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Scoping Study of Rural Finance for Australia-Indonesia Partnership for Decentralization

Rural Economic Development (AIPD-Rural)

Final Report

9 September 2013

PREFACE

This document is the Final Report[1] for the AIP-PRISMA Scoping Study of Rural Finance. The report is based on the key findings and recommendations of the mission conducted by the Consultants during 1-18 June, 2013. The final report incorporates the comments of the AusAID AIP-PRISMA team. The Consultants would like to acknowledge the input provided by many stakeholders in Jakarta and Eastern Indonesia who generously gave their time. The views expressed in this report are those of the Consultants' Team and do not necessarily reflect the views of AusAID.

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Team Leader
9 September 2013

[1]To be referred as Goletti, F., M.A. Carpio, A. Mongid, and R. Tomasoa (2013) *Final Report for Scoping Study of Rural Finance for Australia-Indonesia Partnership for Decentralization*, AIP-PRISMA, Jakarta, 9 September 2013.

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ABBREVIATIONS

A2F	Access to Finance
ADB	Asian Development Bank
AIPD Rural	Australia-Indonesia Partnership for Decentralisation – Rural Economic Development (AIPD Rural
AM	Aide Memoire
AusAID	Australian Agency for International Development
BAPPENAS	Badan Perencanaan Pembangunan Nasional (National Planning Board)
BI	Bank Indonesia
BKD	Bank KreditDesa (Rural Credit Bank)
BPD	Bank Pembangunan Daerah (Regional Development Bank)
BPR	Bank Perkreditan Rayat (People's Credit Bank(
BUMDes	Badan Usaha Miik Desa (Village Owned Enterprise)
BRI	Bank Rakyat Indonesia
Jamkrida	Penjaminan Kredit Daerah (Regional Loan Guarantee Company)
Kopdit	Koperasi Kredit (Loan and Saving Cooperative)
KUR	Kredit Usaha Rakyat (Peoples Business Credit)
MSME	Micro Small and Medium Enterprises
OJK	Otoritas Jasa Keuangan (Financial Services Authority)
PODES	StatistikPotensiDesa (Village Potential Statistics)
PRISMA	Promoting Rural Income through Support for Markets in Agriculture
RLF	Revolving Loan Fund
Susenas	Survey Sosial Ekonomi Nasional (National Socio-economic Survey)
TNP2K	Tim Nasional Percepatan Penanggulangan Kemiskinan; (National Team for Accelerating Poverty Reduction)
UMKM	Usaha Mikro, Kecil dan Menengah (Micro, Small and Medium Enterprise)

EXECUTIVE SUMMARY

1. Access to financial services is emerging as a potentially important component of the market systems (M4P) approach adopted in the AIPD-Rural's PRISMA program. The AIP-PRISMA program anticipates that in order to effectively address various constraints and respond to beneficiaries' needs in regard to access to financial services, a range of interventions might be required to support the development and use of efficient and sustainable financial products. The objective of this Scoping Study of Rural Finance is to present the findings and recommendations of a Mission conducted in Indonesia between June 1 and June 21, 2013 including field visits to East Java, NTB, and NTT provinces.

2. **The Financial Needs of Beneficiaries**. The target group of AIP-PRISMA includes poor and near poor farmers in the target districts. The beneficiaries are smallholder farmers, often with a low education level, relatively isolated from the public agricultural and research system, some of them also isolated geographically. There is a great degree of heterogeneity among the beneficiaries in terms of agro-ecological environment, type of value chain, socio-economic development of the areas where they live and farm, as well as their income sources. As a consequence of this heterogeneity, the financial needs of target beneficiaries are quite diverse and more detailed information will be required to develop suitable interventions. The target group are highly vulnerable even to minor shocks to their income. Additionally, the high variability of agricultural production and income due to climate shocks, volatile market conditions, and various pests and diseases affecting agricultural production can affect their livelihood considerably. There are however little insurance services available to the target group, and none in terms of agricultural insurance. The mission was able to make preliminary notes about financial needs of farmers in terms of size, terms, and purpose; however, a more in-depth assessment based on an appropriate survey will be needed to assess the effective demand of farmers for financial services. In addition to a diversified range of credit products, saving, and insurance products might be required by target households.

3. The Mission has also identified constraints in the demand side including the lack of secure land and fixed asset titles of a large number of smallholder farmers; exposure to risk arising from shocks to production, price volatility, and highly fluctuating demand; limited financial literacy; weak value chain integration; and limited presence of effective farmer organizations.

4. **The supply of financial services.** The range of financial service providers currently serving the target group (i.e. smallholder farmers) includes a combination of (i) formal institutions such as commercial and rural banks; (ii) semi-formal institutions such as the UPK Revolving Loan Funds and farmer associations; and (iii) informal providers such as private lenders, input suppliers, collectors, buyers, friends and relatives. In most cases, commercial banks and regional development banks maintain a limited proportion of their portfolio devoted to agriculture (e.g. for Bank Jatim, this is less than 5%; and for Bank NTT, this is about 1% of total loan portfolio). More generally, banks hardly lend to poor/near poor farmers given the high cost of delivery and the perceived high risk of these target groups. Similarly, rural banks focus lending mostly on micro and small enterprises that are able to generate a more even cash flow (e.g. those in trading). There seems to be a much stronger emphasis placed on "productive activity lending" – under which agricultural / production activities constitute a small proportion. Thus, direct lending by formal financial institutions to small-scale farmers is currently very limited.

5. Financial service providers face a number of constraints that explain their limited interaction with agriculture (more generally) and with small-scale farmers (specifically) including (i) high costs of delivering small-scale financial services, especially in the rural/agricultural sector; (ii) limited

agricultural market knowledge; (iii) use of standard (less innovative) credit risk management practices among financial institutions; and (iv) limited range of products offered.

6. **Business and policy environment**. Currently there are several government loan programs that are targeting agriculture and small enterprises; the most important of these programs are KKPE, KUPS, KPNRP, and KUR. KUR is the only program with loan guarantee. The rest (KKPE, KUPS, and KPENRP) are using subsidized interest rate cost scheme. The current policy of the government is to use only one scheme for one loan program, so for example because KKPE has received subsidized interest rate cost from the government, it will not be guaranteed by the government and vice versa for KUR. That is why the interest rate of KUR is much higher compared to the other loan programs since the interest rate cost is not subsidized by the government. Currently Bank Indonesia has not conducted evaluation/assessment of the above government loan programs.

7. In 2012, Bank Indonesia issued a regulation to promote financing to micro, small, and medium enterprises (MSME). The target for 2018 is a loan ratio to MSMEequal to 20% of bank's total loan. The target beneficiaries of the AIP-PRISMA program will most likely fall under the micro enterprise category of the Bank Indonesia regulation. However since Banks are not specifically required to lend to agriculture sector under this regulation, it remains to be seen whether banks will increase their portfolio in agriculture or choose other sectors such as trading that are usually perceived to be less risky by banks.

8. To support access to credit for farmers and farmer groups, Indonesia introduced the Law No. 9 of 2006 on Warehouse Receipt System. For warehouse receipt, the usage of warehouse receipt by smallholder farmers is also not very encouraging. Despite the interest rate cost subsidy given by government (around half of the commercial rate are shouldered by the government) smallholder farmers are still unable to take advantage of using warehouse receipt to provide financing for them.

9. Currently there is no private insurance company in Indonesia which is providing agricultural insurance. For small loans provided by banks, only life insurance is common in Indonesia. Ministry of Agriculture has started conducting pilot project for crops insurance for the planting season of 2012/2013 and also a pilot for cow insurance. In spite of subsidies provided by the Government, the results are not encouraging so far. Additional efforts are required to improve the design of insurance schemes and awareness among smallholders, particularly for livestock insurance.

10. **Gaps and Options**. The analysis of constraints has highlighted a number of gaps existing between financial needs of target beneficiaries and supply of financial services. The gaps are related to (i) economies of scale; (ii) risk management; (iii) capacity and knowledge; and (iv) policies and institutions. For each gap, options for AIP-PRISMA have been identified, prioritized, and assessed. The analysis has led the Mission to make recommendations as follows.

11. **Recommendations.** Some of the recommendations are for the short-term (1-2 years) and could be picked up by AIP-PRISMA relatively quickly. These include (i) a study of effective demand for financial services in the target districts; (ii) technical expertise on access to finance to AIP-PRISMA Team; and (iii) capacity building to farmers to improve their financial literacy and farm budgeting skills and to financial institutions to improve their understanding of agricultural value chains and value chain financing.

12. In the medium-term (2-5 years), the Mission recommendations include measures aimed at (i) improving value chain financing drawing on an already vast and growing literature and collection of good practices; and(ii) partnerships with other organizations working on agricultural insurance, mobile banking, warehouse receipts, and policy.

1 INTRODUCTION

1.1 BACKGROUND

13. AusAID's new Rural Economic Development Program, known as the *Australia-Indonesia Partnership for Decentralization – Rural Economic Development* **(AIPD Rural) will work in 20 districts of 5 provinces in Eastern Indonesia**: East Java, NTB, NTT, West Papua and Papua. In addition to these 20 districts, 4 additional districts will be included in the provinces of Maluku, D.I. Yogyakarta, Central Java, and West Sumatra**.** The AIPD Rural Program will consist of two distinct but complementary funding streams and the first and largest share will go to financing an activity called *Promoting Rural Income through Support for Markets in Agriculture* (AIP-PRISMA).

14. **Access to financial services is emerging** as a potentially important component of the market systems (M4P) approach adopted in the AIPD-Rural's PRISMA program.

15. The AIP-PRISMA program anticipates that in order to effectively address various constraints and respond to beneficiaries' needs in regard to access to financial services, **a range of interventions might be required**, including facilitating access to financial services, providing information and capacity building to both supply and demand side institutions to support the development and use of efficient and sustainable financial products. In broad terms, the possible options for this support include: a stand-alone activity to promote increased access to financial services; the integration of support for financial services within PRISMA's program activities; and partnerships and cooperation with other donors, government and both formal and informal financial service providers.

1.2 OBJECTIVES AND ORGANIZATION OF THE DRAFT FINAL REPORT

16. This document is the *Final Report*[2] of the Mission on *Scoping Study of Rural Finance for Australia-Indonesia Partnership for Decentralization*. **The *Final Report*is the fourth deliverable** of this consultancy and aims at presenting the key findings and recommendations of the mission conducted on 1-18 June, 2013. The *Final Report* follows the *Inception Report* submitted on 7 June 2013 and the *Aide Memoire* submitted on 18 June 2013, and the *Draft Final Report* submitted on 12 July 2013. The *Final Report* is organized into seven sections as follows:

Section 1	Introduction
Section 2	Financial Needs of the Beneficiaries
Section 3	Supply of Financial Services in AIP-PRISMA locations
Section 4	Business and Policy Environment
Section 5	Gap Identification between Financial Needs and Services Provision
Section 6	Options Identification and Assessment
Section 7	Recommendations.

1.3 METHODOLOGY

17. The mission has addressed the following key questions**.**

18. **Demand Side**

[2]To be referred as Goletti, F., M.A. Carpio, A. Mongid, and R. Tomasoa (2013) *Final Report for Scoping Study of Rural Finance for Australia-Indonesia Partnership for Decentralization*, AIP-PRISMA, Jakarta, 8 September 2013.

- Who are the beneficiaries and what are their financial needs?
- To what extent and how are the beneficiaries currently meeting their financial needs?
- What are the key constraints of beneficiaries to meet their financial needs?

19. **Supply Side**

- Who are the main financial service providers (both formal and informal)?
- How do they provide financial services to the beneficiaries?
- What are the constraints of financial service providers in meeting the demand of beneficiaries?

20. **Gap Analysis**

- What are the main gaps in demand and supply?
- How can we prioritize these gaps?

21. **Options Analysis**

- What are the options available to address the prioritized gaps?
- What are the advantages and disadvantages of each option?

22. **Recommendations**

- What are the options more suitable for AIP-PRISMA?

23. **In order to address these questions**, the Mission Team conducted the following activities:

i. Review of relevant literature;
ii. Compile and summarize relevant data;
iii. Conduct key informant interviews both in Jakarta and in the three provinces of East Jawa, NTT, and NTB;
iv. Prepare and present an Aide Memoire after returning from the Eastern Indonesia field work;
v. Prepare a draft Final Report;
vi. Prepare a Final Report based on comments from the AIP-PRISMA team.

2 FINANCIAL NEEDS OF THE BENEFICIARIES

2.1 Target beneficiaries

24. **The beneficiaries of the program are poor and near poor farmers** in the target districts. The definition of beneficiaries takes into account both their main occupation (i.e. farmers, broadly understood to include crop, livestock, and fishery activities) and their income level (as per prevailing definition of poverty in Indonesia). By considering both the poor and near poor, the project can address that large number of people who are clustered at the bottom of the income distribution and for which small changes in the poverty line make a substantial difference[3]. More than half of the farmers in the target districts are poor and near poor and they have been estimated by AusAID to be around 1.2 million.

25. **Size of landholding is not an accurate predictor of poverty**. In most cases, the beneficiaries will be smallholders with farm size between 0.2 and 3 ha. However, in some cases, land size (particularly in areas such as NTT, where water availability is an issue and much of the land is not productive), might not be a good indication of poverty (a landholding of 10 ha of upland or land without much access to water could be consistent with poverty). In NTB, some farmers also rent land in addition to their own land especially for planting shallots. Similarly, in the case of specialized livestock farmers, landholding is not the most relevant indicator. A poultry farmer who is able to produce 2,000 birds per cycle or a pig farmer fattening 20 piglets per cycle will not require much land in addition to a chicken coop area or piglet sheds. Similarly, land size is not a relevant indicator for a fisherman.

26. **Low education level** of many of the beneficiaries might be relevant to agricultural income. Lower education level makes it more difficult to learn and adopt productivity-enhancing practices both in production and post-production activities. In very extreme cases, there might be numeracy issues, or financial literacy issues to consider (e.g. some may not be used to developing budgets).

27. **Isolation from government extension and research organizations**. Considerable amount of the agricultural extension work seems to be provided by the private sector or NGOs. During the mission, the public extension and research systems were notably absent. This probably is a biased conclusion obtained from a very short visit. Nevertheless, it would not be surprising that most of the beneficiaries are not reached by the extension and research system. Other studies (see for e.g. IFC, 2007, World Bank 2007) would support this conclusion.

28. There is a **great degree of heterogeneity** among the beneficiaries in terms of agro-ecological environment, type of value chain, socio-economic development of the areas where they live and farm, as well as their income level (driven in part by the extent to which they depend on a single commodity and have non-farm income sources). In Kupang, most farmers seem to have low productivity and are poorly integrated with value chains. In Malang, on the other hand, even smallholders seem to have relatively good productivity and are in proximity of relatively well developed markets and service providers. In Bima (in NTB), the farmers visited rely on the production of two crops - shallots and paddy – and reported to have regular buyers. In East Java, water for irrigation seems to be generally available, whereas in NTT water availability is a major constraint for agriculture. As a consequence of this heterogeneity, the financial needs of target

[3] In 2002, the population living below the international poverty line of $1/day (in 1993 purchasing power parity terms) was just 7.5 percent. In contrast, the population below $2/day was 52.4 percent (IFC 2007, Indonesia: Rural Finance Mapping).

beneficiaries are quite diverse and more detailed information will be required to develop suitable interventions.

2.2 Vulnerability

29. As already mentioned, **the poor and near poor are highly vulnerable even to minor shocks to their income**. A small change in income might precipitate households from a near poor level to below the poverty line. Additionally, the high variability of agricultural production and income due to climate shock, volatile market conditions, and various pests and diseases affecting agricultural production can affect their livelihood considerably. Agricultural risk compounds with household or individual shocks (e.g. sudden illness within the family) that result in a highly vulnerable condition among the beneficiaries of the PRISMA program. Beneficiaries might not have access to facilities (e.g. savings) that might allow them to cope better with some of these shocks.

2.3 Location

30. **Weak access to infrastructure in Eastern Indonesia**: the provinces where beneficiaries live (with the exception of East Java) have poor road density, unreliable energy supplies, limited access to irrigation, and poor access to water and sanitation. Thanks to mobile revolution, communication infrastructure has considerably improved, although some of the most remote areas in Eastern Indonesia might still have problems of access to communication. Access to physical branches of financial institutions might be less of a problem than access to other services such as hospitals (WB 2010, A2F Study).

31. **Remote areas.** The farmers met during the mission by the Consultants do not appear to be very isolated from markets; although some NGO representatives met by the Mission were from more isolated areas. Given the archipelagic geography of Indonesia, many households in more remote islands and hilly areas are indeed isolated and therefore more vulnerable to shocks arising from climatic events, natural disasters, or pest attacks and diseases. Effectively reaching these farmers will be a challenge for AIP-PRISMA – and more so, when we consider the need to deliver financial services to beneficiaries in these remote areas. More innovative systems of delivery through the application of mobile technology might provide opportunities.

32. **Economic centers.** In each of the provinces and districts of the target areas there are centers of economic importance and markets that could absorb the food and agricultural surplus of beneficiaries. For example, Surabaya is a major market (the second largest city in Indonesia), and as such, has a vast direct and indirect demand for food and agricultural products from East Java and neighboring provinces. In the case of NTT, surplus products such as cattle and maize can also be exported to other islands and provinces of Indonesia; while vegetable products can be traded even to East Timor. Similar observations can be made for shallots produced in NTB. The rapidly growing income of Indonesian households (on average) could allow a rapid increase in the demand for horticultural products throughout the archipelago (see USAID 2008 Indonesia Economic Growth Sector Assessment).

2.4 Financial needs

33. **Determining the financial services needs of beneficiaries is a complex undertaking**. Many, if not all, individuals will always claim that they want or need loans and other financial services. But as with any market intervention, determining the demand for financial services needs to take

account of what is referred to as “effective demand” – i.e. those individuals and households who do not only claim that they need/want financial services, but who are actually capable of making effective use of these services.

34. It is important to note that in the absence of any comprehensive demand-side information on the financial services needs of beneficiaries, the Mission endeavored to conduct some meetings with farmers and farmer groups during the field visits to East Java, NTT and NTB. The findings from these meetings have also been complemented by reviews of other literature on the demand for financial services in the country and in the specific locations (where available). Based on the interviews conducted, we have taken note of some of the financial services that beneficiaries may need to support their economic activities. These should be taken as purely indicative at this stage; **further detailed analysis of the financing requirements among farmer-beneficiaries** (if and when effective demand is determined) will be necessary.

Table 1 Typical Agricultural Activities in Target Districts

Activity to be financed	General terms and conditions of the loan or financing package	
	Term	**Size**
Purchase of Annual Crop Inputs (e.g. seed/breed, fertilizer, pesticides), land preparation, harvesting, weeding	Short term (3-6 months)	Small (less than Rp. 10 million/ha) for grains and horticulture Medium (but less than Rp. 30 million/ha) for spices (e.g. chilli), sugarcane, shallots
Perennial Crops (e.g. cocoa, coffee) including purchase of input and initial investment in planting	Medium-long term (4-8 years)	Medium-large (Rp. 50 million/ha)
Animal production (poultry, pig, dairy, beef, aquaculture) including inputs (feed, health and veterinary services) and fixed investment in structures (sheds, pens, water system, waste disposal …)	Short term (3-6 months) for small livestock (poultry and pig, fish) Medium term (2-5 years) for cattle and dairy cows	Depends on the number of animals. For 10 piglet fattening cycle about Rp. 30 million
Livestock (cattle, dairy cow) investment in animal stock	Medium term (2-5 years) for cattle and dairy cows	Medium-high (Rp. 40 million for cow).
Purchase or acquisition of equipment (small tractor, pumps, dryers, harvester, thresher, seeder, pickup trucks, packaging machine)	Medium term (2-5 years)	From small (Rp. 3 million for a pump) to big (Rp. 200 million for a pickup truck)
Building Infrastructure (wells, tanks, canals, green house, storage facility)	Medium-long term(2-10 years)	Medium-high

35. **In most cases encountered by the mission, the financial needs of beneficiaries seem to be modest in terms of size**: most production activities were based on annual crops (the mission did not have the opportunity to observe perennial crops or cattle operations) or livestock activities such as pig production. Annual crop production does not require large working capital. In the case of areas where water is not readily available through surface irrigation system, a well might be needed, which might involve some form of investment (e.g. in Kupang Timur, about Rp. 5 million is required to build a shallow well at 10 m of depth). In most cases observed, the equipment is basic, mechanization is rather limited, and most of the working capital is for the purchase of inputs (i.e. seeds, fertilizer, and plant protection). Given the small size of holdings, working capital varies between a few hundred thousand Rupiah and Rp. 5 Million.

36. **In the case of livestock farmers, the amounts are larger**; for 10 piglets, one cycle might involve Rp. 25 million with a profit of Rp. 5 million over a period of 4 months. In case the farmer

would like to expand the operation from 10 to say 50 piglets, then some investment in infrastructure (sheds, waste disposal) and working capital will require considerably more resources and some reliable financing mechanism in addition to or to complement the existing informal mechanisms used. In NTB, shallot farmers need around Rp. 23 million in one session of shallot planting. Shallot requires much more capital than other crops such as peanut although revenues could also be much higher in shallots (but the price is highly variable).

37. **These amounts are often either available to the farmers through their own funds or through informal channels** (e.g. borrowing from friends or relatives, as well as from collectors or input traders who may also lend in kind). In some cases, farmers are able to access credit directly through cooperatives, rural banks and some commercial banks (e.g. BRI in Bima). Most loans extended are on individual basis, although one rural bank in East Java reported using group lending methodology to reach small-scale farmer clients. While some farmers are able to access formal financial services access for this target group is still largely limited. Those without access to formal financial services resort to borrowing from moneylenders, from family/friends, or from input traders and/or collectors. Credit provided by traders and collectors is a type of value chain finance; but in the locations visited, the credit is not part of a contract (such as a farming contract) between farmers and agribusiness companies, and is usually informally administered.

38. **Some farmers met during the Mission have expressed the need for insurance products**, such as crop and livestock insurance, or insurance to protect them from high price fluctuations. In the latter case (insurance against price fluctuations), there are no financial products available to small farmers (such as hedging with futures or options, or weather indexed insurance[4]); in the case of grains or durable products (e.g. coffee and cocoa beans), warehouse receipts are available in some cases (e.g. a scheme involving Bank Jatim) but are not designed for poor or near poor farmers.

39. **Farmers in NTT stressed the importance of savings** to improve security and facilitate learning about financial management. This is consistent with the findings from the larger survey on Access to Finance by the World Bank (2010).

2.5 Access to finance constraints faced by beneficiaries

40. **Lack of land and fixed asset titles**. As lending by banks is heavily collateral-based (most require land and fixed asset certificates), many farmers find it difficult to qualify for bank loans, given their lack of proper documentation[5].

[4]IFC, 2010 explore the issue for maize producers in Eastern Indonesia.

[5]Approximately 60 percent of landowners in Indonesia hold their land informally. Their land has not been mapped and measured, their rights have not been verified, and their legal interests have not been registered. They do not hold the land certificates that evidence their land rights under formal law. As such, these landowners are unable to take advantage of one of the most valuable attributes of land rights– the ability to use land as collateral. Even when smallholders receive land certificates, they rarely have the knowledge or means to use the certificate as collateral for credit (IFC 2007, Indonesia: Rural Finance Mapping). Moreover, disputes over land title in East Java, NTT and NTB are widespread (Abdurrachman, 2004). Land disputes are relatively difficult to resolve, because some people do not want to accept the decision of the court. Land conflicts are common in indigenous areas. This conflict usually involves communal fight. Land conflicts also occurred between plantation companies and smallholders to compete for agricultural land.

41. **Risks associated with high price fluctuations (e.g. chili, shallots) and shocks arising from climatic events, pests and disease attacks, and natural disasters**.

- Price volatility – in some cases, price shifts can be quite dramatic between cycles (which appear to be partly driven by changes in production, as well as the policy environment);
- Dramatic reductions in yield –as brought about by unforeseen weather changes (e.g. consistent rain over long periods in Bima or pest attacks to vegetables in Kupang);
- Loss of / reduction in (cash) income when sales go down (whether in terms of changes in price or production/yield), which is significant especially for those farmers who plant a limited range of crops only and/or do not derive income from non-farm activities.

42. **Limited financial literacy**, an important factor explaining the difficulty most beneficiaries would have in complying with bank requirements. In fact, the A2F survey of the WB (2010) identified education and financial literacy as important determinants of demand for financial services. Financially literate persons are 8% more likely to have a saving account than financially less literate persons.

43. **Weak value chain integration**. Beneficiaries have immediate links with input suppliers and collectors. However, most farmers do not establish linkages among themselves and with other value chain actors (e.g. traders, processors) in order to gain from economies of scales or value addition activities. Beneficiaries do not have much understanding of value addition through value chain integration and how to benefit from it.

44. **The implications of this lack of integration are twofold**: on the one hand, beneficiaries have weaker linkages with financial services providers, and on the other hand, farmers are less able to benefit from innovations and better prices that stronger value chain integration with agribusiness enterprises could facilitate. Active participation of beneficiaries in a well-integrated value chain would make them more credible clients of financial institutions. For example, a vegetable farmer in NTT who has hardly any linkages with input providers (e.g. seeds or fertilizer), extension service providers, traders, transporters, processors, cold chain storage providers, modern retail stores, and packhouses will most probably continue to work either at subsistence level, or produce little for the market. Addressing such a farmer's financial needs for improving productivity will also be severely constrained by virtue of his/her limited access to technology and market knowledge. The absence of good linkages with other vegetable value chain actors would not make him/her a good client for a financial institution.

45. **Limited presence of effective farmer organizations.** Farmers and farmer groups encountered by the Mission appear to be weakly organized in terms of marketing, inputs supply, production planning, and access to finance. If productive and value adding improvement have to occur to benefit the target group, there is a need for effective farmer organizations (including well-governed cooperatives) through which farmers could improve their access to technology, markets, and finance. There is also a need for effective contract farming arrangements (for good practices in Indonesia see Ian Patrick 2004[6]) where credit, inputs, technical and management advice and risk spreading are combined in order to maximize productivity.

[6]Contract farming in Indonesia: Smallholders and agribusiness working together, ACIAR Technical Reports No. 54.

3 SUPPLY OF FINANCIAL SERVICES IN AIP-PRISMA LOCATIONS

3.1 Observations on how credit is provided to the target group

46. **The range of financial service providers currently serving the target group** (i.e. smallholder farmers) includes a combination of (i) formal institutions such as commercial and rural banks; (ii) semi-formal institutions such as the UPK Revolving Loan Funds and farmer associations; and (iii) informal providers such as private lenders, input suppliers, collectors, buyers, friends and relatives. Formal financial institutions serving the target group include:

- Rural banks or BPRs – some are even starting to provide microcredit via group lending mechanisms (e.g. in East Java);
- Some commercial banks – e.g. BRI in Bima, and Bank NTT in Kupang;
- Credit unions and financial cooperatives;
- Regional development banks – although those visited during this mission appear to be mostly channelling wholesale loans via conduits such as BPRs and cooperatives; and
- Commercial banks providing wholesale facilities – e.g. Bank Andara, via its linkage banking program with affiliate cooperatives and BPRs.

47. Figure 1depicts **the flow of credit from various financial service providers**, as observed during the mission. It is important to note that while various financial institutions provide credit to the target group (whether directly or indirectly), the volume of loans extended to the sector is not considered nor expected to be significant (compared to lending to other sectors).

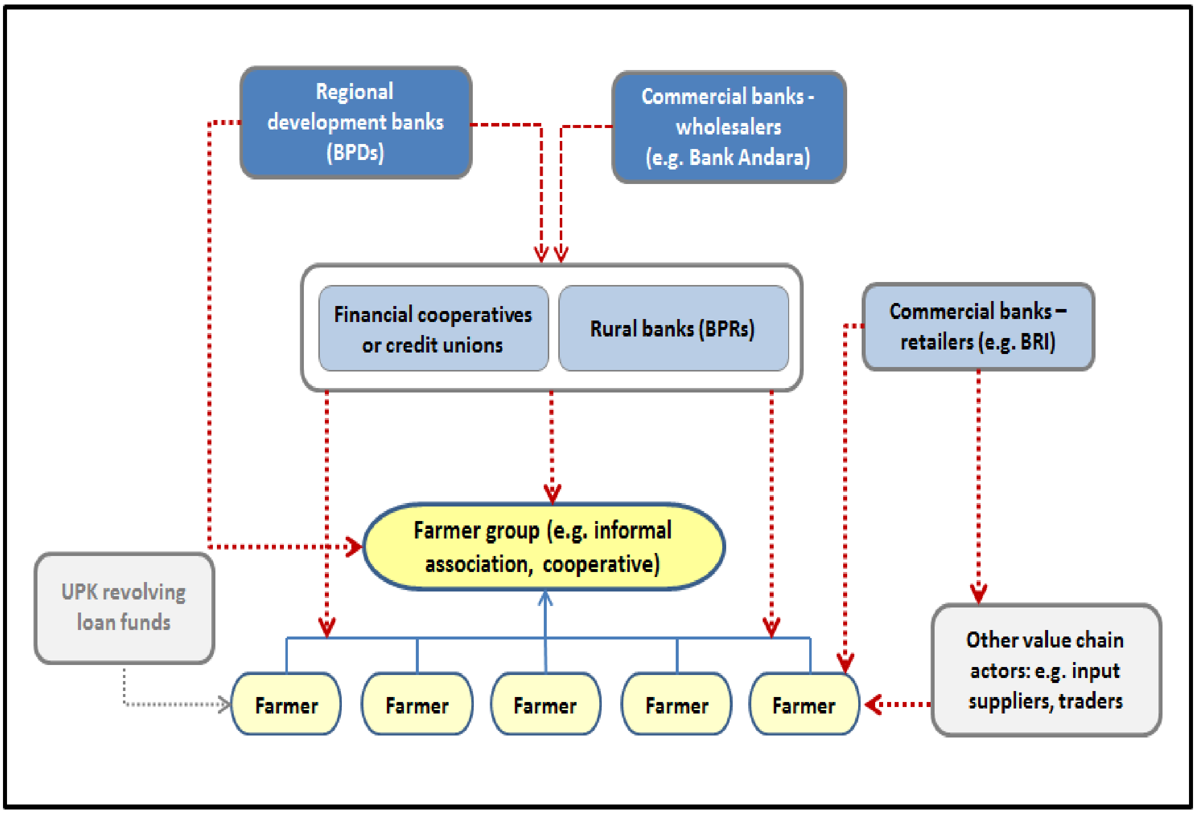

Figure 1 Flow of Credit to Target Groups

Note: ---> indicates the flow of credit from a financial service provider to either (a) an intermediary (for on-lending), or (b) the intended end-borrower (e.g. the smallholder farmer).

48. The figure above also **depicts the relative proximity of various types of financial service providers to the target group**:

- Most branches of banks and financial institutions tend to be located in towns or market centres. Some commercial banks (e.g. BRI or some BPRs) may be able to serve the target group by making sure that their frontline personnel (e.g. loan officers) visit farmers at their farms or homes. On the other hand, banks that provide wholesale financing (e.g. some regional development banks) will hardly have any direct interaction with the target group.
- It is not surprising to find that non-formal providers tend to be those within closest proximity to the target group. These include other value chain actors (e.g. input suppliers, traders, etc.) that have regular interaction with farmers and provide credit in cash or in kind. The volume of credit extended (per borrower) at this level tends to be smaller (e.g. IDR 2-3 million, based on interviews in Bima) compared to some of the loan packages involving banks (the lowest reported values were IDR 10 million, also in Bima).
- Although UPK revolving loan funds, as a targeted government microcredit scheme, can be considered relatively close to the target group, these loans are hardly reaching small-scale farmers or are being used to support production activities. Considering the current design of the product and the inherent limitations of extending credit in this manner, the UPK loans appear to be directed towards (and better serve) borrowers engaged in non-agricultural activities, who have a more or less regular cash flow.[7]

49. In most cases, **commercial banks and regional development banks maintain a limited proportion of their portfolio devoted to agriculture** (e.g. for Bank Jatim, this is less than 5%; and for Bank NTT, this is about 1% of total loan portfolio). More generally, banks hardly lend to poor/near poor farmers given the high cost of delivery and the perceived high risk of these target groups. Similarly, rural banks focus lending mostly on micro and small enterprises that are able to generate a more even cash flow (e.g. those in trading). There seems to be a much stronger emphasis placed on "productive activity lending" – under which agricultural / production activities constitute a small proportion. Thus, direct lending by formal financial institutions to small-scale farmers is currently very limited.

50. In some cases, **financial service providers may not be directly lending to farmers / farmer groups**, but extend credit to either (a) other financial service providers that are better able to serve the target group, or (b) other value chain actors, such as input traders / suppliers, who in turn, provide credit (whether in cash or in kind) to farmers.[8]

3.2 Constraints faced by financial service providers

[7] There are many issues surrounding UPK revolving loan funds, which have already been discussed at length in other assessments; and measures are currently being reviewed by government and other stakeholders on the way forward for UPK revolving loan funds. For the purpose of this scoping study, it is important to highlight its limitation in terms of the way these funds are administered. The manual systems and processes that underlie the appraisal and disbursement of funds, as well as the monitoring of loan repayments, make it difficult to introduce any innovation – e.g. introducing new product features that more closely match the requirements of agricultural production activities. These funds are also managed by a non-financial entity – and as such, are often not only severely constrained in terms of their human resource capacity, but also have very poor or weak governance structures.

[8] In NTT, for example, Bank NTT is noted to have provided financing to a seed producer/trader involving (with an initial loan of IDR 700 million). Under this arrangement, the seed producer/trader may use part of that loan to finance small-scale farmers he transacts with.

51. Financial service providers face a number of constraints that explain their limited interaction with agriculture (more generally) and with small-scale farmers (specifically).

52. **High costs of delivering small-scale financial services, especially in the rural/agricultural sector:** The cost of providing financial services to the target group (i.e. to individual small-scale farmers) may be too high – especially for larger institutions like commercial / regional development banks (that tend to have higher fixed costs). Many of these institutions have to invest heavily in gathering adequate market information to properly appraise loan applications among farmers, and sometimes have to travel long distances to monitor the performance of farms they may have financed. The cost of providing financial services is also heavily affected by the providers' perception of agriculture as a high-risk activity. This is evidenced, for example by the exorbitant costs (requirements) imposed even by financial institutions that provide wholesale-lending via rural banks.

53. **Limited agricultural market knowledge:** Even among banks / financial institutions that are already providing services to farmers, there seems to be limited understanding of farmers' livelihoods and income patterns (except for a general understanding that the sector is very risky, in light of production and price fluctuations). As such, most of the existing lending activity is highly collateral-driven. Similarly, there seems to be limited understanding of agricultural value chains and value chain finance even among commercial banks – and as such, the opportunity for value chain financing is left largely untapped.

54. **Use of standard (less innovative) credit risk management practices among financial institutions:** Even if banking regulations allow institutions to accept other forms of collateral (i.e. other than property), in practice, many banks still require hard collateral from their borrowers.[9] This is a standard practice for banks to manage credit risks and enforce loan contracts. There is so far no evidence of institutions making use of purchase orders or accepting purely movable assets as collateral for loans. Some institutions (e.g. a few BPRs) are starting to experiment with group lending arrangements that allow borrowers to access loans under joint liability. But these are not common, even among those institutions providing microfinance services in Indonesia. Most, if not all, financial institutions in the country tend to over-emphasize the importance of collateral, rather than employing more innovative ways of appraising loan applications (e.g. cash-flow based appraisal techniques that are utilized by successful microfinance operators in other countries).

55. **Limited range of products offered:** There is a limited degree of innovation in terms of developing products (to meet farmers' needs) and delivery mechanisms (to reduce transaction costs). For example, although some financial institutions are already introducing credit products with balloon payments, we have so far not seen any conscious effort to provide value chain financing (although some, such as Bank Pundi in Malang, are already working more closely with input dealers).

56. Related to this, **there is too strong an emphasis placed on credit – rather than looking at the value of other financial services, especially in helping farmers to cope with risks**. Even banks that are lending directly to small-scale farmers tend to consider these as only 'borrower-lender driven relationships'; there is hardly any cross-selling of services reported even among borrowers who have been on multiple loan cycles. While some UPKs, cooperatives, and rural banks are trying to instill a "spirit of saving" among beneficiaries, the overall impression is that there seems to be limited appreciation of how instilling a culture of savings can help to address some of the access

[9] Moreover, in practice, banks typically require borrowers to provide collateral equivalent to 150-200% of the loan value.

constraints.[10]The limitations in product development are even more pronounced when we consider insurance products. There are very limited insurance products available that are specifically targeted for farmers (e.g. crop and livestock insurance). Also, there is scope to consider exploring the use of other products such as purchase order-based financing, open lines of credit, factoring, leasing, use of vouchers, etc.

57. **Government loan programs distorting the market.** Provision of agriculture loans for smallholder farmers faces competition from some government loan programs. In the presence of subsidized loans to smallholder farmers, it will be more difficult for a sustainable supply of financial services to emerge, a point that has already been emphasized in a number of studies on global microfinance best practice, as well as financial inclusion assessments undertaken in Indonesia.[11]There are a number of subsidized government lending programs in operation, which are run by different government departments and state-owned enterprises – each having a different set of approaches and motivations. Not only do they compete with commercial providers of financial services; they also sometimes undermine financial service providers (both the established ones as well as those relatively new in the market) - for example, by replenishing schemes that are not working well. Moreover, poorly designed credit programs (which is typical of those that are not designed by financial institutions, rather by government agencies who know very little about the market) also do very little to effectively encourage commercial financial institutions to expand into un-banked markets. Poorly designed credit products (i.e. where product features and delivery mechanisms do not match the specific requirements of the target market) often lead to very high default rates, which make financial institutions even more wary of the target segment (e.g. of smallholder farmers).

58. **Such government credit programs tend to simplify the problem regarding constrained credit access**: they consider the situation to be driven mainly by price considerations (which is why the loans are subsidized), when in truth, the problem is a complex mix of demand and supply-side issues.

59. It is important to note that **addressing these supply-side constraints does not guarantee that institutions will increasingly provide financial services to small-scale farmers**. There are other demand-side barriers to consider, as well as issues that stem from the broader policy / regulatory environment. Moreover, there are other un/under-served market segments in Indonesia (e.g. the non-agricultural SME sector) that have yet to be more fully explored, and which could offer more

[10] Savings can also provide a form of insurance against the vagaries of market fluctuations, crop failures and disaster, and a number of idiosyncratic risks (illness, accidents, etc.) that poor farmers are exposed to. In other countries, some financial institutions that have successfully provided financing to small-scale producers have experimented with financial arrangements that combine the provision of loans with savings facilities.

[11]The World Bank (2010) report on Improving Access to Financial Services in Indonesia, for example, notes that the “effectiveness of the players at the lower end of the pyramid in reaching the poorest depends in large part upon operational soundness of the MFIs, especially their sustainability. For example, if they are competing with subsidized government credit programs, their commercial viability is probably at risk. Likewise, if a significant portion of the MFIs’ financing originates with governments, international institutions or private donors, they are exposed to shifts in the internal policies of those collaborators. Global experience shows that for such institutions to achieve independence and viability, they must achieve a self-sustaining profitability, rather than dependence upon transfers, no matter how well-meaning the source of those transfers” (p. 33). The IFC (2007) Rural Finance Mapping report also identified “continued government-sponsored subsidized agricultural credit programs” as one of the key obstacles in expanding rural financial services. The report has in fact proposed “to educate policymakers on the hazards of subsidized agricultural credit by quantifying the related high costs vs. limited benefits and offering alternative strategies (e.g. developing sustainable products and encouraging banks to offer them)” (p. 48).

lucrative opportunities for financial institutions. Many of the improvements that could take place over the next few years to address financial access constraints in Indonesia (e.g. developments in the payments systems) are expected to pave the way for institutions to better serve these markets first.

4 BUSINESS AND POLICY ENVIRONMENT

4.1 Key Policies and Regulations affecting Access to Finance of Target Group

60. **Government loan programs to farmers** have a long history in Indonesia. They started with the Bimas (*Bimbingan Masal*) program in the 1970's and continued in the 1980's with the KUT (*Kredit Usaha Tani*). Currently there are several government loan programs that are targeting agriculture and small enterprises; the most important of these programs are KKPE, KUPS, KPNRP, and KUR[12]. The details of the current government loan programs are provided in APPENDIX 5.

61. **There are typically two types of schemes that the government uses to encourage banks to lend more to agriculture and small enterprises**, i.e. by subsidizing the interest rate and by providing loan guarantees.

62. **KUR is the only program with a loan guarantee**. The other programs (KKPE, KUPS, and KPENRP) are mainly schemes that provide subsidized interest rates. The current policy of the government is to use only one scheme for one loan program: for example, since KKPE has received a subsidy (which is applied to the interest rate) from the government, KKPE loans are not guaranteed by the government; on the other hand, KUR loans are backed up by a guarantee, but receive no subsidy, which partly explains why the interest rate of KUR is higher compared to the other government loan programs.

63. Bank Indonesia has not conducted any evaluation/assessment of effectiveness of the above government loan programs.

64. **Regulation on Financing to MSMEs.** Bank Indonesia recognizes that micro, small, and medium enterprises have a strategically important role in terms of their contribution to national income and employment. The key regulation to support SMEs is Regulation of Bank Indonesia Number 14/22/PBI/2012 about Lending by Banks or Financing and Technical Assistance for Micro, Small and Medium Enterprise, issued on 21 December 2012. The regulations apply to all banks including Islamic Banks and Islamic Business Unit.

65. **BI regulation on MSME lending stipulates the requirement for banks to submit a business plan to BI and publish quarterly reports monitoring the progress of the plan**. BI also supports regional governments by encouraging the establishment of Regional Credit Guarantee Institutions (Jamkrida), SME Development and Assistance Centre (P3UKM) and Financial Consultant Partner for Bank (KKMB).

[12] A recent impact evaluation of KUR is provided in Bahtiar Rifai 2013. The main conclusions of the evaluation are: (i) Generally, KUR have been accessed by SMEs that have monthly income above than poverty line. It means that poor people are still limited touched by KUR; (ii) For selected group, KUR brings several impacts particularly for income, expenditure, saving and asset; (iii) Confidence and interactions have been well developed. Meanwhile, some social activities (weekly meeting) are avoided by some SMEs because they are busy with their business; and (iv) Constraints are appeared during program implementation such as: KUR paradigm, collateral, technical problems, tradeoff between prudential aspect, target achievement and outreach program.

66. **The agriculture sector is not specifically targeted in this regulation**. Banks are free to determine which sectors they will finance under UMKM. The details of Bank Indonesia UMKM regulation are as follows:

Table 2 Bank of Indonesia Regulations about Financing to MSME

Micro Enterprises	Small Enterprises	Medium Enterprises
• Maximum net worth of IDR 50 million, excluding land and building for the enterprise; or • Maximum annual sales revenue IDR 300 million	• Net worth of more than IDR 50 million but maximum is IDR 500 million, excluding land and building for the enterprise; or • Annual sales revenue more than IDR 300 million but maximum is IDR 2.5 billion	• Net worth of more than IDR 500 million but maximum is IDR 10 billion, excluding land and building for the enterprise; or • Annual sales revenue more than IDR 2.5 billion but maximum is IDR 50 billion

67. **The target is for the 20% of the bank's loan portfolio to be directed towards lending to UMKM (micro, small, and medium enterprises). Achieving this target is, however,** staggered using the following schedule:

- 2013: According to bank's capacity as stated in the business plan
- 2014: According to bank's capacity as stated in the business plan
- 2015: Minimum 5% of total loan must be for UMKM
- 2016: Minimum 10% of total loan must be for UMKM
- 2017: Minimum 15% of total loan must be for UMKM
- 2018: Minimum 20% of total loan must be for UMKM

68. **The target beneficiaries of the AIP-PRISMA program will most likely fall under the micro enterprise category of the Bank Indonesia UMKM regulation**. However since Banks are not specifically required to lend to agriculture sector under this regulation, it remains to be seen whether banks will increase their portfolio in agriculture or choose other sectors such as trading that are usually perceived to be less risky by banks.

69. **Warehouse Receipts**. To support access to credit for farmers and farmer groups, Indonesia introduced the Law No. 9 of 2006 on Warehouse Receipt System. The Law is then followed by the issuance of Government Regulation No. 36 of 2007. To encourage the use of Warehouse Receipt System, the Ministry of Finance introduced the Ministry Regulation No. 171/PMK.05/2009 on Warehouse Receipt Subsidy Scheme. The subsidy will cover the cost of warehouse receipts. Eligible borrowers include farmers, farmers group, joint farmers and cooperatives. For banks, the maximum interest is 5% above the maximum interest rate payable set by the Indonesia Deposit Insurance (LPS) and eligible debtors pay only 6% annually.

70. **The usage of warehouse receipts by smallholder farmers is not very encouraging.** Despite the interest rate cost subsidy given by government (around half of the commercial rate is shouldered by the government), smallholder farmers are still unable to take advantage of using warehouse receipts to provide financing for them. Some of the reasons for this are:

- The cost for accessing warehouse receipts is still considered too high (insurance cost, processing cost, transportation cost, registration cost, etc.).
- Smallholder farmers do not have the economies of scale to access warehouse receipts.
- The quality of the commodities often does not meet the standards required by the warehouse management (e.g. commodities must meet the Indonesian National Standard / SNI to allow trading in large domestic or especially at export markets).

4.2 Status and Trends of new Insurance Products available to Farmers

71. **Until now, there is no insurance product dedicated to cover agricultural risk in Indonesia.** For example insurance for cattle or crops is largely unavailable. However, the Ministry of Agriculture plans to accelerate the provision of insurance for cattle. This policy aims to protect and provide security for the farmers in conducting cattle business. On a pilot basis, the government will provide subsidies to cover 80% of the premium for cattle grower's insurance. The premium payment is 1.5% of the total price of cattle.

72. **IFC (2010) conducted a feasibility study to implement Weather Index Insurance (WII) for Maize Production in Eastern Indonesia**. The study found that WII is "technically feasible" to develop. IFC also identified a business model that may be suitable for this type of insurance product. However, market testing if WII is commercially feasible both for farmers and insurance company is still needed. Until now, there is no commercial insurance company providing this product.

73. **Ministry of Agriculture also conducted study on climate change and in its road map (2011**), WII is one of choices to protect the farmers from the impact of climate change. Total Rp. 2 trillion has been allocated to support the program. Tempo Daily (25 Feb 2011) reported that insurance for farmers is close to reality and only needs a presidential decree. It seems the approach is not commercially based insurance but politically motivated program.

74. **In Indonesia, before insurance company can sell the insurance product, insurance authority will study thoroughly to examine the viability of the produc**t. According to article 3 of Ministry of Finance (MoF) Decree No. 422/ KMK.06/2003, any new insurance product, when submitted for registration to the regulator shall fulfill many requirements such as specimen of insurance policy, expert judgment, three year underwriting projection, reinsurance support and marketing plan. It is clear that insurance for protecting famers is not coming very soon.

75. **Currently there is no private insurance company in Indonesia which is providing agricultural insurance.** For small loans provided by banks, only life insurance is common in Indonesia.

76. However in order to provide more protection to farmers, **the legislative body (DPR) is discussing a bill on protection and empowerment of farmers.** The bill is called *RUU Perlindungan dan Permberdayaan Petani* (Farmers Protection and Empowerment Bill). One of the items in the bill states that the government should provide crops insurance to smallholder farmers (defined as farmers with maximum land of 2 hectares) for protection against harvest failure. The Government is required to instruct state-owned insurance companies to provide crop insurance to smallholder farmers.

77. According to the bill, the crop insurance should cover against:
- Natural disasters
- Pests
- Animal disease outbreaks
- Global climate change
- Central and Local government's program mistakes

78. **Ministry of Agriculture has started conducting pilot project for crops insurance for the planting season of 2012/2013**. The commodity tested in the pilot project is paddy. The area selected for the pilot test are Jawa Barat, Jawa Timur and Sumatra Selatan which covers an area of approximately 1,000 hectares each (total 3,000 hectares). The premium per hectare per planting

session is IDR 180,000 and the claim value if harvest failure happens is IDR 6 million. During the pilot project 80% of the premium will be covered by government and 20% by the farmers.

79. **The initial result of the pilot project is not encouraging**. According to Sahata L Tobing (Retail Director of Jasindo, one of the state-owned insurance companies participating in the pilot project) in the first three months the claim has reached IDR 540 million while the premium collected has only reached IDR 300 million. Majority of the claims is due to flood. Jasindo will suggest to Ministry of Agriculture to evaluate the premium fees and risk profile. With this not so encouraging initial result for the pilot project, it will be even more difficult for private insurance companies to enter into agriculture insurance in Indonesia.

80. Private agricultural insurance is facing a number of issues related to asymmetric information (e.g. farmers are better in assessing hazards they face than insurers implying problems of adverse selection, and farmers can also act to affect output as in the case of moral hazard). Probably, without a government-funded insurance program, agricultural insurance is not likely to emerge due only to market forces.

81. **Ministry of Agriculture is also planning to launch insurance for cow**. The premium is set at 1.5% of the price of the cow. Government will subsidize 80% of the premium while 20% will be shouldered by the farmers. This cow insurance will be prioritized to the borrowers from KUPS (government loan program for cow breeding as mentioned above).

5 GAP IDENTIFICATION BETWEEN FINANCIAL NEEDS AND SERVICE PROVISION

5.1 Identification of Gaps

82. The analysis of constraints in the previous two chapters has highlighted a number of gaps existing between financial needs of target beneficiaries and supply of financial services. The gaps can be categorized into four groups (see Figure 2).

83. **Economies of Scale.** The target farmers are often too small and lack linkages with organized value chains. Financial institutions, therefore, find it too costly to service these small-scale clients, who are sometimes located in remote areas. The difficulty of servicing small-scale clients could be overcome if aggregation along the value chains were to occur, e.g. through farmer groups/cooperatives linked to a processor in a contract farming arrangement, which would allow for economies of scale in providing technical, marketing, and financial services.

84. One of the greatest obstacles of farmers in the target group to access financial services is the weakness of farmer organizations. Farmers' organizations can be strong assets in overcoming economies of scale limitations of smallholder farmers and facilitate linkages to effective value chain. At the same time, farmer organizations (for example effective cooperatives) can allow pooling of resources, improved access to input, and better negotiation with third parties, including financial institutions.
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85. **Risk Management.** Agriculture is generally perceived as a very risky activity both by farmers and financial institutions. Risk perception is a constraint to demand and supply of financial services. Farmers may be hesitant to engage in credit relations with financial institutions, since they are concerned that in the absence of insurance mechanisms they would be highly vulnerable to shocks, price volatility, and climatic events. Financial institutions, on the other hand, tend to be very cautious and may adopt very conservative risk management practices (e.g. by only accepting certain assets as collateral).

86. **Knowledge and Capacity.** Farmers often find it difficult to meet the requirements of financial institutions due to a number of reasons, including their limited capacity in understanding the requirements or even the basics of financial planning and management. Many farmers in the target group are subsistence farmers; many are also following agricultural practices that are based on traditional methods, with limitations in terms of operating on the basis of farm budgets (i.e. planning production, inputs and outputs, given expected market demand).

87. Similarly, financial institutions are usually not familiar with the dynamics and complexities of farming systems and agricultural value chains. Value chain financing is a novel concept and requires in depth understanding of the workings of agricultural value chains and also capacity to provide value chain financing. Lacking this understanding and capacity, there will be missed opportunities in financing growing agribusinesses able to meet an increasingly sophisticated food demand in urban and international markets.

88. **Policies and Institutions.** BI recent regulation on financing of MSME (regulation 14/22/PBI/2012) is a welcome news to micro and small enterprises and farmers. Its implementation however will have to overcome several obstacles including the lack of land titles for the majority of farmers, a constraint on their access to credit. The implementation of the policy will also require overcoming the limitations of a relatively narrow choice of financial products available to farmers.

Financial institutions will need to be more innovative than just offering balloon loans: a range of products including different types of no-frill accounts, saving accounts, term deposits, purchase orders, voucher cards, open lines of credit, and mobile banking can be expected to be tested and some of them scaled up.

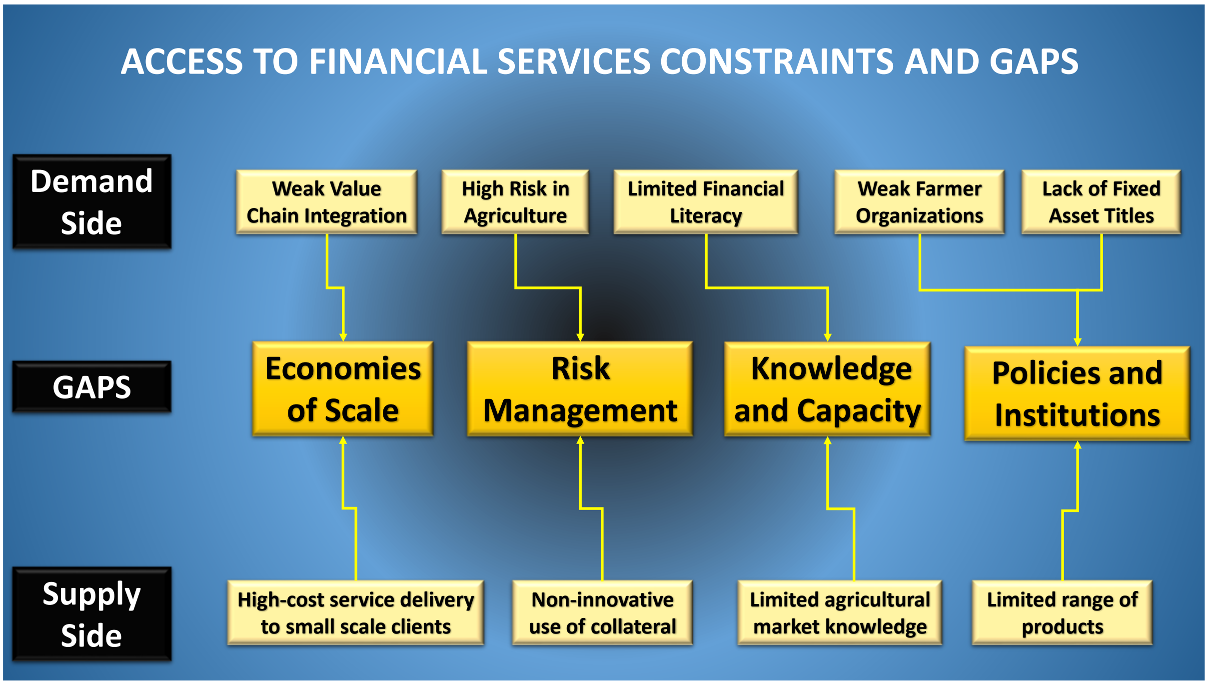

Figure 2 Gaps between Financial Needs and Supply of Financial Services

5.2 Prioritization of Gaps

89. **Economies of scale as prioritized gap.** The AIP-PRISMA project design is firmly based on the value chain approach. In order to achieve its intended objective (i.e. improved income of the target groups), value chain development will have to occur through the combination of technology, infrastructure, financial, and institutional innovations. The Markets for the Poor approach to value chain development will ensure that the target groups benefit from value chain development. At the same time, the development of effective value chain requires overcoming the dis-economies of scale that were identified as a gap between the demand and the supply of financial services.

90. **Capacity and knowledge are required to build effective value chain that benefit the poor**. Addressing the economies of scale gap implies considerable amount of capacity building both of farmers and financial institutions. The capacity building of farmers is related partly to financial literacy and farm budgeting and partly to methods of supply chain management in order to work in a value chain effectively. For financial institutions, the effort will be both in helping to understand agricultural value chain better and to understand how to finance them in a sustainable way that can overcome diseconomies of smallholders.

91. **While engaging in value chain financing, improved risk management mechanisms can be identified**. Value chain financing requires that an effective value chain be already in place and working. Economies of scale through improved linkages in supply chain management often require risk sharing between parties (e.g. in contract farming), the availability of good business plans involving not just individual clients but also groups of clients, and therefore the opportunity of using a range of tools for collaterizing debt and insuring parties against shocks.

92. **The opportunity for AIP-PRISMA to act on the policy and institutional side might be limited**, at least in the initial phase of the project (first 4 years). Given its location in Eastern Indonesia and its emphasis on implementation at the district level, the Project might best influence policy and institutional developments through pilots in the target district and draw lessons that could inform policy discussions. For example, in geographical areas where well-performing RLFs are established, the Program might consider pilots that link farmers/farmer groups, other value chain actors and the RLF. The experience from such linkages might be used to shed light on the benefits or repercussions of the proposed transformation of RLFs, which is currently being reviewed. It should be noted that a legal review has been done by the PNPM Pilot project that includes alternative solutions and its guidelines for transformation have been submitted to the government. AIP-PRISMA should not duplicate this activity, but instead coordinate with the Project Management of PNPM to support specific pilots.

6 OPTION IDENTIFICATION AND ASSESSMENT

6.1 Two Prerequisites for Program Implementation: Expertise and Knowledge about Demand

93. A range of interventions will be required to respond to the gaps that have so far been identified, as well as those that will emerge from further analysis, as the program fully mobilizes. The design and implementation of these interventions will require **two conditions to be in place: (i) adequate expertise within the AIP-PRISMA Team** and**(ii) a sound understanding of demand for financial services**.

6.2 Options related to Management Expertise of A2F Interventions

94. **Adequate expertise may be in the form of an A2F Advisor or a small team of A2F specialists**, who will lead the design and implementation of all necessary A2F interventions in support of the AIP-PRISMA Program. This resource can be used to (a) respond to ad-hoc requests received in the pilot locations to assess financial service needs; (b) develop some capacity among AIP-PRISMA personnel (e.g. value chain managers, district facilitators) to respond to access to finance issues if and when they arise in the course of implementing the interventions during the pilot phase; (c) developing guidelines (to support AIP-PRISMA personnel in the long term); and (d) negotiating with other potential financial service providers.

95. **This expertise could either be established within the AIP-PRISMA program implementation unit or within the AusAID Rural Development Team or as a stand-alone mechanism** – i.e. independent of and separate from the AIP-PRISMA program management unit. Some of the advantages and disadvantages of these approaches are outlined in Table 3.

6.3 Options related to Knowledge about Demand for A2F

96. Given the variety in the types of farmers targeted (in terms of their income, assets, products), **it will be a crucial first step to establish whether there is indeed an 'effective demand' for financial services**. This 'market research' can be a stand-alone study (e.g. a FinScope-like survey of targeted beneficiaries in the pilot locations) or be integrated in the baseline studies that will anyway be conducted once AIP-PRISMA is up and running.

97. There is a case for considering conducting a stand-alone FinScope-like survey that explores consumers' perceptions on financial services and issues, and their usage of available financial products (both formal and informal). There are, however, a number of design elements that would be helpful to consider in this regard:

- In countries where FinScope has been implemented, nationally representative surveys have been conducted, which tend to provide market information with limited significance at the regional or provincial level. Considering the geographic focus of AIP-PRISMA, it would be more useful for the program to look into a market survey that provides breadth and depth of information relevant to the Eastern provinces. This is also underpinned by the expectation that financial markets within a country like Indonesia may differ widely (according to province). For example, the constraints and opportunities available in more prosperous, urbanized regions will differ from those in less-developed provinces. Thus, implementing a market survey in a specified location would allow the questionnaire and survey process to be tailored in such a way that local conditions and interests are adequately incorporated.

- Sampling methods used must ensure a comprehensive coverage of the adult population within the specified location. Determining the sample will need to consider the mix between rich and poor, urban and rural, etc. in order to create a segmentation of the entire market and to lend perspective to the various market segments (an approach that is consistent with FinScope's).[13]

6.4 Options related to the Economies of Scale Gap

98. AIP-PRISMA can address the Economies of Scale Gap and improve access to finance by promoting value chain financing. In order to do so, the Program will need to identify and work with already established value chains (i.e. those where linkages are more or less in place, but may need further strengthening) or help to create linkages between actors (i.e. where linkages may not yet be established).

99. **Channeling through leading value chain actors**. In this option, the Project facilitates access to finance of the target group though leading value chain actors such as input providers, collectors or buyers. Examples: maize seed company in NTT extending credit to seed multiplication farmers; or a cocoa international buyer in Papua extending credit to collectors. The project will help these leading value chain actors to mobilize farmers, organize demonstrations, provide training and technical assistance to farmers, other value chain actors, and banks/financial institutions involved in the value chain.

100. **Nuclear enterprise model**. In this option, the Project identifies a key enterprise in production or processing. Examples: a sugarcane processing company; a dairy processing company; a feed mill; a slaughterhouse and meat processing plant. The company links with buyers, suppliers, and financial service providers (e.g.credit, savings, insurance, mobile payments). The Project supports the value chains linkages (e.g.farming contracts) through matching grants, technical assistance, promotion, awareness campaigns, and social mobilization.

101. **Match-making** between farmers/groups, buyers, input providers, financial institutions, processors, and technology providers. The Project facilitates creation of value chain development associations where farmers, traders, input providers, processors and their associations join together to organize value chain linkages and promote improvements in productivity, value added, and sales. The Project provides seed funding o these associations to make investments along the value chain (e.g. logistics improvements such as collection centers and warehouses, packhouses, reefer trucks) that require a combination of own funding and banking financing. The Project will also provide technical assistance and promotional activities.

6.5 Options related to the Capacity and Knowledge Gap

102. AIP-PRISMA can address the Capacity and Knowledge Gap by improving financial literacy of the target groups and capacity of financial institutions in agricultural value chain financing.

[13] Our preliminary review of the characteristic features of the geographic areas where AIP-PRISMA is set to be piloted leads us to estimate a sample size of 7,000-10,000 respondents. This should, however be considered purely indicative at this stage; further analyses will be required in order to determine the appropriate sample size.

103. **Financial Literacy.** This involves a program to improve various dimensions of financial literacy among farmers.[14] Of relevance to the AIP-PRISMA program are developing farmers' skills and knowledge on (a) financial planning and cash flow analysis; and (b) crop budgeting and margin analysis to understand the productivity of different inputs into the production system of the farmer.[15]

104. Financial literacy training will be best delivered via the institutions that already work with beneficiaries themselves (e.g. banks that are already providing financial services to the target group). A recent report commissioned by the MasterCard Foundation on financial education initiatives for the poor (see The MasterCard Foundation, Microfinance Opportunities, and Genesis Analytics, 2011) indicates that effective financial education programs tend to be those that offer clients an immediate opportunity to practice and apply newly-acquired financial management skills with actual financial products (e.g. a savings or a credit account and using ATMs). See also Gray et al. (2009). Many studies on financial education initiatives show that a 'learning-by-doing' approach is much more effective than simple classroom-based instruction that do not provide individuals real opportunities to practice what they are taught.[16]

105. **Agricultural Value Chain Financing**. This is a capacity building program for financial institutions aimed to introduce the key concepts of agricultural value chain, value chain financing, and different tools for overcoming diseconomies of scale in reaching out to smallholders. A number of publications on agricultural value chains and agricultural value chain financing are included in the references.

6.6 Options related to Risk Management Gap

106. AIP-PRISMA can address the Risk Management Gap by promoting pilot initiatives that test alternative types of collateral with partner financial institutions in the target districts, crop and livestock insurance in partnership with microinsurance institutions, and expanding existing efforts in the use of warehouse receipts.

107. **Alternative types of collateral** could be explored with partner financial institutions in the target districts. In addition to hard collateral (titled fixed assets), other acceptable collateral are social capital (typically used in group lending schemes), movable collateral (such as inventories), partial collateral and zero collateral (for example, in the presence of a credit guarantee).

[14] The need for better information and knowledge of financial services is an important issue in Indonesia. It is widely acknowledged that financial literacy levels in the country are low: people, especially in the rural areas, need basic financial capacity training. Financial literacy is believed to be a critical barrier to financial access, and is often cited as one of the reasons why very few have a formal savings account. (See Bank Indonesia 2010 Household Survey on Savings.) Measured financial literacy in Indonesia is low: a study by Cole et al (2011) shows that (a) per capita expenditures and cognitive ability are two of the most important predictors of financial literacy, but that (b) although financial literacy is a significant predictor of the use of bank accounts in Indonesia, it is a less important predictor than expenditure levels.

[15] This is consistent with how financial education is broadly defined as "*the process of introducing people to the knowledge, skills, and attitudes required for responsible earning, spending, saving, borrowing, and investing. By broadening people's understanding of financial options and principles, financial education builds skills to use financial products and services, and promotes attitudes and behaviours that support more effective use of economic resources*" (M. Cohen and C. Nelson, (2011).

[16] Cited in Oxford Policy Management (2012): PKH Payments Study.

108. **Crop and livestock insurance**. This should be explored with partner microinsurance organizations and pilot projects (such as the paddy insurance pilot conducted by Ministry of Agriculture as mentioned in paragraph 81). It would be easier to start from livestock insurance (particularly cattle insurance) since this is less complex than crop insurance (including weather indexed insurance).

109. **Warehouse receipt system (WRS).** There are already ongoing activities in East Java. Rather than initiating a new pilot, in this case, PRISMA should partner with IFC or Bank Jatim to build on ongoing activities. AIP-PRISMA can assist smallholder farmers in aggregating their crops (e.g. through farmer groups) so that volumes are bigger and costs are lower; and also assure a certain level of quality (see paragraph 70).

6.7 Options related to Policy and Institutions Gap

110. Rather than embarking on fully-fledged policy advisory services, for which perhaps PRISMA does not have the appropriate design, it would be preferable to focus on (a) product development in partnership with financial institutions in the target districts; and (b) drawing on lessons learned from pilots of alternative uses of collateral.

111. **Exploring Alternative Credit Products and Delivery Mechanisms** other than the standard loan with balloon payment. These products might include open lines of credit, mobile banking[17], and purchase order financing.

112. **Drawing lessons from alternative uses of collateral** other than the titled fixed assets and including social capital, movable collateral, partial collateral, and zero collateral. The lessons learned could then be brought to the policy debate to initiate policy reforms.

[17]The Microsave and e-Mitra 2013 study focuses on understanding the financial behaviors and mobile phone usage of cocoa farmers in the Luwu and Polewali Mandar districts of Sulawesi Island of Indonesia and is based on detailed interview with 536 cocoa farmers. The study findings could be useful for the design of mobile banking applications. The study indicates that sixty-seven percent (67%) of the farmers surveyed own mobile phones. Out of those farmers who did not own mobile phones, 79% reported that a family member did own a mobile phone. Farmers in the older age group (51years and older) did not use mobiles phones as much as those in younger age groups. Of the farmers who own mobile phones, 89% of farmers could send text messages (SMS) and 92% of farmers could receive and read text messages. Most of the farmers (approximately 87%) buy airtime from the airtime seller located in the neighborhood. On average, most of the farmers (87%) spend less than IDR 50,000 on airtime per month. Two thirds of the farmers surveyed (67%) expressed a willingness to use mobile financial services for their financial transactions. Seventy-five percent (75%) of the farmers believe that mobile financial services will save them time and provide a convenient way to conduct their financial transactions. Farmers indicated they would pay a maximum of IDR 5,000 for withdrawal transactions using mobile financial services and no more than IDR 2,500 to pay electric bills. Of the farmers willing to use mobile financial services, 86% are also willing to use agents for cash-in and cash-out transactions. Twenty-eight (28%) of farmers prefer farmers' groups and the village office as preferable mobile money agents. Seventeen percent (17%) of farmers preferred cocoa collectors as mobile money agents. Farmers do feel there is a chance of agents committing fraud or rejecting their requests for withdrawals due to unavailability of cash/liquidity at the agent level. Safety of money stored on the mobile phone was one of the major concerns of framers – loss of funds if the phone is lost or hacked.

Table 3 Prerequisites, Gaps and Options for Improved Access to Finance

Prerequisite /Gap	Option	Cost / Activities	Time	Assumptions and Risks	Impact
Prerequisite 1 – Expertise	Expertise to be integrated within the AIP-PRISMA program implementation unit	Cost: low Activities: • Design of A2F interventions • Facilitate implementation of A2F interventions	1-5 years	Assumption: the interface between the managing contractor and the "A2F Advisor" needs to be clarified (including any details on reporting lines, accountability, etc.).	• Greater scope for working in a coordinated manner
	Expertise to be integrated within the AusAID Rural Development Team	Cost: low Activities: • Design of A2F interventions • Facilitate implementation of A2F interventions	1-5 year	Risk: the A2F Advisor / specialists become less integrated with the AIP-PRISMA program. It would therefore be important to clarify the priorities for this role.	• Greater scope for addressing other A2F requirements of AusAID and/or work in synergy with other AusAID programs that have A2F components.
	Expertise to be established as a stand-alone / independent, albeit complementary, mechanism	Cost: medium Activities: • Design of A2F interventions • Facilitate implementation of A2F interventions	1-5 year	Risk: as an independent entity (i.e. independent of the Program management unit), coordination may not be as smooth or fluid. But these risks can be managed by ensuring that the A2F Advisor / specialists participate in regular coordination meetings (of the program team) and that coordinating and reporting functions	• This option offers greater flexibility. For e.g., considering that the interventions required will be demand-driven, an independent entity can be contracted (separately) using a draw-down arrangement. Under such an arrangement, the entity can respond to requests for interventions by fielding as many A2F specialists as might be required during the pilot phase of the AIP-PRISMA program. • This option would also free up other resources that might be required –

Prerequisite /Gap	Option	Cost / Activities	Time	Assumptions and Risks	Impact
				between the Advisor and the program team are clearly specified.	of the program management unit or of AusAID – if the advisor were integrated or housed within these teams. The independent entity could provide not only technical expertise, but also all related back-stopping and administrative services that might be required to support the work of the A2F Advisor / specialists.
Prerequisite 2 – Knowledge about demand for Financial Services	A stand-alone study (e.g. a FinScope-like survey of targeted beneficiaries in the pilot locations)	Cost: Medium Activities: • Design and implementation of the survey (including full stakeholder consultation to ensure future 'buy-in') • Analysis and dissemination of findings	1-2 years	Risk: buy in of financial institutions	• Improved understanding of demand for financial services leads to better design of interventions and more effective implementation
	A study to be integrated in the baseline studies that will anyway be conducted once AIP-PRISMA is up and running.	Cost: Low Activities: • Survey design and conduct • Analysis and dissemination of findings	1-2 years	Risk: buy in of financial institutions	• Improved understanding of demand for financial services leads to better design of interventions and more effective implementation
Gap 1 – Economies of Scale	Channeling through key value chain actors	Cost: Medium Activities: • Farmers training • Demonstrations • Technical assistance to value chain actors (value chain actors and financial institutions)	2-3 years	Risk: Value chain actors not interested in providing financial services to target group	• Higher productivity and income of target group

Prerequisite /Gap	Option	Cost / Activities	Time	Assumptions and Risks	Impact
	Nuclear enterprise model	Cost: Medium Activities: • Technical assistance to farmers, financial institutions, and nuclear enterprise • Promotion and awareness campaigns • Social mobilization of farmers and value chain actors	2-5 years	Assumption: Trust with nuclear enterprise has to be very high	• Assured market and less volatility of prices • Risk sharing • Improved access to savings and credit
	Match-making between farmers/groups, buyers, input providers, financial institutions, processors	Cost: HIgh Activities: • Seed funding to value chain development association • Technical assistance to farmers, financial institutions, traders, and processors • Promotion and awareness campaigns	2-5 years	Assumption: Need long term commitment to the value chain development	• Higher value added in the value chain • More benefits to target group • Increased access to services of financial institutions
Gap 2 – Capacity Building	Financial literacy for farmers	Cost: HIgh Activities: • Educate farmer on farm budgeting, evaluating gross margins, and financial requirements • Ensure that knowledge tools are applied in the ongoing activities	1-2 years	Assumption: Basic numeracy and literacy	• Farmers' productivity increases • Farmers' cash flow improves
	Agricultural value chain financing for financial institutions	Cost: Medium Activities:	1-2 years	Assumption: Interest of the financial institutions in	• Expanded portfolio in agriculture and to target group

Prerequisite /Gap	Option	Cost / Activities	Time	Assumptions and Risks	Impact
		• Training of financial institution staff in agricultural value chain and value chain financing		developing agricultural finance	
Gap 3 - Risk management	Use of alternative forms of collateral	Cost: Medium Activities: • Identification of alternative forms of collateral • Establish a pilot	2-5 years	Assumption: May consider partnering with credit guarantee institutions (during the initial stage only); BI must be involved in the pilot / fully on board	• Expanded access to credit of target groups
	Livestock and crop insurance	Cost: Medium Activities: • Partner with microinsurance organizations and ongoing pilot projects • Support partners with technical assistance	2-5 years	Assumption: for crop insurance existence of meteorological databases Risk: private companies not interested; insurance market in the country is largely underdeveloped / in need of innovation (at the product and policy levels)	• Improved design of insurance schemes • Improve risk management of target groups
	Warehouse receipt system	Cost: Medium Activities: • Partner with IFC and Bank Jatim and provide technical assistance for a better design and implementation of schemes to include target groups	2-5 years	Assumption: partner organizations interested in involving target groups	• Reduced risk of target groups • Enhanced access to credit

Prerequisite /Gap	Option	Cost / Activities	Time	Assumptions and Risks	Impact
Gap 4 - Policy and Institutions	Alternative credit and delivery mechanisms	Cost: Medium Activities: • Explore alternative credit products and delivery mechanisms • Provide TA to identify policy bottlenecks to the piloting of these alternative products and delivery mechanisms	1-4 years	Assumption: partner financial institutions willing to explore alternative credit products and delivery mechanisms	• Expanded access of target group to finance
	Alternative types of collateral	Cost: Medium Activities: • Identify pilots and draw lessons from pilots • Disseminate lessons and contribute to the policy debate	2-5 years	Risk: most financial institutions not willing to consider alternative collateral types	• Policy regulation on alternative types of collateral

7 RECOMMENDATIONS

113. The previous discussion indicates a number of options for the prerequisites to implement a range of interventions that improve access to finance and address the gaps between financial needs and supply of financial services to the target groups. For the each of the identified prerequisites and gaps, this chapter presents specific recommendations.

7.1 Prerequisite 1: Management Expertise on A2F

114. It might be useful for AusAID to consider **strengthening the capacity of the AIP-PRISMA team by incorporating some standalone expertise on agri-financial services in the initial months of operation.** This additional expertise can be used to (a) respond to ad-hoc requests received in the pilot locations to assess financial service needs; (b) develop some capacity among AIP-PRISMA personnel (e.g. value chain managers, district facilitators) to respond to access to finance issues if and when they arise in the course of implementing the interventions during the pilot phase; (c) developing guidelines (to support AIP-PRISMA personnel in the long term); (d) negotiating with other potential financial service providers.

7.2 Prerequisite 2: Demand Analysis

115. **Conduct a stand-alone FinScope-like survey that explores consumers' perceptions on financial services and issues, and their usage of available financial products (both formal and informal).** Considering that conducting such a survey will be new to many stakeholders (including market participants such as banks), it might not be feasible to immediately secure these institutions' buy-in. However, this does not mean that wider consultation to inform the design of the survey will not prove to be beneficial in the end. This is to ensure that stakeholders are not only informed of the survey, but are also given the opportunity to understand the purposes that such a survey serves. For example, FinScope datasets can be mined and interpreted to inform policies, commercial strategies and/or products, as well as development agendas across the countries where these surveys are being implemented.[18] During the planning stage (which will involve wider consultation with stakeholders), it will be meaningful to look into methods that can be used for interpreting the survey findings and presenting them in formats that would allow for rapid comprehension by the targeted audience (e.g. banks / financial service providers, BI, BAPPENAS).

7.3 Gap 1: Economies of Scale

116. **Pursue a vigorous program in value chain financing through identification of leading actors in each value chain**. Effective value chains are organized systems of linkages among value chain actors with the purpose of increasing value. In order to function effectively, a value chain's

[18]As noted on the FinScope website (see www.finscope.co.za), the findings from the FinScope surveys have"fed into private and public sector initiatives to improve the policy environment and stimulate the commercial innovation needed to transform the way financial services are delivered". For e.g. the Financial Services Board in South Africa reckons that the FinScope surveys have played a major role in identifying consumer financial education needs in the country by following consumer financial behaviour over time and in making valuable information available to others for their consumer financial education programs. FinScope data has also been used by the National Treasury in South Africa to support the development of a policy on financial inclusion, and has also fed into government processes for wide-ranging social security reform. Absa Bank in South Africa has also used spatial mapping from the FinScope Small Business Study to optimize the location of their new service centers for micro-enterprise activities and drew on the survey findings in designing a new product for this market.

governance systems has to be in place, and able to enforce rules and establish trusting relationship among value chain stakeholders. This is key to the success of a value chain. An effective value chain facilitates access to finance to its actors both for investment (upgrading of the value chain) and working capital purposes. A leading actor in the value chain might be a major buyer, a leading farmer group, or a nuclear enterprise that is good at establishing multiple value chain linkages and providing adequate governance. By overcoming the scale limitations of the individual smallholders in the context of agricultural value chains in Indonesia, the value chain leading actors provide a mechanism to overcome the diseconomies of scale and therefore facilitate access to finance.

117. Given the centrality of value chain financing in the AIP-PRISMA, a number of best practices and reference material is provided in the box at the end of this chapter.

7.4 Gap 2: Capacity of Farmers and Financial Institutions

118. Most poor and near poor farmers in the targeted areas are assumed to face challenges in terms of farm budgeting, and cash flow management. It might be useful for AusAID to **support institutions and service providers specialized in training farmers and their organizations in basic financial literacy (for small-scale agricultural enterprises)**. The expectation is that improvements in basic financial literacy and management will also encourage farmers to understand the benefits of investments in improved technologies - such as better seeds and fertilizer to generate more output and income.

119. The complexity of value chains (particularly agricultural value chains) is often not well understood by bankers. AIP-PRISMA might support financial service providers by providing **capacity building to these financial institutions in agricultural value chain financing.** This would facilitate the work of loan appraisal officers through enhancing their understanding of value chain linkages and their role in achieving scale economies. In some cases, this technical assistance may be delivered directly by the Program (e.g. by fielding a qualified A2F advisor). In other cases, however, there might be scope for the Program to consider establishing links with relevant technical assistance projects currently being delivered and supported by other donors (e.g. the IFC) and organizations.

7.5 Gap 3: Risk Management

120. As has already been repeatedly highlighted in earlier sections of this report, there are important issues to address in relation to the need for financial institutions to explore the use of other types of collateral, the difficulty of designing attractive mechanisms for agricultural insurance, and the complexity of the regulations required for the warehouse receipt system to work and to reach smallholder farmers. Further efforts are needed to overcome these difficulties and contribute to the generation of innovations in risk management. It is recommended therefore that **AIP-PRISMA supports ongoing efforts to improve risk management** Including (i) efforts of financial institutions to move beyond the use of fixed assets as collateral, (ii) ongoing efforts by microinsurance organizations to promote crop and livestock insurance in the target areas, and (iii) ongoing efforts by the IFC to promote secured transactions regulations (including WRS).

7.6 Gap 4: Policy and Institutions

121. A number of regulations by BI and local governments affect the access of farmers to financial services including regulations relating to (i) the use of alternative forms of collateral; (ii) accelerating

productive sector lending; (iii) imposition of interest rate ceilings; (iv) options for evolution of RLF[19]; and (v) promotion of warehouse receipt systems. Given that many other actors and donors are already heavily engaged in directly providing policy and regulatory advice to specific government agencies (e.g. the IFC advises BI**), AusAID resources would be better used to support existing initiatives**. This could be in the form of co-financing existing interventions by these donors and/or financing the implementation of pilots that would help demonstrate how certain proposed policy / regulatory changes can be operationalized.[20] For example, the two policy areas (where changes are currently being discussed) that are crucial to the delivery of financial services in the rural / agricultural sector are secured transactions and branchless banking / mobile money services. In both areas, IFC is taking the lead and is working closely with BI and other stakeholders – it would therefore be reasonable to support IFC's work in enabling certain changes in the policy and regulatory environment. AusAID may consider, for example, financing technical assistance to some partner-banks / financial institutions (i.e. those banks / financial institutions operating in the AIP-PRISMA locations that could potentially provide services to program beneficiaries). This may be in the form of capacity building support (intensive training and coaching) to these institutions in implementing cashflow-based loan appraisals and recognizing alternative forms of collateral.

122. .

Box 1 – The Relevance of Value Chain Finance and Best Practices

Restructuring of value chains globally. Value chains are increasingly driven by urbanization with its associated changes in consumer demand, lifestyles, and requirements for convenience and processed foods and food safety; concentration in the retail and input supply industries; and government policies related to trade and foreign investments. Value chains have become more coordinated, integrated, concentrated, interdependent, complex, and global. Standards have changed and have become more stringent in terms of quality and food safety. Increasing emphasis is on marketing, product differentiation and niche products.

Due to the restructuring of agricultural value chains, all actors in the chains must adjust to be able to respond to the changing rules of the game. Adjustments however, may be difficult for small scale enterprises who have limited resources and access to assets like finance. They face the possibility of being excluded and/or disadvantaged in the chain if they are unable to adjust to challenges or tap opportunities brought about by these changes in the chain.

Financing value chains in the agribusiness sector amidst restructuring in the system becomes more challenging as the agricultural sector is inherently risky relative to other sectors. This is particularly true in the context of improving access to finance by small scale producers. This is compounded by the fact that transaction costs in rural areas are also very high.

Value Chains and Financing. Value chain finance consists of the financial products and services that flow to or through a value chain to increase returns on investment and growth and competitiveness of that value chain. Producers and marketers in the chain have the incentive to be part of the chain to attract financing. Financial institutions face lower risks if clients are part of the chain. A feature of development assistance in the agricultural sector[21] over the past few years is the recognition of the importance of developing value chains, partly to facilitate the access of smallholders to credit. Integration of smallholders in the value chain improves creditworthiness since participation in the value chain enhances security of loan repayments, lowers transaction costs, and reduces risks.

[19] A recent study by Ginting and Reksodiputro 2013 has looked at the legal issues related to options for alternative legal arrangements of the RLF under PNPM. Further awareness activities and public dialogues on this issue could be organized with the help of AIP-PRISMA.

[20] This is, for example, being done in the context of mobile money, where a number of pilot activities are implemented as authorised by BI.

[21] Francesco Goletti 2010, Meta-Evaluation Study of Agriculture Commercialization and Agribusiness Development, RSC - C92304 (REG), prepared for the Asian Development Bank.

Financing Scheme	Mitigating Risks	Reducing Transaction Costs
Value-chain financing		
Warehouse receipts lending	√	√
Contract growing/farming	√	√
Trader finance		√
Other instruments (repurchase agreements, export receivables financing, factoring, etc.)	√	√
Risk-reducing instruments		
Index-based weather insurance	√	
Guarantee schemes	√	
Credit delivery structures		
Linkage banking		√
Wholesale lending by big banks		√
Use of information and communications technology (ICT)	√	√

Financing Mechanisms within the Value Chain. A variety of financing mechanisms are available for value chain actors, including traditional ones as provided by formal financial institutions and informal actors and new ones that have been recently developing. Miller 2007 provides a typology[22] including value chain product linked financial products, production and production chain risk mitigation products, and other financing options such as structured finance. Llanto and Badiola 2011[23] show (see table below) the potential of different financing schemes to mitigate risks and reduce transaction costs. Many of these are relevant to helping small scale enterprises and small size farms but their applicability varies across regions, countries, and industries. There is no single approach that works for all situations; instead, approaches and organizations work best when they are nondogmatic, apply comprehensive risk-management strategies and tools, retain the ability to pick and choose their clients rather than having government to do so, and are innovative and pragmatic[24].

A growing literature on AFVC finance is accessible through organizations and websites such as those of FAO[25], USAID[26], IFC[27], SEEP[28], and ACDI/VOCA[29]. A book[30] by the Rural Infrastructure and Agro-industries Division of FAO provides a comprehensive look at the models, tools and approaches used by industry leaders in all parts of the developing world. These are described, analyzed and illustrated by many examples in order to demonstrate how they work, and to extract lessons and applications for others to adapt. The book builds on the experience of FAO in agricultural development and finance and includes 40 industry examples and 5 comprehensive case studies.

A comprehensive study providing a framework for value chain finance analysis was prepared by the Netherlands Royal Tropical Institute (KIT) and the International Institute of Rural Reconstruction (IIRR) and published in 2010. The book emphasizes the finance gap of rural small and medium-sized enterprises and documents innovative value chain finance mechanisms drawing on 13 case studies from three continents.

22 Calvin Miller 2007, Value Chain Financing Models: Building Collateral and Improving Credit Worthiness, Southeast Asian Regional Conference on Agricultural Value Chain Financing, Conference Proceedings, December 12-14, 2007, Kuala Lumpur, Malaysia, Asian Productivity Organization.

[23]Gilberto M. Llanto and Jocelyin R. Badiola 2011,Innovative solutions show the way: Lending a helping hand to rural producers in Food for all: Investing in food security in Asia and the Pacific–issues, innovations, and practices, Mandaluyong City, Philippines: Asian Development Bank, 2011.

[24]Renate Kloeppinger-Todd and Manohar Sharma 2010, Innovations in Rural and Agricultural Finance, Focus 18, Brief I, July 2010, IFPRI.

[25]http://www.fao.org/ag/ags/agricultural-finance-and-investment/value-chain-finance/en/

[26]www.microlinks.org. With support by USAID, Microlinks produces a large number of research reports on finance include value chain finance.

[27]http://ifc.org/microfinance. In late 2010, capitalizing on the success of the GTFP and GTLP, IFC formed its Trade and Supply Chain Department, which integrates supply chain financing and other trade facilitation initiatives with its two existing trade finance programs. Our suite of innovations to address gaps in the financing needs of underserved clients in emerging markets has expanded to include the Global Warehouse Finance Program (GWFP), the Global Trade Supplier Finance (GTSF) program, distributor finance, structured trade finance, systemic liquidity solutions, and the Critical Commodities Finance Program (CCFP).

[28]www.seepnetwork.org. The Small Enterprise Education and Promotion (SEEP) Network connects microenterprise practitioners from around the world to develop practical guidance and tools, build capacity, and help set standards toadvance their common vision: a sustainable income in every household. SEEP produces materials on a wide range of topics, including value chain finance.

29http://www.acdivoca.org/852571DC00681414/ID/ourwork_valuechainsframework

[30] Miller, C. and Jones, L. 2010. "Agricultural Value Chain Finance: Tools and Lessons," FAO, Rome, Italy and Practical Action Publishing, Rugby, UK.

Table 4 Recommendations and Assessment

Term	Measure	Advantages	Disadvantages	Factors to be Considered
Short (1-2 years)	Conduct Demand-Side Analysis Study	• Provide basis for designing specific measures relevant to the Project	•	• Other similar / previous surveys for households and MSME
	Establish A2F Expertise: Stand-alone / independent, albeit complementary, mechanism	• Complement existing skills of AIP-PRISMA team	• Resource trade off with other types of TA	• Flexibility in using this resource (e.g. considering other AusAID programs that have A2F components)
	Support financial education of farmers	• Can build upon some of the work already being carried out by existing NGOs and service providers	• Remain abstract unless linked to other concrete measures	• Needs to be continued throughout the Program • Link with similar initiatives undertaken by BI and other partners
	Support financial institutions in understanding agricultural value chains	• Can build upon the work of existing service providers, donors and international TA	• Remain abstract unless linked to other concrete measures	• Needs to be continued throughout the Program • Link with similar initiative undertaken by BI and other partners
Medium (3-5 years)	Value Chain Financing	• Integrates well with value chain approach of the Project • Integrates farmers with enterprises • Provides stronger reassurances for financial institutions (risk sharing, providing information, economy of scale in technology, marketing, …)	• Requires complementary measures on capacity building and technology • Strong dependence on technical assistance in the initial stages	• Important to prioritize a small number of value chains. The ones currently identified by the Project are probably too many.

Term	Measure	Advantages	Disadvantages	Factors to be Considered
	Insurance products development (e.g. livestock insurance)	• Reduce risk of investment	• Highly dependent on initial subsidies	• Ongoing pilots
	Policy advising based on lessons drawn from ongoing activities on alternative collateral types, Insurance, WRS, mobile banking	• Possibility of overall impact beyond the target area	• PRISMA does not seem to have been designed to have a strong policy impact (at the national level)	• Link with ongoing efforts in policy advising conducted by development partners • Declining cost of mobile and mobile communication

APPENDIX 1. KEY INDICATORS IN TARGET PROVINCES

123. In the first quarter of 2013, the economy of East Java grew at 6.62% relatively to the previous year. East Java economic performance slowed compared to the previous quarter when East Java grew at 7.09%. However, economic growth in East Java is higher than national economic growth, which stood at 6.02%.

124. The economic structure of East Java is dominated by three sectors, including (i) Trade, Hotel and Restaurant (31% of GDP); (ii) Manufacturing (26%); and (iii) Agriculture (18% of GDP). Employment of the three sectors is respectively 21% of the total (in trade), 39% (in agriculture), and 15% (in industry).

125. The development of SME loans disbursed by banks in East Java has increased steadily. In the first quarter 2013, total SME loans disbursed amounted to Rp. 70.4 trillion an increase of 11.48% compared to the same period a year earlier. The People Business Loan (KUR) program in East Java performed very well. In the first quarter of 2013, loan approved reached Rp 16.32 trillion. However, only Rp 6.11 trillion were withdrawn or outstanding.

126. Total loan disbursed in the first quarter of 2013 reached Rp. 245 trillion, representing a growth of 26%. This figure indicates that East Java economy is growing. However there is inequality in the loan distribution among economic sectors. Agriculture sector absorbs 39% employment and contributes 18% to the economy but receives only 2.6% of total loan.

127. In West Nusa Tenggara (NTB), the economy grew at 4.7% in the first quarter of 2013. When the calculation excludes the mining sector, the province growth increases to 5.85%. The high instability of the mining sector affects the overall economic growth of the province. Agriculture is the most important sector of the economy with a share of 24% of regional GDP; the trade, hotel and restaurant sector contributes 19% of the regional income; and mining contributes 16%.

128. In terms of total loans, only 2.3% go to agriculture. Almost one third of the loan goes to trade, hotel and restaurant and absorbs Rp. 4.9 trillion. The proportion of total workforce in agriculture reaches 44%, however only 2% of total credit goes to agriculture. The growth of agricultural loan is very rapid and is above 100%.

129. During the first quarter 2013, NTT economy grew at a rate of 5.37%. Agriculture and manufacturing sectors are the only sectors that grow less that average 5.37%. Agriculture sector grew 2.67% and manufacturing sector grew 1.53%. Since 2011, agriculture is a stagnant sector and the only sector that did not experience growth above 4%. Agriculture contributes 36% to the provincial GDP and generates employment for 61.2% of the labor force.

130. Total loan disbursed during the first quarter 2013 amounted to Rp. 12.844 trillion. From that figure, only 33% is classified as productive use. Total SME loan is Rp. 3.294 trillion or 26% of total loan. Loan below Rp. 50 million is Rp. 678 billion or 5% of total loan. Total loans for agriculture sector represent only 2% of the total.

131. The previous indicators indicate agriculture as an important sector in term of its contribution to the economy and employment of the target provinces. However, sector

growth is weak and less than 5% of total loans goes to this sector. Moreover, most farmers in this region are near poor (see Table 5)

Table 5Poverty in Targeted Areas

	Total Farmers	Non-Poor Farmers	Near Poor Farmers	% Near Poor Farmers
Indonesia	42,600,196	17,741,448	24,858,748	58.4%
East Java	8,188,984	2,835,820	5,353,164	65.4%
NTB	1,024,174	317,689	706,485	69.0%
NTT	1,307,546	469,000	838,546	64.1%

Source: AIPD-Rural

APPENDIX 2. PERSONS MET

Table 6 Persons Met

No.	Date	Day	Organization	Person	Position	Location
1.	June 3	Mon	Bank Jateng (Regional Bank for Central Java)	Ali Santoso	SME Division	Jakarta
2.	June 3	Mon	IFC	Ian Crosby	Manager, Sustainable Business Advisory East Asia and Pacific	Jakarta
				Ernest E. Bethe III	Program Manager Agribusiness	
				Hans Dellien	Senior Operations Officer	
				Nyoman Yogi	Operations Officer Access to Finance Program Advisory Services in Indonesia	
				Rick van der Kamp	Operations Officer Agribusiness	
				F. Elaine MacEachern	Senior Security Transactions Specialist East Asia-Pacific	
3.	June 4	Tue	Australian Community Development and Civil Society Strengthening Scheme (ACCESS) Phase II	Paul Boon	Program Director	Jakarta
4.	June 4	Tue	BAPPENAS (National Development Planning Agency)	Pungki Sumadi	Director of Financial Service and State Owned Enterprise	Jakarta
5.	June 5	Wed	Bank Indonesia	Yufrizal WiniPurwanti	Assistant Director Division Financial Inclusion and SME	Jakarta
6.	June 5	Wed	OJK/Australia Indonesia Partnership for Economic Governance (AIPEG)	Gavin Forte	Lead Finance Sector Adviser	Jakarta
				Nia Nadya R. Nur	Financial Sector Adviser	
7.	June 5	Wed	Mercy Corps	Paul Jeffrey	Country Director	Jakarta
				AndiIkhwan	Indonesia Program Coordinator Agri-Fin Mobile	
8.	June 5	Wed	BRI-Agro	NovinsaIndra	Chief Division Agribusiness	Jakarta
9.	June 5	Wed	OPM	Robert Stone	Team Leader IFCPENSA Evaluation, Financial Inclusion Specialist	Jakarta
10.	June 7	Fri	Andara Bank	David Yong	President Director CEO	Jakarta

No.	Date	Day	Organization	Person	Position	Location
11.		Mon	Perbarindo	Hary Wuryanto	Chairman Perbarindo East Java Chapter	Surabaya
12.	June 10	Mon	East Java Regional Loan Guarantee Company	Chusnul Maarif Mohammad Sulthon	Director	Surabaya
13.		Mon	PASKOMNAS	Trisilia	Site manager	Surabaya
14.			UPK Poncokosumo	Arief	District Facilitator	Malang
15.			UPK Poncokosumo	Shukry Frida	Group Leader Group Leader	Pocokusumo Wringinanom
16.	Jun 11	Tue	Farmer-collector	Sujud	Farmer-collector	Argokusumo Poncokusumo
17.			Farmer	Didik	Farmer	
18.			Sub-dealer	Fathur Ridhoi	Input sub-dealer	
19.			East-west Seed	A Sujianto	Assistant Area manager	
20.	June 12	Wed	Bank Jawa Timur	DJoko Lesmono Rudie Hardiono	Director Corporate Secretary	Surabaya
21.	June 13	Thu	Farmer 1	Usman	Shallot & Paddy farmer	Bima
22.			Farmer 2	Afradin	Shallot & Paddy farmer	Bima
23.			Farmer 3	Usman	Farmer & seed producer	Bima
24.			PNPM Facilitator	Zainal	Kabupaten Facilitator	Bima
25.			PNPM Facilitator	Radiaturrahma	Financial Facilitator	Bima
26.			UPK	M. Syafei	Chairman of UPK Sapeh	Bima
27.			Trader 1	Nasrudin	Trader	Bima
28.			Trader 2	Nurdin	Trader	Bima
29.			Bank NTT	Endri Wardono Boy Renado Nunuhitu	Group Head Managers SME Lending Group Head Micro Lending	Kupang
30.			Maize Seed Producer	Victor	Owner and Manager	Kupang Timur
31.			Pig farm	Budi	Manager	Kupang
32.			Bank NTT	Prof. Ir. Fred Benu, M,Si, Ph.D	Commissioner	Kupang
33.	June 14	Fri	BPR NTB Bima	Hamdan	Director	Bima
34.				Iwan	Director	Bima
35.			BRI Bima	Lalu Fadlan	Asst Mgr Micro Unit	Bima
36.				Zia Ulhaq	Woha Unit Mgr	Bima
37.				Ritmansyah	AAO Program	Bima
38.			Trader	Iwan Setiawan	Trader	BIma (Sapeh)
39.			MFI BREUNG	Angela Lena Kaha and Patrick	Supervisor MFI associated with SINARSARON Credit Union	Larantuka (from)
40.			YMTM	Yoseph Sumu from YMTM 5 farmer group representatives	Mitra Tani Mandiri NGO providing TA and financial services to farmers	Timor Tengah Utara
41.			UPK	Simon Gades	Village Head	Village Tuapukan/

No.	Date	Day	Organization	Person	Position	Location
						Kupang
42.			East West Seed	Sarwoto	Technician	Kupang
43.			Farmer	Jack Hofni Adu	Vegetable Farmer	Kupang
44.			Dunia Tani	Herry Hariyanto	Manager	Kupang
45.			Svadaya Utama Credit Union Association	WEN FESLAUS WANDELINUS	Credit Union Manager	MAUMERE
46.	June 15	Sat	Farmer 1	Mesak Kolo	Cooperative Chairman Vegetables farmer	Kupang
47.			Farmer 2	Isac Atin	Vegetables farmer	Kupang
48.			Trade collector	Adison Atin	Trader	Kupang
49.	June 17	Mon	AusAID	Petrar*ca* Karetji	Counselor Decentralization and Poverty Reduction and Rural Development Section	Jakarta
50.	June 20	Tue	Banda Ghara Reksa	Andy Pratama	Manager	Jakarta
51.				Samto Pramono	Director	
52.			CSUL Finance	Suwandi Wiratno	Director	Jakarta
53.	June 21	Wed	Swisscontact	Peter Bisengger	Director	Jakarta
54.				Prashant Rana	Regional Director	

APPENDIX 3. REFERENCES

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APPENDIX 4. MISSION TO EASTERN INDONESIA

132. The Mission to Eastern Indonesia took place between June 9 and June 15 and included the four consultants and two PRISMA staff members - Angela Clare (in Eastern Java during June 9-12) and Daniel Nugraha (in NTT during June 12-15). The consultants' team stayed together in the visits to East Java (Surabaya and Malang) and then split into two groups: one group covering NTB and one group covering NTT. The list of persons met is in APPENDIX 2; Table 7 categorizes the persons met. Within the available time, the team had the opportunity to interact with a number of stakeholders including value chain actors (farmers, input providers, and collectors), representatives of banks, other financial institutions, macro level institutions, and relevant project personnel.

Table 7 Types of Stakeholders met during the Mission

Type	Jakarta	East Java	NTT	NTB	Total
Macro level institutions (BI, BAPPENAS)	2				2
Banks (Commercial, BPD, BPR)	2	2	1	2	7
MFIs and Other FI including UPK		2	3	1	6
NGOs			1		1
Projects/ Donors	4				4
Farmers		2	4	3	9
Collectors and Input Providers		2	4	3	9
Other	2	2			4
Total	10	10	13	9	42

APPENDIX 5. MAIN CREDIT PROGRAM FOR AGRICULTURAL PROMOTION

Table 8 Agricultural Credit Programs

	Kredit Ketahanan Pangan dan Energi (KKPE)	**Kredit Pengembangan Energi Nabati dan Revitalisasi Perkebunan (KPENRP)**	**Kredit Usaha Pembibitan Sapi (KUPS)**	**Kredit Usaha Rakyat (KUR)**
Year Starting	2007	2006	2009	2008
Legal Document	Minister of Finance Regulation (MFR): No.79 / PMK.05 / 2007, MFR No. 48 / PMK.05 / 2009, MFR 198 / PMK.05 / 2010	Minister of Finance Regulation No. 117 / PMK 06 / 2006	Agriculture Miniter Regulation No. 40/Permentan/PD.400/9/2009	Presidential Instruction No. 6 / 2007
Sector	1. Paddy, maize, soybeans, sweet potato, sugar cane, cassava, peanuts, buckwheat, chilly, shallot, ginger, potatoes, bananas 2. Livestock: cow, chicken, duck, quail 3. Fisheries(including seaweeds) 4. Procurement and rejuvenations of equipments for above-mentioned sectors	Expansion and rejuvenation for palm oil, rubber, and cacao	Cow breeding	Productive enterprises
Credit Limit	1. For farmer and fisherman; maximum IDR 50 millions 2. For cooperatives for the purpose of procurement of staples; maximum IDR 500 millions 3. For cooperatives for procurement and rejuvenation of equipment; maximum IDR 500 millions	Determined by the Director General of Plantation	Maximum IDR 66,315,000	KUR Micro; maximum IDR 5 million KUR Retail; maximum IDR 500 million
Interest Rate	For sugar cane is 7% p.a and for other crops 6% p.a	For palm oil and cacao is 7% p.a and for rubber is 6% p.a	5% p.a	KUR Micro 22% p.a KUR Retail 14% p.a
Loan Terms	Maximum 5 years	For palm oil and cacao 13 years and for rubber 15 years	Maximum 6 years with grace period of 24 months	Working capital loan; maximum 3 years and can be extended to 6 years Investment loan; maximum 5 years and can be extended to 10 years
Implementing	BRI, BNI, Bank Mandiri, Bank Bukopin, BCA,	BRI, BNI, Bank Mandiri, Bank Bukopin, Bank	BRI, BNI, Bank Bukopin, BPD Jawa	BRI, Bank Mandiri, BNI,

	Kredit Ketahanan Pangan dan Energi (KKPE)	Kredit Pengembangan Energi Nabati dan Revitalisasi Perkebunan (KPENRP)	Kredit Usaha Pembibitan Sapi (KUPS)	Kredit Usaha Rakyat (KUR)
Banks	Bank Agroniaga, BII, Bank CIMB Niaga, Bank Artha Graha, BPD Sumatra Utara, BPD Sumatra Barat, BPD Sumatra Selatan, BPD Jawa Barat, BPD Jawa Tengah, BPD DIY, BPD Jawa Timur, BPD Bali, BPD Sulawesi Selatan, BPD Kalimantan Selatan, BPD Papua, BPD Riau	Agroniaga, BII, Bank CIMB Niaga, Bank Artha Graha, Bank Mega, BPD Sumatra Utara, BPD Sumatra Barat, BPD Sumatra Selatan, BPD Aceh, BPD Kalimantan Timur, BPD Papua, BPD Riau	Timur, BPD Jawa Tengah, BPD DIY, BPD Sumatra Barat, BPD Bali	BTN, Bank Bukopin, Bank Syariah Mandiri, Bank DKI, BPD Sumatra Barat, BPD Jawa Barat, BPD Jawa Tengah, BPD DIY, BPD Jawa Timur, BPD NTB, BPD Kalimantan Barat, BPD Kalimantan Selatan, BPD Kalimantan Tengah, BPD Sulawesi Utara, BPD Maluku, BPD Papua
Target Areas	Sumatra Utara, Sumatra Barat, Sumatra Selatan, Jawa Barat, Jawa Timur, Jawa Tengah, Bali, Sulawesi Selatan, Kalimantan Selatan, Papua, Riau	Sumatra Utara, Sumatra Barat, Riau, Jambi, Bengkulu, Sumatra Selatan, Bangka Belitung, Lampung, Jawa Barat, Kalimantan Barat, Kalimantan Tengah, Kalimantan Selatan, Kalimantan Timur, Sulawesi Utara, Sulawesi Tengah, Sulawesi Barat, Sulawesi Selatan, Sulawesi Tenggara, Maluku, Papua, Papua Barat	Jawa Timur, NTB, DIY (Yogyakarta), Jawa Tengah	All provinces