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Rural Agro-Enterprise Partnership for Inclusive Development and Growth (RAPID-Growth) Project Baseline Survey

Roehlano M. Briones, Adoracion M. Navarro, Michael Ralph M. Abrigo, Anna Jennifer L. Umlas, and Jokkaz S. Latigar

CONTACT US:

RESEARCH INFORMATION DEPARTMENT
Philippine Institute for Development Studies

18th Floor, Three Cyberpod Centris - North Tower
EDSA corner Quezon Avenue, Quezon City, Philippines

publications@pids.gov.ph
(+632) 8877-4000

https://www.pids.gov.ph

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Abstract

This study presents a baseline survey for the Rural Agro-enterprise Partnership for Inclusive Development and Growth (RAPID-Growth) project implemented by the Department of Trade and Industry. Operating in six regions of Mindanao and Region VIII, the project focuses on key value chains, including cacao, coconut, coffee, and processed fruits and nuts. The study delves into the current conditions of smallholder farming households and Farmer Organizations (FOs), complementing another PIDS study on matching grants as a strategy for enterprise development (Umlas and Briones 2023). Utilizing quantitative impact evaluation and process evaluation, the research undertakes the first step towards assessing program effects and understand program implementation.

Survey key findings underscore the alignment of the treatment group with project selection criteria, particularly from high-poverty municipalities and vulnerable groups. Some differences between the treatment and control groups are already evident in terms of income sources, economic enterprise participation, and credit access, which needs to be carefully considered when isolating project impact at the endline. The enterprise profiling reveal that the majority of involved FOs are larger entities with over 200 members, operating for 0-9 years, and comprising of cooperatives, corporations, and worker associations. Despite challenges, such as the absence of a robust M&E system, the process evaluation highlights positive aspects including the effectiveness of the matching grant scheme, FO empowerment, FO capacity development, and private sector involvement. Finally, baseline study recommendations relate to expediting project completion, reconsidering certain project components, and enhancing technical assistance to FOs.

Keywords: smallhold farmers, farmer organizations, enterprise development, agricultural value chain, matching grant, baseline study, impact evaluation, process evaluation

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Executive Summary

1. **Overview.** The Department of Trade and Industry (DTI) has embarked on the implementation of the "Rural Agro-enterprise Partnership for Inclusive Development and Growth" (RAPID) Growth Project. The Project is conducted in six regions of Mindanao and Region VIII in the Visayas. The target value chains are cacao, coconut, coffee, and processed fruit and nuts. Components of the project are: Direct Assistance to Enterprises, including investments in Farm-to-Market (FMI) infrastructure; Component 2: Institutional Strengthening; Component 3: Technical Assistance to Financial Service Providers (FSPs); Innovative Financing; and Project Management.

2. The DTI-RAPID has selected the PIDS as the service contractor to conduct the RAPID Growth Project's Baseline Survey and Policy Study. This study undertakes the following:

   i) Discuss the current situation of smallholder farming households;

   ii) Review the profile of various Farmer Organizations (FOs).

   iii) Provide a policy study with recommendations on the topic: Matching Grants as a strategy for enterprise development in agricultural value chains in the Philippines.[1]

3. To meet these objectives, two types of evaluation were undertaken: Quantitative Impact Evaluation and Process evaluation (Khandker et al, 2010). **Quantitative impact evaluation** seeks to determine whether it is possible to identify the program effect and to what extent the measured effect can be attributed to the program and not to some other causes. The impact evaluation (combining baseline and endline) will employ a matched sample difference-in-differences (DiD) design. To meet desirable statisticcal properties, the survey requires 3,280 samples with cluster size of 10, divided equally between the treated and comparison groups. Meanwhile. **process evaluation** seeks to understand whether implementation of a program unfolded as planned. Baseline analysis of project components

4. **Findings of baseline survey.** The baseline survey shows that the treatment group that largely conforms to the beneficiary selection criteria of the Project, namely from a high poverty municipality, and from a vulnerable group (e.g. IP community). Treatment and comparison group of households are broadly similar, such as preponderance of coconut value chain in the sample, followed by cacao and processed fruit and nuts. The few items in which differences between the two groups stand out are the following: a) greater reliance of the treatment group on farm income and employment, compared with the comparison group; b) lower indicators of participation in economic enterprise in the treatment group, compared with the control group; c) greater access to government banks and farmer organization credit among the treatment group.

5. **Findings of enterprise profiling.** Majority of members of Farmer Organizations (FOs) who will be part of the RAPID Project are part of a large FO (>200 members). Majority of FOs are in 0 – 9 years since establishment. One-fifth of FOs are cooperatives, while one-tenth are corporations; one-third provided no information. The remainder are FOs registered as worker associations. Summary of findings from the baseline survey

[1] The policy study "Matching Grants as a Strategy for Enterprise Development" by Umlas and Briones (2023) has been published as a separate PIDS discussion paper.

6. **Findings of process evaluation.** There are healthy indications that theory of change will materialize for component 1. Particularly striking are the matching grant scheme, empowerment of FOs in value chain project implementation, capacity development of FOs, and strong private sector participation. Matching grant scheme induces strong participation of POs and their members in the RAPID Project. People empowerment has been complemented by intensive program of capacity development. DTI has opted for an intensive private sector role in its main value chain project.

7. Admittedly, the Project has had its share of implementation problems. The absence of an adequate M&E system poses serious risks for functionality and sustainability of RAPID investments. Finally, implications of the matching grant strategy on additionality and equity remain unclear.

8. **Recommendations**. As a baseline study, it is premature to issue recommendations. Nevertheless a few tentative recommendations may be broached, namely: Completion of the DIPs should be expedited; Reconsider implementation of Components 3 and 4; and Ensure adequate technical assistance to FOs in making appropriate choices for their matching grant. Matching grants are a way to truly empower FOs (see Annex A), and avoid some of the procurement problems noted in the literature on farm production and enterprise support programs.

9. The RAPID Growth project includes a matching grant scheme for farmer organizations and enterprises. Evidence on the impact of matching grants is limited, but few studies show its positive outcomes on firms. There is no one size fits all design for a matching grant program, and, therefore should be tailored to local conditions. On the other hand, the program risks excluding farmer organizations that have weak linkages with the government. There is limited information on how beneficiaries will finance their counterpart. Financial institutions also have limited involvement in the scheme. Furthermore, the following are not clear: a) equity implications of demanding a relatively high (40% or more) cost share of the FO; b) additionality of the scheme, or the counterfactual investment pattern of the enterprise in the absence of the scheme. It is hoped that the complete baseline-endline study, with adequate controls, may shed light on these issues.

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1. Introduction

1.1 Project overview

The DTI has embarked on the implementation of the "Rural Agro-enterprise Partnership for Inclusive Development and Growth" (RAPID) Growth Project. Financed in part by a loan and grant from International Fund for Agricultural Development (IFAD), which took effect last 8 July 2019, the Project supports the administration's socio-economic agenda of promoting rural enterprises and value chain development; increasing competitiveness and ease of doing business; investing in human capital; accelerating infrastructure spending; and enhancing innovation (IFAD 2017, p. 3). The Project aims to contribute to the reduction of incidence of poverty in the target areas through sustainable increase in income of smallholder farmers and unemployed rural men and women across the selected value chains, namely coffee, cacao, processed fruits and nuts and coconut. It will be implemented in 21 provinces in Regions VIII, IX, X, XI, XII, Caraga, and BARMM.

Total Project cost is estimated at USD 93.59 million over a six-year implementation period. Financing is composed of an IFAD loan (USD 62.9 million), IFAD grant (USD 2.5 million), a Government of the Philippines (GOP) contribution of USD 9.1 million, contributions of local government units (LGUs) amounting to USD 1.71 million, contributions from financial service providers (FSPs) of USD 12.44 million, beneficiary farmers' contribution of USD 2.1 million, and beneficiary MSME contribution of USD 2.84 million (IFAD 2017, p. 33).

The DTI-RAPID has selected the PIDS as the service contractor to conduct the RAPID Growth Project's Baseline Survey and Policy Study. The baseline survey will establish the comparison or reference values/ data for the project's key indicators and constitute the basis to measure the project performance during the Project Evaluation Activities, namely: 1) Annual Outcome Survey; and 2) End-of¬ Project Surveys for the Project Completion Review. The baseline values will be used to assess progress, impact, and outcomes. The baseline data will also help to evaluate the robustness of the assumptions underlying the Project's Theory of Change (TOC).

1.2 Study objectives and approach

This study undertakes the following:

i) Discuss the current situation of smallholder farming households (including but not limited to income level, asset ownership, household size, sources of income, benchmarks for outcome indicators in the project log frame within the target area who are engaged in the value chain of selected commodities, in terms of access to and utilization of production technologies, production inputs, credit, agricultural support infrastructure, information and market, and policy environment;

ii) Review the profile of various Farmer Organizations (FOs).

iii) Provide a policy study with recommendations on the topic: Matching Grants as a strategy for enterprise development in agricultural value chains in the Philippines.

To meet these objectives, two types of evaluation were undertaken: Quantitative Impact Evaluation and Process evaluation (Khandker et al, 2010). **Quantitative impact evaluation** seeks to determine whether it is possible to identify the program effect and to what extent the measured effect can be attributed to the program and not to some other causes. The main set-up of the impact evaluation is to gauge the differences in some impact indicator between two groups, namely a treated group (which have benefited from the intervention) and a comparison group (which have not benefited from the intervention). The baseline data (reported here) will be combined with data from a forthcoming endline study for a complete, end-to-end impact evaluation.

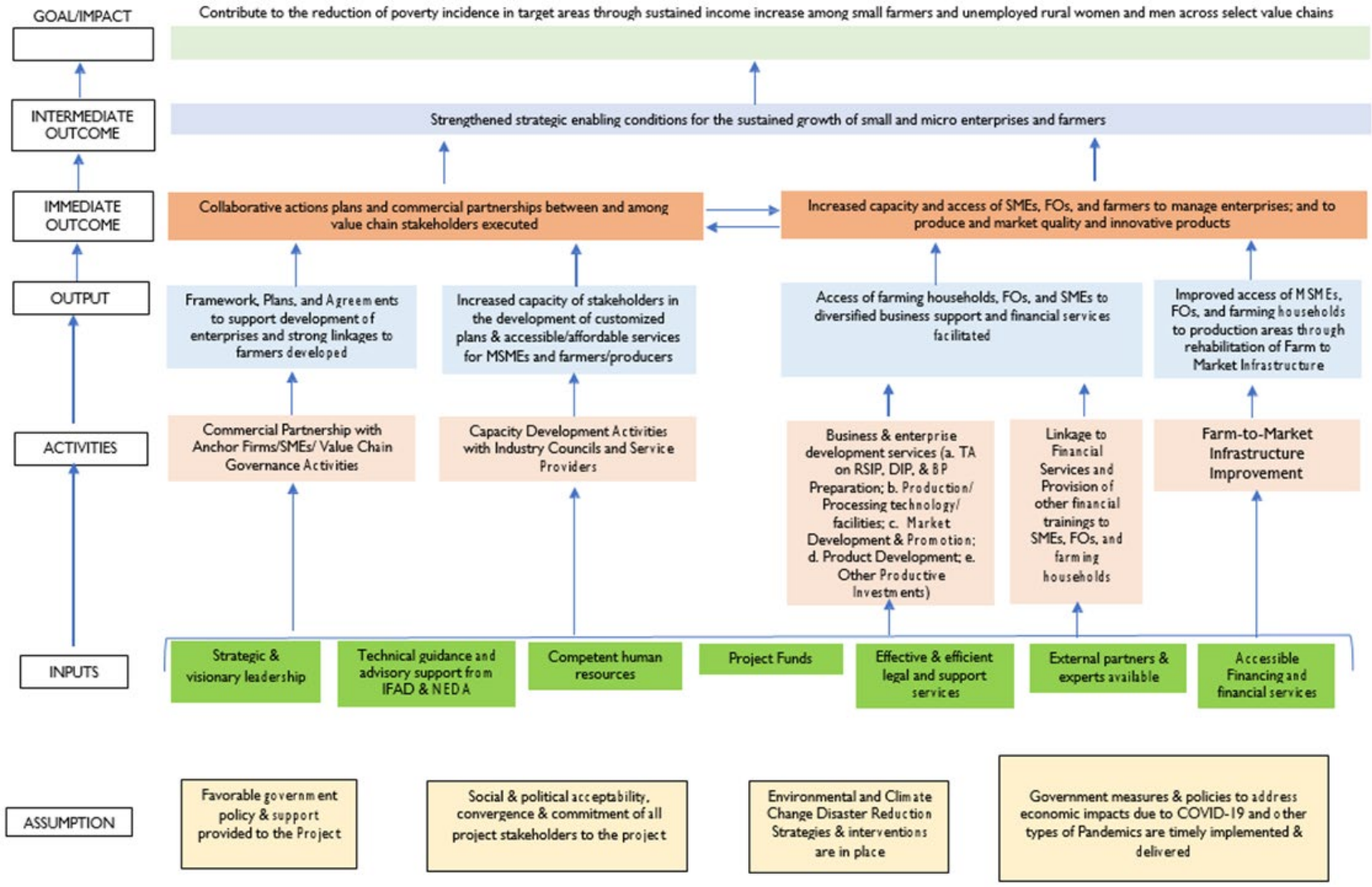
Meanwhile. **process evaluation**, also known as operational evaluation, seeks to understand whether implementation of a program unfolded as planned. Documentationn of the program plan is found in the logframe and the Project Implementation Manual (PIM). This is typically undertaken using qualitative techniques, drawing on internal project documentation, as well as interviews with program beneficiaries, officials responsible for implementation, and other key stakeholders.

2. Project brief and development context

2.1 Theory of change and project logframe

The TOC is shown in Figure 1, while the Logframe is summarized in Table 1. The TOC states the goal of the project is reduction of poverty incidence through sustained increase in income of small farmers and employed rural men and women in selected value chains. These value chains were identified subsequently as *cacao, coconut, coffee,* and *processed fruits and nuts* (PFN). The Design Completion Report points out that rural poverty, associated with weak performance of agriculture, is the result of poorly developed infrastructure, degraded natural resources, small farm sizes, insufficient access to capital, and a decline in productivity and profitability, low access to improved agricultural technologies, and lack of diversification. Opportunities for growth are found among agro-based enterprises that have access to investment capital, efficiently source sufficient volume of good quality raw materials, apply modern technologies, and comply with recognized product standards in response to market requirements. Growing markets for specialty high value crops offer a new outlook for diversification and value-added in the farming sector. To capitalize on these opportunities at scale, effective approaches are needed for working with smallholders- who currently have only limited access to productive capital, knowledge and technology, and, consequently, to remunerative markets (IFAD 2017, p. 9).

Figure 1. Theory of change of RAPID Growth Project



Source: DTI – RAPID (2017)

Table 1. Logical Framework of the RAPID Growth Project

Results Hierarchy	Indicators	Baseline	Phase 1	Interim	End Target	Means of Verification	Assumptions
Goal: Contribute to the reduction of poverty incidence in target areas through sustainably increased income of small farmers and unemployed rural women and men across selected agri-based value chains	Number of municipalities with poverty rates above 40% in target areas reduced	349		320	260	PSA small area estimates and PIDS	Favorable economic, political, environmental, and social conditions
Development Objective: Provide enabling conditions for the sustained growth of small and micro enterprises in selected agricultural commodity chains with comparative advantages, market demand, growth potential, links to small farmers and the potential for job creation.	78,000 project-supported HH with increase in income by at least 60% from on and off farm activities	2,000		25,0002	78,000	Project Report/Survey	Stability in input and output prices
	36,000 incremental jobs generated on farm and in project supported MSMEs, 40% for women	0		10,000	36,000	Project Report/Survey	
	1,050 MSMEs reported increase in profit			710	1,050	Project Report/Survey	
Outcome 1: Producers and value chain actors execute collaborative action plans and build commercial partnerships in selected commodity chains	Percentage increase in value of sales of participating MSMEs, Farmers Associations and Cooperatives	TBD		+30%	+100 %	Project Report/Survey	SMEs interested in partnering with farmers
	No. of commercial partnerships developed between farmers cooperatives and SMEs/large corporations	0	4	100	200	Project Report/ Signed MoAs	

Results Hierarchy	Indicators	Baseline	Phase 1	Interim	End Target	Means of Verification	Assumptions
	Rural Producers' organizations reporting an increase in sales					Project Report/Survey	
	Households reporting an increase in production					Project Report/Survey	
	Partner financial service providers with operational self-sufficiency above 100%					Project Report/Survey	
	Rural producers' organizations engaged in formal partnerships/agreements or contracts with public or private entities					Project Report/ Signed MoAs	
Outputs: 1.1 Networks of Negosyo Centers in target provinces serving as one stop shop to promote entrepreneurship established	Number of networks of Negosyo Centers set up servicing farmers, farmers' associations, cooperatives and MSMEs in 20 provinces	0	4	10	20	Project progress reports	
	Number of FAs/coops served			180	300	Project progress reports	
	Number of MSMEs served			450	750	Project progress reports	
1.2Qualified business providers able to provide business services to MSEs	Number of pools of qualified service providers set up per province	TBD	8	8	20	Project progress reports	
1.3 Capacities of farmers, farmers' organizations and MEs to manage enterprises	Number of farmers trained, disaggregated as men, women, IP, youth			45,000	78,000	Project progress reports	

Results Hierarchy	Indicators	Baseline	Phase 1	Interim	End Target	Means of Verification	Assumptions
strengthened	**10. Number of FAs/cooperatives trained**			180	300	Project progress reports	
	Number of MEs trained			408	750	Project progress reports	
	Persons in rural areas trained in financial literacy and/or use of financial products and services					Project progress reports	
14 DIPs connecting farmers to SMEs and facilitating access to markets and services	Number of DIPs developed			50		Project progress reports/ Signed DIP	
	Number of farming households participate in Detailed Investment Plans (DIPs)	0	5,801	25,000	78,000	Project progress reports / Signed DIP	
	Number of partnership agreements entered by FAs/ Coops, MSMEs or large enterprises	0	4	100	200	Project report/ Signed MoAs	
1.5 Capacities of enablers (e.g., DTI, LGUs and industry councils) for value chain development strengthened	Number of functional industry councils in selected value chain commodities			24	24	Project progress reports	
	Number of DTI/NCs and LGUs Staff trained, disaggregated as men, women, IP, youth			364	500	Project progress reports	
1.6 Industry-based MIS providing information to stakeholders in the target	Number of industry-based MIS, accessible to value chain stakeholders, running and	0		3	3	Project progress reports/ Segmentized	

Results Hierarchy	Indicators	Baseline	Phase 1	Interim	End Target	Means of Verification	Assumptions
value chains developed	regularly updated					database embedded in the Project MIS	
Outcome 2: MSMEs secure the necessary access to producers, markets and suitable investment finance	Number of Farming HH	0	1722	42,000	70,000	Report from FIs and NCs	Financial institutions interested in extending affordable services in rural areas
	Number of MSMEs established linkage with producers/farmers, markets, and availed financial services for productive investments	0	8	710	1,050	Project progress reports	
	% increase in productivity of participating SMEs and Cooperatives			10%	10%	Project progress reports	
	% Increase in volume and value of sales at farm/coop level and SME level			10%	10%	Project progress reports	
	Households reporting using rural financial services					Project progress reports/ Report from FIs and NCs	
	Partner financial service providers with portfolio-at-risk >=30 days below 5%					Project progress reports / Report from FIs and NCs	
	Households reporting improved physical access to markets, processing and storage facilities						

Results Hierarchy	Indicators	Baseline	Phase 1	Interim	End Target	Means of Verification	Assumptions
Outputs: 2.1 Product of farmers, farmers' organizations, cooperatives, SMEs conforming to market requirements enhanced	1.1.1 Number of products form/types conformed to market requirements			300	450	Project progress reports/ Product and packaging clinics report and Techno Transfer training report	
	Rural producers accessing production inputs and/or technological packages					Project progress reports/ Product and packaging clinics report and Techno Transfer training report	
2.2 Access to market	Number of market linkages established			150	250	Project progress reports/ Trade Fair Reports	
2.3 Financial institutions (FIs) with improved capacities to serve target value chain s players	Number of FSPs extend innovative and other value-chain financial services	0		3FSPs	10FSPs	Report from FIs and NCs	
	Number of suitable financial products developed			5	10	Report from FIs and NCs	
	Number of linkages to financial services established			250	350	Project progress reports	
	Number of enterprises benefitting from equity financing	0	4	10	40	Report from SBC and other FSPs	
	Persons in rural areas accessing financial services					FIs reports	

Results Hierarchy	Indicators	Baseline	Phase 1	Interim	End Target	Means of Verification	Assumptions
	Financial service providers supported in delivering outreach strategies, financial products and services to rural areas					FIs reports	
2.4 Farm-to-market infrastructure connecting production to market improved	Length of farm-to-market road rehabilitated and maintained	0		80 km	140 km	Project progress report	
	Roads constructed rehabilitated or upgraded					Project Progress reports	

Source: IFAD (2017); NEDA (2018)

The desired intermediate outcome therefore is strategic enabling conditions for the sustained growth of small and micro enterprises and farmers strengthened; to realize this, there are two immediate outcomes, namely commercial partnerships among value chain stakeholders executed, and increased capacity and access of SMEs, FOs, and farmers to manage enterprises, and to produce and market quality and innovative products. In turn there are a detailed set of outputs towards these outcomes, resulting from activities as enabled by project inputs.

2.2 Project components

The various project activities are organized under five components, as described in the PIM. The component headings and respective cost allocations are as follows: Direct Assistance to Enterprise (80%); Institutional Strengthening (3%); Technical Assistance to FSP (2%); Innovative Fund (6%) and Project Management (9%).

Component 1: Direct Assistance to Enterprise - this component provides complementary activities necessary to boost investments along the four (4) commodity value chains. This includes the provision of conditional matching grants and in partnership and/or coordination for the rehabilitation of farm-to-market roads (FMR) to improve connectivity of production areas to intended markets (DTI 2019). It also includes implementation of capacity development activities to the project's target stakeholders.

Component 2: Institutional Strengthening - RAPID Growth Project will promote business partnerships between MSMEs and farmers in the target commodity value chains by means of the following:

- Establishment of provincial networks of Negosyo Centers (NC), which will serve as one-stop shops for promoting entrepreneurship;
- Development of Microenterprises and Cooperatives as service hubs to provide basic services to the farmers;
- Facilitation of inclusive and equitable partnerships between SMEs targeting profitable domestic and export markets; and
- Capacity building of LGUs on the supervision and monitoring of farm-to-market infrastructure (FMI) rehabilitation works.
- Provision of support to VC enablers (e.g., government agencies and private sectors) through the Industry Councils

Component 3: Technical Assistance to Financial Service Providers (FSPs)- this component entails capacity building of FSPs for them to deliver accessible financial products and services that are based on the needs of the value-chains supported by the Project.

Component 4: Innovative Financing- under this component, the project will provide incentives to private equity and venture capital firms to co-finance SME capital requirements.

Component 5: Project Management – this project ensures that activities are properly designed, planned, implemented, and monitored.

2.3 Project area coverage

The project uses both geographic and direct targeting. Geographic targeting is embedded in the selection of investment areas. The selection of target provinces is primarily based on poverty incidence and growth potential of priority value chains. Province selection is based on growth potential for agribusiness and MSME development, and poverty incidence. Eighteen target provinces have poverty incidence rates above the national average, and 12 are among 20 provinces with the highest poverty incidence nationwide.

As to direct targeting, key target groups include smallholder farmers and micro entrepreneurs within the selected commodity value chains, as well as unemployed and underemployed rural women and men to be potentially employed by participating

enterprises. Within these groups, special focus is on: (i) women, either farmers or women entrepreneurs; (ii) youth (men and women); (iii) indigenous people; and (iv) persons with disabilities. As per design, at least 40% of beneficiaries accessing project services should be women and 25% of project services extended to MSMEs should be accessed by young people.

3. Baseline design and methodology

3.1 Quantitative impact evaluation

Overview

The baseline survey will establish the comparison or reference values/ data for the project's key indicators and constitute the basis to measure the project performance during the Project Evaluation Activities, namely: 1) Annual Outcome Survey; and 2) End-of-Project Surveys for the Project Completion Review. The baseline values will be used to assess progress, impact, and outcomes. The baseline data will also help to evaluate the robustness of the assumptions underlying the Project's Theory of Change. Quantitative data includes but are not limited to the following:

- Basic socioeconomic data of targeted groups, at individual and household level
- Demographic characteristics
- Housing characteristics
- Employment and Income
- Use of Farm to Market Roads
- Credit characteristics

Analytical strategy

The impact evaluation (combining baseline and endline) will employ a matched sample difference-in-differences (DiD) design. A household is "treated" when, by project endline, it belongs to an FO that benefits from Component 1: Direct Assistance to Enterprises. A household is "comparison" or "control" when, by project endline, it is part of an FO that did not receive Component 1 assistance. At the baseline, treatment and comparison status will have to be assigned based on intention-to-treat; in the following, it is assumed that intention-to-treat is identical to actual treatment.

Denote treatment status as T = treated, U = untreated; and time period t, $t = 0$ denotes *before treatment* and $t = 1$ denotes *after treatment*; and Y the outcome variable, with $\overline{Y}$ denoting the mean of the outcome variable over a set of observation units (i.e. individuals, or households). The observations units may be categorized by group, denoted s. Following Fredriksson and de Oliveira (2019), the DID estimate of policy impact can be written as follows:

$$DID = \left(\overline{Y}_{T,1} - \overline{Y}_{T,0}\right) - \left(\overline{Y}_{U,1} - \overline{Y}_{U,0}\right).$$

The model for the determination of the outcome variable is given by:

$$Y_{ist} = A_s + B_t + \beta I_{st} + \varepsilon_{ist}$$

The DID estimate is obtained as the β -coefficient in the preceding model, in which A_s are treatment/comparison group fixed effects, B_t before/after fixed effects, I_{st} is a dummy equaling 1 for treatment observations (beneficiary of the RAPID Growth interventions) in

the after period (otherwise it is zero) and ε_{ist} the error term. The model may be estimated by ordinary least squares.

Note that the full analysis will be completed after the conduct of the endline survey. For the baseline survey, the study will provide baseline descriptive statistics and determine if the Treatment and Comparison group have similar observational characteristics.

Data collection strategy

Determination of population. Given the TOC, the relevant population for the treatment group are households whose members are also members in an FOs associated with at least one of the four value chains. The same definition is applied for drawing samples from the comparison group; the only difference is that the household in the treatment group is in an FO which will be part of RAPID, while the household in the comparison group will be in an FO that will never be part of RAPID. *Note that the classification by value chain is made at the level of the community*. For instance, consider X Coffee Growers Association located in coffee growing barangay X. At the level of individual members though, the actual farm activity may be diverse, including growing of coconut, rice, corn, and so on. Furthermore, the community may be associated with more than one value chain, depending on actual activities of most of the farmers in the community.

Determination of sample size. Based on an 80% statistical power and 95% confidence level, we calculated the minimum sample size required to detect at least a 20% standardized effect size using the base outcomes in Table 2. The samples of rural households in RAPID growth target regions and target sectors in the 2012 and 2015 from matched Labor Force Survey and Family Income and Expenditure Surveys by the Philippine Statistics Authority (2013, 2015) were obtained. Using Stata's -power- command, we calculated the minimum sample size for each of the base outcomes above, and for cluster sizes between 10 to 50 in increments of 10. For each cluster size, we select the largest sample size requirement, which will allow us to provide appropriate coverage for all base outcomes. We then compare the sample size requirements for the different cluster sizes, and chose the cluster size that provides the minimum sample size requirement.

Table 2. Base outcomes used in estimating sample allocation

	2012			2015		
	Mean	SD	ICC	Mean	SD	ICC
Employed, age 25 to 64	0.7	0.4	0.0	0.7	0.4	0.1
Poverty incidence, household	0.5	0.5	0.2	0.5	0.5	0.2
Per capita income, ln	10.0	0.6	0.3	10.0	0.6	0.4
Per capita expenditures, ln	9.8	0.5	0.3	9.9	0.5	0.4

* SD – Standard deviation; ICC – intra-cluster correlation

Source: Evaluation specialist's calculation.

Based on this analysis, the survey requires 3,280 samples with cluster size of 10, divided equally between the treated and comparison groups, for each survey round to allow us to detect at least a 20% standardized effect size based on our above assumptions and base outcomes (Table 3). Note that in our sample size calculation, we did not incorporate

temporal correlations in the household outcomes because of data unavailability, which makes our sample size conservative. That is, our sample size may actually detect smaller difference than the minimum 20% standardized effect size we originally selected if household outcomes are positively correlated.

Table 3. Number of samples by category required to meet evaluation benchmarks

Round	Group	Employed, age 25 to 64	Poverty incidence, household	Per capita income, ln	Per capita expenditure, ln
Baseline	Treated	390	1,270	1,640	1,610
	Comparison	390	1,270	1,640	1,610
Endline	Treated	390	1,270	1,640	1,610
	Comparison	390	1,270	1,640	1,610

Source: Evaluation specialist's calculation.

Due to unforeseeable circumstances, the population of municipalities available for sampling was limited to a total of 72 RAPID municipalities and 47 non-RAPID municipalities, instead of the planned 164 municipalities per treatment arm that will be drawn from all available municipalities in RAPID regions. In the original design, RAPID and non-RAPID municipalities would be first matched based on observed characteristics of these municipalities using propensity score matching. One hundred sixty-four (164) municipality pairs would then be drawn from the resulting pool of matched RAPID and non-RAPID municipalities. However, matching of RAPID and non-RAPID municipalities is not feasible because of the limitation on the available pool of treatment and comparison municipalities. As an alternative strategy, all 72 RAPID municipalities and 47 non-RAPID municipalities were considered in drawing subsequent household samples.

With cluster sizes of 22 and 35 for RAPID and non-RAPID municipalities, respectively, and the same assumed confidence level and minimum detectable effect size as the original design, without accounting for possible autocorrelation in outcomes, the calculated statistical power deteriorates: employment (power = 74.7%), household poverty incidence (24.7%), log household per capita income (23.3%), and log household per capita expenditures (23.6%). These imply that larger actual effect sizes are needed to be statistically detectable at the originally assumed 80% power and 95% confidence level. That is, because of the deviation from the original sampling design the actual sample collected is less likely to detect a statistically significant impact if it exists in the population. Note that these calculated statistical power may be treated as lower bounds if household outcomes are positively correlated across time. However, these unforeseen circumstances should pose no problem for statistical power, given an effect size of 60 percent, which is the increase in household income hypothesized in the Project Logframe. The corresponding power is 99.8 percent.

In order to increase variability, two FOs wherever available were instead randomly sampled from a list of FOs in each municipality. The household sample per municipality were allocated equally among these selected FOs when feasible. The household sample were selected randomly from the list of FO members residing in the municipality. In cases where the number of households in one FO were not enough for the target size, the rest were taken from the other sampled FO if available. Additional FOs were drawn from the same

municipality or from other municipalities when the available number of FO households in the originally drawn FOs was not sufficient.

Because of the above sampling limitation, the main analysis collapses into a difference-in-differences strategy. A key assumption of DID is that average outcomes in treatment and comparison municipalities evolve in parallel without the intervention. While this assumption cannot be directly tested, we will test for the existence of pre-existing trend that directly negates the parallel trends assumption. Since measures of outcomes from sampled households are not available prior to the survey, we will employ surrogate measures, such as municipality-level employment rates, per capita tax collections, poverty incidence, etc., in our pre-existing trend analyses.

The propensity of being in a treatment municipality, p, will be modelled parametrically using baseline municipality and household characteristics. We will limit our analysis to households in treatment and comparison municipalities within the common support of p. Let ΔY_i is the change in outcome of household $i = 1,2, \dots, n$, and T_i is an indicator function denoting treatment assignment (treatment = 1, comparison = 0). Using the predicted propensity score, $\hat{p}$, the average treatment effect in our DID set-up may be calculated as

$$\widehat{\tau_{ATE}} = \frac{1}{n}\sum_{i=1}^{n}\left[\frac{T_i \Delta Y_i}{\widehat{p_i}} - \frac{(1-T_i)\Delta Y_i}{1-\widehat{p_i}}\right].$$

Second, using the estimated propensity score above, we will employ a re-randomization inference on propensity score-matched households with possible covariance adjustments (Rosenbaum, 2002). This strategy allows us to make valid inference using limited sample sizes given that treatment assignment between RAPID and non-RAPID municipalities are exchangeable, which we aim to achieve using propensity score matching.

Finally, we will use simulation-based analysis to assess the sensitivity of our DID estimates to potential violations of the parallel trends assumption. Using the strategy proposed by Rambachan and Roth (2023), we will estimate credible bounds of the impact estimates for different degrees of violation of the parallel trends assumption.

3.2 Process evaluation

The process evaluation is broadly divided by scope of coverage: first is **value chain evaluation,** which examines the rest of project operations focusing on value chain development involving support to enterprises, institutional strengthening, capacity building for FSPs, and innovative financing. A key subset of this is the provision of matching grants, which is assessed separately in a Policy Study presented in Annex A. Documents reviewed and field interviews conducted are listed in Annex B.

The second is **FMI Evaluation**, which covers the rehabilitation of farm-to-market roads (FMRs), a component of Direct Assistance to Enterprises. For the FMRs component, the evaluation framework adopts the idea that FMRs, together with other RAPID-Growth interventions, will contribute to the: (1) increase in productivity of participating SMEs and cooperatives/farmer organizations; and (2) increase in volume and value of sales at the farm/cooperative level and SME level.

The results-based approach can check this by assessing whether or not: (1) there had been improvement in road quality; (2) there is demonstrable increase in road use whether through larger vehicle traffic or larger freight volumes; (3) there had been savings in passenger transport costs and savings in freight costs for farm inputs and outputs and SME products.

4. Profile of surveyed households and communities

4.1 Household and individual characteristics

The baseline survey has a sample size of 3,302 (Table 4). Treatment households account for 50.48 percent of the sample, while comparison households account for the rest ((49.52 percent. The province contributing the most observations is Leyte, followed by Zamboanga del Sur and Cotabato (Table 4). In the treatment group, the province most represented is Cotabato, followed by Zamboanga del Sur, then Sultan Kudarat. Meanwhile in the comparison group, the larger numbers of samples were from Leyte, followed by Maguindanao del Sur and Misamis Oriental.

Table 4: Number of sample households, by location and treatment status

	Treatment	Comparison	All
Eastern Visayas			
Leyte	106	349	455
Southern Leyte	-	36	36
Northern Samar	-	36	36
Zamboanga Peninsula			
Zamboanga del Norte	130	-	130
Zamboanga del Sur	237	69	306
Northern Mindanao			
Bukidnon	57	92	149
Lanao del Norte	-	132	132
Misamis Oriental	-	214	214
Davao Region			
Davao Occidental	56	-	56
Davao de Oro	111	-	111
Davao Oriental	57	71	128
Davao del Sur	56	36	92
Davao del Norte	167	-	167
Soccsksargen			
Cotabato	300	-	300
Saranggani	131	-	131
Sultan Kudarat	188	77	265
South Cotabato	15	-	15
BARMM			
Maguindanao del Norte	-	95	95
Maguindanao del Sur	-	323	323
Caraga			
Agusan del Norte	-	-	
Agusan del Sur	56	-	56
Surigao del Sur	-	105	105
Total	1,635	1,667	3,302

Note: No sample from Zamboanga Sibugay.

Source: PIDS Baseline Survey

Demographic characteristics of available observations by treatment status are summarized in Table 5. Average household size is nearly identical between treatment and control groups (whether using mean or median measures.) Average number of working members is identical for median, but higher for treatment households for the mean. Average years of school is slightly higher for treatment households; average age of working members is almost the same across groups.

Table 5. Selected demographic characteristics of sample households, by treatment status

	Treatment (n=1667)	Comparison (n=1635)	All (n=3302)
Household size			
Mean	4.1	4.1	4.1
Median	4.0	4.0	4.0
Standard deviation	1.8	1.9	1.9
Number of working household members			
Mean	1.3	1.2	1.2
Median	1.0	1.0	1.0
Standard deviation	1.0	1.0	1.0
Years of schooling, household working members			
Mean	9.6	8.9	9.3
Median	10.0	9.0	10.0
Standard deviation	4.1	4.1	4.1
Average age, household working members			
Mean	47.1	46.4	46.7
Median	47.0	46.0	47.0
Standard deviation	14.6	15.3	14.9
Share of households with an IP member (%)	24.2	9.0	16.7
Share of household working members who are members of an economic enterprise	51.5	53.4	52.5

Source: PIDS Baseline Survey.

Demographic characteristics of available observations by value chain are summarized in Table 6. Across value chains, demographic indicators are also very similar, whether in terms of household size, number of working members, years of schooling of working members, and age of working members. Of the working members, about half are members of an economic enterprise, defined as a "member of any cooperative and/or VC-related association/organization."

Table 6. Selected demographic characteristics of sample households, by type of value chain

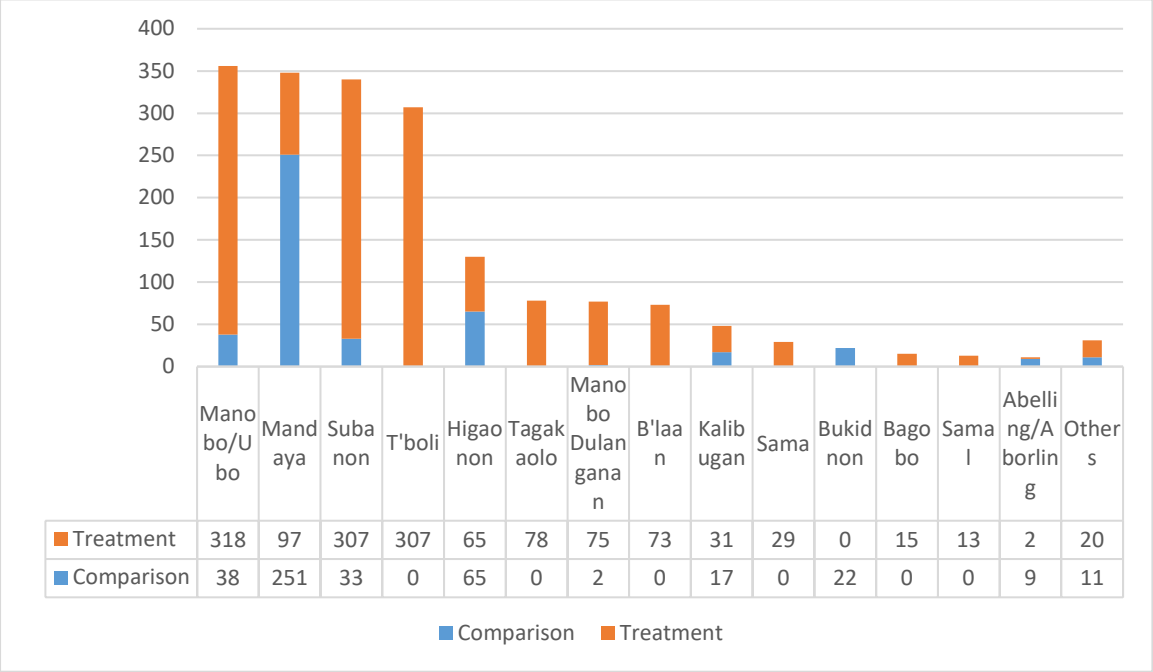
	Cacao (n=598)	Coconut (n=2239)	Coffee (n=345)	PFN (n=518)
Household size				
Mean	4.0	4.1	4.2	4.1
Median	4.0	4.0	4.0	4.0
Standard deviation	1.7	1.8	1.9	1.8
Number of working household members				
Mean	1.2	1.3	1.0	1.1

	Cacao (n=598)	Coconut (n=2239)	Coffee (n=345)	PFN (n=518)
Median	1.0	1.0	1.0	1.0
Standard deviation	1.0	1.0	1.0	1.1
Years of schooling, household working members				
Mean	10.0	9.5	8.5	9.1
Median	10.0	10.0	8.0	10.0
Standard deviation	3.8	4.1	4.2	3.9
Average age, household working members				
Mean	48.2	47.2	44.4	46.2
Median	49.0	47.0	43.0	47.0
Standard deviation	14.9	15.1	14.2	14.4
Share of households with an IP member (%)	12.7	16.8	39.4	25.7

Source: PIDS Baseline Survey.

11. Frequency count of IP households are summarized in Figure 2. The most common IP communities are Manobo/Ubo and Mandaya, followed by Subanon and T'boli. For the comparison group the most numerous community is Mandaya; for the treatment group the most numerous are the Manobo/Ubo, followed by Subanon.

Figure 2: Number of sample household members by membership in IP groups



Source: PIDS Baseline Survey.

4.2 Characterization by value chain

As discussed in Section 3.1, sampling is based on presence of FOs associated with at least one of the four value chains. For the following though, classification of the household by value chain is based on the **answer** of the **respondent** to the query: *Value chain supported in the community*? Distribution of sample households based on these responses is shown in

Table 7. Among the value chains, the most observations are from Coconut, with Cacao a distant second, and the remainder in Processed Fruits and Nuts (PFN) and Coffee (6). Composition of the cacao, coffee, and PFN growers are lopsided in favor of the treatment group; there is a slight preponderance of comparison households for the coconut value chain. Multiple answers are allowed hence the numbers add up to more than 3,302 (total of 3,700).

Table 7. Number of sample households, by treatment status and type of value chain

	Cacao	Coconut	Coffee	PFN	Total
Treatment	562	1,104	327	404	2,397
Comparison	36	1,135	18	114	1,303
Total	598	2,239	345	518	3,700

Source: PIDS Baseline Survey

Distribution of available observations by province and value chain are shown in Table 8. In the provinces with most samples (Leyte, Zamboanga del Sur, Cotabato), the most common value chain is coconut (same as the whole sample); however, the second most common value chain in Leyte is PFN, likewise in Zamboanga del Sur; in Cotabato the second most common value chain is cacao.

Table 8. Number of sample households by province and type of value chain (multiple responses)

	Cacao	Coconut	Coffee	PFN
Eastern Visayas				
Leyte	14	298	9	66
Southern Leyte	1	24	-	1
Northern Samar	-	11	-	-
Zamboanga Peninsula				
Zamboanga del Norte	3	122	1	4
Zamboanga del Sur	4	281	-	21
Northern Mindanao				
Bukidnon	2	85	56	-
Lanao del Norte	2	124	-	10
Misamis Oriental	-	185	2	11
Davao Region				
Davao Occidental	44	45	-	16
Davao de Oro	81	96	-	27
Davao Oriental	59	111	2	37
Davao del Sur	58	75	1	31
Davao del Norte	128	149	2	55
Soccsksargen				
Cotabato	172	139	64	71
Saranggani	19	87	45	63
Sultan Kudarat	11	109	143	25
South Cotabato	-	5	14	10
BARMM				
Maguindanao del Norte	-	50	3	-
Maguindanao del Sur	-	128	3	6

	Cacao	Coconut	Coffee	PFN
Caraga				
Agusan del Norte	-	-	-	-
Agusan del Sur	-	10	-	54
Surigao del Sur	-	-	-	10
Total	598	2,239	345	518

Note: owing to multiple responses, totals by province do not replicate those in Table 4.

Source: PIDS Baseline Survey

The contrast between actual farm and value chain activity, and classification by value chain, is shown in Table 9. Note that one household can report multiple farm and value chain activities. Of the households classified by value chain, a total of 254 are not into farming or in a value chain enterprise. A total of 480 households are also raising livestock, and 304 raise poultry. Most of the sample households (3,145) plant a permanent crop, while about a third (1,044) plant a temporary crop. These farm and value chain activities are also distributed across the value chain categories. Of the 2,239 households in the coconut value chain, for instance, as many as 703 also plant a temporary crop, while 311 raise livestock and 90 raise poultry; however, 184 are not into farming nor have a value chain enterprise.

Table 9. Number of households by agriculture production activity and value chain

	Cacao (n = 598)	Coconut (n = 2,239)	Coffee (n = 345)	PFN (n = 518)	Total
Temporary crop	56	703	164	121	1,044
Permanent crop	542	1841	286	476	3,145
Livestock	60	311	38	71	480
Poultry	47	190	18	49	304
Other agricultural activity/product	5	63	5	25	98
No farming or value chain enterprise	40	184	12	18	254

Source: PIDS Baseline Survey

Breakdown of the crops planted by value chain are shown for temporary crops (Table 10) as well as permanent crops (Table 11). The most commonly planted temporary crop is corn, followed by palay; also planted with some frequency is cassava, and vegetables such as eggplant and string beans. Meanwhile for the permanent crops, the most common is of course coconut (fresh) and copra; even households under the Cacao and Coffee value chains, often plant coconut or harvest copra. Next to coconut, the most common permanent crop is banana, followed by Robusta coffee; only 57 households plant kalamansi, of whom 47 are in the PFN value chain. There is only a weak association between value chain category and farm/value chain activity.

Table 10. Number of households by actual crop grown, temporary crops

	Cacao (n = 598)	Coconut (n = 2,239)	Coffee (n = 345)	PFN (n = 518)	Total
Alogbati	0	1	0	0	1
Ampalaya (incl leaf)	1	6	0	3	10
Beans, dry	0	2	0	3	5
Camote (sweet potato)	0	12	1	8	21
Camote tops	0	5	0	1	6
Cantaloupes, other melons	0	0	1	0	1
Carrot	0	0	1	0	1
Cassava	0	34	1	8	43
Chayote	0	1	21	0	22
Chili (labuyo)	0	4	0	0	4
Common guord (upo)	1	1	0	0	2
Corn (green and white)	13	276	129	60	478
Cowpea	0	1	0	0	1
Cucumber (pipino)	1	5	0	1	7
Dragon fruit	0	1	0	0	1
Eggplant (talong)	5	21	0	5	31
Gabi tubers	0	8	1	3	12
Ginger (luya)	0	9	0	1	10
Kangkong	0	7	0	0	7
Mongo, dry & sprout	1	1	0	0	2
Mustard	0	3	0	0	3
Okra	1	12	0	1	14
Onion bulbs (sibuyas)	0	3	0	0	3
Onion leaves/Spring onion	0	2	0	0	2
Palay (Rice)	30	340	16	40	426
Patola	1	7	0	2	10
Peanuts	0	3	4	3	10
Peas dry (gisantes)	0	1	0	0	1
Pechay (native)	0	7	0	1	8
Pepper, small green	0	1	0	1	2
Pepper, sweet	0	0	0	1	1
Pineapple	0	0	0	1	1
Potato	0	0	1	0	1
Sangig	0	3	0	0	3
Soybeans	0	1	0	0	1
Squash (kalabasa)	4	17	1	4	26
String beans (sitao)	1	14	1	2	18
Sugarcane	2	11	6	2	21
Tobacco, native	0	17	0	0	17
Tomato (kamatis)	1	3	0	1	5
Watermelon	0	1	0	0	1

Source: PIDS Baseline Survey

Table 11. Number of households by actual crop grown, permanent crops

	Cacao (n = 598)	Coconut (n = 2,239)	Coffee (n = 345)	PFN (n = 518)	Total
Abaca	26	68	11	45	150
Bamboo (kawayan)	0	0	1	1	2
Banaba	2	4	1	11	18
Banana	137	347	55	277	816
Cacao	151	98	12	25	286
Camansi	0	1	0	1	2
Cashew	0	1	0	0	1
Coconut	253	852	83	176	1364
Coffee Arabica	2	5	26	6	39
Coffee excelsia	0	5	10	2	17
Coffee liberica	0	0	1	0	1
Coffee robusta	12	51	173	34	270
Coffee, other varieties	0	3	4	1	8
Cotton	1	1	0	0	2
Durian	9	10	5	10	34
Falcata	2	6	0	0	8
Ipil-ipil	0	1	0	0	1
Jackfruit	1	2	0	1	4
Kalamansi	1	9	0	47	57
Lanzones	3	5	0	3	11
Lemon	0	0	0	1	1
Lime (dayap)	1	1	0	0	2
Mango	5	11	0	3	19
Mangosteen	1	1	2	2	6
Marang	0	0	1	1	2
Oil palm	1	2	2	1	6
Other industrial crops	1	2	0	1	4
Other spices	0	0	2	0	2
Palm tree	1	2	1	0	4
Papaya	0	2	0	0	2
Rambutan	1	4	1	3	9
Rubber	67	46	14	16	143
Copra	142	926	9	95	1172
Cacao beans, wet or dry	189	175	6	63	433
Coffee beans, wet or dry	2	2	7	0	11

4.3 Economic characteristics

Membership in economic enterprise

Indicators of household member participation in enterprise are shown in Table 12. A little more than a third of household members are also members of an economic enterprise

(cooperative, association, or other farmer organization with economic purpose); the proportions are similar for comparison and treatment groups. Among members of economic enterprises, indicators of organizational commitment of members are higher for the comparison group, compared with the treatment group; this is true for percent who attended the last general assembly meeting, who voted for officers, and regular or frequent attends of meetings.

Table 12. Distribution of sample household members, by participation in economic enterprise (%)

	Comparison	Treatment	All
Members of economic enterprise (share in total)			
(n=9855)	35.3	33.4	34.3
Among members of economic enterprise:			
(n=3382)			
Attended last GA meeting	92.9	78.1	85.4
Voted for officers	91.1	73.9	82.4
Never attends meetings	1.3	5.9	3.7
Rarely attends meetings	3.5	11.3	7.4
Frequently attends meetings	15.1	9.4	12.3
Often attends meetings	18.0	16.4	17.2
Regularly attends meetings	62.1	56.9	59.5

Note: Base for percentage computation is limited to sample households
Source: PIDS Baseline Survey.

Employment of workers

Distribution of employment of working members in the reported observations is summarized in terms of industry type in Table 13. The most common industry type is obviously Agriculture, forestry, and fishing; the proportion of working members is the comparison group in this industry (64%) is higher than for the treatment group (54%). The next most common are Other service activities (identical shares across comparison and treatment groups). A distant third is Education (more common in the treatment group), followed by Construction (also more common in the treatment group), then Trade (somewhat more common in the comparison group).

Table 13. Distribution of working members of sample households, by type of industry (%)

	Comparison (n=2129)	Treatment (n=1952)	All (n=4081)
Agriculture, Forestry and Fishing	63.9	54.1	59.2
Other Service Activities	8.4	8.4	8.4
Education	3.6	6.3	4.9
Construction	3.9	5.2	4.6
Administrative And Support Service Activities	3.1	5.4	4.2
Other services	4.0	3.2	3.7
Wholesale And Retail Trade; Repair Of Motor Vehicles	3.8	3.3	3.5
Accommodation And Food Service Activities	1.8	4.7	3.2

Public Administration And Defense; Compulsory Social Security	2.6	3.4	3.0
Transportation And Storage	1.8	2.2	2.0
Human Health And Social Work Activities	1.7	2.2	1.9
Other industry	1.4	1.6	1.5

Note: Other services includes: *Activities Of Households As Employers; Undifferentiated Goods And Services, Financial And Insurance Activities, Professional, Scientific And Technical Activities, Information And Communication, Arts, Entertainment And Recreation, Real Estate Activities*. Other industry includes: *Electricity, Gas, Steam And Air Conditioning Supply, Manufacturing, Mining And Quarrying, Water Supply; Sewerage, Waste Management And Remediation Activities.*

Source: PIDS Baseline Survey.

Table 14 summarizes working member information by employment category. The most common category is primary (mainly agricultural) production; for wage employment, the most common category was nonagricultural work, which is almost as common as primary production work. Only a miniscule fraction is engaged in business operation in one of the value chains covered by RAPID; under 5% are operating another type of business, with the share of business operators being higher in the comparison group. The tiny fraction of VC enterprise operators is not surprising as these at the household level will be organized as small proprietorships (formal or informal), whereas the organizational form most commonly supported by the RAPID Project is the FO.

Table 14. Distribution of working members of sample households, by employment category (%)

	Treatment (n=1888)	Comparison (n=2198)	All (n=4086)
Business operator:			
Primary production operator	42.9	55.6	49.7
VC-based business operator	1.4	1.0	1.2
Other business operator	2.4	6.7	4.7
Worker:			
Farm wage worker	9.3	7.1	8.1
VC-based business worker	0.7	0.3	0.5
Nonagricultural worker	49.6	40.8	44.9

Source: PIDS Baseline Survey.

Farm characteristics

Crop production

Production indicators for crop farmers are summarized in Table 15. At this level of detail, interpretation is very difficult because of the low frequency count for many of the crops planted; for instance cucumber sales is very high, but this pertains to only 1 farmer.

Table 15. Average crop production yield and sales, sample households in crop farming

	Yield, tons per ha			Annual sales, Php		
	Treat-ment	Comp-arison	All	Treat-ment	Comp-arison	All
Temporary crop						
Alogbati	0.1	.	0.1	.	.	.
Ampalaya (incl leaf)	8.57	0.34	2.74	283,456	46,967	115,943
Beans, dry	23.4	3.05	18.31	1,237,967	62,567	944,117
Camote (sweet potato)	3.78	0.75	1.44	185,920	10,649	50,483
Camote tops	0.42	0.06	0.12	67,200	31,185	37,733
Cantaloupes, other melons	.	0.01	0.01	.	1,600	1,600
Carrot	0.04	.	0.04	58,800	.	58,800
Cassava	8.39	4.46	5.31	422,159	64,524	137,376
Chayote	0.43	0.04	0.39	18,832	350	17,152
Chili (labuyo)	.	0.02	0.02	.	18,248	18,248
Common guord (upo)	.	3	3	.	53,829	53,829
Corn (green and white)	41.45	4.18	21.64	27,174	31,274	29,348
Cowpea	.	0.7	0.7	.	.	.
Cucumber (pipino)	46.72	10.39	18.18	1,076,033	16,211	243,316
Dragon fruit	.	0.15	0.15	.	70,000	70,000
Eggplant (talong)	10.28	55.26	48.83	158,456	49,560	66,754
Gabi tubers	10.84	2.88	5.33	90,826	4,181,409	2,817,881
Ginger (luya)	300	72.08	87.28	12,000	24,768	23,917
Kangkong	.	0.11	0.11	.	28,981	28,981
Mongo, dry & sprout	0.15	0.34	0.3	21,840	11,063	13,218
Mustard	.	0.03	0.03	.	39,000	39,000
Okra	7.02	15.98	14.7	275,922	122,961	144,812
Onion bulbs (sibuyas)	50	0.02	12.51	2,000	268,053	201,540
Onion leaves/Spring onion	.	0.04	0.04	.	83,429	83,429
Palay (Rice)	6.39	4.26	4.7	40,796	71,317	65,106
Patola	0	22.71	19.22	1,650	708,258	599,549
Peanuts	0.94	.	0.94	50,590	.	50,590
Peas dry (gisantes)	.	60	60	.	17,640	17,640
Pechay (native)	15.88	0.95	2.26	638,693	23,755	78,014
Pepper, small green	.	0.01	0.01	.	8,540	8,540
Pepper, sweet	.	79	79	.	3,280,000	3,280,000
Pineapple	0.32	.	0.32	16,000	.	16,000
Potato	0.8	.	0.8	81,000	.	81,000
Sangig	0.07	.	0.07	514	.	514
Soybeans	0.05	.	0.05	4,000	.	4,000
Squash (kalabasa)	16.54	0.38	10.29	537,432	76,315	358,936
String beans (sitao)	1.61	1.5	1.52	27,111	55,180	49,763
Sugarcane	52.81	58.21	55.99	179,688	165,978	171,309
Tobacco, native	.	34.55	34.55	.	163,647	163,647
Tomato (kamatis)	0.86	0.31	0.44	30,804	10,989	15,943
Watermelon	.	.	.	.	16,000	16,000
Permanent crop						
Abaca	0.4	0.6	0.5	22,089	30,391	26,542
Bamboo (kawayan)	0.1	.	0	250	533	392
Banaba	0.9	0.2	0.6	22,156	2,407	16,513
Banana	44.1	6.5	24.8	25,532	23,739	24,652
Cacao	0.4	0.2	0.4	19,672	14,377	19,455
Camansi	0.3	100	50.2	6,600	1,000,000	503,300
Cashew	.	.	.	.	11,000	11,000
Coconut	1.1	0.9	1	18,053	12,389	15,232
Coffee Arabica	0.4	.	0.4	34,083	.	34,083

	Yield, tons per ha			Annual sales, Php		
	Treat-ment	Comp-arison	All	Treat-ment	Comp-arison	All
Coffee excelsia	0.5	.	0.5	24,878	.	24,878
Coffee liberica	1.1	.	1.1	93,600	.	93,600
Coffee robusta	0.4	0.1	0.4	29,670	4,800	29,401
Coffee, other varieties	0.1	0.1	0.1	4,618	9,800	5,913
Cotton	1	.	1	13,333	.	13,333
Durian	0.5	.	0.5	11,637	.	11,637
Falcata	0.4	0	0.2	78,533	43,333	60,933
Ipil-ipil	1.6	.	1.6	76,800	.	76,800
Jackfruit	.	0.6	0.6	.	20,167	20,167
Kalamansi	0.4	1	0.4	26,376	84,000	26,970
Lanzones	0.3	0.3	0.3	7,754	37,500	12,712
Lemon	.	.	.	3,500	.	3,500
Lime (dayap)	1	.	1	750	.	750
Mango	2.8	0.8	1.4	37,700	76,361	65,315
Mangosteen	0.5	.	0.5	626	.	626
Marang	0.2	.	0.2	3,400	.	3,400
Oil palm	68.4	.	68.4	29,280	.	29,280
Other industrial crops	238.4	.	238.4	155,753	.	155,753
Other spices	0.5	.	0.5	144,550	.	144,550
Palm tree	8.8	2.3	6.6	15,330	123,429	51,363
Papaya	0	4.6	4.6	.	23,600	23,600
Rambutan	0.4	0.1	0.3	18,738	4,000	13,825
Rubber	1.4	0.3	1.3	41,819	15,128	40,097
Copra	23.2	4.8	10.4	17,691	78,738	59,389
Cacao beans, wet or dry	0.9	0.1	0.8	23,352	12,938	22,739
Coffee beans, wet or dry	0.3	.	0.3	24,844	.	24,844

Source: PIDS Baseline Survey.

Area harvested by crop is summarized in Table 16. The largest area harvested on average for temporary crops is for sugarcane, followed by corn, then palay. For permanent crops, the largest area harvested is for oil palm, followed by coconut (for copra). Note that area harvested for permanent crops (compact plantation) is equal to physical farm size, but this is not the case for temporary crops as there are multiple croppings per year, subject to farmers' decisions about land use.

Table 16: Average area harvested, by crop

	Average area harvested per cropping, ha
Temporary crops	
Alogbati	0.50
Ampalaya (incl leaf)	0.33
Beans, dry	0.20
Camote (sweet potato)	0.41
Camote tops	0.14
Cantaloupes, honeydew, ot..	0.13
Carrot	0.50
Cassava	0.82
Chayote	0.70
Chili (labuyo)	0.30

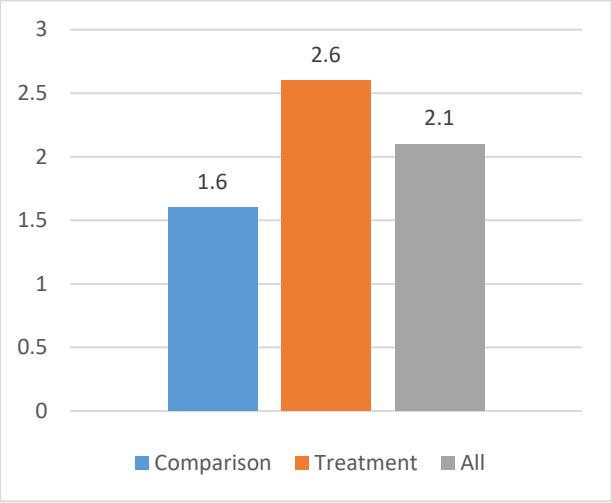
	Average area harvested per cropping, ha
Common gourd (upo)	0.32
Corn (green and white)	1.41
Cowpea	0.50
Cucumber (pipino)	0.17
Dragon fruit	0.25
Eggplant (talong)	0.40
Gabi tubers	0.40
Ginger (luya)	0.72
Kangkong	0.17
Mongo, dry & sprout	0.90
Mustard	0.11
Okra	0.20
Onion bulbs (sibuyas)	0.38
Onion leaves/Spring onion	0.03
Palay (Rice)	1.39
Patola	0.23
Peanuts	1.00
Peas dry (gisantes)	1.00
Pechay (native)	0.22
Pepper, small green	0.09
Pepper, sweet	0.00
Pineapple	0.25
Potato	0.50
Sangig	0.50
Soybeans	0.25
Squash (kalabasa)	0.57
String beans (sitao)	0.27
Sugarcane	2.22
Tobacco, native	0.71
Tomato (kamatis)	0.38
Watermelon	0.50
Permanent crop	
Abaca	2.23
Bamboo (kawayan)	2.88
Banaba	0.82
Banana	1.13
Cacao	2.78
Camansi	0.51
Cashew	0.50
Coconut	2.31
Coffee Arabica	1.89
Coffee excelsia	1.85
Coffee liberica	1.00
Coffee robusta	1.56
Coffee, other varieties	2.50

	Average area harvested per cropping, ha
Cotton	0.30
Durian	1.46
Falcata	0.93
Ipil-ipil	0.25
Jackfruit	0.27
Kalamansi	1.30
Lanzones	1.68
Lemon	0.50
Lime (dayap)	2.00
Mango	0.86
Mangosteen	2.13
Marang	1.00
Oil palm	5.80
Other industrial permanent crops	0.72
Other spices	1.00
Palm tree	11.83
Papaya	0.82
Rambutan	1.33
Rubber	1.79
Copra	4.46
Cacao beans, wet or dry	1.38
Coffee beans, wet or dry	0.73

Source: PIDS Baseline Survey.

Average area harvested by treatment arm are shown in Figure 3. Treatment have greater area harvested than comparison households. Average area harvested for the whole sample is 2.1 ha, whereas as that of treatment households is 2.6 ha, while that of comparison households is 1.6 ha.

Figure 3: Average area of farmholdings, among sample households with farmholdings (ha)



Source: PIDS Baseline Survey.

Livestock and poultry production

Information on livestock and poultry operations is shown in Table 17. The most commonly animal raised is chicken, for whom treatment households hold larger inventory, but earn lower annual sales. The next most common animal raised is swine, with 3.8 heads being the average inventory (slightly higher number for the comparison group). Less common are ownership of goats (only 449 households, about 3.5 heads each), and of cattle (only 429 households, about 2 heads on average). Among the animals raised, cattle generates the highest annual sales at around Php 47,000, with the comparison group earning more than the treatment group.

Table 17. Average livestock and poultry production indicators, among sample households engaged in livestock and poultry farming

	Number of heads			Total sales per year, Php		
	Treatment	Comp-arison	All	Treatment	Comp-arison	All
Livestock						
Cattle (n=429)	2.4	2.0	2.1	43,231	47,945	46,988
Carabao (n=440)	1.5	1.5	1.5	38,750	33,500	34,813
Swine (n=810)	3.6	3.9	3.8	30,761	55,033	41,951
Goat (n=449)	3.8	3.3	3.5	15,661	10,268	12,097
Poultry						
Chicken (n=1978)	16.8	11.3	14.0	4,370	6,698	5,626
Duck (n=336)	11.2	10.3	10.75	1,136	2,597	2,256

Source: PIDS Baseline Survey.

Farm expenses

Meanwhile farm production expenses are summarized in Table 18. Following PSA enumeration practice, farm production expenses are all combined across the various farm activities of the household. Overall annual expenses per crop farm operator is about Php 22,000, with average expenses moderately higher for the treatment group. Majority of the expense (52%) covers materials cost (chemicals, seeds/planting materials), while labor accounts for more than a quarter of expenses. Cost share of materials is somewhat higher for the treatment group, although the labor cost share is lower for the treatment group.

Table 18. Average farm production expense indicators among sample households engaged in farming

	Treatment (n=1270)	Comparison (n=1475)	All (n=2745)
Annual expenses per operator (Php)	23,403	20,349	21,762
Distribution by expense item (%)			
Materials	55.0	49.7	52.0
Labor	24.2	28.3	26.5
Other operating and administrative	15.0	20.7	18.2
Others	3.5	1.1	3.3

Source: PIDS Baseline Survey.

Value chain enterprise characteristics

Indicators for value chain enterprises are shown in Table 19. The only common VC enterprise was coconut sap-based, at 42 households, for an average annual sale of Php 63,000; the other products were coconut water, tablea chocolate, chips, canned fruits, and others, at 1 enterprise each. Note that this information applies to the household level; at the level of farmer organization, this may completely differ, as discussed in Section 5.1.

Table 19: Type, frequency, and average annual sales of value chain enterprises, sample households

VC product	Freq	Average sales
Coconut water	1	2,000.0
Coconut sap-based products	42	62,295.2
Tablea, chocolate	1	36,000.0
Chips	1	10,000.0
Canned fruits	1	20,000.0
Others	1	17,000.0

Source: PIDS Baseline Survey.

4.4 Household assets

Farm assets

The distribution of farm asset items by treatment status is summarized in Table 20. The most common asset type is the backpack sprayer, with a higher share for the treatment group; this is followed by the plow, for which the share of households owning the asset being higher for the control group. Owners of vehicles, tractors, or other heavy equipment accounts for only minute shares (2% or below) of households, although 3% of comparison group households own a hand tractor, compared to 1% for the treatment group.

Table 20. Distribution of sample households by ownership of asset items (%)

	Treatment (n=1667)	Comparison (n=1635)	All (n=3302)
Two-wheel/hand tractor	1.0	3.0	2.0
Four-wheel tractor	0.1	0.4	0.2
Irrigation/water pump	0.8	1.2	1.0
Solar dryer	0.2	0.4	0.3
Mechanical dryer	0.1	0.0	0.1
Plow (Araro)	9.2	13.3	11.3
Harrow (Suyod)	4.1	5.4	4.8
Hand-held or Backpack Sprayer	31.4	21.7	26.6
Power sprayer	10.4	6.7	8.5

	Treatment (n=1667)	Comparison (n=1635)	All (n=3302)
Harvester	0.2	0.4	0.3
Combine Harvester-Thresher	0.3	0.0	0.2
Large Thresher (Tilyadora)	0.2	0.1	0.2
Portable Thresher	0.5	0.2	0.3
Wheelbarrow	1.9	0.4	1.1
Carts	0.8	0.3	0.6
Pruning saw	13.8	0.9	7.4
Pruning shear	19.0	0.4	9.8
Grass cutter	5.6	3.3	4.5
Number of farm parcel/s owned or owner-like	1.3	1.2	1.2
Vehicles (freight or multipurpose use):			
Motorcycle	1.3	1.2	1.3
Tricycle	1.2	1.1	1.2
Car/van	1.3	1.2	1.3
Truck	1.2	1.3	1.2

Source: PIDS Baseline Survey.

Other household assets

Aside from farm assets, other asset indicators for the reported observations are summarized in Table 21. Most households own single unit residences (whether treatment or comparison); most housing has galvanized iron or alimunum roof, with somewhat greater numbers for the treatment compared to the comparison group. The common tenure of residence is owner or owner-like possession, with greater numbers for the treatment group. There is a greater diversity of type of wall, with concrete being the most common, but also significant numbers of wood material, followed by mixed materials.

Table 21. Number of sample households, by residential indicators and treatment status

	Comparison (n=1635)	Treatment (n=1667)	All (n=3302)
Type of residence			
Single	1,623	1,622	3,245
Duplex	4	39	43
Apartment/rowhouse	1	4	5
Other multi-unit residential	1	1	2
Others	6	1	7
Type of roof			
Galvanized iron/aluminum	1,396	1,558	2,954
Concrete/clay tile	6	11	17
Combination of galvanized iron and concrete	173	38	211
Wood/bamboo	25	22	47
Cogon/nipa/anahaw	29	26	55
Makeshift/salvaged/ improvised materials	2	3	5
Others	4	9	13
Type of wall			

	Comparison (n=1635)	Treatment (n=1667)	All (n=3302)
Concrete/brick/stone	523	567	1090
Wood	414	354	768
Combination of galvanized iron and concrete	166	97	263
Galvanized iron/aluminum	7	4	11
Bamboo/sawali/cogon/nipa	237	276	513
Asbestos	1	0	1
Makeshift/salvaged/ improvised materials	4	16	20
Mixed materials	256	322	578
Others	27	31	58
Tenure of residence			
Own or owner-like possession of house and lot	1,351	1,449	2,800
Rent house or room including lot.	3	7	10
Own house, rent lot.	37	30	67
Own house, rent-free lot with consent of owner	194	116	310
Own house, rent-free lot without consent of owner	9	10	19
Rent-free house and lot with consent of owner	41	53	94
Rent-free house and lot without consent of owner	0	2	2

Source: PIDS Baseline Survey.

Other household asset indicators are shown in Table 22. The most common type is own use faucet from a community water system; the next most common is the shared faucet, also from community water system. For these two sources, treatment households greatly exceed the number of comparison households. Meanwhile for type of toilet, the most common is flush to septic tank; a greater number of treatment households adopt this type, compared to comparison households. The second most common type is flush to unknown, with a greater number of comparison households affirming this toilet type.

Table 22. Number of sample households, by type of water supply and sanitation facility (multiple responses)

	Comparison (n=1635)	Treatment (n=1667)	All (n=3302)
Type of water supply			
Own use faucet, community water system	639	697	1,336
Shared faucet, community water system	221	258	479
Own use tubed/piped deep well	30	90	120
Shared tubed/piped deep well	73	70	143
Tubed/piped shallow well	48	10	58
Protected well	131	80	211
Unprotected well	11	37	48
Protected spring	83	270	353
Unprotected spring	12	23	35
Rainwater	4	9	13
Surface water	7	3	10
Peddler	17	31	48
Water refilling station	300	84	384

Bottled water/sachet water	8	0	8
Others	51	5	56
Type of sanitation facility			
Flush to piped sewer system	28	14	42
Flush to septic tank	1,339	1,537	2,876
Flush to pit latrine	68	51	119
Flush to open drain	42	14	56
Flush to unknown place/Not sure/Don't know	105	3	108
Ventilated improved pit latrine or VIP	0	1	1
Pit latrine with slab	19	23	42
Pit latrine without slab/open pit	2	3	5
Composting toilet	1	1	2
No facilities/bush/field	21	5	26
Public Toilet	6	2	8
Others	4	11	15

Source: PIDS Baseline Survey.

4.5 Credit and government programs

Credit

Characterization of borrowing behavior in terms of largest debt incurred is summarized in Table 23 and Table 24, pertaining to source and size of debt, respectively. Among treatment groups, the most common source of largest debt is the FO at 268; in contrast, only 88 comparison households obtained their largest debt from an FO. The second most common source is a microfinance institution, which is the most common source for comparison households (172), compared with treatment households (154). Less common are informal sources, i.e. moneylenders (28), neighbors/friends and relatives (82), and traders (40).

Table 23. Source of largest debt of sample households, by treatment status

	Comparison (n=422)	Treatment (n=599)	All (n=1021)
All sources (number)			
Relatives	19	17	36
Neighbors/friends	24	22	46
Sari-sari store	5	10	15
Local money lenders	4	24	28
Landowner	1	1	2
Input supplier	0	1	1
Trader/buyer	11	29	40
Government bank	26	13	39
Private/commercial bank	51	47	98
Farmers Organization	88	268	356
LGU	2	3	5

Microfinance Institution	177	154	331
Other government program	14	10	24

Source: PIDS Baseline Survey.

The average size of largest debt is only about Php 50,000 in the case of farmers organizations, with the treatment group incurring much higher debt. Similarly modest levels are observed for microfinance institutions (average of about Php 23,000), relatives (about Php 40,000), neighbors (almost Php 13,000); and traders (about Php 51,000). For all these sources, the larger debt tends to be incurred on average by the treatment households.

Table 24. Average largest debt incurred, by source of largest debt of household, borrowing households

	Comparison (n=422)	Treatment (n=599)	All (n=1021)
		In Php	
Relatives	17,105	64,559	39,514
Neighbors/friends	13,313	12,250	12,804
Sari-sari store	1,000	2,560	2,040
Local money lenders	15,250	25,354	23,911
Landowner	50,000	50,000	50,000
Input supplier	0	76,000	76,000
Trader/buyer	36,909	56,690	51,250
Government bank	114,269	920,541	383,027
Private/commercial bank	68,374	106,170	86,501
Farmers Organization	25,749	58,455	50,371
LGU	30,000	113,333	80,000
Microfinance Institution	18,841	27,689	22,957
Other government program	100,571	235,000	156,583

Source: PIDS Baseline Survey.

Government programs and services

Distribution of household beneficiaries by national government program is summarized in Table 25. The program with the highest frequency in the sample is social pension (842), followed by 4Ps, a conditional cash transfer scheme; a greater number of treatment households are in both schemes compared with comparison households. The third most frequent is unconditional cash transfer, this time with comparison households more numerous. The next most common program is the Social Amelioration Program and related transfer schemes; other livelihood and value chain projects are relatively infrequent, e.g. SLP, PRDP, etc.

Table 25. Number of sample households, by type of national government program

	Comparison	Treatment	All
4Ps	290	423	713
Unconditional Cash Transfer	178	144	322
Social Pension	386	456	842
Sustainable Livelihood Program Seed Capital Fund	40	12	52
PEAF (Pre-Employment Assistance Fund)	5	4	9
Sustainable Livelihood Program - Preemployment Assistance	1	2	3
Sustainable Livelihood Program - Skills Training	6	17	23
Social Amelioration Program (and similar transfers)	149	74	223
Philippine Rural Development Project	3	10	13
Inclusive Partnerships for Agricultural Competitiveness	0	1	1
ConVERGE	0	6	6

Source: PIDS Baseline Survey.

Distribution by agricultural insurance coverage is summarized in 6. Only 263 households in the sample are covered by agricultural insurance, of which the preponderance are comparison households (168), over treatment households (95). The crop with the most frequency of insurance coverage is palay, followed by coconut, with corn being a distant third. Average premiums paid is a modest Php 238 with higher charges on average for the treatment group; indemnities received (averaged over insured households) is about Php 2,100 per ha over the reference period; a larger amount of indemnities was received by comparison households.

Table 26. Number of households by type of product insured

	Comparison	Treatment	All
Cacao	1	13	14
Coconut	36	30	66
Coffee	1	5	6
Corn	11	28	39
Palay	128	51	179
Total number of insured households	168	95	263
Average premiums paid per year, insured households (Php)	87.5	504.8	238.2
Average indemnity received, insured households (Php)	2165.5	2006.9	2108.2

Source: PIDS Baseline Survey.

4.6 Access to FMI

When the baseline survey was conducted in early 2023, the RAPID Growth Project implementors have either started implementing or started approving (in various stages of approval) 21 farm-to-market (FMI) sub-projects distributed across 21 municipalities in seven regions. They have not yet finalized the FMI sub-projects that will be implemented in the remaining target municipalities. Therefore, the definite list of areas that will be receiving FMI interventions was incomplete as of baseline survey period. As anticipated, the number of surveyed households in the treatment group that can be considered as definite recipient of FMI interventions is small, labeled as "with FMI intervention" in the summary tables

below. (Since the FMI status report that was used as basis in coming up with the list of FMI areas is as of January 2023, the “treatment group-with FMI intervention” in this report is as of January 2023.)

Note that some households in the “treatment group-without FMI intervention” could be in geographic areas that are eligible for FMI sub-project application (see Table 5 for the locations by treatment, or intention-to-treat, status) and may actually be "treatment group-with FMI intervention" member-households in the future. Thus, the baseline survey results on access to FMI should be re-tabulated in the future (by RAPID Growth implementors or its consultants for the annual reports) when all the FMI sub-projects have already been approved so that the treatment group that actually received FMI “treatment” or support can be properly counted. It is important to do the re-tabulation before conceptualizing the endline survey.

The FMI municipalities and cities covered in the baseline survey are: Jaro (in Leyte province), Lantapan (Bukidnon), Kapalong (Davao del Norte), Island Garden City of Samal or IGACOS (Davao del Norte), Santa Josefa (Agusan del Sur), Lapuyan (Zamboanga del Sur), Senator Ninoy Aquino (Sultan Kudarat), Bagumbayan (Sultan Kudarat), Malapatan (Sarangani), Hinatuan (Surigao del Sur), Santiago (Agusan del Norte), Sindangan (Zamboanga del Norte), City of Mati (Davao Oriental), Maragusan (Davao de Oro), and Antipas (Cotabato).

Table 27 below summarizes the distribution of household respondents in terms of distance between the house of the respondent and the major market/trading/service center and the nearest market/trading/service center.

Table 28 summarizes the distribution of household respondents by mode of transportation that they use most often when traveling from their house to the major market/trading/service center and vice versa, and when traveling from their house to the nearest market/trading/service center. Note that in both the treatment group and comparison group, the most often used mode of transportation is motorcycle, suggesting similarity in the characteristics of the two groups.

Table 29 summarizes the distribution of household respondents by average travel time from the house to the major market/trading/service center, with distinction between travel during the dry season and travel during the wet season. Note that in both the treatment group and comparison group, the frequency of distribution of average travel time converge peaks at the 20kph-39kph range, suggesting again a similarity in the characteristics of the two groups.

Table 30 summarizes the distribution of household respondents by average travel time from the house to the nearest market/trading/service center, with distinction between travel during the dry season and travel during the wet season. In this case, the average travel time range of 20 kph – 39 kph is also the peak for the frequency of distributions for both the treatment group and comparison group, suggesting again a similarity in the characteristics of the two groups.

Table 31 summarizes the distribution of household respondents by condition of the road/FMI being traversed from the house to the major and nearest market/trading/service center. Around 70 percent of the respondents in the treatment group and around 66 percent of the respondents in the comparison group said that the road they are traversing from their house to the major market/trading/service center is unpaved, with the quality of the road ranging from very poor to good. For the travel to the nearest market/trading/service center, around 69 percent of the respondents in the treatment group and around 66 percent of the respondents in the comparison group said that the road is unpaved, again with the road

quality ranging very poor to good. This suggests that the FMI intervention being provided by RAPID Growth is indeed necessary. Moreover, the fact that both the treatment and comparison groups are in need of FMI interventions is another feature of the similarity of these groups.

Table 32 summarizes the average frequency of trips, per schedule, by household respondents from the house to the major and nearest market/trading/service center. Here, the highest average frequency of trips differ between the treatment group and the comparison group--"daily" for the treatment group and "weekly" for the comparison group. Nevertheless, the difference is slight only and does not offset the similarities in the other characteristics, as established in the other summary tables.

Table 27. Distribution of households by radial distance between house and market/trading/service center, number of household respondents

Range of radius	Major market			Nearest market		
	Treatment		Comparison	Treatment		Comparison
	w/ FMI intervention	*w/o FMI intervention*		*w/ FMI intervention*	*w/o FMI intervention*	
0 - 0.5 km	20	127	27	33	170	36
0.6 – 1 km	22	121	89	28	154	90
1.01 – 2 km	28	118	155	32	125	168
2.01 – 3 km	27	93	97	28	90	108
Over 3 km	208	903	1,267	184	823	1,233

Source: PIDS Baseline Survey.

Table 28. Distribution by mode of transportation most often used in traveling from house to the market/trading/service center (number of household respondents)

Mode of Transportation	Major market			Nearest market		
	Treatment		Comparison	Treatment		Comparison
	w/ FMI intervention	*w/o FMI intervention*		*w/ FMI intervention*	*w/o FMI intervention*	
1 Bicycle	3	4	3	3	5	2
2 Motorcycle	253	1,084	1,109	239	1,062	1,142
3 Tricycle	19	83	290	19	81	283
4 Jeepney	0	9	64	0	8	59
5 Truck	1	20	40	1	13	38
6 Others	28	162	129	43	193	111

Note: 6-Others denotes: boat/pump boat, bus, by foot, car, Fortuner, hiking, horse, Karumata, Kubuta, multicab, skylab, Ombak, Payong payong, tricab, and van. Total for the column adds up to 304 due to one non-response.

Source: PIDS Baseline Survey.

Table 29. Distribution of average travel time to the major market/trading/service center by season, number of household respondents

Travel time, in kph	Treatment *w/ FMI intervention*		Treatment *w/o FMI intervention*		Comparison	
	Dry season	Wet season	Dry Season	Wet season	Dry season	Wet season
60 or faster	14	26	108	220	96	162
40 - 59	13	59	81	188	140	282
20 - 39	123	99	481	447	741	708
10 - 19	93	75	381	265	442	314
5 - 9	37	29	189	148	138	111
below 5	25	17	122	94	78	58

Source: PIDS Baseline Survey.

12. Table 33 summarizes the distribution of household respondents by ease or convenience of travel from the house to the major and nearest market/trading/service centers. Interestingly, the frequency distribution in terms of travel convenience peaks at "Convenient" for both the treatment and comparison groups. This does not mean, however, that FMI interventions are not needed. It is likely that this is because many Filipinos who are encountering difficulties tend to be resigned to their hard life, which is unfortunately glorified as "resilience" as some observers note (see for e.g., Warren 2021).

Table 30. Distribution of average travel time to the nearest market/trading/service center by season, number of household respondents

Travel time, in kph	Treatment *w/ FMI intervention*		Treatment *w/o FMI intervention*		Comparison	
	Dry season	Wet season	Dry Season	Wet season	Dry season	Wet season
60 or faster	7	18	87	189	88	147
40 - 59	12	47	58	149	128	269
20 - 39	102	96	437	447	735	717
10 - 19	100	77	402	277	448	317
5 - 9	42	37	216	172	158	135
below 5	42	30	162	128	78	50

Source: PIDS Baseline Survey.

Table 31. Distribution of the condition of the road/FMI to the market/trading/service center, number of household respondents

Road Condition	Major market			Nearest market		
	Treatment		Comparison	Treatment		Comparison
	w/ FMI intervention	*w/o FMI intervention*		*w/ FMI intervention*	*w/o FMI intervention*	
1 Very bad	6	53	24	5	53	23
2 Bad	11	51	35	12	47	37
3 Poor	16	111	117	17	110	121
4 Fairly good	63	268	366	61	272	367
5 Good	117	463	699	115	465	699
6 Very good	91	416	390	95	415	386
Not applicable	1	0	4	0	0	2

Note: The choices for road condition are based on the Department of Agriculture's Administrative Order No. 16, series of 2020 categorizing farm-to-market road quality based on the described conditions. The choices are:

Very bad - Footpath or trail is the only access going in and out of the Road Influence Area.

Bad - Road is not passable in most days of the year; very muddy with deep potholes during rainy season and dusty during summer time.

Poor - Road is passable in most days of the year; muddy with potholes during rainy season; requires regular maintenance after rainy season.

Fairly good - Road is passable in most days of the year; requires regular maintenance and restoration after rainy season.

Good - Road is unpaved but passable throughout the year.

Very good - Road is paved, all-weather, and passable throughout the year.

Nevertheless, a few respondents answered "Not applicable".

Source: PIDS Baseline Survey.

Table 32. Average frequency of trips to the market/trading/service center, per schedule

	Major market			Nearest market		
	Treatment		Comparison	Treatment		Comparison
	w/ FMI intervention	*w/o FMI intervention*		*w/ FMI intervention*	*w/o FMI intervention*	
1 Daily	3.62	2.78	1.73	3.91	2.90	2.05
2 Weekly	2.41	2.16	3.35	2.46	2.16	3.24
3 Monthly	2.29	1.99	3.10	2.34	2.07	3.16
4 Seasonal	1.84	1.75	2.68	1.85	1.70	3.16
5 Yearly	2.00	3.50	4.50	0	4.25	4.10

Note: Average frequency of trips per schedule is total trips divided by no. of respondents.

Source: PIDS Baseline Survey.

Table 33. Distribution of ease/convenience of travel to the nearest market/trading/service center, number of household respondents

Degree of being convenient	Major market			Nearest market		
	Treatment		Comparison	Treatment		Comparison
	w/ FMI intervention	*w/o FMI intervention*		*w/ FMI intervention*	*w/o FMI intervention*	
1 Highly inconvenient	10	59	21	10	58	23
2 Slightly inconvenient	20	131	120	22	127	131
3 Neither inconvenient nor convenient	44	224	371	43	221	361
4 Convenient	168	730	1,004	163	740	1,001
5 Very convenient	63	218	119	67	216	119

Source: PIDS Baseline Survey.

4.7 Household income

Indicators of household income by treatment status and type of value chain are respectively summarized in Table 34 and Table 35 As for indicators of poverty, it is confirmed that small area estimates of poverty incidence exceed 40% for all the sample municipalities, whether for treatment or control groups; in other words, the areas from which the sample households were selected were depressed municipalities with high estimated poverty incidence.

Mean total household income is about Php 177 thousand, with comparison households earning higher household income (greater by 5%). Median household income is much lower than the mean, though median income of comparison households is likewise greater by a much larger proportion than the mean (at 23%). Standard deviation of household income is very high, A similar pattern holds for per capita household income, which is household income divided by number of household members. Average per capita income in both treatment and control groups is far higher than the per capita poverty threshold in Mindanao at around Php 26,000 per year to Php 32,000 per year.

By source of income, the biggest contributor is primary production (agriculture), with 57% on average, and similar shares for treatment and control groups. The second largest contributor is employment income at 24% (slightly lower for treatment households at 23%); third largest is other income at 17% (slightly higher for treatment households at about 19%).

Table 34. Income indicators for sample households, by treatment status

	Comparison (n=1635)	Treatment (n=1667)	All (n=3302)
Total household income, in Php			
Mean	181,073	172,632	176,811
Median	102,000	83,000	93,483
Standard deviation	244,735	317,423	283,757
Per capita household income, in Php			
Mean	52,337	49,049	50,677
Median	27,200	22,486	24,894
Standard deviation	82,045	96,393	89,578
Distribution of income by source (%)			
Primary production income	57.5	56.2	56.9
VC enterprise income	0.0	0.1	0.0
Non-VC enterprise income	5.6	1.5	3.5
Employment income	24.4	23.0	23.7
Other income	15.5	18.6	17.1

Source: PIDS Baseline Survey.

By type of value chain, the largest household income is earned by coconut VC households; they are also the households with the greatest share of income from employment at 27% (compared with 24% for the average household as in Table 31). The lowest income is earned by coffee VC households; this VC type is also most dependent on agricultural income at 71% share (vs 57% on average).

Table 35. Household income indicators, by type of value chain

	Cacao (n=598)	Coconut (n=2239)	Coffee (n=345)	PFN (n=518)
Average household income, in Php	165,500	195,183	137,357	172,938
Average per capita household income, in Php	49,945	55,288	39,292	47,733
Distribution of income by source (%)				
Primary production income	57.2	53.8	71.0	61.2
VC enterprise income	0.2	0.0	0.0	0.1
Non-VC enterprise income	1.2	4.1	1.1	2.1
Employment income	24.0	27.0	9.3	17.7
Other income	16.6	17.3	17.6	18.9

Source: PIDS Baseline Survey.

5. Baseline analysis of project components

5.1 Value chain development

Profile of FOs

By type of value chain. Database of VC enterprises supported or to be supported by RAPID is not available. The following profile is compiled from the DIPs. In total, there are 103 FOs identified in the DIPs. Cacao and Coffee value chains comprising the 44.7 and 43.7 percent, respectively (Table 36).

By membership size, we divide the FOs into the following group: 0 – 49 members, 50 – 99 members, 100 – 149 members, 150 – 200 members, and over 200 members. The first two ranges are "small", the next two are "medium", and the last category is "large". The range with largest share is 50-99, at 40.8 percent, followed by the smallest range at 26.2 percent. There are only 6.8 percent in the 150 – 200 range, while 14.6 percent are in the over 200 category. Majority of the profiled FOs have 50-99 members at 40.78%. The frequency goes down as the membership size increases. The bulk of FOs are found in the Cacao and Coffee value chains at 44.7 and 43.7 percent shares, respectively.

The largest FO category accounts for 62.42 percent of total FO members in the sample (n = 17,216), while the smallest category accounts for 5.26 percent of members. The next category (50 – 99 members) accounts for 17.05 percent of members. The remaining categories (100 – 149 members, and 150 – 200 members) account for 8.43 and 6.83 percent, respectively.

The value chain types share similar distribution as the aggregate of FOs, with the bulk being in the smallest categories; in fact, for the PFN value chain there are no FOs with over 100 members. On the other hand, the coconut FOs in the DIPs are all in the large category (over 200). Coconut FO members account for 40.67 percent of the total profiled FO members, followed by Cacao and Coffee FO members with 34.25 percent and 23.95 percent shares, respectively. Meanwhile, PFN FO members only account for 1.13 percent. Meanwhile by size category: most PO members (62.42 percent) are found in the largest FO category; this is followed by the 50 – 99 size category at 17.05 percent. Only 5.26 percent of FO members are in the very small category (under 50 members), while 15.26 percent are in the 100 – 200 range.

Table 36. Distribution of FOs, by type of value chain and number of members (%)

	0-49	50-99	100-149	150-200	Over 200	Total	Share in total FO members (%)
Cacao	8.74	19.42	6.80	2.91	6.80	44.66	34.25
Coconut	0	0	0	0	4.85	4.85	40.67
Coffee	11.65	20.39	4.85	3.88	2.91	43.69	23.95
PFN	5.83	0.97	0	0	0	6.80	1.13
Total	26.21	40.78	11.65	6.80	14.56	100.00	
Share in total FO members (%)	5.26	17.05	8.43	6.83	62.42		

Source: RAPID DIPs
Note: Total FO members (n=17,216)

By aggregate production area, we grouped the FOs into following clusters: 0-50 hectares, 50-100 hectares, 100-200 hectares, and over 200 hectares (Table 37). Majority of the profiled FOs belong to the cluster with 0-50 hectares, at 34.95 percent. This is followed by groups with 100-200 and over 200 hectares at 25.24 percent and 23.30 percent shares, respectively. Only 16.50 percent belongs to the 50-100 category. Meanwhile, the bulk of FOs in the 0-50 cluster is involved in the Coffee value chain at 16.50 percent, followed by Cacao at 13.59 percent. However, Coffee and Cacao value chains also have the biggest share in the cluster with over 200 hectares at 7.77 and 8.74 percent, respectively.

Data on years of operation or age of the FO are available for nearly all (Table 38), except for 1.94 of FOs in the DIPs, all of which are in the Coconut value chain. More than a third are 5 to 9 years old, while nearly a quarter are quite young at 0 – 4 years of operation. Only 12.6 percent of the FOs are over 20 years in operation. The age profile is similar across the value chains.

Table 37. Distribution of FOs, by aggregate production area (%)

	0-50	50 – 100	100 – 200	0ver 200
		Area in ha		
Cacao	13.59	9.71	12.62	8.74
Coconut	0	0	0	4.85
Coffee	16.50	6.80	12.62	7.77
PFN	4.85	0	0	1.94
Total	34.95	16.50	25.24	23.30

Source: RAPID DIPs

Table 38. Distribution of FOs by years of operation (%)

	No data	0-4	5-9	10-14	15-20	Over 20
			Age in years			
Cacao	0	9.71	17.48	4.85	1.94	10.68
Coconut	1.94	0	0.97	0	0	1.94
Coffee	0	10.68	14.56	14.56	3.88	0
PFN	0	3.88	1.94	0.97	0	0
Total	1.94	24.27	34.95	20.39	5.83	12.62

Source: RAPID DIPs

By type of organization. The FOs can be differentiated by type of organization in terms of registration body (Table 39). An FO registered with the Cooperative Development Authority (CDA) is a cooperative; one registered with Department of Labor and Employment (DOLE) is a worker association (or farmer association); one registered with the Securities and Exchange Commission is a corporation (whether stock or non-stock, profit or non-profit). Unfortunately, nearly a third of FOs (32 percent) have no data as to their type of organization. One-fifth are cooperatives, while one-tenth are corporations; most of the FOs are farmer associations registered with DOLE. Cooperatives are mostly found among the small category, although the biggest share of cooperatives is under the largest size category. By relative share, the CDA-registered cooperatives also tend to be in the larger size categories (100 and above).

Table 39. Distribution of FOs by registration body and membership size (%)

	0-49	50-99	100-149	150-200	Over 200	Total
No data	2.91	12.62	6.80	2.91	6.80	32.04
CDA	2.86	7.14	1.43	0	8.57	20.00
DOLE	28.57	30.00	4.29	4.29	2.86	70.00
SEC	2.86	4.29	1.43	1.43	0	10.00

Source: RAPID DIPs

By value chain, the bulk of cacao FOs have no data on registration body (Table 40). Meanwhile the bulk of coffee FOs are worker associations, while similar shares of cacao FOs are cooperatives and associations (11.4 percent). The few coconut FOs are mostly cooperatives.

Table 40. Distribution of FOs by registration body and type of value chain (%)

	Cacao	Coconut	Coffee	PFN	Total
No data	27.18	1.94	1.94	0.97	32.04
CDA	11.43	4.29	4.29	0	20.00
DOLE	11.43	0	50.00	8.57	70.00

SEC	2.86	0	7.14	0	10.00

Source: RAPID DIPs

Business development services

The Project has successfully delivered a set of business development services catering to the various value chain requirements of the Project stakeholders. According to the PIM, this sub-component (of the Direct Assistance to Enterprises component) aims to provide business services to farmers' organizations and enterprises as well as specific target groups such as women, youth and indigenous people. Business services include:

i) Detailed Investment Plan preparation

ii) Assistance to farmers' groups to evolve into cooperatives

iii) Cooperatives/ Associations to strengthen their performance in the following:

- Market linkage development,
- Facilitation of commercial partnership with the Anchor firms;
- product development; quality standards; technical assistance
- Trainings on production, pre-processing, packaging and labelling
- Capability building to access finance.
- Facilitate direct linkage of MEs and SMEs to the targeted VCs.

A list of Business Development Service Providers was submitted by DTI provinces and regions, based initial assessment following a structured assessment form. Submissions are compiled by NPCO into a master list, which can be tapped by RAPID Project. At latest count there are 240 BDSPs in the list, including both individuals and organizations (including State Universities and Colleges).

Provision of business services is a prerequisite for an FO/MSME to access other project interventions such as matching grant. Originally, training provision was to be included in the DIP, prior to funding. However, the prolonged preparation of DIPs made this impractical, hence the requirement was relaxed. Provision of business services to each FOs and MSMEs is designed following application of a competency assessment tool that rates the following parameters: Entrepreneurial Competency, Operations Management, Technology and Product Development, Marketing Management, Human Resource Management, Financial Management, and Networking and Linkage-Building. In particular, production support in the form of extension services (such as for adoption of Sloping Agricultural Land Technology or SALT in upland farms) is typically provided by State Universities and Colleges, or even anchor firms whose technicians are qualified to provid the relevant training.

Enterprise strengthening

Strategic and detailed investment planning has been the basis for Project implementation, but the process has been plagued by various difficulties and delays. RAPID staff, mainly the value chain facilitators, spearheaded the mapping of the value chains in the various regions. This was the basis for work of consultants in preparing the RSIP, which was the preoccupation in the initial stage of the project (2019-2020). It is during this stage that participating FOs and MSMEs were identified, and initial capacity support

provided. However, preparation of RSIPs was also slowed down by unavailability of qualified consultants, and the onset of the COVID19 pandemic.

The delays were even more evident in the stage of detailed investment planning. According to the SMR (2022), a key reason why approval of DIPs and BPs is the quality of submissions. In particular, elaboration of BPs and determining investment viability was deemed by field staff to require consultancy support, although the SMR found that for simpler BPs and farm plans, field staff are already capacitated to do the planning.

Detailed investment planning has identified realistic value chain investments compared to the long list of regional strategic investments. In the specific case Region 9 visited by the evaluation team, various coconut products were highlighted in the RSIP, namely buko, activated carbon, coco sweetener, virgin coconut oil (VCO) and crude coconut oil (CNO), coco coir, and coco peat. However in the DIP stage, it was difficult to pursue this product owing to absence of active anchor firms. In contrast, the more traditional CNO value chain was already established, with a ready market in the form of CNO processors, in turn linked to global markets. The two DIPs for this region were therefore along this value chain.

DIPs documented commercial partnership agreements between suppliers and anchor firms, although level of detail varies. Some of the DIPs contain only a fairly general description of the nature of partnership, e.g. that between Granexport and supplier cooperatives in Region IX CNO value chain. According to the FGD with supplying FOs and Granex, the anchor firm offers a better price (Php 3.00 to 4.00 higher) than other copra traders, being a direct exporter. The FOs also confirm that Granex has provided technical assistance and trainings to ensure low moisture content and aflatoxin contamination of copra deliveries.

Others such as cacao value chains in Region XI contain considerably more detail:

- *Price* - The buying price shall be pegged based on the prevailing World Market Price or Local Market subject for discussion and agreement by both parties;
- *Supplier* – commits to supply a certain percentage share of output to the anchor firm, encourage members to join the technology transfer program, and monitor members adherence to quality and timing delivery requirements;
- *Anchor firm* -commits to purchase supplier's output at agreed price, provide technical assistance in the production and postharvest process to ensure adherence to quality requirement;
- *Project* – commits to provide conditional matching grant, and other services for business development, as well as monitor the execution of the partnership agreement. Provision is made to engage a Supply Chain Manager (SCM) detailed to either the anchor firm or the supplier to manage the supply chain.

Note that the engagement of an SCM is provided in the PIM to be supported according to a sliding grant scheme. The scheme begins from 90% salary subsidy in the first year, incrementing downward by ten percentage points until year 4 at 30% subsidy, followed by 0% subsidy in year 5 onward. Of the 13 DIPs, 7 propose engaging SCMs, but only 4 have specified where they will be based, namely the FOs. On the other hand, 8 DIPs/BPs mention appointing personnel with functions similar to SCMs.

Funding of the enterprise share in the matching grant scheme spans various options, though the larger cooperatives tend to opt for cash to fund their cost shares. Of the 13 DIPs, 5 intend to fund their respective cost shares using external finance; 8 will use internal funds for

counterpart; 2 FOs cannot be classified owing to lack of information about funding source. An example of an FO opting for loan finance are Kaatuan Farmer's Association in Region X, with only 141 members; and a cluster of farmer associations in calamansi value chain in Region 13 involving 16 MSMEs and 7 FOs with 195 members total across FOs.

FGD discussion with a smaller coop in the same value chain (282 members) reveals the preference of the coop for a loan to fund its Php 400,000 cost share, with the Agricultural Credit Policy Council (ACPC) of the Department of Agriculture (DA) being the most promising source. While it is well able to come up with the cash to fund its share, it prefers to go into borrowing in order to acquire a credit history and increase its track record and credibility as a business enterprise.

5.2 Rehabilitation of FMI

The FMI component of the RAPID Growth Project contributes to value chain development by improving the connectivity of target beneficiaries to markets, trading centers and service centers. It aims to rehabilitate a total of 140 kilometers (km) of farm-to-market roads (FMRs) by the end of RAPID Growth implementation. FMRs are defined in this case as barangay roads and the target barangay roads are those which have connections to major roads and are included in the provincial road network development plans. The true baseline is zero kilometers of FMI rehabilitated, but during the baseline assessment period, the construction of three FMR sub-projects, with a total length of 8.17 km, has already started. Moreover, 18 FMI sub-projects were in various stages of approval and endorsement (based on RAPID Growth January 2023 status report).

The FMI component is being financed largely by the IFAD loan, with supplemental funding from the national government (for the salaries of GOP organic personnel and financing of taxes and duties on project inputs), and LGUs (for the counterpart FMI financing). No IFAD grant contributes to FMI rehabilitation, unlike the value chain development, strategic finance, and program management components which have IFAD grant allocations. Based on the focus group discussion with the NCPO, delays in project implementation entail official development assistance commitment fees charged by IFAD. This arrangement should provide a strong incentive for the IFAD and the national government to ensure that the FMI implementation stays within the originally approved schedule, but as the discussion below shows, delays are happening on the ground.

Per the FMI Implementation Guidelines integrated in the PIM, the cost of rehabilitation/improvement works will require a minimum contribution of five (5) percent of the FMI project cost from the proponent LGU. The cost of project feasibility study (FS) and detailed engineering design (DED) preparation is to be charged to the account of the proponent LGU. Thus, in effect, the cost share of the LGU is more than the minimum 5 percent counterpart contribution because of the additional cost to be incurred in the FS and DED preparation, especially if the LGU does not have the capacity or the personnel to do these project development documents and has to hire consultants.

As designed (i.e., based on the 2017 RAPID Design Completion Report), the FMI sub-component is 20 percent of the total baseline cost. This is only slightly lower than the value chain development component, which is 27 percent of the total baseline cost. (Note that the remaining baseline cost components are strategic finance (44%) and program management (9%)). This has implications for cost escalation as a risk factor, the management of which has resulted in the IFAD and the NPCO re-designing the implementation guidelines, as the discussion below describes.

To generate more insights in the process evaluation, aside from the conduct of online focus group discussions, the PIDS Study Team visited FMI project sites. Table 41 below summarizes the features of the FMI projects visited by the team.

Table 41. Features of the FMI projects visited by the Study Team

Name of FMI	Location	Length/ Scale	Total project cost	DIP supported	Status during field visit
Mabantao-Capungagan FMR	Kapalong municipality, Davao del Norte province	2.7 km of barangay road	PHP47 million	Cacao	Under construction
Box Culvert in Bulawan-Sayog FMR	Lapuyan municipality, Zamboanga del Sur province	Barrel Box Culvert in 0.58 km portion of FMR	PHP22.5 million	Coconut	Approved but no construction yet

Source: RAPID-NPCO FMI monitoring notes, PIDS Study Team's field notes

The field visits and focus group discussions showed that due to the overall budget constraint, input price escalation, and the decision to cover more areas, the standard project length has to be limited to only 1.5 km. The major assumption on the FMI project cost during the RAPID project design is that the unit cost of the barangay road is Php 15 million per km. Although this unit cost is not in the project design documents shared with the Study Team, this was verified through the 2021 NPCO report of accomplishment (i.e., the RAPID document "Annex A - Recalibrated AWPB 2021"). The Study Team was also able to validate this during the FGDs.

But it turned out that due to the significant length of time that passed from RAPID project design completion (year 2017) to FMI civil works implementation (year 2022), the prices of materials and labor had already escalated. Thus, the IFAD and the NPCO had to issue a clarification, through a belatedly issued FMI Omnibus Guidelines, on the limit of the FMR length that can be financed per proponent or per FMR sub-project (i.e., only one FMR per LGU partner) and that limit is 1.5 km. Note that the 1.5 km-limit was not spelled out in the FMI Implementation Guidelines integrated in the RAPID Project Implementation Manual (PIM), which was prepared in September 2020. In the FMI Omnibus Guidelines, which were prepared only in June 2022, what was actually stated is the allowed range of FMR length, that is, maximum of 5 km and minimum of 1.5 km.[2] But during the field visits and the FGDs,

[2] The exact guideline is: "Given the limited budget for FMI intervention and the possibility of excess demand for FMI, the threshold in terms of a road or small access road length is a maximum of 5 kilometers and a minimum of 1.5 kilometers" (RAPID FMI Omnibus Guidelines, p. 4).

it was revealed that the understanding now by the oversight agencies and project implementors is that the length of FMIs that can be funded is limited to only 1.5 km. According to the NPCO, a key learning during the pilot implementation stage (during the height of the pandemic) is the need to make 1.5 km the actual limit. At the time, many proponents wanted to avail of the FMR and given the limited budget, they had to implement a limit of 1.5 km per proponent LGU.

There are indications that even the 1.5 km limit is unrealistic because of realities on the ground affecting project prioritization. Such is the case in the FMI sub-project Box Culvert along the Bulawan-Sayog FMR (Bulawan and Sayog are barangays) in Lapuyan, Zamboanga del Sur. The original target is to rehabilitate a total of 3 km along the Bulawan-Sayog FMR, then after the FMI Omnibus Guidelines were released, the length was reduced to 1.5 km and at a set budget. Given the budget constraint, the logical next step had been to select which segment along the Bulawan-Sayog FMR had to be prioritized. Consultation with people on the ground reveals that the urgent priority is the box culvert to address flooding along the part of the road traversing a river and this corresponds to only 0.58 km of road length. That segment has an existing spillway but is still prone to flooding during heavy rains (see Figure 4 below), resulting in added travel time and burden to farmers, who sometimes had to sleep along the roadsides until the flood had subsided.

A key risk is the possible non-achievement of the target total length of 140 km within the FMI cost component limit. Aside from continuing price escalation, segmenting project lengths to 1.5 km will mean dilution of economies of scale and possible additional costs and delays in terms of project preparation per short segment. The 140 km assumption was well established in the 2017 RAPID Design Completion Report, the 2018 Project Evaluation Report of the NEDA, and the LogFrame that is being used for this project (see Section 2.1 above). A reduction[3] in the actual achievement relative to the target could also mean reduction in benefits to farmers, their communities, and the overall value chain development objectives. To manage the risk, or at least to attenuate the adverse impacts should the risk materialize, the IFAD and the NPCO could do advance projections of total road lengths that could be financed, identify the connectivity-enhancing FMI that could connect to the RAPID-financed FMI, and engage the stakeholders on the ground in finding ways to fund the connectivity-enhancing FMI, through existing funds of LGUs for example.

[3] During the March 28, 2023 presentation of the draft of this Baseline Study Report, the NPCO representative for infrastructure mentioned that the target 140 km may still be achieved given that RAPID Growth will also finance "small access infrastructure" (i.e., tire tracks/paths, motorcycle/tricycle access, animal-drawn sledge trails, and foot paths), which have narrow widths and not meeting the standard FMR specifications of the Department of Public Works and Highways. Nevertheless, since the target 140 km in the LogFrame does not have nuanced categories and the evaluation in 2018 of project benefits likely overestimated the assumption on the kilometers of target standard FMRs, the end-line survey and assessment should delineate the categories of FMR achievements, i.e., delineate what lengths are standard FMRs and what lengths are small access infrastructure only.

Figure 4. The intended location of the Box Culvert FMI in Lapuyan, Zamboanga del Sur

Source: PIDS Study Team field visit photos

Intermittent adjustments in project guidelines have contributed to delays in project implementation. Changes in project guidelines caused delays in the sub-project approval process. This has been the case for the two FMI sub-projects visited by the Study Team, but the project implementors gave assurances that actions are being undertaken to catch up in the implementation schedule. Originally, the basis of the project proponents in identifying, prioritizing, and selecting projects and then preparing the project documents for review and approval was the 2020 FMI Implementation Guidelines integrated in the PIM. But the FMI Omnibus Guidelines were prepared only in June 2022, which required proponents to backtrack and redo their project prioritization given that some assumptions based on the 2022 manual no longer holds. It had seemed that "learning by doing" became the basis of revising the guidelines, as the 2022 guidelines were informed by the implementation of the RAPID pilot phase.

Another major change (aside from the FMI length limit) in the guidelines is the revised requirement for the IFAD's "No Objection" (NO) issuance. In the implementation manual, it was required only for the approval of the final selection of the project and in the procurement stage. In the Omnibus Guidelines, it was stated that there are three stages of evaluation requiring IFAD's NO, namely:

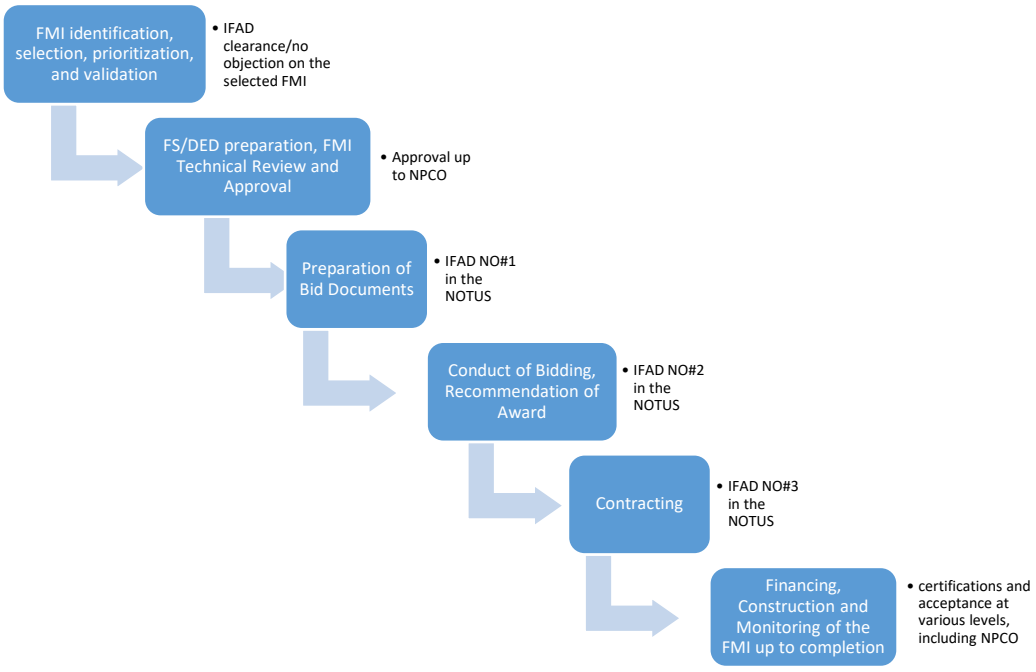
Stage 1: Compliance to No Objection #1 - Submission of Bid Documents

Stage 2: Compliance to No Objection #2 - Submission of Bid Evaluation Report and Recommendation of Award

Stage 3: Compliance to No Objection #3 - Submission of Draft Contract/Draft Amendments

However, in practice, a clearance or "No Objection" from IFAD is still needed prior to the first NO stage in the Omnibus Guidelines. Before the proponent LGU could proceed with FS/DED preparation, IFAD's clearance or No Objection on the final site and road segment selection still has to be secured. The 3-stage NO of IFAD is only with respect to the three NO letters (and related documentary requirements) that have to be uploaded to the No Objection Tracking Utility System (NOTUS) of IFAD. Note that the first stage (submission of bid documents) is already an advanced stage where the prerequisites are identification of project options, prioritization of projects and final selection of project to be proposed, project development (viz., field validation, FS, and DED), and bidding preparation. (See Figure 6 below.) During the field visits, the stakeholders raised the meticulousness of preparation and length of time needed for the prerequisites of the NO issuance. This has to be managed through better communication and proper emphasis in the capacity building component of RAPID.

Figure 5. Process flow and approvals flow for FMI projects



Sources: Project Implementation Manual, FMI Omnibus Guidelines, PIDS Study Team's validation through FGDs

Other factors external to the RAPID FMI sub-projects introduce risks to the achievement of project objectives. For example, in the Mabantao-Capungagan FMR in Kapalong, Davao del Norte, the engineers on the field noted that the project lack a slope protection component, which is crucial because climate change could result in soil erosion in the project site. To manage the risk of this occurring in future RAPID FMI projects, the additional cost of climate change mitigation such as this should be internalized by including it in the total project cost.

Another external factor that entails risks to project objective achievements is the insufficiency of supporting infrastructure in the project site, such as telecommunications infrastructure and ICT connectivity. This had been the case in the Lapuyan FMI project. Communicating to the LGU the needed revisions in FMI scope, budget, design, and project development documents took time because of weak communication signal and, in some cases, the presence of "dead spots" in telco service areas. The same had been the problem in communicating to the beneficiary cooperatives the changes in the project scope and priority. The Study Team also encountered the problem of having telco signal dead spots when it conducted an FGD with the beneficiary cooperative.

Climate change mitigation was observed in the sub-project design in one visited FMI site. Positive evidence of climate change mitigation was gathered in the Lapuyan project. As summarized in the PIM, one of the common climate change manifestations is increased and more intense precipitation and one of the effects on FMRs is flood risk to roads (PIM, p. 75). Based on the Study Team's assessment of the field condition and the expected results (as confirmed also by the potential beneficiaries), converting the existing spillway into a box culvert can be considered "climate proofing", which is defined in the PIM as "ensuring the capacity of a system to continue to function well as the climate changes" (PIM, p. 76). However, although the PIM intends for climate proofing to be deliberate as it argues that it "includes integrating the impacts of climate change into decision-making for new infrastructure and maintenance of existing infrastructure" (PIM, p. 76), what happened on the ground was actually an "unintended" climate proofing. It was not intentional but incidental to the budget-constrained prioritization by the RAPID team and the LGU.

5.3 Other components

Institutional strengthening

The Project also engages in other activities related to institutional strengthening of value chains. These activities include establishment of provincial networks of Negosyo Centers (NC), which will serve as one-stop shops for promoting entrepreneurship; development of Microenterprises and Cooperatives as service hubs to provide basic services to the farmers; facilitation of inclusive and equitable partnerships between SMEs targeting profitable domestic and export markets; provision of support to VC enablers (e.g., government agencies and private sectors) through the Industry Councils (DTI 2019).

As seen in Section 5.1, a number of commercial partnership agreements have been reached in the course of Project implementation. Meanwhile, according to the SMR (2022), project is developing value chain governance operational framework, based on strengthening of industry councils. Based on the AWPBs, activities under the Institutional strengthening include: VC strategic planning sessions; VC governance forums; VC management manual developed and disseminated; convening of Project Steering Committee (PSC) and Regional

Technical Working Groups (RTWGs); capacity development of NC councilors; institutional strengthening of FOs and MSMEs; and LGU staff training.

As for NCs, the Report notes that 137 out of 195 NCs in the Project area were mobilized for DIP/BP preparation, including mobilizing farmers, FOs, and MSMEs for consultations and collecting data. With the impending full devolution of NCs to LGUs pursuant to EO 138, the Project must secure the cooperation of LGUs in Project areas if the NCs are to continue in the supporting role in the Project.

Technical assistance to FSPs

The technical assistance sub-component assumes the barrier to extending credit to RAPID stakeholders is capacity limitation on the part of FSPs, an assumption rejected by FSPs themselves. According to the PIM, at least 10 Financial Service Providers both from the formal and informal institutions shall be strengthened by increasing their reach and developing capacities that allow them to extend adapted financial products to farming households and OFW families.

However, private rural banks interviewed during the FGD were not knowledgeable about the RAPID Project. Only government financial institutions (GFIs), namely the Land Bank of the Philippines (LBP) and Development Bank of the Philippines (DBP) were knowledgeable about the project. However owing to lack of borrowers, partly owing to delays in approval of DIPs, they are yet to deliver financial services to RAPID value chain stakeholders.

In fact, the FSPs interviewed claim that they know how to deliver financial services to rural-based enterprises; it is not lack of capacity, but riskiness of lending to such enterprises which is constraining credit access. Financing value chain stakeholders for RAPID Project will only compete with existing loan and product offerings. One way for them to actively participate in the Project is to obtain coverage from PhilGuarantee and thereby alleviate the credit list. This was highlighted as a key inducement provided by DA – Agricultural Credit Policy Council in enabling rural bank participation in the ACPC Project.

Innovative financing

This Component has already formulated guidelines on the use of the Innovation Fund, amounting to about USD 5.838 million. The objective of the Fund is to enable agriculture-based small and medium enterprises with high growth potential and deploying new technologies to develop, commercialize, and grow products and services in a sustainable manner through financing modality aside from credit. Presumably, credit concentrates risk on the part of the SME, whereas equity allows for sharing of risk.

The guidelines provide for an equity investment ranging from Php 0.5 million to Php 10 million. However, the SME shall need to find a partner venture capital or private equity firm to fund half of the SME requirement. Finally, the investment shall not exceed 40% of the SME's outstanding capital stock.

The investment shall be for a period of 5 to 10 years, after which the Fund shall exit through one of three options:

i) Redemption: the SME will buy back the initial cost plus a premium

ii) Sale to 3rd party: the investment stake shall be brought out by an interested buyer.

iii) Initial Public Offering – the SME achieves a stock market listing so that the investment can be sold to the public.

The features of the Fund have so far stymied its rapid rollout. As the Fund is limited to investments in equity, the large set of non-stock enterprises in the RAPID value chain – namely cooperatives, worker associations, and sole proprietorships – are not qualified to receive Fund investments. Hypothetically a cooperative (or group of cooperatives) may set up a subsidiary stock corporation to receive the investments, but this is hardly a realistic option. Furthermore, the small size of the investment (maximum of 10 million) are excluding numerous SMEs from Fund investments.

Thus far the Innovation Fund has yet to make an investment. The key informant from SB Corp notes that the company is also investing in RAPID as credit provider, using their own regular funds (rather than the Project Funds). Their standard loan products involve an amount as low as Php 30,000, to as much as Php 5 million, collateral-free from SMEs.

Project management

Management arrangements and systems have followed the original Project Design, although there are questions raised about the scope and ambition of the Project. According to the Project Design document as well as the PIM, RAPID will be guided by a PSC, chaired by Secretary, with membership comprised of representatives of National Economic Development Authority (NEDA), Mindanao Development Authority (MinDA), Department of Budget and Management (DBM), DA, Department of Agrarian Reform (DAR), Department of Interior and Local Government (DILG), National Council for Indigenous Peoples (NCIP), together with representatives from target value chains, and of the FSPs.

Day-to-day management is handled for the entire Project by a National Project Coordination Office (NPCO). Management will be decentralized to target regions under a Regional Coordination Unit (RCU), embedded in the regional DTI. RCUs will be responsible for project implementation at the regional level and will report to the NPCO. DTI Regional Offices, assisted by the RCUs, facilitated the creation of a Regional Technical Working Group (RTWG). The RTWGs will review and approve Strategic Investment Plans/Detailed Investment Plans and Farm to Market Roads Subprojects.

In each Project province, a Provincial Coordination Unit (PCU) will be established within DTI provincial Business Development Division, under the authority of DTI Provincial Director. The PCU will provide support to the network of Negosyo Centers, which will be the entry point for the delivery of project services in the province. The PCU will be responsible, in partnership with Negosyo Centers, for: (i) identifying MSMEs interested in partnering with farmers; (ii) facilitating the preparation and monitoring of SIPs and DIPs; (iii) facilitating and coordinating the participation of service providers; (v) ensuring the M&E of all project activities in the province, including the preparation of provincial AWPBs; and (v) liaising with value chain players and their councils and associations.

Problems have been noted in the oversight and management functions over the Project. There were clear gaps in the central oversight function of the PSC. During the PSC FGD, NEDA disavowed having participated in previous PSCs. One PSC member expressed misgivings about whether annual meeting is enough to understand true nature of the Project, suggesting instead quarterly reports and biannual meeting. Another PSC member noted that the scope and design of the Project may have been overly ambitious. The SMR (2022) also observes that conduct of project management seems to have been driven more by procedure compliance rather than management by results. This may have been a source of delay in project implementation.

With the approval of DIPs, the Project is entering an implementation phase where monitoring and evaluation (M&E) is especially critical. The operation of commercial partnership agreements, utilization of matching grants, performance of FOs, MSMEs, and anchor firms, and conduct of FMI sub-projects, will now require close monitoring to ensure compliance. However, SMR (2022) notes that the project M&E system is still a work in progress. In particular, VC stakeholders' profiling is still on-going, aimed at socio-economic baseline data/information of potential project beneficiaries; and second, as sampling frame for baseline outcome study of PIDS.

However, the database of profiles as requested from the NPCO M&E resulted in two sets of data: first are obtained from mobile uploads (Smartfarm application); and second, in the form of spreadsheets. The two datasets have different variable names and information provided, e.g. mobile uploads have 77 variables while spreadsheet uploads have 192 variables. The database is problematic as data is encoded in wrong columns; some cells have been merged; some entries are unreliable or perhaps subject to typo errors (i.e. farmer born in "1870", household head name "father", etc.); deviation from coding e.g. of categorical variables; and so on.

Moreover, for DIPs covering BARCO and GUFARBECO, interviews of VCF and enumerator in Zamboanga del Norte revealed the following:

- Of the 2200 farmers in BARCO, only 987 have been profiled. Some farmers that are not part of the DIP are also included in the profiling (numbering 250), to avoid conflict in the ground.
- GUFARBECO also not completely enumerated.
- Enumerators stated that the Smart farm app was not user friendly. For some farmers, enumeration started with the app, and continued using the paper form (and encoded in Excel).

Given these issues, PIDS opted to generate its own sampling frame of FO members for treatment and comparison municipalities (as described in Section 3.1).

6. Conclusion

Summary of findings from the baseline survey

The baseline survey shows that the treatment group that largely conforms to the beneficiary selection criteria of the Project, namely from a high poverty municipality, and from a vulnerable group (e.g. IP community). Treatment and comparison group of households are broadly similar, such as preponderance of coconut value chain in the sample, followed by cacao and processed fruit and nuts. The few items in which differences between the two

groups stand out are the following: a) greater reliance of the treatment group on farm income and employment, compared with the comparison group; b) lower indicators of participation in economic enterprise in the treatment group, compared with the control group; c) greater access to government banks and farmer organization credit among the treatment group.

Summary of findings from the process evaluation

There are healthy indications that theory of change will materialize for component 1. Particularly striking are the matching grant scheme, empowerment of FOs in value chain project implementation, capacity development of FOs, and strong private sector participation.

Matching grant scheme induces strong participation of POs and their members in the RAPID Project. RAPID is unusual among matching grant schemes implemented in the Philippines in being strict with the cost-sharing on the part of beneficiaries. The cost share must be in the form of cash, whether sourced from the recipient's cash balances or from borrowing. This level of exposure requires the PO/MSME to take seriously its role in the project. Many POs mentioned at the level of the regional strategic investment plan, were not included in the DIP stage; it is unclear whether they withdrew voluntarily, or upon recommendation of DTI facilitators.

Strengthening of FOs is validated by their direct implementation of key value chain interventions. Procurement of value chain equipment, engagement of contractors for facility construction, and the like are now delegated to the POs. This is important as they now get to choose the brand and specification. Moreover, they are able to apply their own rules of procurement and project implementation, rather than adopting procurement processes and rules of government, which have been a cause for relatively low budget utilization of many government projects (Navarro and Tanghal 2017). Focus on people empowerment is complemented by emphasis on developing capacity of FOs to manage their own economic activities from procurement, to input supply, production, financial and organizational management, and marketing.

People empowerment has been complemented by intensive program of capacity development. Trainings related to technical adequacy are a condition for receiving a matching grant. However, the Project designed technical assistance support for POs/MSMEs to be a 100% grant, in contrast with other value chain interventions.

DTI has opted for an intensive private sector role in its main value chain project. The Project relies heavily on anchor firms, which may be, but need not be, a mature PO; often it is an established agribusiness company already active in the value chain. Private sector reliance is also seen in its delegation of technical support to BDSPs, rather than assigning the role to DTI staff (for enterprise development) or DA/LGU staff (for production technology).

The Project has had its share of implementation problems. Not everything has proceeded smoothly with the Project. The Innovation Fund has yet to get off the ground, plagued as it is by low uptake and legal requirements that render it unattractive to value chain stakeholders. Its intensive investment planning approach has been plagued with delays, often with unclear guidelines, clarification of which took time and happened midway into the Project. Changes in guidelines also introduced delays in the FMI sub-projects. Furthermore, achievement of road connectivity targets is imperilled by underestimation of cost and infrastructure requirements in the Project sites.

The absence of an adequate M&E system poses serious risks for functionality and sustainability of RAPID investments. The Supervision and Implementation Support Mission Report 22 March – 01 April 2022 (par 41) notes that the M&E system is still under development. The continued inadequacy is worrisome as follow-through activities, as concretized in the commercial partnership agreements, requires careful third-party monitoring. In all DIPs reviewed, this role has been entrusted to the RAPID Project. Unfortunately, the slow set-up of the M&E system poses risks that performance gaps will not be detected, and therefore stakeholder obligations may go unenforced.

Finally, implications of the matching grant strategy on additionality and equity remain unclear. The fact that POs/MSMEs must opt-in to a relatively demanding matching grant scheme raises concerns about true extent of additionality – i.e. it may attract only those enterprises already willing and able to fund the grant, but opt to take the subsidy anyway. There is also the problem of being able to attract POs/MSMEs to the scheme when other government agencies provide 100% grant. Finally, such opt-ins may be the more capable enterprises whose members are not drawn from the poorest and most vulnerable families in the value chains. Both aspects can be examined more carefully once the evaluation is complete upon availability of the endline data.

Recommendations

As a baseline study, it is premature to issue recommendations. Nevertheless a few tentative recommendations may be broached, namely:

- **Completion of the DIPs should be expedited.** The slow pace of rolling out of DIPs has been flagged by project implementers, and is definitely an on-going cause for concern.
- **Reconsider implementation of Components 3 and 4.** Components 3 and 4 seem not to be effectively implemented. The former hinges on the assumption that the barrier to lending of FSPs is lack of capacity, but this may be based on faulty causal analysis; the true barrier is risk of agricultural lending. The latter meanwhile is based on the assumption that there is a dearth of equity investments in agricultural value chains, but what is actually scarce is equity itself, as commercial stock corporations is relatively rare among rural-based enterprises.
- **Ensure adequate technical assistance to FOs in making appropriate choices for their matching grant.** Matching grants are a way to truly empower FOs (see Annex A), and avoid some of the procurement problems noted in the literature on farm production and enterprise support programs. The implementation manuals of RAPID do provide for technical support from DAR and other agencies, but this needs to be followed through to ensure realization.

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