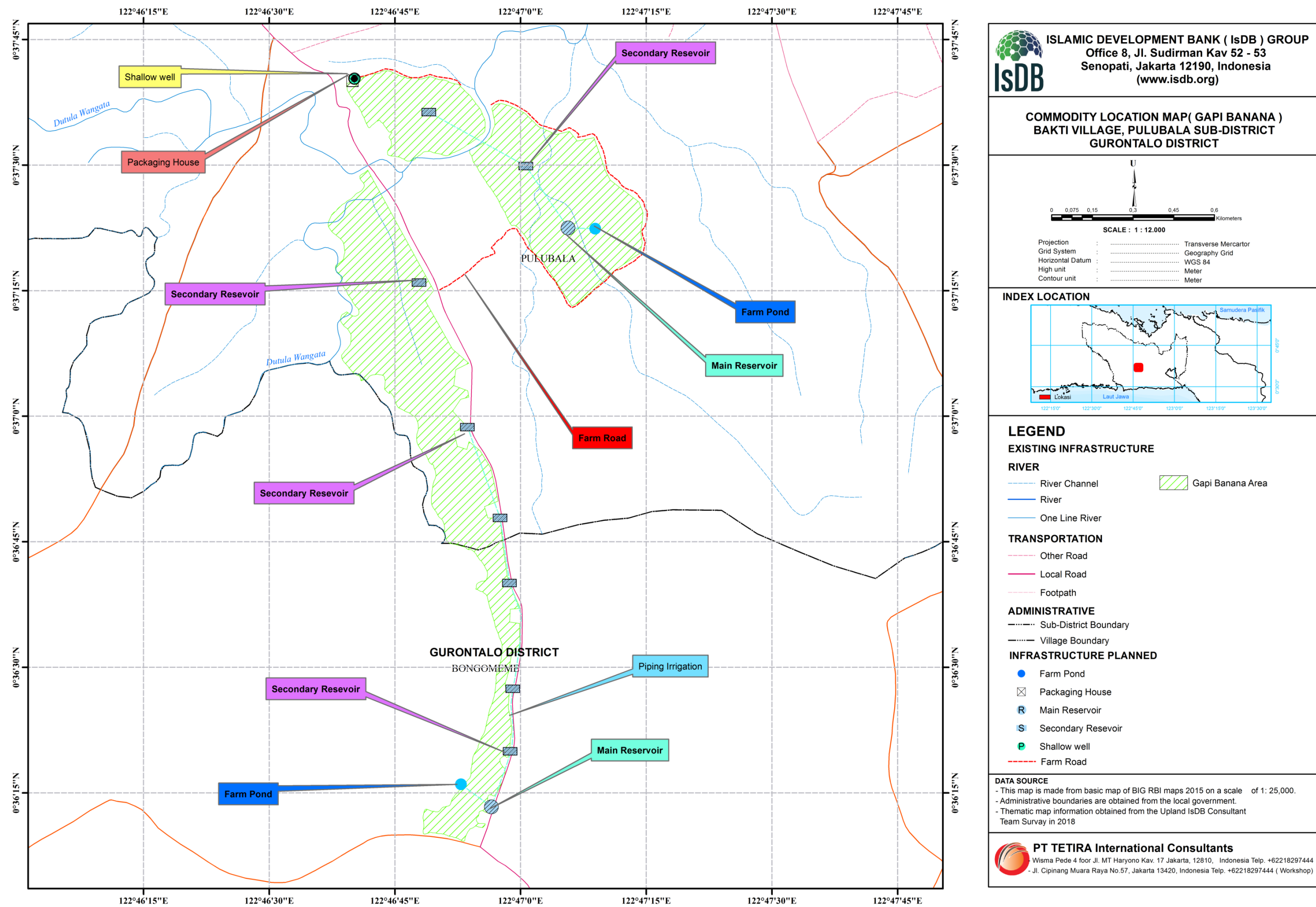
Project Area (Banana Demplot)



GAPI Banana



Attachement 2. Map of Proposed Agriculture Infrastructure and Facilities of Gorontalo District



**Annex 7.A.**  
**Recapitulation Costab for 14 district and NPMU**

No	Components	IDR (000)	USD (000)
1	Infrastructure Development for Productivity Enhancement & Resilience Building	<b>938,496,065</b>	<b>66,560</b>
1.1.	Land Infrastructure and Development	415,814,965	29,490
1.2.	Production and Farm Management	522,681,100	37,070
2	Agri-business and Livelihoods Facilitation	<b>403,733,197</b>	<b>28,634</b>
2.1.	Farmer Institutional Development	107,218,958	7,604
2.2.	Market Infrastructure & Equipment	233,849,603	16,585
2.3	Strengthening Market Linkage & Alliances	13,784,000	978
2.4.	Access to Financial Services	48,880,636	3,467
3	Strengthening Institutional Delivery Systems	<b>32,242,300</b>	<b>2,287</b>
3.1.	Capacity building and institutional development of MOA and Districts	28,242,300	2,003
3.2.	Adaptive Research	4,000,000	284
4	Project Management Support	<b>159,412,890</b>	<b>11,306</b>
4.1.	Project Management and Implementation Units	44,982,250	3,190
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)	114,430,640	8,116
	<b>TOTAL COST</b>	<b>1,533,884,452</b>	<b>108,786</b>

**Annex 7.B.**  
**Lebak District (Mangosteen, existing area 89 ha and new planting area 331,6 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
1	Infrastructure Development for Productivity Enhancement & Resilience Building					
1.1.	<b>Land Infrastructure and Development</b>					
	Land Terracing					
	Land Clearing & land preparation (including terracing)	ha	331.6	8,000	2,652,800	188.1
	Small Dams	unit	6	120,000	720,000	51.1
	Solar Pumps	package	4	300,000	1,200,000	85.1
	Drip Irrigation	ha	332	25,000	8,290,000	587.9
	Access/farm road	km	38	200,000	7,500,000	531.9
	Waterways for irrigation (pipe lines)	km	7	30,000	210,000	14.9
	Water reservoir	unit	12	35,000	420,000	29.8
	<b>Subtotal 1.1.</b>				<b>20,992,800</b>	<b>1,489</b>
1.2.	<b>Production and Farm Management</b>					
a	<b>Extension, Demonstration Support</b>					
	Extension & Demonstration					
	Development and operational of mangosteen demonstration plots	package	4	30,000	120,000	8.5
	Extention area					
	- Seedlings	Seedlings	36,476	125	4,559,500	323.4
	- Orgnic Fertilizer	kg	663,200	2.0	1,326,400	94.1
	- Chemical Fertilizer	kg	207,250	4	829,000	58.8
	- Pesticides	liter	829	150	124,350	8.8
	Existing area					
	- Organic fertilizer	kg	1,780,000	2	2,670,000	189.4
	- Chemical fertilizer	kg	133,500	4	534,000	37.9
	- Pesticide	litre	890	150	133,500	9.5
	Subtotal				10,296,750	730.3
b	<b>Extension Services</b>					
	Extension staff	month	240	2,250	540,000	38.3
	M. Bike fuel allowance	motorcye	10	1,500	15,000	1.1
	Subtotal				555,000	39.4
c	<b>Agricultural Machinery</b>					
	Power Sprayers	unit	24	30,000	720,000	51.1
	Hand Sprayers	unit	48	500	24,000	1.7
	Motor Mower	unit	48	2,750	132,000	9.4
	Pruning & Harvesting Equipment	unit	2,250	100	225,000	16.0
	Subtotal				1,101,000	78.1
	<b>Subtotal 1.2.</b>				<b>11,952,750</b>	<b>847.7</b>
2	Agri-business and Livelihoods Facilitation					
2.1.	<b>Farmer Institutional Development</b>					
a	Capacity building for Farmers	courses person	1,992	500	996,000	70.6
b	Farmer Federation Development (KUBE)	package	6	130,000	780,000	55.3
c	Village Facilitator					
	- Village Facilitators	month	432	3,000	1,296,000	91.9
	- Sub-District VF Coordinator	month	108	10,950	1,182,600	83.9
	- District VF Manager	month	54	17,500	945,000	67.0
	Subtotal				3,423,600	242.8
	<b>Subtotal 2.1.</b>				<b>5,199,600</b>	<b>368.8</b>
2.2.	<b>Market Infrastructure &amp; Equipment</b>					
a	<b>Building &amp; Storage</b>					
	KUBE Warehouse /a	unit	2	250,000	500,000	35.5
	Fruit handling unit building (KUBE)	unit	2	1,300,000	2,600,000	184.4
	Processing unit building (KUBE)	unit	2	1,300,000	2,600,000	184.4
	Postharvest handling building (Farmer Group)	unit	6	600,000	3,600,000	255.3
	Central Chilled Warehouse /b	unit				
	Processing Facility Warehouse (BLUD)	unit				
	Primary Commodity Centre	unit				
	Subtotal				9,300,000	659.6



Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>b</b>	<b>Processing Facility</b>					
	Digital Scale (Farmer group postharvest handling unit)	unit	6	5,000	30,000	2.1
	Digital Scale (KUBE)	unit	2	5,000	10,000	0.7
	Sorting and Packaging (fresh) equipment	unit	2	70,000	140,000	9.9
	Processing and Packaging equipment	unit	2	1,000,000	2,000,000	141.8
	Fruit boxes (plastic container, cap: 20 kg)	box	1854	60	111,250	7.9
	Subtotal				2,291,250	162.5
<b>c</b>	<b>Transporation facilities</b>					
	Truck	Unit	1	350,000	350,000	24.8
	3-wheeled vehicles	unit	14	35,000	490,000	34.8
	Subtotal				840,000	59.6
	<b>Subtotal 2.2.</b>				<b>12,431,250</b>	<b>881.6</b>
2.3	Strengthening Market Linkage & Alliances					
	Institutional Development	package	4	500,000	2,000,000	141.8
2.4.	Access to Financial Services	ha	421	2,260	950,556	67.4
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
3.1.	Capacity building and institutional development of MOA and Districts					
	Capacity building for Gov Staff (Dinas)	courses person	150	500	75,000	5.3
3.2.	Adaptive Research					
<b>4</b>	<b>Project Management Support</b>					
4.1.	Project Management and Implementation Units					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23.30
	Deputy Project Manager	month	60	4,900	294,000	20.85
	Financial Management Officer	month	60	2,800	168,000	11.91
	Procurement Officer	month	60	2,800	168,000	11.91
	M&E Officer	month	60	2,800	168,000	11.91
	Computer Operator	month	60	2,585	155,100	11.00
	Driver	month	60	2,250	135,000	9.57
	Subtotal				1,416,600	100.47
<b>b</b>	<b>District Operating Costs</b>					
	Communications	month	60	1,125	67,500	4.79
	TRavel Allowances	district	5	220,000	1,100,000	78.01
	Office consumables	district	5	20,250	101,250	7.18
	Vehicle O&M	district	5	29,000	145,000	10.28
	Motorcycle O&M	bike	25	1,530	38,250	2.71
	Subtotal				1,452,000	102.98
	<b>Subtotal 4.1.</b>				<b>2,868,600</b>	<b>203.45</b>
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
<b>a</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	month	8	47,160	377,280	26.76
	Capacity Building Specialist	month	16	47,160	754,560	53.51
	Water Mgt & Irrigation Specialist	month	16	47,160	754,560	53.51
	Business Devt Specialist	month	8	47,160	377,280	26.76
	Microfinance Specialist	month	12	47,160	565,920	40.14
	Enviro & Social Monitoring Specialist	month	8	47,160	377,280	26.76
	Subtotal				3,206,880	227.4
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13.38
	Lead Engineer/Regional Team Leader				-	
	Procurement Specialist	month	12	47,160	565,920	40.14
	Civil Engineer	month	17	47,160	801,720	56.86
	Water & Irrigation Engineer	month	17	47,160	801,720	56.86
	Surveyor	month	5	47,160	235,800	16.72
	Subtotal				2,593,800	183.96
	<b>Subtotal 4.2.</b>				<b>5,800,680</b>	<b>411.4</b>
	<b>TOTAL COST</b>				<b>62,271,236</b>	<b>4,416</b>

**Annex 7.C.**  
**Tasik District (Organic Rice, area 500 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
1	Infrastructure Development for Productivity Enhancement & Resilience Building					
1.1.	<b>Land Infrastructure and Development</b>					
	Land development & soil conservation	ha	500	2,000	1,000,000	70.92
	Pipe Irrigation	unit	3	100,000	300,000	21.28
	Farm Ponds	unit	8	240,000	1,920,000	136.17
	Rehabilitation of Tertiary System	ha	500	6,497	3,248,500	230.39
	Access/farm road	km	10	350,000	3,500,000	248.23
	Water Filter Reservoir	m2	5,000	200	1,000,000	70.92
	Artesian Well (Sumur Bor)	unit	5	20,000	100,000	7.09
	<b>Subtotal 1.1.</b>				<b>11,068,500</b>	<b>785.00</b>
1.2.	<b>Production and Farm Management</b>					
a	1. Extension, Demonstration Support					
	Extension & Demonstration	package	4	146,000	584,000	41.42
	Seeds, Fertilizer & Pesticides	ha	500	6,000	3,000,000	212.77
	Organic Rice Certification	unit				
	Organic Fertilizer Processing Unit	unit	8	250,000	2,000,000	141.84
	Subtotal				5,584,000	396.03
b	2. Extension Services					
	Extension staff	month	486	2,250	1,093,500	77.55
	M. Bike fuel allowance	motorcye	45	1,460	65,700	4.66
	Subtotal				1,159,200	82
c	3. Agricultural Machinery					
	Hand Tractor	unit	4	25,000	100,000	7.09
	Rotary Hand Tractors	unit	4	40,000	160,000	11.35
	Power Weeder	unit	4	10,000	40,000	2.84
	Paddy Mower	unit	4	3,000	12,000	0.85
	Power Sprayer	unit	4	30,000	120,000	8.51
	IPM Equipment	Package	4	40,000	160,000	11.35
	Power Thresher	unit	4	25,000	100,000	7.09
	Subtotal				692,000	49
	<b>Subtotal 1.2.</b>				<b>7,435,200</b>	<b>527.3</b>
2	Agri-business and Livelihoods Facilitation					
2.1.	<b>Farmer Institutional Development</b>					
	1. Capacity building for Farmers	courses person	2176	500	1,088,000	77.16
	2. Farmer Federation Development (KUBE)	package	4	146,000	584,000	41.42
	3. Village Facilitator					
	- Village Facilitators	month	240	3,400	816,000	57.87
	- District VF Manager	month	60	17,500	1,050,000	74.47
	Subtotal				1,866,000	132.3
	<b>Subtotal 2.1.</b>				<b>3,538,000</b>	<b>250.9</b>
2.2.	<b>Market Infrastructure &amp; Equipment</b>					
a	Building & Storage					
	Machinery sheds - equipment, O&M, storage /a	unit	2	250,000	500,000	35.46
	Cooperative collection centre	unit	2	500,000	1,000,000	70.92
	Central Cooperative Warehouse	unit	1	1,000,000	1,000,000	70.92
	Primary Commodity Centre	unit	1	730,000	730,000	51.77
	Subtotal				3,230,000	229
b	Rice Processing Facility					
	Vertical Dryer	unit	1	800,000	800,000	56.74
	Rice Milling Unit & Equipment	package	1	1,540,000	1,540,000	109.22
	Packaging Equipment /b	unit	1	1,039,000	1,039,000	73.69
	Subtotal				3,379,000	240

Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>c</b>	<b>Transportation facilities</b>					
	Truck	Unit	2	350,000	700,000	49.65
	3-wheeled vehicles	unit	8	35,000	280,000	19.86
	Subtotal				980,000	70
<b>d</b>	<b>Organic Rice Certification</b>	unit	1	500,000	500,000	35.46
	<b>Subtotal 2.2.</b>				<b>8,089,000</b>	<b>574</b>
2.3	Strengthening Market Linkage & Alliances					
	Institutional Development	package	1	730,000	<b>730,000</b>	51.77
2.4.	Access to Financial Services	ha	500	2,260	<b>1,130,000</b>	80.14
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
3.1.	Capacity building and institutional development of MOA and Districts					
	Capacity building for Gov Staff (Dinas)	courses person	320	500	<b>160,000</b>	11.35
3.2.	Adaptive Research					
<b>4</b>	<b>Project Management Support</b>					
4.1.	Project Management and Implementation Units					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23.30
	Deputy Project Manager	month	60	4,900	294,000	20.85
	Financial Management Officer	month	60	2,800	168,000	11.91
	Procurement Officer	month	60	2,800	168,000	11.91
	M&E Officer	month	60	2,800	168,000	11.91
	Computer Operator	month	60	2,585	155,100	11.00
	Driver	month	60	2,250	135,000	9.57
	Subtotal				1,416,600	100
<b>b</b>	<b>District Operating Costs</b>					
	Communications	month	60	1,125	67,500	4.79
	Travel Allowances	district	5	220,000	1,100,000	78.01
	Office consumables	district	5	20,250	101,250	7.18
	Vehicle O&M	district	5	29,000	145,000	10.28
	Motorcycle O&M	bike	25	1,530	38,250	2.71
	Subtotal				1,452,000	103
	<b>Subtotal 4.1.</b>				<b>2,868,600</b>	<b>203</b>
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
<b>a</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	month	8	47,160	377,280	26.76
	Organic Rice Agronomist	month	18	47,160	848,880	60.20
	Capacity Building Specialist	month	16	47,160	754,560	53.51
	Water Mgt & Irrigation Specialist	month	16	47,160	754,560	53.51
	Business Devt Specialist	month	8	47,160	377,280	26.76
	Microfinance Specialist	month	4	47,160	188,640	13.38
	Enviro & Social Monitoring Specialist	month	8	47,160	377,280	26.76
	Subtotal				3,678,480	260.9
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13.38
	Lead Engineer/Regional Team Leader				-	-
	Procurement Specialist	month	12	47,160	565,920	40.1
	Civil Engineer	month	17	47,160	801,720	56.9
	Water & Irrigation Engineer	month	17	47,160	801,720	56.9
	Surveyor	month	5	47,160	235,800	16.7
	Subtotal				2,593,800	184.0
	<b>Subtotal 4.2.</b>				<b>6,272,280</b>	<b>444.8</b>
	<b>TOTAL COST</b>				<b>41,291,580</b>	<b>2,928.5</b>

**Annex 7.D.**  
**Subang District (Mangosteen, existing area 500 ha and new planting area 1,504 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>1. Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
	<b>1.1. Land and Infrastructure Development</b>					
	<b>A. Physical Infrastructure</b>					
	Land Terracing	ha	400	6,000	2,400,000	170.2
	Farm Ponds	unit	11	80,000	880,000	62.4
	Small Farm Ponds	unit	16	80,000	1,280,000	90.8
	Small Dams	unit	34	240,000	8,160,000	578.7
	Drip Irrigation	ha	2,004	10,400	20,841,600	1,478.1
	Access/farm road	km	33	350,000	11,550,000	819.1
	<b>B. Water Storage Facilities</b>					
	Water Reservoir	unit	76	12,833	975,308	69.2
	Water Pump 4"	unit	66	23,722	1,565,645	111.0
	Water Pump 3"	unit	28	17,429	488,012	34.6
	Water Pipe 2.1/2"	m	6,800	146.20	248,540	17.6
	Water Pipe 3"	m	24,600	208.52	1,282,398	91.0
	Water Pipe 4"	m	13,400	303.92	1,018,132	72.2
	<b>Subtotal</b>				<b>50,689,635</b>	<b>3,595</b>
	<b>1.2. Production and Farm Management</b>					
	<b>C. Extension, Demonstration Support</b>					
	Extension & Demonstration	farm group	76	75,000	5,700,000	404.3
	Seedlings	seedling	165,440	90	14,889,600	1,056.0
	Organic Fertilizer (for 1 years)	kg	3,008,000	2	6,016,000	426.7
	Liquid Organic Fertilizer (for 3 years)	L	112,800	85	9,588,000	680.0
	<b>Subtotal</b>				<b>36,193,600</b>	<b>2,567</b>
	<b>D. Extension Services</b>					
	Extension staff	month	1,860	2,400	4,464,000	316.6
	M. Bike fuel allowance	M. bike	155	1,460	226,300	16.0
	<b>Subtotal</b>				<b>4,690,300</b>	<b>333</b>
	<b>E. Agricultural Machinery</b>					
	Cultivator	unit	76	18,000	1,368,000	97.0
	Power Sprayers	unit	608	500	304,000	21.6
	Hand Sprayers	unit	76	4,000	304,000	21.6
	Motor Mower	unit	76	3,500	266,000	18.9
	Pruning & Harvesting Equipment	unit	8,016	100	801,600	56.9
	<b>Subtotal</b>				<b>3,043,600</b>	<b>216</b>
	<b>Subtotal</b>				<b>43,927,500</b>	<b>3,115</b>
	<b>2. Agri-business and Livelihoods Facilitation</b>					
	<b>2.1. Farmer Institutional Development</b>					
	1 Capacity building for Farmers	courses person	2,916	500	1,458,000	103.4
	2 Farmer Federation Development (KUBE)	package	10	500,000	5,000,000	354.6
	3 Village Facilitation					
	Village Facilitators	month	1,350	3,139	4,237,650	300.5
	Sub-District VF Coordinator	month	162	10,950	1,773,900	125.8
	District VF Manager	month	54	17,520	946,080	67.1
	<b>Subtotal</b>				<b>13,415,630</b>	<b>951</b>
	<b>2.2. Marketing Infrastructure &amp; Equipment</b>					
	<b>1. Building &amp; Storage</b>					
	KUBE Warehouse /a	unit	20	457,960	9,159,203	649.6
	Central Chilled Warehouse /b	unit	2	2,000,000	4,000,000	283.7
	Processing Facility Warehouse (BLUD)	unit	1	2,000,000	2,000,000	141.8
	Primary Commodity Centre	unit	1	1,000,000	1,000,000	70.9
	<b>Subtotal</b>				<b>16,159,203</b>	<b>1,146</b>
	<b>2. Processing Facility</b>					
	Sorting & packaging (fresh) equipment	unit	20	70,000	1,400,000	99.3
	Sorting & packaging (fresh) (BLUD)	unit	20	25,000	500,000	35.5
	Processing & Packaging (processed) Equipment	package	1	730,000	730,000	51.8
	Post harvest handling equipment	unit			-	-
	Processing equipment (peel extract and juice/syrup of mangosteen)	package			-	-
	Digital Scales (KUBE & BLUD) /c	unit	25	5,000	125,000	8.9
	Compressor	unit	76	1,750	133,000	9.4
	Trolley	unit	152	2,500	380,000	27.0
	Small Container (35 unit/ha)	unit	70,000	25	1,750,000	124.1
	<b>Subtotal</b>				<b>5,018,000</b>	<b>356</b>
	<b>3 Transportation Equipment</b>					
	Truck	unit	20	500,000	10,000,000	709.2
	3-wheeled vehicles	unit	76	35,000	2,660,000	188.7
	<b>Subtotal</b>				<b>12,660,000</b>	<b>898</b>
	<b>Subtotal</b>				<b>33,837,203</b>	<b>2,400</b>

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
	<b>2.3. Strengthening Market Linkages &amp; Alliances</b>	package	4	146,000	584,000	41.4
	<b>2.4. Access to Financial Services /d</b>	ha	2,004	2,260	4,529,040	321.2
	<b>3.Strengthening Institutional Delivery Systems</b>					
	Capacity building and institutional development of MOA and Districts					
	Capacity building for Govt Staff	courses person	100	500	50,000	3.5
	<b>Subtotal</b>				50,000	4
	<b>4. Project Management Support</b>					
	<b>4.1. Project Management and Implementation Units</b>					
	<b>a. District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23.3
	Deputy Project Manager	month	60	4,900	294,000	20.9
	Financial Management Officer	month	60	2,800	168,000	11.9
	Procurement Officer	month	60	2,800	168,000	11.9
	M&E Officer	month	60	2,800	168,000	11.9
	Computer Operator	month	60	2,585	155,100	11.0
	Driver	month	60	2,250	135,000	9.6
	<b>Subtotal</b>				1,416,600	100
	<b>b. District Operating Costs</b>					
	Communications	month	60	1,125	67,500	4.8
	TRavel Allowances	district	5	220,000	1,100,000	78.0
	Office consumables	district	5	20,250	101,250	7.2
	Vehicle O&M	district	5	29,000	145,000	10.3
	Motorcycle O&M	bike	25	1,530	38,250	2.7
	<b>Subtotal</b>				1,452,000	103
	<b>Subtotal</b>				2,868,600	203
	<b>4.2. Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)</b>					
	<b>a. Technical Specialists</b>					
	Value Chain Specialist	month	8	47,160	377,280	26.8
	Capacity Building Specialist	month	16	47,160	754,560	53.5
	Water Mgt & Irrigation Specialist	month	16	47,160	754,560	53.5
	Business Devt Specialist	month	8	47,160	377,280	26.8
	Microfinance Specialist	month	40	47,160	1,886,400	133.8
	Enviro & Social Monitoring Specialist	month	8	47,160	377,280	26.8
	<b>Subtotal</b>				4,527,360	321
	<b>b. Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13.4
	Lead Engineer / Regional Team Leader	month	27	47,160	1,273,320	90.3
	Procurement Specialist	month	18	47,160	848,880	60.2
	Civil Engineer	month	27	47,160	1,273,320	90.3
	Water & Irrigation Engineer	month	27	47,160	1,273,320	90.3
	Surveyor	month	9	47,160	424,440	30.1
	<b>Subtotal</b>				5,281,920	375
	<b>Subtotal</b>				9,809,280	696
	<b>GRAND TOTAL</b>				159,710,888	11,327



**Annex 7.E.**  
**Cirebon District (Mangoes Gedong Gincu, existing area 1,000 ha and new planting area 500 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Land Terracing	ha	500	10,000	5,000,000	354.6
	Land Clearing					
	Farm Pond	Unit	3	35,000	105,000	7.4
	Shallow Well (Sumur gali/Bor)	package	1	15,000	15,000	1.1
	Deep Well (1 Unit/5 ha)	Unit	100	350,000	35,000,000	2,482.3
	Irrigation (Pipe 5" from Deep Well to Tank Collector)	ha	500	40,800	20,400,000	1,446.8
	Pipe 3" from a water resource to a reservoir	Km	2	150,000	300,000	21.3
	Access/Farm Road (JUT)	Km	100	200,000	20,000,000	1,418.4
	<b>Subtotal 1.1.</b>				<b>80,820,000</b>	<b>5,732</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
<b>a</b>	<b>Extension, Demonstration Support</b>					
	Extension & Demonstration	package	4	166,000	664,000	47.1
<b>b</b>	<b>Agricultural Input</b>					
	Fertilizer & Pesticides /b	ha	500	24,000	12,000,000	851.1
	Seeding	batang	55,000	60	3,300,000	234.0
	<b>Subtotal</b>				15,964,000	1,132
<b>c</b>	<b>Extension Services</b>					
	Extension staff	month	1,860	2,250	4,185,000	296.8
	M. Bike fuel allowance	motorcye	31	1,460	45,260	3.2
	<b>Subtotal</b>				4,230,260	300
<b>d</b>	<b>Agricultural Machinery</b>					
	Power Sprayers	unit	100	5,000	500,000	35.5
	<b>Subtotal</b>				500,000	35
	<b>Subtotal 1.2.</b>				<b>20,694,260</b>	<b>1,468</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development (KUBE)</b>					
<b>a</b>	<b>Capacity building for Farmers</b>	courses person	4,176	500	2,088,000	148.1
<b>b</b>	<b>Farmer Federation Development (KUBE)</b>	package	7	50,000	350,000	24.8
<b>c</b>	<b>Village Facilitation</b>					-
	- Village Facilitator	month	875	3,400	2,975,000	211.0
	- Sub-district VF Officer	month	162	13,000	2,106,000	149.4
	- District VF Manager	month	54	17,500	945,000	67.0
	<b>Subtotal 2.1.</b>				<b>8,464,000</b>	<b>600</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Building &amp; Storage</b>					
	KUBE Warehouse /a	unit	7	1,575,000	11,025,000	781.9
	Central Warehouse /b	unit	1	2,000,000	2,000,000	141.8
	<b>Subtotal</b>				13,025,000	924
<b>b</b>	<b>Processing Facility</b>					
	KUBE Equipment : sorting and grading	unit	7	175,200	1,226,400	87.0
	Packaging Equipment (BLUD)	unit	1	250,000	250,000	17.7
	Processing Equipment (BLUD)	unit	1	520,000	520,000	36.9
	Processing Equipment (KUBE)	unit	7	520,000	3,640,000	258.2
	Packaging Equipment	package	31	150,000	4,650,000	329.8
	Refrigerated Cool Rooms (BLUD and KUBE) /c	unit	1	100,000	100,000	7.1
	<b>Subtotal</b>				10,386,400	737



Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>c</b>	<b>Transportation facilities</b>					
	Trucks	unit	7	350,000	2,450,000	173.8
	Coolbox vehicles	unit	2	750,000	1,500,000	106.4
	3-Wheeled vehicles	unit	62	35,000	2,170,000	153.9
	<b>Subtotal</b>				6,120,000	434
	<b>Subtotal 2.2.</b>				<b>29,531,400</b>	<b>2,094</b>
<b>2.3.</b>	<b>Strengthening Market Linkage &amp; Alliances</b>	package	4	500,000	<b>2,000,000</b>	141.8
<b>2.4.</b>	<b>Access to Financial Services</b>	ha	1,500	2,260	<b>3,390,000</b>	240.4
<b>3</b>	<b>Capacity Building for Govt Staff</b>					
	Staff Dinas	courses person	400	500	200,000	14.2
	<b>Subtotal 3.</b>				<b>200,000</b>	<b>14</b>
<b>4</b>	<b>Project Management Support</b>					
<b>4.1.</b>	<b>Project Management and Implementation Units</b>					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23.3
	Deputy Project Manager	month	60	4,900	294,000	20.9
	Financial Management Officer	month	60	2,800	168,000	11.9
	Procurement Officer	month	60	2,800	168,000	11.9
	M&E Officer	month	60	2,800	168,000	11.9
	Computer Operator	month	60	2,585	155,100	11.0
	Driver	month	60	2,250	135,000	9.6
	<b>Subtotal</b>				1,416,600	100
<b>b</b>	<b>District Operating Costs</b>					
	Communications	month	60	1,125	67,500	4.8
	Travel Allowances	district	5	220,000	1,100,000	78.0
	Office consumables	district	5	20,250	101,250	7.2
	Vehicle O&M	district	5	29,000	145,000	10.3
	Motorcycle O&M	bike	25	1,530	38,250	2.7
	<b>Subtotal</b>				1,452,000	103
	<b>Subtotal 4.1.</b>				<b>2,868,600</b>	<b>203</b>
<b>4.2.</b>	<b>Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)</b>					
<b>a</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	month	8	47,160	377,280	26.8
	Capacity Building Specialist	month	16	47,160	754,560	53.5
	Water Mgt & Irrigation Specialist	month	16	47,160	754,560	53.5
	Business Devt Specialist	month	8	47,160	377,280	26.8
	Microfinance Specialist	month	39	47,160	1,839,240	130.4
	Enviro & Social Monitoring Specialist	month	8	47,160	377,280	26.8
	<b>Subtotal</b>				4,480,200	318
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13.4
	Lead Engineer/Regional Team Leader					
	Procurement Specialist	month	18	47,160	848,880	60.2
	Civil Engineer	month	26	47,160	1,226,160	87.0
	Water & Irrigation Engineer	month	26	47,160	1,226,160	87.0
	Surveyor	month	8	47,160	377,280	26.8
	<b>Subtotal</b>				3,867,120	274
	<b>Subtotal 4.2.</b>				<b>8,347,320</b>	<b>592</b>
	<b>TOTAL COST</b>				<b>156,315,580</b>	<b>11,086</b>

Annex 7.F.  
Garut District (Potato Seed, Area 200 ha)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
1	Infrastructure Development for Productivity Enhancement & Resilience Building					
1.1.	<b>Land Infrastructure and Development</b>					
	Land Terracing				-	-
	Land Terracing & grass planting	ha	50	6,000	300,000	21.3
	Drip Irrigation				-	0.0
	Shallow Well				-	0.0
	- Shallow well	unit	6	122,838	737,028	52.3
	- Water reservoir box	unit	4	55,635	222,540	15.8
	Access/farm road					0.0
	- Road width: 1.5 m	m	12,741	1,153	14,690,373	1,041.9
	- Road width: 2 m	m	500	1,357	678,500	48.1
	- Road width: 2.5 m	m	2,506	1,551	3,886,806	275.7
	Retention basin and irrigation distribution box					0.0
	- Size: 5 m x 5 m	unit	161	99,540	16,025,940	1,136.6
	- Size: 10 m x 5 m	unit	4	154,475	617,900	43.8
	- Size 10 m x 10 m	unit	3	221,883	665,649	47.2
	- Size: 20 m x 10 m	unit	4	423,674	1,694,696	120.2
	Water pump and installation					0.0
	- Water pump 4 inch	unit	1	63,538	63,538	4.5
	- Water pump 2.5 inch	unit	71	5,500	390,500	27.7
	Irrigation pipelines					0.0
	- Pipe size: 3 inch	m	4,779	168	802,872	56.9
	- Pipe size: 2 inch	m	22,076	148	3,267,248	231.7
	Springkile irrigation system	unit	158	6,500	1,027,000	72.8
	<b>Subtotal 1.1.</b>				<b>45,070,590</b>	<b>3,196</b>
1.2.	<b>Production and Farm Management</b>					
a	Extension, Demonstration Support					
	Extension & Demonstration				-	-
b	<b>Agricultural Inputs</b>					
	G-2 Seed Production Inputs	ha	200	60,000	12,000,000	851.1
	G-0 Seed Production Inputs	screen house	50	60,000	3,000,000	212.8
	Indigofera Seedlings	seed	16,000	20	320,000	22.7
	<b>Subtotal</b>				<b>15,320,000</b>	<b>1,086.5</b>
c	<b>Extension Services</b>					
	Extension staff (Pertanian)				-	-
	Extension staff (Private Sector)				-	-
	M. Bike fuel allowance				-	-
	<b>Subtotal</b>				<b>-</b>	<b>-</b>
d	<b>Agricultural Machinery</b>					
	Cultivators	unit	20	20,000	400,000	28.4
	Hand Sprayer (Knap Sack)	unit	20	500	10,000	0.7
	Power Sprayer	unit	20	6,000	120,000	8.5
	Mower	unit	20	3,000	60,000	4.3
	Harvesting Equipment (powered)	unit	2	40,000	80,000	5.7
	Wheel Barrow (not powered)	unit	200	800	160,000	11.3
	Organic fertilizer machineries and equipments	unit	2	250,000	500,000	35.5
	<b>Subtotal</b>				<b>1,330,000</b>	<b>94</b>
	<b>Subtotal 1.2.</b>				<b>16,650,000</b>	<b>1,181</b>
2	<b>Agri-business and Livelihoods Facilitation</b>					
2.1.	<b>Farmer Institutional Development</b>					
a	<b>Capacity building for Farmers</b>	courses person	1,600	500	800,000	56.7
b	<b>Comparative Studi</b>	courses person	400	3,000	1,200,000	85.1
c	<b>Farmer Federation Development (KUBE)</b>					0.0
	- Training on farmer federation development	farm group	10	20,325	203,250	14.4
	- Training on farm administration management	farm group	10	20,325	203,250	14.4
d	<b>Village Facilitator</b>					0.0
	- Village Facilitators	month	270	3,139	847,530	60.1
	- District VF Manager	month	54	17,520	946,080	67.1
	<b>Subtotal 2.1.</b>				<b>4,200,110</b>	<b>298</b>
2.2.	<b>Market Infrastructure &amp; Equipment</b>					
a	<b>Building &amp; Storage</b>					
1	<b>Screen Houses</b>					
	- Screen house: 10 m x 22 m	unit	1	220,000	220,000	15.6
	- Screen house: 17 m x 15 m	unit	1	255,000	255,000	18.1
	- Screen house: 17 m x 23 m	unit	1	391,000	391,000	27.7
	- Screen house: 18 m x 29 m	unit	2	504,000	1,008,000	71.5
	- Screen house: 7 m x 30 m	unit	5	210,000	1,050,000	74.5
	- Screen house: 15 m x 30 m	unit	5	450,000	2,250,000	159.6
	- Screen house: 32 m x 46 m	unit	5	1,472,000	7,360,000	522.0
2	Central Warehouse - KUBE	unit	1	819,000	819,000	58.1
3	Primary Commodity Centre	unit	1	1,223,000	1,223,000	86.7
4	<b>Warehouse</b>					0.0
	- Warehouse: (8 m x 11 m)	unit	1	264,000	264,000	18.7
	- Warehouse: (11 m x 22 m)	unit	3	726,000	2,178,000	154.5
	- Warehouse: (15 m x 30 m)	unit	1	1,350,000	1,350,000	95.7
5	Cold room/storage (15 m x 30 m)	unit	1	1,238,000	1,238,000	87.8
6	Seedling storage storefront	m	329	600	197,400	14.0
	<b>Subtotal</b>				<b>19,803,400</b>	<b>1,404</b>

Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>b</b>	<b>Processing Facility</b>					
	Sewing Machine	unit	20	7,500	150,000	10.6
	Sacks	unit	100,000	2.50	250,000	17.7
	Digital Scales	unit	16	5,000	80,000	5.7
	Compressor	unit	4	1,750	7,000	0.5
	Trolley	unit	4	2,500	10,000	0.7
	Containers	unit	3,000	175	525,000	37.2
	Post Harvest Equipment	unit	4	160,000	640,000	45.4
	Subtotal				1,662,000	118
<b>c</b>	<b>Transportation facilities</b>					
	Truck	unit	2	500,000	1,000,000	70.9
	Coolbox Vehicle	unit	2	1,000,000	2,000,000	141.8
	3-wheeled vehicles	unit	4	35,000	140,000	9.9
	Mini truck	unit	4	100,000	400,000	28.4
	Subtotal				3,540,000	251
	<b>Subtotal 2.2.</b>				<b>25,005,400</b>	<b>1,773</b>
2.3	Strengthening Market Linkage & Alliances					
	Institutional Development	package	1	146,000	<b>146,000</b>	10.4
2.4.	Access to Financial Services	ha	200	2,260	<b>452,000</b>	32.1
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
3.1.	Capacity building and institutional development of MOA and Districts					
3.2.	Adaptive Research					
<b>4</b>	<b>Project Management Support</b>					
4.1.	Project Management and Implementation Units					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	mth	60	5,475	328,500	23.3
	Deputy Project Manager	mth	60	4,900	294,000	20.9
	Financial Management Officer	mth	60	2,800	168,000	11.9
	Procurement Officer	mth	60	2,800	168,000	11.9
	M&E Officer	mth	60	2,800	168,000	11.9
	Computer Operator	mth	60	2,585	155,100	11.0
	Driver	mth	60	2,250	135,000	9.6
	Subtotal				1,416,600	100
<b>b</b>	<b>District Operating Costs</b>					
	Communications	mth	60	1,125	67,500	4.8
	TRavel Allowances	district	5	170,000	850,000	60.3
	Office consumables	district	5	20,250	101,250	7.2
	Vehicle O&M	district	5	28,000	140,000	9.9
	Motorcycle O&M	bike	20	1,530	30,600	2.2
	Subtotal				1,189,350	84
	<b>Subtotal 4.1.</b>				<b>2,605,950</b>	<b>185</b>
4.2.	Project management Consultant, Design and Supervision Consultants, Technical Specialist (individual)					
<b>a</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	month	10	47,160	471,600	33.4
	Capacity Building Specialist				-	0.0
	Water Mgt & Irrigation Specialist	month	12	47,160	565,920	40.1
	Microfinance Specialist				-	0.0
	Enviro & Social Monitoring Specialist	month	5	47,160	235,800	16.7
	Subtotal				1,273,320	90
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	mth	4	47,160	188,640	13.4
	Lead Engineer/Regional Team Leader	mth			-	0.0
	Procurement Specialist	mth	6	47,160	282,960	20.1
	Civil Engineer	mth	6	47,160	282,960	20.1
	Water & Irrigation Engineer	mth	12	47,160	565,920	40.1
	Surveyor	mth	6	47,160	282,960	20.1
	Subtotal				1,603,440	114
	<b>Subtotal 4.2.</b>				<b>2,876,760</b>	<b>204</b>
	<b>TOTAL COST</b>				<b>97,006,810</b>	<b>6,880</b>

**Annex 7.G.**  
**Banjarnegara District**  
**(Coffee Area 385 ha, Integrated with Goat 3,394 head dan Sheep 1,135 head)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Access/Farm Roads	km	42	250,000	10,500,000	744.7
	Piping Irrigation	m	1,500	10	15,000	1.1
	Piping Irrigation	m	2,600	10	26,000	1.8
	Powersprayer+pipa	unit	20	12,000	240,000	17.0
	<b>Sub-total 1.1.</b>				<b>10,781,000</b>	<b>765</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
<b>a</b>	<b>Coffee Development</b>					
	Fertilizer - coffee (NPK)	kg	192,500	12	2,310,000	163.8
	Coffee seeds (1200 seed/ha)	cuttings	462,000	6	2,772,000	196.6
	Organic fertilizer	kg	770,000	3	1,925,000	136.5
	Biological agency (10 liter/ha/th)	litre	3,850	50	192,500	13.7
<b>b</b>	<b>Goat for farmer groups in 4 sub-districts (commercial)</b>					-
	Male Goat for farmer groups in 4 sub-districts	head	309	3,500	1,081,500	76.7
	Female Goat for farmer groups in 4 sub-districts	head	3,085	3,000	9,255,000	656.4
	Forage legume seed	cuttings	77,000	1	38,500	2.7
<b>c</b>	<b>Sheep for farmer in Batur sub-district (livelihood program)</b>					-
	Male Sheep	head	103	3,500	360,500	25.6
	Female sheep	head	1,032	3,000	3,096,000	219.6
<b>d</b>	<b>Drug stock for goat and sheep</b>	unit	4,529	50	226,450	16.1
	<b>Sub-total 1.2.</b>				<b>21,257,450</b>	<b>1,508</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development</b>					
<b>a</b>	<b>Capacity building</b>					
	- Farmer	courses person	5,968	500	2,984,000	211.6
	- Youth	courses person	280	500	140,000	9.9
<b>b</b>	<b>Village Facilitation</b>					
	Village Facilitators	mth	1,860	3,400	6,324,000	448.5
	Sub-district VF officer	mth	300	13,000	3,900,000	276.6
	District VF Manager	mth	60	17,500	1,050,000	74.5
	<b>Sub-total 2.1.</b>				<b>14,398,000</b>	<b>1,021</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Building</b>					
	Production houses and warehouses in the Coffee farmers association	package	1	500,000	500,000	35.5
	Livestock market	unit	1	750,000	750,000	53.2
	Goat house (24 farmer group)	unit	24	66,000	1,584,000	112.3
	Drying house & rack	unit	20	40,000	800,000	56.7
<b>b</b>	<b>Processing Equipment</b>					
	Processing unit (grinder, sunride, scale, sealer, peel & packaging machine)	package	20	75,000	1,500,000	106.4
	Veterinary equipment					
	Applicator	unit	48	1,500	72,000	5.1
	Chooper	unit	48	19,000	912,000	64.7
	Biofertilizer processing equipment	unit	48	1,500	72,000	5.1
	Biogas facilities: At farmer group (1 unit/farmer group)	unit	37	12,000	444,000	31.5
	Pruning equipment for coffee (3 unit/farmer group)	unit	72	1,000	72,000	5.1
	Milk Processing Unit: Cooling milk can, bottle, showcase, drying	unit	24	40,000	960,000	68.1
	Scale (1 unit/farmer group) for exlc Batur	unit	24	2,200	52,800	3.7
	Scale (1 unit/farmer group) for farmer in Batur	unit	13	2,200	28,600	2.0
<b>c</b>	<b>Transportation facilities</b>					
	3 wheels (for 37 farmer group)	unit	37	23,000	851,000	60.4
	2 wheels (officer, 26 villages))	unit	26	40,000	1,040,000	73.8
	<b>Sub-total 2.2.</b>				<b>9,638,400</b>	<b>684</b>
<b>2.3</b>	<b>Strengthening Market Linkage &amp; Alliances</b>					
	<b>Sub-total 2.3.</b>				-	-
<b>2.4.</b>	<b>Access to Financial Services</b>					
	Establishment of Syaria Micro Finance	ha,ekor	4,914	2,260	11,105,640	787.6
	<b>Sub-total 2.4.</b>				<b>11,105,640</b>	<b>788</b>



No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
<b>3.1.</b>	<b>Capacity building and institutional development of MOA and Districts</b>					
	Training for Staff Dinas	courses person	320	500	160,000	11.3
	Training for Staff Dinas (Mantri hewan)	courses person	8	2,000	16,000	1.1
	<b>Sub-total 3.1.</b>				<b>176,000</b>	<b>12</b>
<b>3.2.</b>	<b>Adaptive Research</b>					
	<b>Sub-total 3.2.</b>				-	-
<b>4</b>	<b>Project Management Support</b>					
<b>4.1.</b>	<b>Project Management and Implementation Units</b>					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23.3
	Deputy Project Manager	month	60	4,900	294,000	20.9
	Financial Management Officer	month	60	2,800	168,000	11.9
	Procurement Officer	month	60	2,800	168,000	11.9
	M&E Officer	month	60	2,800	168,000	11.9
	Computer Operator	month	60	2,585	155,100	11.0
	Driver	month	60	2,250	135,000	9.6
<b>b</b>	<b>District operating cost</b>					
	Communications	month	60	1,125	67,500	4.8
	TRavel Allowances	district	5	220,000	1,100,000	78.0
	Office consumables	district	5	20,250	101,250	7.2
	Vehicle O&M	district	5	29,000	145,000	10.3
	Motorcycle O&M	bike	25	1,530	38,250	2.7
	<b>Sub-total 4.1.</b>				<b>2,868,600</b>	<b>203</b>
<b>4.2.</b>	<b>Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)</b>					
<b>a</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13.4
	Procurement Specialist	month	12	47,160	565,920	40.1
	Civil Engineer	month	15	47,160	707,400	50.2
<b>b</b>	<b>Technical Specialists</b>					
	Value chain specialist ( for coffee)	month	30	47,160	1,414,800	100.3
	Capacity building specialist	month	8	47,160	377,280	26.8
	Business development specialist (for coffee)	month	16	47,160	754,560	53.5
	Microfinance specialist	month	8	47,160	377,280	26.8
	Environmental & Social Monitoring Specialist	month	8	47,160	377,280	26.8
	<b>Sub-total 4.2.</b>				<b>4,763,160</b>	<b>338</b>
	<b>TOTAL COST</b>				<b>74,988,250</b>	<b>5,318</b>

**Annex 7.H.**  
**Purbalingga District (Goat PE, 2,970 head)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
1	Infrastructure Development for Productivity Enhancement & Resilience Building					
1.1.	Land Infrastructure and Development					
	1 Physical Infrastructure					
	Access/farm road	km	6.5	250,000	1,625,000	115
	<b>Subtotal 1.1</b>				<b>1,625,000</b>	<b>115</b>
1.2.	Production and Farm Management					
	1 Extension, Demonstration, Support					
	Breeding Does					
	- Male parent stock	head	270	3,500	945,000	67
	- Female parent stock	head	2,700	2,500	6,750,000	479
	Drug Stock	head	2,970	50	148,500	11
	<b>Subtotal 2.1.</b>				<b>7,843,500</b>	<b>556</b>
2	Agri-business and Livelihoods Facilitation					
2.1.	Farmer Institutional Development					
	Capacity building for Farmers	courses person	567	500	283,500	20
	Farmer Association Development	package	4	300,000	1,200,000	85
	Village Facilitator					
	- Village Facilitators (2 village/persons for 4 years)	man month	432.0	4,000	1,728,000	123
	- District Community Mobilisation & Empowerment Officer	man month	48.0	5,000	240,000	17
	- District Veterinarian Facilitators (2 person)	man month	96.0	5,000	480,000	34
	<b>Subtotal 2.1</b>				<b>3,931,500</b>	<b>279</b>
2.2.	Market Infrastructure & Equipment					
	1 Production Facilities					
	Water Instalation	unit	20	50,000	1,000,000	71
	Goat House	unit	18	66,000	1,188,000	84
	Forage legume seed	ha	18	10,000	180,000	13
	2 Integrated feed and compost management (concentrate and compost)					
	Equipment & instruments	package	1	450,000	450,000	32
	Feed ingredients:	package	137,000	2.80	383,600	27
	Organic Fertilizer Processing Unit					
	- UPPO machine	unit	1	35,000	35,000	2
	- Sifter Machine	unit	1	25,000	25,000	2
	- Sack Sawing (mesin jahit karung)	unit	2	5,000	10,000	1
	- Sealer	unit	2	1,500	3,000	0
	- Packaging material	unit	1	1,500	1,500	0
	Sub-district Animal Health Centre					
	- Refrigerator	unit	1	7,500	7,500	1
	- Scales	unit	1	2,200	2,200	0
	- Veterinary equipment	unit	1	9,500	9,500	1
	- Vet USG	unit	1	40,000	40,000	3
	Building					
	- New Vet Practice Building	m2	100	2,500	250,000	18
	- Feeding production Building	m2	288	1,500	432,000	31
	- Warehouse	m2	288	1,000	288,000	20
	5 Vehichels for processing unit					
	Truck (R4)	unit	1	350,000	350,000	25
	3-Wheeled vehicles	unit	18	35,000	630,000	45
	<b>Subtotal 2.2</b>				<b>5,285,300</b>	<b>375</b>
2.3	Strengthening Market Linkage & Alliances					
2.4.	Access to Financial Services	ekor	2,970	2,260	<b>6,712,200</b>	476



Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

3	Strengthening Institutional Delivery Systems					
3.1.	Capacity building and institutional development of MOA and Districts					
	Capacity building for Govt Staff	courses person	102	500	51,000	4
	<b>Subtotal 3.1</b>				<b>51,000</b>	<b>4</b>
3.2.	Adaptive Research					
4	Project Management Support					
4.1.	<b>Technical Specialists</b>					
	Livestock Specialist					
	Technician for cultivation	month	48	15,000	720,000	51
	Tech for compost	month	24	15,000	360,000	26
	Tech for feed production	month	24	15,000	360,000	26
	<b>Subtotal 4.1</b>				<b>1,440,000</b>	<b>102</b>
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13
	Procurement Specialist	month	12	47,160	565,920	40
	Civil Engineer	month	15	47,160	707,400	50
	<b>District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23
	Deputy Project Manager	month	60	4,900	294,000	21
	Financial Management Officer	month	60	2,800	168,000	12
	Procurement Officer	month	60	2,800	168,000	12
	M&E Officer	month	60	2,800	168,000	12
	Computer Operator	month	60	2,585	155,100	11
	Driver	month	60	2,250	135,000	10
	<b>District Operating Costs</b>					
	Communications	month	60	1,125	67,500	5
	Travel Allowances	district	5	220,000	1,100,000	78
	Office consumables	district	5	20,250	101,250	7
	Vehicle O&M	district	5	28,000	140,000	10
	Motorcycle O&M	bike	25	1,530	38,250	3
	<b>Subtotal 4.2</b>				<b>4,325,560</b>	<b>307</b>
	<b>Total</b>				<b>31,214,060</b>	<b>2,214</b>

**Annex 7.I.**  
**Magelang District (Organic Rice, Area 2,000 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Farm Ponds	unit	1	300,000	300,000	21.3
	Rehabilitation of Tertiary System	m3	18,850	800	15,080,000	1,069.5
	Access / farm road (Rehabilitation of farm road)	m	15,250	750	11,437,500	811.2
	Small dam	unit	20	180,000	3,600,000	255.3
	Surface piping irrigation	m	3,500	110	385,000	27.3
	<b>Sub-total 1.1.</b>				<b>30,802,500</b>	<b>2,185</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
	Seed (20kgx2000x2 years)	kg/ha/1years	20,000	15	300,000	21.3
	Organic fertilizer (1000kgx2000hax2th)	kg/ha/1years	2,000,000	2	4,000,000	283.7
	Biofertilizer (60kg/ha x2000ha x 2th)	kg/ha/1years	120,000	13	1,560,000	110.6
	Hand Tractor	unit	47	26,000	1,222,000	86.7
	Power Weeder	unit	94	5,000	470,000	33.3
	Paddy Mower	unit	94	3,000	282,000	20.0
	Power Sprayer	unit	10	15,000	150,000	10.6
	Power Thresher	unit	31	25,000	775,000	55.0
	Hand Sprayer	unit	188	800	150,400	10.7
	Water Pump	unit	30	6,500	195,000	13.8
	Water Pump 8,5 HP	unit	3	12,000	36,000	2.6
	Mini Rice Transplant	unit	31	8,000	248,000	17.6
	Seeding Tray	unit	5,000	20	100,000	7.1
	<b>Sub-total 1.2.</b>				<b>9,488,400</b>	<b>673</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development</b>					
	Capacity building for Farmers	courses person	10,160	500	5,080,000	360.3
	Comparative Studi	courses person	240	3,000	720,000	51.1
	Farmer Federation Development (KUBE)	package	4	300,000	1,200,000	85.1
	Village Facilitations					
	- Village Facilitators	mth	1,860	3,400	6,324,000	448.5
	- Sub-District VF Coordinator	mth	180	13,000	2,340,000	166.0
	- District VF Manager	mth	60	17,500	1,050,000	74.5
	<b>Sub-total 2.1</b>				<b>16,714,000</b>	<b>1,185</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Warehouse and storage facilities</b>					
	Warehouse (100 M2)	unit	3	425,000	1,275,000	90.4
	2-Storey Office and Equipment Warehouse (100 M2)	unit	3	650,000	1,950,000	138.3
	Drying floors (1000 M2)	unit	3	350,000	1,050,000	74.5
	RMU House (250 M2)	unit	3	500,000	1,500,000	106.4
	Vertical Dryer House (100 M2)	unit	3	500,000	1,500,000	106.4
	Electrical instalation	unit	3	75,000	225,000	16.0
	Rice Processing Facilities					
	Vertical dryer (10 ton)	unit	3	1,550,000	4,650,000	329.8
	Rice milling unit & Equipment (integrated RMU 1-1.5 ton/hours)	package	3	600,000	1,800,000	127.7
<b>b</b>	<b>Packaging Equipment</b>					
	- Seller	unit	15	5,000	75,000	5.3
	- Vacuum Seller	unit	15	15,000	225,000	16.0
	- Packaging Printing Machine	unit	1	230,000	230,000	16.3
	- Sewing machine	unit	15	7,500	112,500	8.0
	- Plastic Packaging (5Kg)	package	15	1,500	22,500	1.6
	- Plastic Vacuum Packaging	package	1	100,000	100,000	7.1
	- 25 Kg Sacks	pieces	7,500	3	18,750	1.3
	Rice Color Sorter	Unit	3	900,000	2,700,000	191.5
	Seed Cleaner + Elevator For Nursery	Unit	1	400,000	400,000	28.4
	Grain suction machine	Unit	3	26,500	79,500	5.6
	Separator For Nursery	Unit	1	30,000	30,000	2.1
<b>c</b>	<b>Supporting Building/Facilities</b>					
	Natural pesticide laboratory (30 M2) and Equipment	Unit	3	100,000	300,000	21.3
	Owl House	Unit	180	4,500	810,000	57.4
	Organic Fertilizer Processing Unit and Cattle	Package	24	250,000	6,000,000	425.5
	Bio Gas Installation	Unit	3	60,000	180,000	12.8

**Annex 7.J.**  
**Malang District (Shallot, area 300 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Farm Ponds	unit	4.00	250,000	1,000,000	70.9
	Dam Parit	unit	1.00	53,000	53,000	3.8
	Pumping and Pipe Irrigation	km	8.20	300,000	2,460,000	174.5
	Rehabilitation of Tertiary Irrigation	m	6,526.00	690	4,502,940	319.4
	Access/farm road	km	18.40	310,000	5,704,000	404.5
	<b>Sub-total 1.1.</b>				<b>13,719,940</b>	<b>973</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
	Seeds, Fertilizer & Pesticides	ha	300.00	70,000	21,000,000	1,489.4
	Hand Sprayers	unit	120.00	550	66,000	4.7
	Hand Tractor	unit	30.00	26,000	780,000	55.3
	<b>Sub-total 1.2.</b>				<b>21,846,000</b>	<b>1,549</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development</b>				-	-
	Capacity building for Farmers	courses person	792.00	500	396,000	28.1
	<b>Sub-total 2.1</b>				<b>396,000</b>	<b>28</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Building &amp; Storage</b>					
	Multi Propose Building for Post Harvest	unit	3.00	400,000	1,200,000	85.1
	Drying Floors	unit	3.00	350,000	1,050,000	74.5
<b>b</b>	<b>Post Harvest Equipment</b>					
	Post Harvest Handling Equipment	unit	6.00	75,000	450,000	31.9
<b>c</b>	<b>Processing Facilities</b>					
	Sacks	package	3.00	20,000	60,000	4.3
	Processing Equipment	unit	3.00	175,000	525,000	37.2
	Organic Fertilizer Processing Unit	unit	3.00	250,000	750,000	53.2
<b>d</b>	<b>Transportation facilities</b>					
	3-wheeled vehicles	unit	30.00	35,000	1,050,000	74.5
	4-wheels vehicles	unit	3.00	350,000	1,050,000	74.5
	<b>Sub-total 2.2.</b>				<b>6,135,000</b>	<b>435</b>
<b>2.3</b>	<b>Strengthening Market Linkage &amp; Alliances</b>				-	-
	<b>Sub-total 2.3.</b>				-	-
<b>2.4.</b>	<b>Access to Financial Services</b>					
	Establishment of Syaria Micro Finance	ha	300.00	2,260	678,000	48.1
	<b>Sub-total 2.4.</b>				<b>678,000</b>	<b>48</b>
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
<b>3.1.</b>	<b>Capacity building and institutional development of MOA and Districts</b>					
	Training for Staff Dinas	courses person	200.00	500	100,000	7.1
	<b>Sub-total 3.1</b>				<b>100,000</b>	<b>7</b>
<b>3.2.</b>	<b>Adaptive Research</b>				-	-
	<b>Sub-total 3.2</b>				-	-

<b>4</b>	<b>Project Management Support</b>					
<b>4.1.</b>	<b>Project Management and Implementation Units</b>					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	month	60.00	5,475	328,500	23.3
	Deputy Project Manager	month	60.00	4,900	294,000	20.9
	Financial Management Officer	month	60.00	2,800	168,000	11.9
	Procurement Officer	month	60.00	2,800	168,000	11.9
	M&E Officer	month	60.00	2,800	168,000	11.9
	Computer Operator	month	60.00	2,585	155,100	11.0
	Driver	month	60.00	2,250	135,000	9.6
<b>b</b>	<b>District operating cost</b>					
	Communications	month	60.00	1,125	67,500	4.8
	TRavel Allowances	district	5.00	220,000	1,100,000	78.0
	Office consumables	district	5.00	20,250	101,250	7.2
	Vehicle O&M	district	5.00	29,000	145,000	10.3
	Motorcycle O&M	bike	25.00	1,530	38,250	2.7
	<b>Sub-total 4.1</b>				<b>2,868,600</b>	<b>203</b>
<b>4.2.</b>	<b>Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)</b>					
<b>a</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4.00	47,160	188,640	13.4
	Lead Engineer/Regional Team Leader	month	15.00	47,160	707,400	50.2
	Procurement Specialist	month	12.00	47,160	565,920	40.1
	Civil Engineer	month	15.00	47,160	707,400	50.2
	Water & Irrigation Engineer	month	15.00	47,160	707,400	50.2
	Surveyor	month	3.00	47,160	141,480	10.0
<b>b</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	month	8.00	47,160	377,280	26.8
	Shallot Agronomist	month	18.00	47,160	848,880	60.2
	Capacity Building Specialist	month	16.00	47,160	754,560	53.5
	Water Mgt & Irrigation Specialist	month	16.00	47,160	754,560	53.5
	Business Devt Specialist	month	8.00	47,160	377,280	26.8
	Microfinance Specialist	month	40.00	47,160	1,886,400	133.8
	Enviro & Social Monitoring Specialist	month	8.00	47,160	377,280	26.8
	<b>Sub-total 4.2</b>				<b>8,394,480</b>	<b>595</b>
	<b>TOTAL COST</b>				<b>54,138,020</b>	<b>3,840</b>

**Annex 7.K.**  
**Sumenep District (Shallot, area 160 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Land Terracing	ha	160.0	10,000	1,600,000	113.5
	Farm Ponds	unit	3.0	200,000	600,000	42.6
	Small farm pond (2 x 3 m)	unit	7.0	25,000	175,000	12.4
	Pumping and Pipe Irrigation	package	10.0	200,000	2,000,000	141.8
	Solar Cell and Converter Pump DC + Drilling	package	10.0	150,000	1,500,000	106.4
	Access/farm road	km	5.0	200,000	1,000,000	70.9
	<b>Sub-total 1.1.</b>				<b>6,875,000</b>	<b>488</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
	Extension & Demonstration Activities					
	Extension & Demonstration	package	4.0	173,000	692,000	49.1
	Extension staff	month	180.0	2,400	432,000	30.6
	M. Bike fuel allowance	M. bike	15.0	1,460	21,900	1.6
	Agro input support					
	Seeds, Fertilizer & Pesticides				-	-
	Shallot cultivation (seed, fertilizer, Pesticide, etc)	ha	130.0	70,000	9,100,000	645.4
	Shallot Seedling (seed, fertilizer, Pesticide, etc)	ha	30.0	70,000	2,100,000	148.9
	Agriculture Machineries					
	Cultivators	unit	16.0	20,000	320,000	22.7
	Hand Sprayers	unit	80.0	1,500	120,000	8.5
	<b>Sub-total 1.2.</b>				<b>12,785,900</b>	<b>907</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development</b>					
	Capacity building for Farmers	courses persc	3,840.0	500	1,920,000	136.2
	Comparative Study	courses persc	400.0	3,000	1,200,000	85.1
	Farmer Federation Development (KUBE)	package	4.0	500,000	2,000,000	141.8
	Village Facilitation					
	Village Facilitators	mth	180.0	3,400	612,000	43.4
	District VF Manager	mth	60.0	17,500	1,050,000	74.5
	<b>Sub-total 2.1</b>				<b>6,782,000</b>	<b>481</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Building &amp; Storage</b>					
	Warehouse and storage facilities					
	KUBE Warehouse	unit	2.0	850,000	1,700,000	120.6
	Storage and Processing Center Warehouse	unit	1.0	2,500,000	2,500,000	177.3
<b>b</b>	<b>Harvesting Equipment</b>					
	Post Harvest Handling Equipment	package	10.0	200,000	2,000,000	141.8
	Harvesting basket	unit	320.0	400	128,000	9.1
	Organic Fertilizer Processing Equipment	unit	5.0	250,000	1,250,000	88.7
	Barrow	unit	480.0	800	384,000	27.2
	Terpal (tarpaulin)	unit	320.0	250	80,000	5.7
<b>c</b>	<b>Processing Facilities</b>					
	Sacks	unit	80,000.0	3	200,000	14.2
	Digital Scales	unit	16.0	5,000	80,000	5.7
	Sewing Machine	unit	16.0	7,500	120,000	8.5
<b>d</b>	<b>Transportation facilities</b>					
	Truck	unit	2.0	500,000	1,000,000	70.9
	3-wheeled vehicles	unit	40.0	35,000	1,400,000	99.3
	4 wheel transport tractor	unit	5.0	70,000	350,000	24.8
	<b>Sub-total 2.2.</b>				<b>11,192,000</b>	<b>794</b>
<b>2.3</b>	<b>Strengthening Market Linkage &amp; Alliances</b>					
	Strengthening Market Linkage & Alliances	package	4.0	500,000	2,000,000	141.8
	<b>Sub-total 2.3.</b>				<b>2,000,000</b>	<b>142</b>
<b>2.4.</b>	<b>Access to Financial Services</b>					
	Establishment of Syaria Micro Finance	ha	160.0	2,260	361,600	25.6
	<b>Sub-total 2.4.</b>				<b>361,600</b>	<b>26</b>



No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
<b>3.1.</b>	<b>Capacity building and institutional development of MOA and Districts</b>					
	Training for Staff Dinas	courses persc	320.0	500	160,000	11.3
	<b>Sub-total 3.1</b>				<b>160,000</b>	<b>11</b>
<b>3.2.</b>	<b>Adaptive Research</b>					
	<b>Sub-total 3.2.</b>				-	-
<b>4</b>	<b>Project Management Support</b>					
<b>4.1.</b>	<b>Project Management and Implementation Units</b>					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	mth	60.0	5,475	328,500	23.3
	Deputy Project Manager	mth	60.0	4,900	294,000	20.9
	Financial Management Officer	mth	60.0	2,800	168,000	11.9
	Procurement Officer	mth	60.0	2,800	168,000	11.9
	M&E Officer	mth	60.0	2,800	168,000	11.9
	Computer Operator	mth	60.0	2,585	155,100	11.0
	Driver	mth	60.0	2,250	135,000	9.6
<b>b</b>	<b>District operating cost</b>					
	Communications	mth	60.0	1,125	67,500	4.8
	TRavel Allowances	district	5.0	220,000	1,100,000	78.0
	Office consumables	district	5.0	20,250	101,250	7.2
	Vehicle O&M	district	5.0	29,000	145,000	10.3
	Motorcycle O&M	bike	25.0	1,530	38,250	2.7
	<b>Sub-total 4.1</b>				<b>2,868,600</b>	<b>203</b>
<b>4.2.</b>	<b>Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)</b>					
<b>a</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	mth	4.0	47,160	188,640	13.4
	Procurement Specialist	mth	12.0	47,160	565,920	40.1
	Civil Engineer	mth	15.0	47,160	707,400	50.2
	Water & Irrigation Engineer	mth	15.0	47,160	707,400	50.2
	Surveyor	mth	3.0	47,160	141,480	10.0
<b>b</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	mth	8.0	47,160	377,280	26.8
	Shallot Agronomist	mth	18.0	47,160	848,880	60.2
	Capacity Building Specialst	mth	16.0	47,160	754,560	53.5
	Water Mgt & Irrigation Specialist	mth	16.0	47,160	754,560	53.5
	Business Devt Specialist	mth	8.0	47,160	377,280	26.8
	Microfinance Specialist	mth	40.0	47,160	1,886,400	133.8
	Enviro & Social Monitoring Specialist	mth	8.0	47,160	377,280	26.8
	<b>Sub-total 4.2</b>				<b>7,687,080</b>	<b>545</b>
	<b>TOTAL COST</b>				<b>50,712,180</b>	<b>3,597</b>



**Annex 7.L.**  
**Lombok Timur District (Garlic, area 1,640 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Land Terracing	ha	1,640	10,000	16,400,000	1,163
	Farm Ponds	Unit	5	240,000	1,200,000	85
	Pumping and Pipe Irrigation					
	Drip Irrigation					
	Shallow Well	Unit	16	120,000	1,920,000	136
	Water Ponds	Unit	14	50,000	700,000	50
	Access/farm road	Km	35	350,000	12,250,000	869
	<b>Subtotal 1.1.</b>				<b>32,470,000</b>	<b>2,303</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
<b>a</b>	<b>Extension, Demonstration Support</b>					
	Extension & Demonstration	package	7	146,000	1,022,000	72
	Seeds, Fertilizer & Pesticides	ha	1,640	75,000	123,000,000	8,723
	<b>Subtotal</b>				<b>124,022,000</b>	<b>8,796</b>
<b>b</b>	<b>Extension Services</b>					
	- Extension staff	month	900	2,250	2,025,000	144
	- M. Bike fuel allowance	motorcye	128	460	58,880	4
	<b>Subtotal</b>				<b>2,083,880</b>	<b>148</b>
<b>c</b>	<b>Agricultural Machinery</b>					
	Cultivators	unit	656	20,000	13,120,000	930
	Hand Sprayers	unit	840	550	462,000	33
	Water Pump (5.5 HP)	Unit	52	5,000	260,000	18
	<b>Subtotal</b>				<b>13,842,000</b>	<b>982</b>
	<b>Subtotal 1.2.</b>				<b>139,947,880</b>	<b>9,925</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development</b>					
<b>a</b>	<b>Capacity building for Farmers</b>	courses person	2,178	500	1,089,000	77
<b>b</b>	<b>Farmer Federation Development (KUBE)</b>	package	4	300,000	1,200,000	85
<b>c</b>	<b>Village Facilitator</b>					
	- Village Facilitators	month	1,458	3,139	4,576,662	325
	- Sub-District VF Coordinator	month	378	10,950	4,139,100	294
	- District VF Manager	month	54	17,520	946,080	67
	<b>Subtotal</b>				<b>9,661,842</b>	<b>685</b>
	<b>Subtotal 2.1.</b>				<b>11,950,842</b>	<b>848</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Building &amp; Storage</b>					
	KUBE Warehouse /a	unit	6	275,000	1,650,000	117
	Primary Commodity Centre	unit	1	400,000	400,000	28
	Drying Unit /b	unit	92	70,000	6,440,000	457
	<b>Subtotal</b>				<b>8,490,000</b>	<b>602</b>
<b>b</b>	<b>Processing Facility</b>					
	<b>Harvesting</b>					
	Sewing machines	unit	31	7,500	232,500	16
	Sacks	unit	50,000	2.5	125,000	9
	Digital Scales /c	unit	31	5,000	155,000	11
	<b>Off Farm Processing</b>					
	Fermenter Black Garlic Unit	unit	4	9,000	36,000	3
	Genset	unit	4	10,000	40,000	3
	Packaging	package	4	15,000	60,000	4
	<b>Subtotal</b>				<b>648,500</b>	<b>46</b>
<b>c</b>	<b>Transportation Equipment</b>					
	Truck	Unit	4	500,000	2,000,000	142
	Pick Up	unit	7	185,000	1,295,000	92
	3-wheeled vehicles	unit	92	35,000	3,220,000	228
	<b>Subtotal</b>				<b>6,515,000</b>	<b>462</b>
	<b>Subtotal 2.2.</b>				<b>15,653,500</b>	<b>1,110</b>

Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
2.3	Strengthening Market Linkage & Alliances					
	Institutional Development	package	4	146,000	584,000	41
2.4.	Access to Financial Services	ha	1,640	2,260	3,706,400	263
3	Strengthening Institutional Delivery Systems					
3.1.	Capacity building and institutional development of MOA and Districts					
	Capacity building for Gov Staff (Dinas)	courses person	225	500	112,500	8
3.2.	Adaptive Research					
4	Project Management Support					
4.1.	Project Management and Implementation Units					
a	<b>District Project Implementation Unit</b>					
	Project Manager	mth	60	5,475	328,500	23
	Deputy Project Manager	mth	60	4,900	294,000	21
	Financial Management Officer	mth	60	2,800	168,000	12
	Procurement Officer	mth	60	2,800	168,000	12
	M&E Officer	mth	60	2,800	168,000	12
	Computer Operator	mth	60	2,585	155,100	11
	Driver	mth	60	2,250	135,000	10
	Subtotal				1,416,600	100
b	<b>District Operating Costs</b>					
	Communications	mth	60	1,125	67,500	5
	TRavel Allowances	district	5	220,000	1,100,000	78
	Office consumables	district	5	20,250	101,250	7
	Vehicle O&M	district	5	29,000	145,000	10
	Motorcycle O&M	bike	25	1,530	38,250	3
	Subtotal				1,452,000	103
	<b>Subtotal 4.1.</b>				<b>2,868,600</b>	<b>203</b>
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
a	<b>Technical Specialists</b>					
	Value Chain Specialist	mth	8	47,160	377,280	27
	Garlic Agronomist	mth	16	47,160	754,560	54
	Capacity Building Specialist	mth	16	47,160	754,560	54
	Water Mgt & Irrigation Specialist	mth	16	47,160	754,560	54
	Business Devt Specialist	mth	8	47,160	377,280	27
	Microfinance Specialist	mth	50	47,160	2,358,000	167
	Enviro & Social Monitoring Specialist	mth	8	47,160	377,280	27
	Subtotal				5,753,520	408
b	<b>Design and Supervision Consultants</b>					
	Team Leader	mth	4	47,160	188,640	13
	Lead Engineer/Regional Team Leader	mth				
	Procurement Specialist	mth	18	47,160	848,880	60
	Civil Engineer	mth	25	47,160	1,179,000	84
	Water & Irrigation Engineer	mth	25	47,160	1,179,000	84
	Surveyor	mth	7	47,160	330,120	23
	Subtotal				3,725,640	264
	<b>Subtotal 4.2.</b>				<b>9,479,160</b>	<b>672</b>
	<b>TOTAL COST</b>				<b>216,772,882</b>	<b>15,374</b>

**Annex 7.M.**  
**Sumbawa District (Shallot seed, area 3,000 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
<b>1.1.</b>	<b>Land Infrastructure and Development</b>					
	Land Development	ha	3,000	350	1,050,000	74
	Pump Irrigation (Irigasi Perpompaan)	Unit	50	120,000	6,000,000	426
	Ponds (Kantong Air)	Unit	50	240,000	12,000,000	851
	Shallow Well (Sumur gali/Bor)	Unit	300	100,000	30,000,000	2,128
	Access/Farm Road (JUT)	Km	70	350,000	24,500,000	1,738
	<b>Subtotal 1.1.</b>				<b>73,550,000</b>	<b>5,216</b>
<b>1.2.</b>	<b>Production and Farm Management</b>					
<b>a</b>	<b>Extension, Demonstration Support</b>					
	Extension & Demonstration	package	3	73,000	219,000	16
	Shallot Seed (White Label G-0)	kg	600	4,000	2,400,000	170
	Shallot Seed (G-1)	ton	1,800	50,000	90,000,000	6,383
	Fertilizer & Pesticides	ha	3,000	2,500	7,500,000	532
	Subtotal				100,119,000	7,101
<b>b</b>	<b>Extension Services</b>					
	Extension staff	month	890	2,250	2,002,500	142
	M. Bike fuel allowance	motorcye	100	1,460	146,000	10
	Subtotal				2,148,500	152
<b>c</b>	<b>Agricultural Machinery</b>					
	Cultivators	unit	100	20,000	2,000,000	142
	Small Scale Precision Seeders	unit	12	7,300	87,600	6
	Hand Sprayers	unit	300	500	150,000	11
	Hands tractor (1 unit/60 ha)	unit	50	35,000	1,750,000	124
	Terpal (5x7)	unit	300	1,500	450,000	32
	Mist Blower	unit	600	3,000	1,800,000	128
	Organic Fertilizer Processing Unit (UPPO)	unit	8	250,000	2,000,000	142
	Subtotal				8,237,600	584
	<b>Subtotal 1.2.</b>				<b>110,505,100</b>	<b>7,837</b>
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
<b>2.1.</b>	<b>Farmer Institutional Development</b>					
<b>a</b>	<b>Capacity building for Farmers</b>	courses person	2,640	500	1,320,000	94
<b>b</b>	<b>Farmer Federation Development (KUBE)</b>	package	4	500,000	2,000,000	142
<b>c</b>	<b>Village Facilitator</b>					
	- Village Facilitators	month	1,404	3,139	4,407,156	313
	- Sub-District VF Coordinator	month	162	10,950	1,773,900	126
	- District VF Manager	month	54	17,520	946,080	67
	Subtotal				7,127,136	505
	<b>Subtotal 2.1.</b>				<b>10,447,136</b>	<b>741</b>
<b>2.2.</b>	<b>Market Infrastructure &amp; Equipment</b>					
<b>a</b>	<b>Building &amp; Storage</b>					
	KUBE Warehouse /a	unit	30	250,000	7,500,000	532
	Central Warehouse /b	unit	5	1,314,000	6,570,000	466
	Primary Commodity Centre	unit	1	730,000	730,000	52
	Subtotal				14,800,000	1,050
<b>b</b>	<b>Processing Facility</b>					
	Digital Scales /c				-	-
	Processing Equipment /d				-	-
	Shallot Peeler (20 liter)	Unit	30	5,000	150,000	11
	Shallot Slicer (Mesin Iris/rajang Bawang)	Unit	30	4,000	120,000	9
	Oil draining machine	Unit	30	3,000	90,000	6
	Frying Bed (Penggorengan)	Unit	150	3,500	525,000	37
	Gas Stove Built up	Unit	150	10,000	1,500,000	106
	Digital Scales	Unit	150	1,000	150,000	11
	Sealler Machine	Unit	300	1,000	300,000	21
	Subtotal				2,835,000	201

Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>c</b>	<b>Agricultural Machinery</b>					
	Trucks	unit	10	350,000	3,500,000	248
	3-wheeled vehicles	unit	30	35,000	1,050,000	74
	Subtotal				4,550,000	323
	<b>Subtotal 2.2.</b>				<b>22,185,000</b>	<b>1,573</b>
2.3	Strengthening Market Linkage & Alliances					
	Institutional Development	package	4	146,000	<b>584,000</b>	41
2.4	Access to Financial Services	ha	3,000	2,260	<b>6,780,000</b>	481
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
3.1.	Capacity building and institutional development of MOA and Districts					
	Capacity building for Gov Staff (Dinas)	courses person	225	500	<b>112,500</b>	8
3.2.	Adaptive Research					
<b>4</b>	<b>Project Management Support</b>					
4.1.	Project Management and Implementation Units					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	month	60	5,475	328,500	23
	Deputy Project Manager	month	60	4,900	294,000	21
	Financial Management Officer	month	60	2,800	168,000	12
	Procurement Officer	month	60	2,800	168,000	12
	M&E Officer	month	60	2,800	168,000	12
	Computer Operator	month	60	2,585	155,100	11
	Driver	month	60	2,250	135,000	10
	Subtotal				1,416,600	100
<b>b</b>	<b>District Operating Costs</b>					
	Communications	month	60	1,125	67,500	5
	TRavel Allowances	district	5	220,000	1,100,000	78
	Office consumables	district	5	20,250	101,250	7
	Vehicle O&M	district	5	29,000	145,000	10
	Motorcycle O&M	bike	25	1,530	38,250	3
	Subtotal				1,452,000	103
	<b>Subtotal 4.1.</b>				<b>2,868,600</b>	<b>203</b>
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
<b>a</b>	<b>Technical Specialists</b>					
	Value Chain Specialist	month	8	47,160	377,280	27
	Shallot Agronomist	month	18	47,160	848,880	60
	Capacity Building Specialist	month	16	47,160	754,560	54
	Water Mgt & Irrigation Specialist	month	16	47,160	754,560	54
	Business Devt Specialist	month	8	47,160	377,280	27
	Microfinance Specialist	month	40	47,160	1,886,400	134
	Enviro & Social Monitoring Specialist	month	8	47,160	377,280	27
	Subtotal				5,376,240	381
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	month	4	47,160	188,640	13
	Lead Engineer/Regional Team Leader	month	30	47,160	1,414,800	100
	Procurement Specialist	month	18	47,160	848,880	60
	Civil Engineer	month	30	47,160	1,414,800	100
	Water & Irrigation Engineer	month	30	47,160	1,414,800	100
	Surveyor	month	18	47,160	848,880	60
	Subtotal				6,130,800	435
	<b>Subtotal 4.2.</b>				<b>11,507,040</b>	<b>816</b>
	<b>TOTAL COST</b>				<b>238,539,376</b>	<b>16,918</b>



**Annex 7.N.**  
**Minahasa Selatan District (Industrial Potato, area 2,000 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
1	Infrastructure Development for Productivity Enhancement & Resilience Building					
1.1.	Land Infrastructure and Development					
	<b>Physical Infrastructure</b>					
	Land Terracing	Ha	500	10,000	5,000,000	354.6
	Deep Wells and equipments	unit	26	400,000	10,400,000	737.6
	Farm Ponds + Reservoir Tanks:	unit	20	350,000	7,000,000	496.5
	Small Dam + Reservoir Tanks:	unit	15	450,000	6,750,000	478.7
	Access/farm road	Unit	15	350,000	5,250,000	372.3
	<b>Subtotal 1.1.</b>				34,400,000	2,440
1.2.	Production and Farm Management					
	<b>a Extension, Demonstration Support</b>					
	Extension & Demonstration	package	4	146,000	584,000	41.4
	Crop Inputs	Ha	2,000	31,170	62,340,000	4,421.3
	Sub total 1.2.a.				62,924,000	4,463
	<b>b Extension Services</b>					
	Extension staff (Pertanian)	Month	270	2,250	607,500	43.1
	Extension staff (Private Sector)	Month	50	1,460	73,000	5.2
	M. Bike fuel allowance	Unit	300	2,250	675,000	47.9
	Sub total 1.2.b.				1,355,500	96
	<b>c Agricultural Machinery</b>					
	Cultivators	Unit	500	30,000	15,000,000	1,063.8
	Hand Sprayer Electric	Unit	2,179	2,000	4,358,000	309.1
	Hand Harvesting Equipment (powered)	Unit	100	29,200	2,920,000	207.1
	Post Harvest Equipment	Unit	10	320,000	3,200,000	227.0
	Tractors & Trailers	Unit	10	700,000	7,000,000	496.5
	Sub total 1.2.c.				32,478,000	2,303
	Sub total 1.2.				96,757,500	6,862
2	Agri-business and Livelihoods Facilitation					
2.1.	Farmer Institutional Development					
	<b>a Capacity building for Farmers</b>	courses person	2,682	500	1,341,000	95.1
	<b>b Farmer Federation Development (KUBE)</b>	package	4	500,000	2,000,000	141.8
	<b>c Village Facilitation</b>					
	- Village Facilitators	Month	540	3,139	1,695,060	120.2
	- District VF Manager	Month	54	17,520	946,080	67.1
	Sub total 2.1.				5,982,140	424
2.2	Marketing Infrastructure & Equipment					
	<b>a Building &amp; Storage</b>					
	Warehouse (of KUBE)	Unit	10	300,000	3,000,000	212.8
	Processing House (of KUBE)	unit	10	250,000	2,500,000	177.3
	Central warehouse (of BLUD)	Unit	1	1,314,000	1,314,000	93.2
	Central Grading and Packing House (of BLUD)	unit	1	1,314,000	1,314,000	93.2
	Processing House of BLUD	Unit	1	300,000	300,000	21.3
	Primary Commodity Centre	unit	1	730,000	730,000	51.8
	Sub total				9,158,000	650
	<b>b Processing Facility</b>					
	Packaging Machine	Unit	20	75,000	1,500,000	106.4
	50T Weigh Bridge	Unit	5	292,000	1,460,000	103.5
	Containers (Bins)	Unit	10,000	117	1,170,000	83.0
	Packaging Machine	Unit	30	50,000	1,500,000	106.4
	Processing equipment of BLUD	Package	1	400,000	400,000	28.4
	Sub total				6,030,000	428
	<b>c Transportation Equipment</b>					
	Trucks KUBE	Unit	10	350,000	3,500,000	248.2
	Truck (BLUD)	Unit	2	438,000	876,000	62.1
	3-wheeled vehicles (KUBE)	Unit	20	35,000	700,000	49.6
	Sub total				5,076,000	360
	Sub total 2.2				20,264,000	1,437
2.3.	Strengthening Market Linkage & Alliances					
	Institutional development	Package	1	730,000	730,000	51.8
2.4.	Access to Financial Services	ha	2,000	2,260	4,520,000	320.6

Republic of Indonesia  
The Development of Integrated Farming Systems in Upland Areas (UPLANDs)  
Design completion report  
Annex 8: Project Implementation Manual (PIM)

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
3	Strengthening Institutional Delivery Systems					
3.1.	Capacity building and institutional development of MOA and Districts					
	Staff Dinas	courses person	1,000	500	500,000	35.5
3.2.	Adaptive Research					
	Sub total 3				500,000	35
4	Project Management Support					
4.1.	Project Management and Implementation Units					
a	<b>District Project Implementation Unit</b>					
	Project Manager	mt	60	5,475	328,500	23.3
	Deputy Project Manager	mt	60	4,900	294,000	20.9
	Financial Management Officer	mt	60	2,800	168,000	11.9
	Procurement Officer	mt	60	2,800	168,000	11.9
	M&E Officer	mt	60	2,800	168,000	11.9
	Computer Operator	mt	60	2,585	155,100	11.0
	Driver	mt	60	2,250	135,000	9.6
	Sub total 4.1 a.				1,416,600	100
b	<b>District Operating Costs</b>					
	Communications	mt	60	1,125	67,500	4.8
	TRavel Allowances	district	5	220,000	1,100,000	78.0
	Office consumables	district	5	20,250	101,250	7.2
	Vehicle O&M	district	5	29,000	145,000	10.3
	Motorcycle O&M	bike	25	1,530	38,250	2.7
	Sub total 4.1 b.				1,452,000	103
	Sub total 4.1.				2,868,600	203
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
a	<b>Technical Specialists</b>					
	Value Chain Specialist	mt	8	47,160	377,280	26.8
	Potato Agronomist	mt	18	47,160	848,880	60.2
	Capacity Building Specialist	mt	16	47,160	754,560	53.5
	Water Management & Irrigation Specialist	mt	16	47,160	754,560	53.5
	Business Development Specialist	Month	8	47,160	377,280	26.8
	Microfinance Specialist	mt	59	47,160	2,782,440	197.3
	Environmental & Social Monitoring Specialist	mt	8	47,160	377,280	26.8
	Food Processing Specialist	mt	18	47,160	848,880	60.2
	Sub total 4.2 a.				7,121,160	505
b	<b>Design and Supervision Consultants</b>					
	Team Leader	mt	4	47,160	188,640	13.4
	Lead Engineer/Regional Team Leader	mt	27	47,160	1,273,320	90.3
	Procurement Specialist	mt	18	47,160	848,880	60.2
	Civil Engineer	mt	27	47,160	1,273,320	90.3
	Water & Irrigation Engineer	mt	27	47,160	1,273,320	90.3
	Surveyor	mt	8	47,160	377,280	26.8
	Sub total 4.2 b.				5,234,760	371
	Sub total 4.2.				12,355,920	876
	<b>TOTAL COST</b>				178,378,160	12,651



**Annex 7.O.**  
**Gorontalo District (Gape Banana, Temporary demplot, area 20 ha, prepared land area 418 ha)**

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
<b>1</b>	<b>Infrastructure Development for Productivity Enhancement &amp; Resilience Building</b>					
1.1.	Land Infrastructure and Development					
	Land Terracing				-	-
	Farm ponds	unit	2	350,000	700,000	50
	Main Reservoir	unit	2	100,000	200,000	14
	Secondary Reservoir	unit	8	50,000	400,000	28
	Conector Pipes	meter	3,600	250	900,000	64
	Access/farm road	km	3	250,000	750,000	53
	Sub total 1.1. (Land Infrastructur and Development)				2,950,000	209
1.2.	Production and Farm Management					
<b>a</b>	<b>Extension, Demonstration Support</b>					
	Extension & Demonstration	month	36	15,000	540,000	38
	Seed, fertilizers, pesticides				-	-
	- Seedling	unit	10,000	40	400,000	28
	- Organic Fertilizer	kg	40,000	2	80,000	6
	- ZA Fertilizer	kg	2,000	3	6,400	0
	- Urea	kg	2,000	5	10,000	1
	- NPK	kg	6,000	8	49,800	4
	- Herbicides (6 ltr/ha)	liter	120	90	10,800	1
	- Pesticides (6 ltr/ha)	liter	120	90	10,800	1
	Sub total 1.2.a.				1,107,800	79
<b>b</b>	<b>Extension Services</b>					
	Extension staff	month	36	2,250	81,000	6
	M. Bike fuel allowance	month	36	1,000	36,000	3
	Sub total 1.2.b.				117,000	8
<b>c</b>	<b>Agricultural Machinery</b>					
	Cultivators	unit	8	20,000	160,000	11
	Hand sprayer electric (Power sprayer)	unit	26	2,000	52,000	4
	Hoe/Cangkul	unit	26	80	2,080	0
	Sickle/sabit	unit	26	30	780	0
	Water Pump for equiped Embungs	unit	2	75,000	150,000	11
	Sub total 1.2.c.				364,860	26
	Sub Total 1.2. (Production and Farm Management)				1,589,660	113
	Sub Total 1				4,539,660	322
<b>2</b>	<b>Agri-business and Livelihoods Facilitation</b>					
2.1.	Farmer Institutional Development				-	-
	Capacity building for Farmers	courses person	416	500	208,000	15
	Comparative Study	courses person	140	3,000	420,000	30
2.2.	Market Infrastructure & Equipment					
<b>a</b>	<b>Building &amp; Storage</b>					
	Packing House + Bak Pencuci/tanks + hanger for banana bunches	unit	1	500,000	500,000	35
	House of cold storage and ripening unit	unit	1	300,000	300,000	21
	Processing House	unit	1	200,000	200,000	14
	Shallow wells (including pump) for packing and processing house	unit	1	40,000	40,000	3
	Warehouse - KUBE				-	-
	Cool Storage Room					
	Stand Room and display rack (in Gorontalo city)	unit	1	250,000	250,000	18
	Sub total 2.1. dan 2.2.a.				1,918,000	136
<b>b</b>	<b>Harvesting</b>					
	Bananas cover	unit	20,000	7	140,000	10
	Barrow/gerobak dorong	unit	26	600	15,600	1
	Sub total 2.2.b.				155,600	11
<b>c</b>	<b>Post harvest handling units</b>					
	Cold Storage + Ripening Unit	unit	1	800,000	800,000	57
<b>d</b>	<b>Processing Facility</b>					
	Packaging Equipment				-	-
	Multi function drying machine	Unit	4	7,500	30,000	2
	Continous Sealer With Filling Gas	Unit	4	7,400	29,600	2
	Vacum Frying	Unit	4	22,000	88,000	6
	Oven (gas feul)	Unit	4	12,000	48,000	3

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
	Spinner	Unit	4	3,800	15,200	1
	Mixer	Unit	6	7,000	42,000	3
	Trolley rack	Unit	8	3,000	24,000	2
	Oven Trays	Unit	40	100	4,000	0
	Stainless cupboard (lemari stainless)	Unit	4	4,000	16,000	1
	Stainless sink	Unit	4	2,500	10,000	1
	Stainless Tube	Unit	10	1,500	15,000	1
	Stainless Table	Unit	4	3,500	14,000	1
	Sacet pack of banana chips	Sachet	20,000	2	40,000	3
	Packaging box of banana chips	Box	1,000	16	16,000	1
	Sub total 2.2.d.				391,800	28
<b>e</b>	<b>Transportation Equipment</b>					
	Truck	Unit	1	400,000	400,000	28
	3-wheeled vehicles	unit	4	35,000	140,000	10
	Motor trail (utk monitoring pisang)					
	Sub total 2.2.e.				540,000	38
	Sub Total 2.2.				3,805,400	270
2.3	Strengthening Market Linkage & Alliances					
	Institutional development	package	1	730,000	730,000	52
2.4.	Access to Financial Services	il Review Semer	20	2,260	45,200	3
	Sub Total 2				4,580,600	325
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
3.1.	Capacity building and institutional development of MOA and Districts					
	Training for staff and farmer	package	2	146,000	292,000	21
	Staff Dinas	courses person	160	500	80,000	6
	Sub total 3.1.				372,000	26
3.2.	Adaptive Research				-	-
	Sub Total 3				372,000	26
<b>4</b>	<b>Project Management Support</b>					
4.1.	Project Management and Implementation Units					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	mth	36	5,475	197,100	14
	Deputy Project Manager	mth	36	4,900	176,400	13
	Financial Management Officer	mth	36	2,800	100,800	7
	Procurement Officer	mth	36	2,800	100,800	7
	M&E Officer	mth	36	2,800	100,800	7
	Computer Operator	mth	36	2,585	93,060	7
	Driver	mth	36	2,250	81,000	6
	Sub total 4.1.a.				849,960	60
<b>b</b>	<b>District Operating Costs</b>					
	Communications	mth	36	1,125	40,500	3
	TRavel Allowances	district	3	220,000	660,000	47
	Office consumables	district	3	20,250	60,750	4
	Vehicle O&M	district	3	29,000	87,000	6
	Motorcycle O&M	bike	15	1,530	22,950	2
	Sub total 4.1.b.				871,200	62
	Sub total 4.1.				1,721,160	122
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
<b>a</b>	<b>Technical Specialists</b>					
	Banana Agronomist	mth	18	47,160	848,880	60
	Marketing Specialist	mth	9	47,160	424,440	30
	Post Harvest Specialist	mth	9	47,160	424,440	30
	Sub total 4.2.a.				1,697,760	120
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	mth	4	47,160	188,640	13
	Civil Engineer	mth	4	47,160	188,640	13
	Procurement Specialist	mth	4	47,160	188,640	13
	Sub total 4.2.b.				565,920	40
	Sub total 4.2.				2,263,680	161
	Sub Total 4				3,984,840	283
	<b>TOTAL COST</b>				<b>13,477,100</b>	<b>955.8</b>

No	Components	Unit	Volume	Unit Cost (000)	IDR (000)	USD (000)
	Spinner	Unit	4	3,800	15,200	1
	Mixer	Unit	6	7,000	42,000	3
	Trolley rack	Unit	8	3,000	24,000	2
	Oven Trays	Unit	40	100	4,000	0
	Stainless cupboard (lemari stainless)	Unit	4	4,000	16,000	1
	Stainless sink	Unit	4	2,500	10,000	1
	Stainless Tube	Unit	10	1,500	15,000	1
	Stainless Table	Unit	4	3,500	14,000	1
	Sacet pack of banana chips	Sachet	20,000	2	40,000	3
	Packaging box of banana chips	Box	1,000	16	16,000	1
	Sub total 2.2.d.				391,800	28
<b>e</b>	<b>Transportation Equipment</b>					
	Truck	Unit	1	400,000	400,000	28
	3-wheeled vehicles	unit	4	35,000	140,000	10
	Motor trail (utk monitoring pisang)					
	Sub total 2.2.e.				540,000	38
	Sub Total 2.2.				3,805,400	270
2.3	Strengthening Market Linkage & Alliances					
	Institutional development	package	1	730,000	730,000	52
2.4.	Access to Financial Services	il Review Semer	20	2,260	45,200	3
	Sub Total 2				4,580,600	325
<b>3</b>	<b>Strengthening Institutional Delivery Systems</b>					
3.1.	Capacity building and institutional development of MOA and Districts					
	Training for staff and farmer	package	2	146,000	292,000	21
	Staff Dinas	courses person	160	500	80,000	6
	Sub total 3.1.				372,000	26
3.2.	Adaptive Research				-	-
	Sub Total 3				372,000	26
<b>4</b>	<b>Project Management Support</b>					
4.1.	Project Management and Implementation Units					
<b>a</b>	<b>District Project Implementation Unit</b>					
	Project Manager	nth	36	5,475	197,100	14
	Deputy Project Manager	nth	36	4,900	176,400	13
	Financial Management Officer	nth	36	2,800	100,800	7
	Procurement Officer	nth	36	2,800	100,800	7
	M&E Officer	nth	36	2,800	100,800	7
	Computer Operator	nth	36	2,585	93,060	7
	Driver	nth	36	2,250	81,000	6
	Sub total 4.1.a.				849,960	60
<b>b</b>	<b>District Operating Costs</b>					
	Communications	nth	36	1,125	40,500	3
	TRavel Allowances	district	3	220,000	660,000	47
	Office consumables	district	3	20,250	60,750	4
	Vehicle O&M	district	3	29,000	87,000	6
	Motorcycle O&M	bike	15	1,530	22,950	2
	Sub total 4.1.b.				871,200	62
	Sub total 4.1.				1,721,160	122
4.2.	Project Management Consultant; Design and Supervision Consultants; Technical Specialist (individual)					
<b>a</b>	<b>Technical Specialists</b>					
	Banana Agronomist	nth	18	47,160	848,880	60
	Marketing Specialist	nth	9	47,160	424,440	30
	Post Harvest Specialist	nth	9	47,160	424,440	30
	Sub total 4.2.a.				1,697,760	120
<b>b</b>	<b>Design and Supervision Consultants</b>					
	Team Leader	nth	4	47,160	188,640	13
	Civil Engineer	nth	4	47,160	188,640	13
	Procurement Specialist	nth	4	47,160	188,640	13
	Sub total 4.2.b.				565,920	40
	Sub total 4.2.				2,263,680	161
	Sub Total 4				3,984,840	283
	<b>TOTAL COST</b>				<b>13,477,100</b>	<b>955.8</b>

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 9: Integrated Risk Framework (IRF)**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



<b>Risk categories</b>	<b>Risk Probability</b>	<b>Risk Impact</b>	<b>Mitigations/comments</b>
1. Political and governance	Low	Medium	Indonesia is a stable democracy and has worked to reduce the legacy of poor governance of the past. The project aligns closely with national development policy and is therefore not expected to face any any key risk during implementation.
2. Macroeconomic	Low	Medium	Provide facilitation and support to the farmer-based agribusiness organization and management in developing innovative technologies and practices in post-harvest product development, marketing development and expansion.
3. Sector strategies and policies	Low	Low	The project aligns closely with Indonesia's medium term development plan and agricultural sector strategies. In particular the project seeks to develop a replicable model for promoting more sustainable development and productivity in UPLANDs areas. This is in line with Government policy.
4. Technical aspects of project or program	Low	Medium	Activities will focus on strengthening demand-driven support of the extension system, combined with an upgrading of extension staff capacities and training facilities. Specialist TA recruited to mitigate major staffing skill deficiencies.
5. Institutional capacity for implementation and sustainability	Low	Medium	Provision of Institutional Specialist TA support to help establishment of proposed 6 BLUDs. Activities will focus on strengthening demand-driven support of the extension system, combined with an upgrading of extension staff capacities and training facilities. Specialist TA recruited to mitigate major staffing skill deficiencies.



Risk categories	Risk Probability	Risk Impact	Mitigations/comments
6. Financial management	Medium	Medium	<p>The assessment was conducted by reviewing government regulations and documents, interview several government officials at national and district and visited 3 targeted districts. 2. The significant strengths are DG AIF has extensive experience in implementing several project funded by the World bank, ADB and IDB. Some of the targeted districts currently are implementing IFAD funded projects, IPDMIP and READSI which are also applying on granting and TP mechanism. The weaknesses are that: (i) some districts have no prior experience in using on-granting mechanism; (ii) DG AIF have no experience with IFAD financial procedures which may affect the process of preparation of Withdrawal Applications (WAs), hence the disbursements. Under these circumstances, the overall FM risk rating is Medium (M). 3. Major capacity constraint needs to be addressed is the capacity of the financial management staff at national and district level to manage on granting mechanism and produce a timeline financial report especially at the early stage of the implementation. 4. Indonesian inherent risk is medium. Based on the Public Expenditure and Financial Accountability (PEFA) 2017 report, Indonesia made steady improvement in the quality of PFM including: (i) Aligning the legislative and regulatory framework to the latest international budget, accounting and reporting standards with the adoption of the COFOG classification and accrual accounting standards; (2) Establishing a multi-year budgeting framework and a robust macroeconomic fiscal framework to optimize expenditure management in line with revenue mobilization; (iii) Rolling out the FMIS SPAN as a platform for the integration of the Treasury system and the consolidation of cash management operations at the central government level; and (iv) Strengthening the effectiveness of the oversight function by the internal audit and external audit institutions. 5. The Indonesian Corruption Perception Index (CPI) score for 2017 according to Transparency International website is 38 (2016: 38; 2015: 36; 2014: 34; 2013: 32), scale 0-high and 100-low risk). 6. The appropriate mitigation measures proposed to reduce the risk are identified</p>
7. Procurement	Low	Medium	<p>Good planning, training and support for the procurement processes. Procurement initiatives will include; (i) strengthening of procurement planning and strengthening of e-procurement, e-monitoring systems; (ii) setting performance targets to improve procurement planning; (iii) implementing measures to increase competition, such as better procurement and capacity development; (iv) providing technical support for documentation quality especially for terms of reference prior to tendering; (vi) ensure access to the highest quality consultants including international experts; and (vii) conducting a procurement audits.</p>

Risk categories	Risk Probability	Risk Impact	Mitigations/comments
8. Stakeholders	Low	Medium	Provision of consistent support to NPIU by both IFAD and IsDB in supervision and advice, especially in establishing functional project management, supervision and monitoring systems for all 14 value chain sub-projects.
9. Environment and social	Low	Medium	Climate change adaptation will be carefully planned and implemented including; (i) implementing a climate change analysis and preparing viable and effective programs of climate adaptation; (ii) developing plans and climate resilient designs for soil and water conservation and irrigation; (iii) improving access to appropriate seed to meet climate impacts; (iv) improving access to climate information including weather and el Nino forecasts. Most district schemes are in areas of seismic and volcanic risks; impacts to small scale infrastructure and agriculture would however be minimal.
Overall	Low	Medium	The overall risk assessment is medium, that may be lowered to low as a result of the mitigating measures mainstreamed through the project design.

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 10: Exit Strategy**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## Annex 10: Exit Strategy

1. The development plan for each of the ten commodities across 14 districts in the UPLANDs Project is based on a detailed analysis and firm understanding of the current status and development opportunities for each of the value chains associated with each commodity. This includes the roles of the Project and the various institutions (some proposed) in the delivery of the development of each VC.
2. The key elements of sustainability and as a result, of developing a viable exit strategy for UPLANDs will be: (i) training; (ii) business planning; (iii) market linkages and alliances; (iv) access to credit; and (v) on-granting.
3. Training will be an important element of UPLANDs sustainability and associated exit strategy, and will include: (i) farmer training to ensure the technical skills are learned to enable uptake of new technology. In this respect the Project will specifically track the adoption rates by farmers of new technologies required to improve product outputs and quality – 80% of beneficiaries are expected to have taken up new technologies by Project close; (ii) 231 farmer extension workers will be re-trained to ensure they have the skills required to support farmers; (iii) farmers will be trained in financial analysis to enable them to understand gross margins and general farm profitability; (iv) post-harvest training will be delivered to farmers and market specialists. UPLANDs will train 22,000 farmers of whom 4,000 will be women. A cadre of youth and women will be trained as market assessors to ensure continuing emphasis of product quality; and (v) business training will be essential to ensure UPLANDs supported businesses (including BumDes, KUBE and BLUD) are established and strengthened on the basis of sound business practices. All training will be supported by technical assistance personnel with the necessary skill and experience.
4. Ensuring businesses formed or strengthened (at village, sub-district or district level) have an approved comprehensive business plan will be a vital element of ensuring sustainability. Business will not be established or strengthened just to undertake a required process or service - rather they will be carefully costed to ensure all costs are accounted for and that a detailed understanding of profits, costs, risks and opportunities are identified and measured. As a result, strong sustainable business development is also a key element of the UPLANDs Exit Strategy.
5. Access to credit (both seasonal and development finance) is critical in value chain development. UPLANDs will ensure that all enterprises have access to sufficient financial support to enable them to operate to optimal potential. Over the life of UPLANDs, businesses will be required to build sufficient resources to enable them to stand alone in terms of seasonal finance as well as to build greater equity which in turn will support use of greater investment borrowing to enable continued growth. In summary, farmers and businesses will be encouraged to build both their own seasonal finance and a strong balance sheet where equity and debt are in balance. Strong balance sheets and limited overdrafts are the hallmarks of sustainability and in UPLANDs will also be a clear factor in the Project exit strategy.
6. Market awareness for all value chain participants will also be a key aspect of sustainability and therefore a realistic exit strategy. All elements of production, post-harvest processing and marketing will be based on a full and clear awareness of the requirements, demand levels and potential returns in the market place. While this may be a part of any business plan, market awareness in commercial value chain development is a key sustainability and exit strategy for UPLANDs.
7. In the social context, women and youth will be strongly encouraged and in fact required to be part of the Project. Young people and women will be required to have strong representation in training and encouraged to participate in a number of UPLANDs activities.
8. There are risks associated with ensuring successful exit in a manner that ensures sustainability of UPLANDs beyond project closure. In addition to the elements outlined above, UPLANDs will adopt an on-granting approach to Project implementation. This will require districts to pre-finance budgeted activities, and as such will involve considerable awareness training for District Bupati (Mayors), Treasurers and other finance staff. But in the long run, on-granting will provide district staff with greater authority to demand services and delivery from national government agencies. As such, on-granting is a strategy to empower district governments, in the process building greater sustainability. Hence, a fully operational on-granting mechanism is an integral part of the UPLANDs Exit Strategy.

9. UPLANDs will monitor the successful achievement of both sustainability and therefore the exit strategy by tracking the key indicators in the logical framework analysis. This can be supplemented by tracking supervision mission reports in respect of business development and progress in building financial resources to fund seasonal finance and debt repayment.



## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex 12: List of eligible activities to be financed by FIPS**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



## **Annex 11: List of eligible activities to be financed by FIPS**

1. At this stage it is not expected that UPLANDs will access FIPs

## **Indonesia**

---

### **The Development of Integrated Farming Systems in Upland Areas (UPLANDs) Project Design Report**

#### **Annex: Fiduciary Summary**

Document Date: 03/12/2019  
Project No. 2000002234  
Report No. 5108-ID

Asia and the Pacific Division  
Programme Management Department



# FIDUCIARY SUMMARY OF COUNTRY PORTFOLIO



COUNTRY	Indonesia	CONCEPT NOTE	UPLANDS
<b>COUNTRY – Fiduciary KPIs:</b>			
Fiduciary Inherent Risk:	<b>MEDIUM</b>	<b>Public Financial Management</b>	
-2018 Disbursement Ratio <sup>1</sup>	5.1 % (divisional target: 17.1%)	<p>The inherent risk is deemed to be <b>medium</b>. Indonesia was ranked 89<sup>th</sup> out of 180 countries in the 2018 TI Corruption Perception Index, with a medium score of 38.</p> <p>The latest PEFA report for Indonesia was published in 2017. It described a reasonably well-functioning PFM system, with significant improvements from 2011 to 2016. The assessment over time shows significant improvements in the quality of PFM including: (i) Aligning the legislative and regulatory framework to the latest international budget, accounting and reporting standards with the adoption of the COFOG classification and accrual accounting standards; (2) Establishing a multi-year budgeting framework and a robust macroeconomic fiscal framework to optimize expenditure management in line with revenue mobilization; (iii) Rolling out the FMIS SPAN as a platform for the integration of the Treasury system and the consolidation of cash management operations at the central government level; and (iv) Strengthening the effectiveness of the oversight function by the internal audit and external audit institutions. in PFM systems linked to predictability and control over budget execution, particularly PEFA performance scores are slightly below B, which is above the basic level of performance broadly consistent with good international practices. According to the International Monetary Fund (IMF), Indonesia's public sector debt remains moderate. The debt dynamics have been also favourable, with strong real GDP growth and moderate real interest rates.</p> <p>Indonesia's external debt remains moderate and sustainable at 34.4% of GDP in 2017 after steady increase in recent years; however, the downward trend was projected at end-2017 with external debt declining to 34 percent of GDP. Furthermore, IMF alarmed that potentially weaker-than expected revenue, contingent liabilities from SOEs and PPPs should be carefully monitored to avoid the fiscal risk exposures; though total government debt was forecasted to be stabilized at 36 percent of GDP or 258 percent of revenue by 2022.</p> <p>The Indonesia portfolio consists of six investment projects, with a disbursement ratio of 5.1% in 2018 (USD 8.19 Million out of USD 162 Million). Three projects are in completion or closing stage (CCDP, VDP &amp; SOLID). Three projects are on the second year of implementation (IPDMIP, co-financed with ADB, READSI and SMPEI) and one project in preparation stage of implementation (YESS). The disbursement performance of IPDMIP &amp; READSI are unsatisfactory.</p>	
- Year to Date 2019	0.8% ( divisional annual target 17%)		
Disbursement Profile	Unsatisfactory		
Pending Obligations	<ul style="list-style-type: none"><li>Ineligible expenditure SOLID); refund processes ongoing for SOLID) around USD 29,000.</li><li>Ineligible expenditure for CCDP , (past closure IDR 131 580 000 (USD 9 398.57) of ineligible expenditure identified in 2017 audits has not been refunded.</li></ul>		
Counterpart Funding - Profile	Ranges from Mod. unsatisfactory to satisfactory		
PBAS – project's cycle coverage:	IFAD 11		
PBAS – allocation (IFAD 11) :	USD 84 355 555		
Replenishment contributions		IFAD10 pledge = USD 9.972 paid 10 million IFAD11 pledge = USD 10 million	
<b>PROJECT– Observations:</b>			
Project FM risk	<b>Medium</b>	The lead agency (DG AIF) is new to implementing IFAD projects and will be assessed for FM risk as part of design.	
Duration:	5 years		

<sup>1</sup> Disbursement RATIO = Disbursement during reporting period/ disbursable (available at beginning of reporting period)



<b>Financing Sources:</b> - IFAD - Islamic Bank - Government - Beneficiaries	<b>(USD millions)</b> 50 70 17 14	<b>(%)</b> 30% 17% 42% 11%	Like other projects in Indonesia, Uplands will be highly decentralised, with a central PMU and a large number of implementing entities (21) at provincial and district level. Based on lessons from ongoing projects, strong management and effective coordination systems will be essential to ensure efficient financial reporting and fund-flows, which will be key to successful project implementation. Uplands will be APR's first co-financing experience with IDB. During design FMD will liaise with IDB to ensure coordinated and harmonised donor practices for project FM and loan management.
<b>Proposed size:</b>	USD 151 million		
<b>Lending Terms:</b> - Current 2018 - Expected terms 2019 (IFAD11)	- Ordinary - Ordinary		
- The overall project cost is estimated at USD 151million, of which IFAD would provide a loan of USD 50 million (33%) and Islamic Bank a loan of USD 70 million (46%). Beneficiary contribution 14 million (9.3%) and Government's foreseen contribution of 11% to the project .			

### Ongoing Portfolio:

Project	Financing instrument	FLX Status	Lending Terms	Currency	Amount (million)	Completion date
VDP (ex PNPM)	G-I-C-1053-	DSBL	LOAN COMPONENT GRANTS	XDR	0.25	30/12/2018
	L-I--755-	DSBL	HIGHLY CONCESSIONAL TERMS 0.75 pc	XDR	42.03	30/12/2018
SOLID	G-I-C-835-	DSBL	LOAN COMPONENT GRANTS	XDR	0.68	30/01/2019
	L-I--835-	DSBL	INTERMEDIARY TERMS SDR	XDR	30.30	30/01/2019
CCDP	G-I-C-1392-	EXPD	LOAN COMPONENT GRANTS	XDR	1.19	30/12/2017
	L-E--16-	EXPD	ORDINARY TERMS EUR	EUR	6.29	30/12/2017
	L-I--880-	EXPD	ORDINARY TERMS SDR	XDR	15.87	30/12/2017
IPDMIP	200000144500	DSBL	ORDINARY TERMS EUR	EUR	93.15	30/03/2023
	200000144600	DSBL	LOAN COMPONENT GRANTS	EUR	1.41	30/03/2023
SMPEI (GEF5)	200000095600	DSBL	ECD GRANTS	USD	4.77	29/09/2021
READSI	200000195900	DSBL	LOAN COMPONENT GRANTS	USD	1.00	30/03/2023
	200000196000	DSBL	ORDINARY TERMS USD	USD	39.89	30/03/2023
YESS	200000260300	APPR	LOAN COMPONENT GRANTS	USD	2.00	09/12/2023
	200000260400	APPR	ORDINARY TERMS USD	USD	55.3	09/12/2023
IMPLI (GEF 6)	2000000957	QE Approved	ECD GRANTS	USD	4.895	10/05/2023

### B. PORTFOLIO, FM RISK & PERFORMANCE

Project	Financing instrument	Curr.	Amount (million)	Project risk rating	PSR quality of FM	PSR audit	PSR disb. rate	Disbursed to approved
VDP (ex PNPM)	G-I-C-1053-	XDR	0.25	Medium	Mod. unsatisfactory	Mod. satisfactory	Mod. satisfactory	76 %
	L-I--755-	XDR	42.03					100%
SOLID	G-I-C-835-	XDR	0.68	Low	Mod. satisfactory	Mod. satisfactory	Satisfactory	94 %
	L-I--835-	XDR	30.30					97 %
CCDP	G-I-C-1392-	XDR	1.19	High	Satisfactory	Satisfactory	Mod. satisfactory	94 %
	L-E--16-	EUR	6.29					100 %
	L-I--880-	XDR	15.87					83 %
IPDMIP	200000144500	EUR	93.15	Medium	Mod. unsatisfactory	Satisfactory	Highly Unsatisfactory	4 %
	200000144600	EUR	1.41					32 %
SMPEI (GEF5)	200000095600	USD	4.77	Medium	Mod. Satisfactory	Not yet assessed	Unsatisfactory	9%
READSI	200000195900	USD	1.00	Medium	Mod. satisfactory	Not yet assessed	Unsatisfactory	30 %
	200000196000	USD	39.89					6 %
YESS	2000002603	USD	2.00	Medium	Not yet assessed	Not yet assessed	Not yet assessed	0%
	2000002604	USD	55.3					0%
IMPLI – GEF 6	2000000957	USD	4.895		Not yet assessed	Not yet assessed	Not yet assessed	0%

VDP (ex-PNPM) was administered by the World Bank from 2009 to 2014, under a co-financing arrangement. In early 2017, implementation was resumed with remaining IFAD funding under modified arrangements and IFAD supervision. The project's closing date is 30<sup>th</sup> June 2019. The 2017 audit was qualified with audit observations including poor contract management, overpayments and weak internal controls. Ineligible expenditure was resolved for VDP with the last transfer from Ministry of Finance to Designated Account in Q1, 2019. Sufficient internal control system should be set up . Risk identification and risk analysis needed to be conducted in a structured, formal, and comprehensive manner for the new project.

**SOLID** is jointly funded by an IFAD loan of US\$49.11 million, an IFAD grant of US\$1.08 million and a Government of Indonesia contribution of \$14.81 million. It is implemented by the Ministry of Agriculture and has been effective since 2011. FM and disbursement performance have picked up since 2016. FM risk, high in 2015, is now assessed to be low based on positive feedback from ACD and supervision mission in 2017 and 2018. The project closing date is 31<sup>st</sup> July 2019. Ineligible expenditure from audit prior to FY 2017 has been cleared and been transferred to Designated Account (DA). Current DA balance for Loan is USD 612,514.39 and for Grant USD 7,353.60.

**CCDP**, (with PCD 30/12/2017) managed by the Ministry of Marine Affairs and Fisheries, completed in December 2017 and passed closing date on 30 June 2018. Some delays with the account closure due to pending obligation on ineligible expenditures in the amount of IDR 128.4 million (USD 9,171). Two closure letters were sent on 02 October 2017 and 15 May 2018 on the pending obligation. The risk has been raised to high in view of the potential negative impact from the pending obligation on the portfolio.

**IPDMIP**, co-financed by ADB, was approved in December 2015. The main executing agency for IFAD's portion of the funding is the Ministry of Agriculture, with oversight from the Ministry of Works on the entire programme. Start-up has been slow with a two year gap from the date of approval to the first disbursement date (Dec 2017), due in large part to the complexity of implementing through the Government's on-granting mechanism for the decentralisation of resources to sub-national levels which is new to IFAD-funded projects, and disbursement performance is **highly unsatisfactory** with only 3.75% for the loan and 31.62% for the grant including the initial advances. The project closing date is 30<sup>th</sup> September 2023.

**READSI**, implemented by the Ministry of Agriculture was approved by the September 2017 EB. The project's closing date is 30th September 2023. The project has not fully started up yet although preparatory activities are ongoing. However, the disbursement rate was rated as unsatisfactory as of 28 February 2019, total cumulative disbursement was USD 2.99 million (5%) with USD 2.5 million (6%) for loan and USD 0.3 million (30%) for grant, which are outstanding initial deposit for the project. Like IPDMIP, READSI is implemented through on-granting systems. The first audit submission is due in 30 June 2019. Disbursement performance is not satisfactory.

**SMPEI** is implemented by the Ministry of Environment with GEF funding. The financing agreement was signed in July 2017, the project is in the initial phases of implementation.

**IMPLI** is implemented by Ministry of Environment and Forestry with GEF funding. The project has been approved by both IFAD and Government of Indonesia. Financing agreement is expected to be signed in 2019.

**YESS** is implemented by Ministry of Agriculture (Executing Agency). The Financing Agreement was signed in March 2019. The project is currently under start-up preparation period.

Overall, all IFAD-funded projects in Indonesia are fully mainstreamed through national public financial management systems (budget, treasury, accounting, asset management, audit). Based on lessons from ongoing projects, strong management and effective coordination systems will be essential to ensure efficient financial reporting and fund-flows, which will be key to successful project implementation.

Due to a change in Government policy, there has been a rapid deterioration in country disbursement performance and project implementation. The current mechanism allows the national level to reimburse only based on output delivery. However, the local government is often not sufficiently confident to pre-finance the project activities thereby creating a bottleneck. Implementation progress and disbursement could be improved by providing advance payments based on some key indicators. To speed up the project implementation progress, the project design mission needs to agree on eligibility criteria showing certain activities have been completed prior to main activities. The mechanism for providing advance should be clearly described in the PIM, that should be properly translated and distributed to DPIUs and local government.

Delay in disbursement due to on granting agreement process • Delay in disbursement due to delay in submitting withdrawal application mitigation action : Financial management consultants recruited need to assist project financial management at national and district level.

PMU work with MoF provides on granting mechanism training. IFAD needs to provide training on financial management procedures, including disbursement requirements

Sufficient internal control system should be set up. Risk identification and risk analysis needed to be conducted in a structured, formal, and comprehensive manner for the new project.

The project will be audited by BPK (SAI), in contrast to the situation to date as IFAD-funded projects have always been audited by BPKP (Gol Internal Audit) except READSI. Adopting a harmonised approach with other IFIs, BPK (SAI) as a member of INTOSAI, should be the external auditors for IFAD Projects and it should be.