



Mid-Term Evaluation

Mindanao Productivity for
Agriculture Commerce and Trade
(MinPACT)

May 2017

[Midterm evaluation for the FY 2014 Food for Progress
Mindanao Productivity for Agricultural Commerce and Trade
(MinPACT) project in the Philippines]

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We assume all errors found in this report

List of Acronyms and Abbreviations

BACOFA	Balutakay Coffee Farm Association
BBTFLA	Bmans Binaton Bagobo Tagabawa Farmers Livelihood Association
BPI	Bureau of Plant Industry
BPMAC	Batangason Farmers Association
CIDAMI	Cacao Industry Development Association in Mindanao, Inc.
CQI	Coffee Quality Institute
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DRCICI	Davao RegionalCoconut Industry Cluster, Inc.
DTI	Department of Trade and Industry
FGD	Focus Group Discussion
FRFP	Request for Proposal
ICBFMFA	Imbayao Community Based Forest Management Farmers Association
ISED	Institute for Socio-Economic Development Initiatives
ITMPC	Inhandig Tribal Multi-Purpose Cooperative
JORIFA	Jose Rizal Farmers Association
KII	Key Informant Interview
LAMPCO	Laak Multi-Purpose Cooperative
LGU	Local Government Unit
M&E	Monitoring and Evaluation
MAGROW	Maragusan Growers Multi-Purpose Cooperative
MALACO	Mati Davao Oriental Upland MPC
MDOUMPCO	Mati Davao Oriental Upland Multi-Purpose Cooperative
MinDA	Mindanao Development Authority
MinPACT	Mindanao Productivity in Agricultural Commerce and Trade
MSC	Most Significant Change
MTE	Mid-Term Evaluation
NAGMASID ARCO	Kooperatiba sa Nagkahiusang Mag-uuma sa San Isidro
NGP	National Greening Program
NELECOFAPA	New Leyte Cocoa Farmers Producer Organization
NICO	Nabunturan Integrated Cooperative
PCA	Philippine Coconut Authority
PCBI	Philippine Coffee Board, Inc.
PO	Producer Organization
USDA	US Department of Agriculture

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Executive Summary

OVERVIEW. Mindanao Productivity in Agricultural Commerce and Trade (MinPACT), implemented by ACDI/VOCA commissioned a mid-term evaluation (MTE) through an open bidding process to assess the status of project activities two (2) years after its inception. MinPACT aims to assist 10,600 farmers engaged in the production of cacao, coffee and coconut as well as the 600 value chain actors. The project has two strategic objectives: **increase agricultural productivity** through training and provision of grants; and **expand trade of agricultural products** through identification of value chain constraints, improvement of post-harvest management and product quality, value-adding to smallholder agricultural products, provision of grants and access to markets.

The main point of the evaluation was to assess the project's progress, effectiveness, efficiency and relevance, as well as its sustainability measures. It was directed to gauge the quality and effectiveness of the implementation approaches and look for scaling-up opportunities. The MTE was expected to generate critical information to serve as inputs in improving the pace and quality of delivery of activities in the remaining months of implementation. The MTE was undertaken by the Institute for Socio-Economic Development Initiatives (ISED) of the Ateneo de Davao University (AdDU).

The MTE's primary data gathering phase commenced on the last week of February and stretched until the 2nd week of March 2017 (22 February to 10 March). A total of six (6) field teams were involved in the process of data collection across Mindanao. Each team consisted at least two (2) enumerators and one (1) Field Supervisor. The MTE employed three (3) methods in primary data gathering. The **survey method** was used to collect quantitative data from farming families using a mobile data collection application. Qualitative data was collected using **key informant interviews** with representatives of producer organizations, national government agencies, local government units, and value chain actors. In addition, **focus group discussions** were used to collect qualitative data from representative members of producer organizations (POs). The team also reviewed secondary information and collected change stories. Much weight was given to questions related to technology adoption and learnings, as emphasized by ACDI/VOCA in a meeting with ISED last February 6, 2017. Overall, the MTE captured the experience, opinions, concerns and recommendations of 734¹ project beneficiaries. Additional comments were also captured during the Stakeholder Forum organized by MinPACT on March 21, 2017, with more than 80 beneficiaries and industry players in attendance.

KEY FINDINGS. The average years in farming across three crops is 22.3 years. Coconut farmers have spent the longest years in farming at 26.6 years and in planting monocrop coconut at average of 19.9 years. Cacao and coffee farmers are within the range of 20 years in farming, with relatively fewer years in planting cacao only at average of 3.4 years and coffee only at average of 5.5 years. Some changes² are noted in the size of land cultivated with 3Cs, with the biggest increase in farm area made by coconut farmers³ (average of 0.7 hectare). Cacao farmers register the highest addition

¹542 farmers surveyed, 78 FGD participants, 106 key informants, and 8 storytellers. By organization, these were 24 producer organizations, 3 local industry association and 1 non-government organization based in North America, 5 national government agencies, and 15 local government units.

²In the Baseline survey, land area per farmer represented a geographical area (i.e. province-wise), while the Mid-term evaluation noted the land area on a per crop basis.

³The succeeding comparisons made in this section refer to the situation/figure before participating in MinPACT and during MinPACT.

of planted trees (121%, from 112 trees per hectare before to 247 now) while coconut farmers have the least increase (4%, from 126 trees per hectare before to 142 now).

The average volume of fermented cacao beans has increased, from only 3.0 kilos per hectare before project to 6.4 kilos per hectare under MinPACT. Similarly, coffee farmers are now selling more green beans per hectare (from 157.43 kilos per ha before MinPACT to 191.52 kilos per ha during MinPACT) than coffee cherries. There is also a modest increase in coffee yield (from 395.46 kilos per ha before project to 399.64 kilos per ha), which can be an indicator of improved yield, among other factors. The higher volume of green coffee beans is influenced by slightly increasing price for the value-added activity (which also reflects the national trend) and by proper post-harvest/handling practices.

GOOD AGRICULTURAL PRACTICES ADOPTION. The farmer respondents are gradually utilizing cacao clonal varieties and are slowly sourcing their planting materials from nurseries that are supported by MinPACT and other certified nurseries in their communities. On average, 33% of cacao farmers⁴, 25% of coffee farmers and 9% of coconut farmers have started adopting the recommended technologies. Examples of these technologies are: disease management, adopted by 46% of the cacao farmers; farm diversification, adopted by 36% of the coffee farmers; and crop genetics, 38% of cacao farmers, among others. Coconut farmers have low adoption rate across the six (6) technology groups promoted by MinPACT. The most common reason for non-adoption across the three groups is the “no seedlings yet or seedlings recently adopted (planted)”. Other minor reasons for non-adoption are input intensive/expensive and laborious/time consuming.

Four in every ten (41%) farmer-respondents have adopted the farm management practices such as record keeping and doing the computation on inputs, outputs and labor needs (76%) and record-keeping (84%). The reasons for the adoption areas these are easy to follow (99% of the respondents), helpful in decision-making (77%), and formalize the farm operations (56%).

Nine in every ten (92% of the farmer-respondents) rated training as the best modality for knowledge transfer and they are generally satisfied with the amount of time allocated for demonstration or application (during the training days). Those who believe otherwise (8%) prefer farm exposures (visiting other farms) and demonstration farms (model farm within their community), both provide them a picture of the ideal practices and results of the recommended technologies.

MinPACT activities, strategies and approaches are effective, generally eliciting favorable feedback from the beneficiaries and partners. Most of the recommended technologies are now practiced because these are explained well and are easy to follow. Farmers who have yet to adopt certain technologies say they have yet to receive the seedlings or the seedlings are newly planted. The POs and farmers are pleased knowing there are buyers beyond their traditional markets (i.e. local traders), who are willing to pay for quality products. They also notice more buyers are now going to their farms, saving them the effort and cost in transporting the products to the market (also a risk reduction move).

IMPLEMENTATION AND SERVICE DELIVERY METHOD. Survey results indicate that farmer-respondents have started adopting the recommended technologies on 3Cs, although in varying degrees depending on the crop and the type of technology. Yet even as they are still in the initial stages of adoption, farmer-respondents exhibit a generally optimistic view that their income will eventually increase in the future. Many are hopeful that the recommended technologies will increase their yield because of the quality planting materials, access to financial services that will fund their

⁴The survey interviewed 133 cacao farmers, 151 coconut farmers, 138 coffee farmers, and 120 mixed crops farmers.

production capital and enhanced farm management. Six of every 10 farmer-respondents are satisfied with the services of the MinPACT field technician. These technicians have conducted an average of four (4) farm visits in 2016.

GENDER AND YOUTH. There is at least one (1) woman per family who is involved in MinPACT. Women who attend technical training share their training materials (57%) with husband, father, son or daughter while the other women-attendees physically demonstrate these technologies in the farm (41%). There is not much change in the number of women holding positions in any of MinPACT-supported organizations: 12% of respondents have noticed such cases before the project, and still 12% of respondents noticing such cases during MinPACT.

On youth participation, there is fewer number of youths involved in MinPACT, averaging 1 youth for every 4 families (since most of them are still in school/studying). Nearly 4 in every 10 farmer-respondents believe that youth members in their family appear motivated to continue farming due to their family's participation in MinPACT.

Evaluation Criteria. Overall, MinPACT is found **relevant** with respect to the government directions and priorities, in relation to the needs of its target beneficiaries and capacity of its partners, and in extending interventions that are considerate of the local conditions. There is a strong likelihood that the project will make an **impact** on the lives of beneficiaries and on the capacity of partners, particularly with the strong awareness and attempt to comply with quality, the optimistic view on the effects of recommended technologies, and the increasing confidence in dealing with buyers.

On sustainability, the beneficiaries and partners are still at the level of “**awareness**” on how to prolong the gains of MinPACT, since it is still mid-way into the project and technical interventions of MinPACT have only been comprehensive in 2016. This awareness includes recognition among farmer-respondents to strive in following the recommended technologies, starting from the use of recommended varieties, the application of recommended technologies, and the promotion of quality-reinforcing policies and activities. Officers of the POs recognize the need to implement the recommended changes in their internal systems, to leverage on the existing resources and networks, and to manage their income-generating projects well. The value chain actors are encouraged to support their backward linkages (i.e. farmers and POs) at the same time use every opportunity to promote the local quality products. LGUs and the government agencies are requested to build on the gains of the project by continuing the support given to the 3Cs with more commodity-friendly policies, more technical support, more quality awareness, and more market linkages.

The factors indicating sustainability in POs are still in the germinal stage. Measures to strengthen and sustain the operations of the POs will take definite shape over the next few months after the Sell More for More curriculum is completed and systems introduced are working, misunderstanding in some POs is reduced with better financial transparency, and crucial information is shared to members and officers alike.

For industry organizations (IOs), CIDAMI and PCB have advanced well in forging partnerships with the government and other foreign institutions. They have created committees to address different aspects of their programs (i.e. resource generation and technical trainings). PCB enumerates its sustainability indicators, ranging from having manuals to guide their operations, having a trained team dedicated to transfer technologies to farmers, having clear roles of key actors within organization, and having the support of other institutions interested in coffee. PCB plans to reorganize itself and become a membership based organization. Working closely with PCB on quality is the Coffee Quality Institute, a US-based NGO. CocoLink formerly the Davao Regional Coconut Industry Cluster, Inc. (DRCICI), though established in 2009, is organizationally an infant after having experienced several staff turn-over (newest set of staff hired only 1st quarter of 2017). DRCICI

staff admits they have the most number of beneficiaries and value chain players, the most number of by-products, and the largest land area to cover, demanding so much energy from the office staff.

Key Recommendations. Based on the MTE findings, the following are the key recommendations:

- **To further increase technology adoption:**
 - a. Intensity communication-based interventions to reinforce and increase the adoption of good agricultural practices, emphasize the importance of product quality to getting good price and maintaining buyers, and disseminate the availability of marketing and financial services through local providers such as the POs and value chain actors.
 - b. Emphasize to farmers that they can apply the recommended (relevant) technologies on their old or non-3C plants; they do not need to wait for the promised seedlings to be distributed before they can adopt the technologies.
 - c. Conduct follow-up visits to farmers with newly-planted trees and to remind them apply the recommended technologies vis-à-vis the growth of the trees.
 - d. Further, develop communication messages and materials that aim to change behaviors using the MTE and MinPACT SharePoint M&E databases for effective message framing and audience targeting.
- **To further improve reach and quality of extension services:**
 - a. Increase the use of communications media and materials as part of the extension tools of the MinPACT, POs, and value chain technicians.
 - b. Familiarize MinPACT staff, PO and value chain technicians on the 4-6 core adoptions and the use of technology and information data to encourage higher technology adoption.
 - c. Increase the number of farmer field days and hands-on assistance and increase the frequency of farm visits by technicians and trainers.
 - d. Where necessary, conduct refresher training for trainers and expand the current pool to accommodate those who have the right mix of technical and facilitation skills and availability to do cascading training.
- **To accelerate project activities along the value chain (post-harvest handling, processing and marketing):**
 - a. Increase support for appropriate post-harvest facilities, increase number of post-harvest handling and marketing trainings.
 - b. Continue training on quality assessment.
 - c. Advance efforts on buyer relationship building, to include visits/tours and participation in trade fairs.
 - d. Continue to support IO-led industry events (Kakao Konek, Philippine Coffee Summit, and CocoLink), with corresponding review of the expected outcomes. These events are largely advocacy/promotional in nature and may not yield immediate results vis-à-vis the effort and funds required to stage these. However, these events are a mechanism to reach wider audience, participative in nature, and crucial to build/maintain an “enabling” environment since government policies can emanate from these events.
 - e. Continue support for POs to attend product and quality competitions, to expose value chain actors to the (international) market demand, strengthen Mindanao as a source of quality 3Cs, and gradually integrate producers to the national/global value chain.
 - f. Considering that newly planted trees will not see production for 1.5 to 3 years (more for coconut) at the same time further prepare the beneficiaries for increased

production, donor must evaluate the possibility of project extension of one or more years so post-harvest handling and marketing adoptions can be fully realized.

- g. Continue to work with Franklin Baker, Kennemer Foods, Chocolate de San Isidro and similar organizations/businesses, which are existing buyers with international reach and future market of the farmers/POs when the latter start producing in greater volume and quality.
- **To sustain early (1st half) gains of the project:**
 - a. Monitor closely the operation of the nurseries, including the continuity of seedlings production, compliance with the government accreditation requirements, transparency in financial transactions, among others.
 - b. Begin to build actionable sustainability plans with POs, IOs and other core value chain actors, especially financial services providers.
 - c. Support the application of the Sell More For More curriculum as this is designed to support sustainability
 - d. Develop management plans for all the newly established enterprises (i.e. nurseries), and those with POs and IOs that have changed/improved their structure and services to ensure continuity of change and sustainability after MinPACT project.

Background, Brief Description, Context and Rationale

MINDANAO'S DEVELOPMENT CHALLENGE. Mindanao is the Philippines's second largest island, a home to nearly one-fourth (24%) of Filipinos (2015 national census). Mindanao is considered as "the land of promise" because of its natural resources, strategic location, and diverse cultures. It is a major food producer and exporter, owing to its fertile soil, extensive river systems, and tropical climate; it has rich deposit of minerals such as gold and nickel; and lush forest lands. Yet comparing to the two other major island groups of Luzon and Visayas, Mindanao has fallen behind in terms of economic growth. In 2014, Mindanao's contribution to the Gross Regional Domestic Product is only 15% (only 0.1% higher than Visayas, which has smaller land mass and a smaller population compared to Mindanao region). Mindanao has 7 of the 10 poorest provinces in the country, based on the 2015 Poverty Incidence Among Families (Philippine Statistics Authority).

In a report published by World Bank in 2016, following a series of island-wide consultation on jobs, Mindanao lackluster economic growth is linked to the "narrow-based growth strategy and armed conflict" (Chua et al, 2016). The study links the dominance of plantation crops, forestry, mining and heavy manufacturing, which are all capital intensive, but have very meager local processing activities, profits are hardly reinvested locally, and therefore, have very little multiplier effects. The study highlights that while the island's comparative advantage lies in its agriculture sector, "8 in every 10 farmers and fishermen live beyond \$1.25 a day or are vulnerable to poverty" (Chua et al, 2016). What is not fully utilized, as the report emphasizes, are the "agriculture based smallholders", whom if strongly supported and upgraded, will have massive multiplier effects based on their sheer number (NEDA, 2017).

AGRICULTURE SECTOR'S LONG-STANDING CONSTRAINTS. The country's agriculture, forestry and fishing (AFF) contributes an annual average of 10% to the country's Gross Domestic Product between years 2013 to 2015. Further breaking the agriculture sector in sub-sector, the growth of the Gross Value Added from 2013 to 2015 for crops was only 0.2%, livestock at 2.2%, poultry at 3.4%, and fisheries as negative 0.4%. The government attributes the dismal performance to natural calamities (typhoons and El Nino) and cases of infestation (coconut) and the still-present challenges such as the limited access to credit, inadequate post-harvest facilities, weak extension service, little support on research and development, ageing farmers and fisherfolks, limited connectivity between production areas and markets, and poor compliance with product standards (NEDA, 2017).

AGRICULTURE IN THE NEW PDP. After the new government assumed power in mid-2016, a new Philippine Development Plan 2017-2022 has been formulated. It provides details on how to realize the new administration's 10-point agenda, which includes as its #5 point the item on "promoting rural and value chain development toward increasing agricultural and rural enterprise productivity and rural tourism". In unpacking this specific part of the plan, the government vows to improve access for the value chains by linking areas to markets, organizing the small farmers, providing capacity building on value adding activities, creating non-farm livelihood options, extending agricultural insurance and access for formal credit, and enhancing capacity of farmers to use better and new technologies, among others. Thus, it is expected that the value chain approach will likely be used in pushing priority crops within the next five (5) years or so.

MINPACT'S COHERENCE WITH MINDANAO'S NEEDS AND POTENTIALS IN AGRICULTURE. The entry of MinPACT in Mindanao agriculture sphere two years ago has been timely. The Department of Trade and Industry (DTI) had included the cacao, coffee and coconut as part of its priority industry clusters (in their National Industry Cluster Capacity Enhancement Project, funded by the Japan International Cooperation Agency). The Department of Environment and Natural Resources (DENR) have promoted coffee and cacao as part of the crops which can be used for agro-forestry under their National Greening Program (NGP). The Department of Agriculture (DA) considers coffee and cacao

as high-value crops and the agency has been active in the dispersal of seedlings as well as provision of post-harvest facilities. The Philippine Coconut Authority (PCA), through its KANIB⁵ Enterprise Development Project, is promoting coffee and cacao as intercrop between coconuts as well as providing community/household-level coconut processing support. Finally, the Mindanao Development Authority (MinDA), the primary coordinating agency in the island, has taken the lead in an island-wide program called Cacao Double-Up, aiming to expand the cacao land area to 200,000 hectares by 2020. The above programs indicate that cacao, coffee and coconut are currently enjoying favor – in terms of attention and funding – from the leading agencies involved in agriculture. What these meant two years ago (in 2015) was MinPACT could leverage these institutions' resources in increasing awareness on the project and lobbying more government support for the three (3) crops.

PROJECT DESCRIPTION. MinPACT's strategic objectives are two-fold: first is to increase the agricultural productivity of selected direct beneficiaries, numbering as many as 10,600 smallholder farmers engaged in cacao, coffee and coconut; and second is to expand the trade of agricultural products (using cacao, coffee or coconut as the raw material base).

Within its project timeline of four (4) years, MinPACT provides training and other targeted support to producers and agribusiness. These interventions are aimed at improving post-harvest losses handling practices and infrastructure, enhance market efficiency and create market linkages, promote agriculture sector and subsector coordination, and facilitate agricultural lending. To appreciate MinPACT's pathways to achieving its strategic objectives, please refer to Figure 1 which illustrates the project's results framework.

Initially, the project identified seven⁶ (7) sites as the focus of its interventions. Based on the Request for Proposal (RFP) for the conduct of the mid-term evaluation (MTE), the number of provinces participating in MinPACT-supported activities are 23 provinces in Mindanao, 15 provinces in Luzon and one (1) province in Visayas. The expansion of project sites only conveys the direct reach of MinPACT project activities, as stakeholders in cacao, coconut and coffee from other areas have been permitted to participate in MinPACT-organized activities. Although spill-over effects cannot be ruled out, we believe ACDI/VOCA must have indirectly reached other farmers.

The support of MinPACT is significantly channeled through 24 producer organizations (see Annex 1). MinPACT also works with the industry/sectoral associations, national government agencies, local government units, and other value chain players (i.e. input suppliers, processors, traders, and service providers).

⁵KANIB refers to Kasaganahan sa Niyugan ay Kaunlaran ng Bayan (English translation – prosperity in coconut is progress for the country)

⁶Davao del Norte, Davao del Sur, Davao Oriental, Compostela Valley, Bukidnon, Zamboanga del Norte, and Davao City.

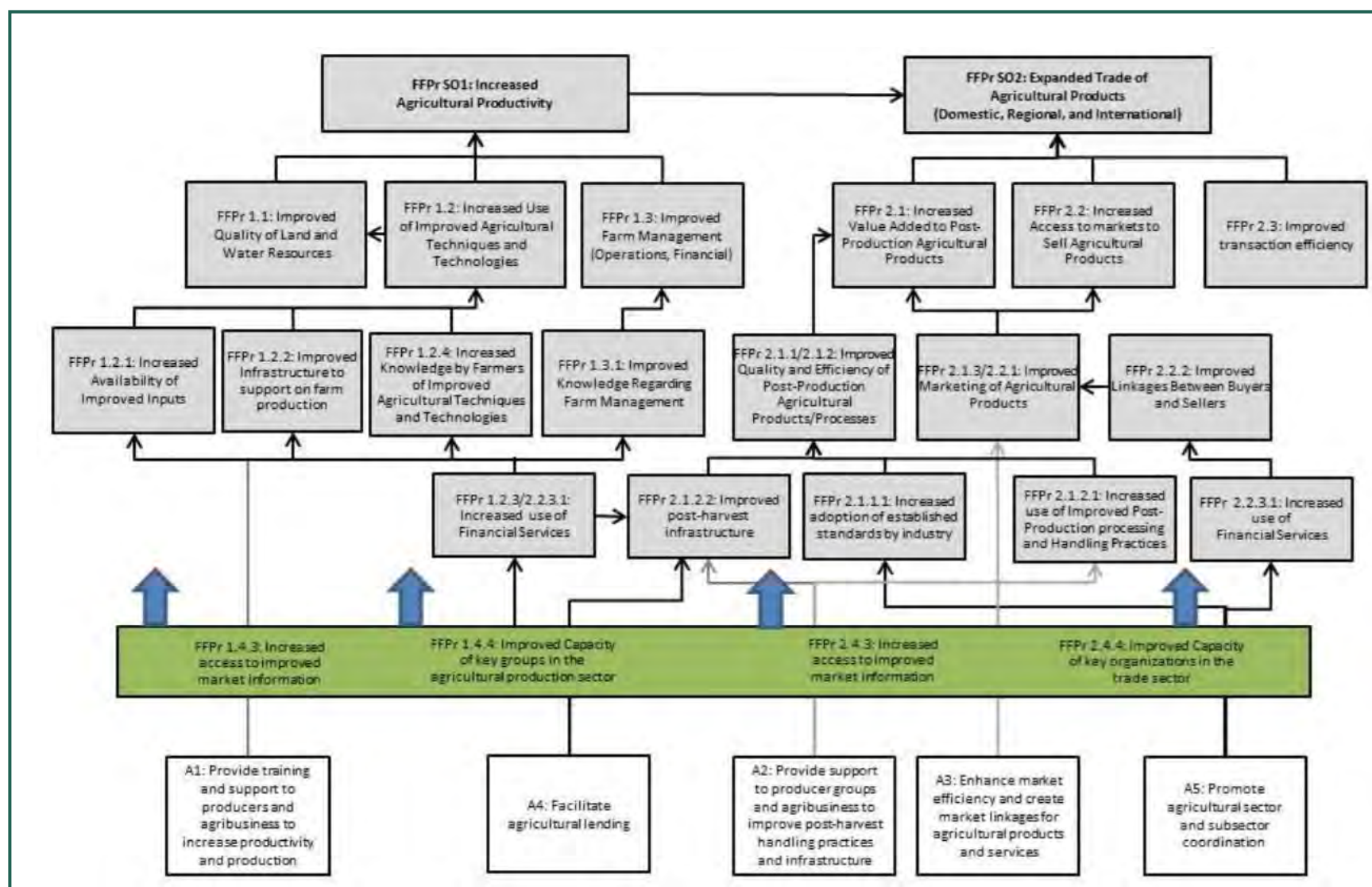


Figure 1: MinPACT Results Framework

Purpose, Objectives and Expected Use of the Study

A. Purpose

As outlined in the RFP, the mid-term evaluation aims to assess the project's progress, effectiveness, efficiency, and relevance of the planned and implemented activities as well as the sustainability measures. Moreover, it seeks to verify if the project is moving towards meeting its strategic objectives, weigh on the quality and effectiveness of the implementation approaches, and look for scaling-up opportunities, threats that might hamper its momentum, and filter any negative unintended impact. Finally, the MTE captures early evidence of project achievements, lessons from the implementation, and to document recommendations.

B. Objectives

The mid-term evaluation specifically aims to:

- Assess the project's progress relative to expected results and the likelihood to attain defined outcomes and impact
- Assess the effectiveness and efficiency of implementation approaches used
- Review the appropriateness and usefulness of performance indicators described in the project document in assessing the project's progress and if the targets are realistic given the project capacity, resources and remaining time
- Assess how the project is integrating women and youth in its interventions all along the value chain and whether both men and women are benefiting equally from project interventions
- Provide suggestions and recommendations on areas the project should focus in its remaining year of implementation
- Identify measures/mechanisms for sustainability put in place by the project
- Assess the effectiveness of project monitoring and evaluation system in facilitating achievement of results and project delivery as well how project monitoring data is used in decision making and adaptive management
- Document any project-related/unrelated factors that are affecting successful implementation and results achievement
- Generate lessons learned by the project during the first period of implementation
- Provide succinct recommendations on areas of improvements based on evaluation findings.

C. Expected Use of the Study

The findings and the recommendations from the mid-term evaluation will be valued as input in improving the pace and quality of project implementation, considering that MinPACT is already halfway to its timeline. It serves as a feedback tool on whether the project assumptions have made or are still valid as well as identify barriers and gaps that have/will derail the drive of the project. It offers an opportunity for sharing the early successes and lessons from the different value chains and project sites, contributing to the body of knowledge on agricultural development and value chain promotion in Mindanao.

Study Methodology, Survey Sampling and Data Collection Techniques

A. Evaluation Design and Methodology

This being a mid-term evaluation, the evaluation design was exploratory, intended to confirm and compare if the project intentions in terms of increasing production and access to market was being achieved by comparing baseline findings and midterm findings. To achieve this, the evaluation employed five (5) main approaches to data collection.

- **DOCUMENTS REVIEW**, particularly the four (4) semi-annual reports prepared by the project team, the inventory of beneficiaries and partners, and the crop production manuals.
- **FARMING FAMILY SURVEY** using the Magpi⁷ mobile data collection platform (mobile application) data collection was undertaken in seven (7) project sites, with respondents randomly selected from the 24 producer organizations.
- **KEY INFORMANT INTERVIEWS (KIIs)** targeted members of the project team, producer organizations, national government agencies, local government units, value chain actors, and industry associations.
- **FOCUS GROUP DISCUSSIONS (FGDs)** with selected members of producer organizations.
- **MOST SIGNIFICANT CHANGE (MSCs) STORIES** based on referrals of the project field teams.

The family survey generated quantitative data and focused on the level of technology adoption. The KIIs, FGDs and MSCs assembled more qualitative data, delving on the experience, learning, and recommendations of the respondents.

B. Survey Sampling Procedures

SELECTION OF THE FARMING FAMILY SURVEY RESPONDENTS. The evaluation employed a three-stage sampling process. The first stage was complete listing of the 24 producer organizations (POs); the second stage was a complete listing of the farmers that grow each of the 4 value chains (cacao, coffee, coconut and mixed of any two crops); and the third stage was the random sampling of the individual beneficiaries from each value chain. The basis for the random sampling was the universal list of individual beneficiaries (sample frame) shared by MinPACT M&E Manager. To obtain the number per commodity group, we used the Slovin's Formula at 8% margin of error, assuming spatial intervention per commodity was homogenous. This resulted to a sample size of 542 households.

Comparing the target to the actual survey, there was a deviation of 28 respondents per commodity group. Originally, these 28 respondents were listed under "mixed", but during actual interviews, they corrected their main commodity, saying they were still engaged in single crop (coconut) and have not yet added another crop (either cacao or coconut). After identifying and segregating the target respondents, the secondary list was also drawn up in case the primary respondents should be replaced. With approval from the MinPACT Team, replacement only occurred when:

- The target respondent was not available during the visit (not in the house when the team arrived or was sick).
- The target respondent migrated to other area and address unknown or died.
- The target respondent's house could not be located.

⁷<http://home.magpi.com>

- Inaccessibility of the respondent due to bad weather condition and security concerns.
- The target respondent declined to be interviewed.

The actual survey is shown below while the deviation between target and actual is shown as Annex 2.

Table 1: Distribution of Farming Family Survey Respondents

	Cacao	Coconut	Coffee	Mixed	Total	Beneficiaries	% Sampled
Balutakay Coffee Farm Association (BACOFA)			8		8	63	13%
Barcelona Primary Multi-Purpose Agricultural Cooperative (BPMAC)	2	3		6	11	108	10%
Batangason Farmers Association (BFA)			23		23	200	12%
Bansalan Cooperative Society-MPC	5	21		4	30	409	7%
BMANs Binaton Bagobo Tagabawa Farmers Livelihood Association (BBTFLA)	1	2	2	4	9	136	7%
FEDCO	32	2		1	35	241	15%
Imbayao Community based Forest Management Farmers Association (ICBFMFA)			43		43	379	11%
Inhandig Tribal MPC (ITMPC)			19		19	168	11%
Jose Rizal Farmers Association (JORIFA)	4	5	1	1	11	192	6%
Katipunan Small Coconut Farmers' Cooperative		6		12	18	164	11%
Kooperatiba sa Nagkahiusang Mag-uuma sa San Isidro (Nagmasid Koop)		3		5	8	90	9%
Laak Multi-Purpose Cooperative (LAMPCO)	3	9		10	22	273	8%
MACOFED	6	2		12	20	272	7%
Maragusan Growers Multi-Purpose Cooperative (MAGRO)	17			7	24	235	10%
Mati City Lapagan Multi-Purpose Cooperative (MALACO)	1	4		2	7	68	10%
Mati Davao Oriental Upland Farmers MPC (MDOUPMC)		2		4	6	83	7%
MILALITTRA		1	40		41	354	12%
Nabunturan Integrated Cooperative (NICO)	1	3		6	10	109	9%
New Leyte Cocoa Farmers-Producers Association (NELECOFAPA)	16			14	30	302	10%
Paglaum Multi-Purpose Cooperative	23	29		17	69	593	12%

	Cacao	Coconut	Coffee	Mixed	Total	Beneficiaries	% Sampled
Peoples- Officials-Employees Community Multi-Purpose Cooperative (POEMCO)	2	6		2	10	82	12%
Salaysay Upland Farmers Association	2		2	4	8	100	8%
Sindangan FACOMA Community Multipurpose Cooperative (FACOMA)	11	34		6	51	463	11%
USPD Savings and Credit Cooperative	9	18		2	29	173	17%
Total	135	150	138	119	542	5,257	

SELECTION OF THE FOCUS GROUP DISCUSSION PARTICIPANTS. The evaluation team purposively selected two POs per commodity group, i.e. 2 for cacao, 2 for coffee, 2 for coconut and 2 for mixed. For each PO, the evaluation team requested for an FGD session with 6 to 8 members, representing a mix of officers and members, have participated in MinPACT activities, and have started planting the seedlings provided by the project. With these criteria, the FGD participants were named and invited to join the session. The POs selected were: ICBFMFA, BFA, ITMPC, MILALITTRA, PAGLAUM, FACOMA, USPD, LAMPCO, and NELECOFAPA. The total FGD participants across the four (4) commodity groups was 78 (distributed as 56%males and 44% females), below the target of 100 participants, since not all of those invited turned up during the FGD session.

SELECTION OF THE KEY INFORMANT INTERVIEWS. The key informants were selected based on their official functions with the government or industry association; value chain actors; officers of the POs, and selected MinPACT project team members. They were also chosen based on their familiarity with the project or have sufficient institutional memory of their respective organization's partnership with MinPACT. Total key informants reached was 106 (distributed as 59% males and 41% females), from a target of 100 key informants.

SELECTION OF MOST SIGNIFICANT CHANGE STORIES. The evaluation team was only able to gather seven (7) stories from the beneficiaries, coming from 6 males and 1 female storytellers. These were no longer subjected to selection using the common domains (changes in quality of lives, changes in participation in development activities, changes in sustainability) because of the small number. Please refer to Annex 3.

The stories revolved around their adoption of farming practices (individual level) and the construction of nurseries (organization level). The evaluation team has taken note of the success stories published in MinPACT's semi-annual reports submitted to the US Department of Agriculture.

C. Data Collection Techniques

TRAINING OF THE FIELD TEAMS. ISEDI conducted a one-day orientation for the field supervisors and enumerators on 17 February 2017 at the Ateneo de Davao University. The orientation covered the following topics: overview of the MinPACT MTE, objectives of the orientation, evaluation design and target respondents, data gathering instruments, research protocols, deployment schedule, pre-test activities, logistics and the trial run of the survey using Magpi platform.

PRE-TESTING OF THE TOOLS. Two days after the orientation, the field teams tested the survey and FGD tools in Davao City, specifically the members of FEDCO. The pre-test was done to calibrate the length of interviews (ranging between 1:15 hours to 1:45 hours, depending on the number of crops).

Further, the pre-test allowed the field teams to fix the coherence of the questions flow and weed-out redundant questions. The pre-test was also needed to address any technical issues of the Magpi platform, including the skip logic, radio buttons, saving and uploading commands.

SECONDARY INFORMATION REVIEW. MinPACT provided secondary data to ISEDI. These included semi-annual reports, list of trainings, list of organizations' other activities, individual beneficiary record, performance monitoring plan, and unpublished crop technology manuals on coffee, cacao and coconut. The secondary information was the basis for formulating the evaluation questions. The team used MinPACT database as a sampling frame and therefore the basis for randomly selecting the survey respondents.

GENERATION OF PRIMARY DATA: As explained in earlier sections, ISEDI conducted a survey on a representative of a farming family household. The respondent from farming family households were randomly selected from a list of names contained in the MinPACT database. Briefly, the procedures in administering these tools are explained below:

- **ADMINISTRATION OF THE FARMING FAMILY SURVEY.** The target respondents were pre-selected prior to deployment of the survey team to the field. MinPACT Field Technicians were informed of the field teams' deployment schedule and the names of respondents scheduled for interview on specific day. The Field Technicians informed the POs ahead of the visit, notifying the selected respondents of the upcoming interview. The MTE teams sought the help of PO officials/staff in locating the houses of the randomly-selected respondents. Prior to administering each survey, the enumerator presented a brief background on the purpose of MTE and length of the interview. The enumerator also assured the respondents of the confidentiality of their responses. After each interview, the enumerator recorded the GPS coordinates of the respondent's farm or house (should the post-production activities are done near the house).
- **ADMINISTRATION OF THE FGDs.** The POs selected for the FGDs were informed ahead of the FGD schedule. The POs were instructed to choose representative-members and officers who have participated in MinPACT activities and have planted the seedlings provided by MinPACT. On the appointed day and time, the MTE Field Supervisor met with the beneficiaries and officers, and facilitated the session using a structured FGD guide.
- **ADMINISTRATION OF THE KIIs.** MTE field supervisors and the team leader made appointments with selected key informants. The interviews were done at the offices of respondents. However, for key informants who were far from Davao City (i.e. PCB and CQI), the questions were sent via email.
- **COLLECTION OF MOST SIGNIFICANT CHANGE STORIES.** During the FGDs, the field supervisors asked the FGD participants to provide names of other members willing to share their change stories related to MinPACT. There were very few receptive storytellers who wanted to share change stories, since the adoption of technology was relatively recent.

Survey Team Management and Operations

A. Team Composition

The Executive Director of ISED served as the Project Manager and worked with The Team Leader and the Survey Specialist. For the data gathering activities, there were field supervisors in the Bukidnon area, Compostela Valley, Davao City, Davao Oriental, Davao del Sur, Davao del Norte, Misamis Occidental, Zamboanga del Norte, and Zamboanga del Sur. Field supervisors managed between 1 to 3 enumerators.

B. Team Management and Operations

The six field teams were deployed immediately after the pre-test activities, since prior notice was already sent to the MinPACT Field Technicians for coordination. The teams reported their daily activities to the Team Leader, and their day-to-day progress (number of completed survey forms uploaded) was seen at the Magpi dashboard. The field activities were generally smooth, except for some delays in Bukidnon and Compostela Valley because of security situation. The concerned teams had to wait for the advice of the local officials/PO leaders when it was already safe to travel.

Each field team had a 1:1 tablet ratio (others used their own Android phones as back-up). During the first three days, they were instructed to update the survey forms based on the feedback during pre-test.

Data Analysis Methods, Process and Limitations

A. Data Analysis Methods and Processes

The Survey Specialist monitored the daily progress of the uploaded questionnaire via the Magpi dashboard. They did a random audit for content completeness, range and consistence. The field supervisor's attention was called if there was a need for validation/verification. At the completion of the data gathering activities, the database was exported to Microsoft Excel for the final data audit. The audit checked data errors, including transpositions, coding, consistency and range. Graphical analysis was conducted in Excel while descriptive analysis was imported to SPSS software. Data analysis mainly produced descriptive statistics such as frequency counts and mean.

Regression analysis was done on the factors that would influence the rate or likelihood of technology adoption. Several variables were considered such as number of trees, size of cultivate farmlands, schooling, membership to organizations, years in farming, and attending to training. The computation is shown as Annex 4.

B. Limitations of the Study

The MTE was conducted in Davao City and eight provinces (Bukidnon, Compostela Valley, Davao del Norte, Davao del Sur, Davao Oriental, Misamis Occidental, Zamboanga del Norte, and Zamboanga del Sur). The field activities spanned nearly three (3) weeks, from February 22 to March 10. It only covered the beneficiaries of MinPACT, and captured their experience and progress with the project. Lastly, the sex ratio that emerged from the sampling did not correspond to the project existing beneficiary ratio (more males than females were randomly chosen). This was an oversight on the part of the evaluation team, lumping the list of beneficiaries together. In addition, no sex disaggregation was done in the responses, although these can be filtered in the database.

C. Constraints in Data Gathering

The field teams encountered five (5) constraints in data gathering. First was the location of the farms, primarily found in remote and upland barangays. Only few vehicles were plying these areas. Second was the security concerns in a barangay in Bukidnon and another in Compostela Valley, which were known as areas of New People's Army (the data gathering coincided with the President's announcement of an all-out war against the armed rebel group). Third reason was in some FGDs, the number of those who attended was lower than expected due to conflict of schedule and other personal reasons. The fourth limitation was the failure of the evaluation team to use sex disaggregation in the sampling procedures, resulting to a sampling set of more males than females (not reflecting the MinPACT database on sex). Finally, the "efficiency" part of the evaluation criteria, where the evaluation team did not measure how economically (cost effectiveness to produce results) the resources/inputs have been converted to results.

GIS Data and Reporting

The GIS data are submitted separately from this report. The maps below show the location points of the households at municipal level per province.

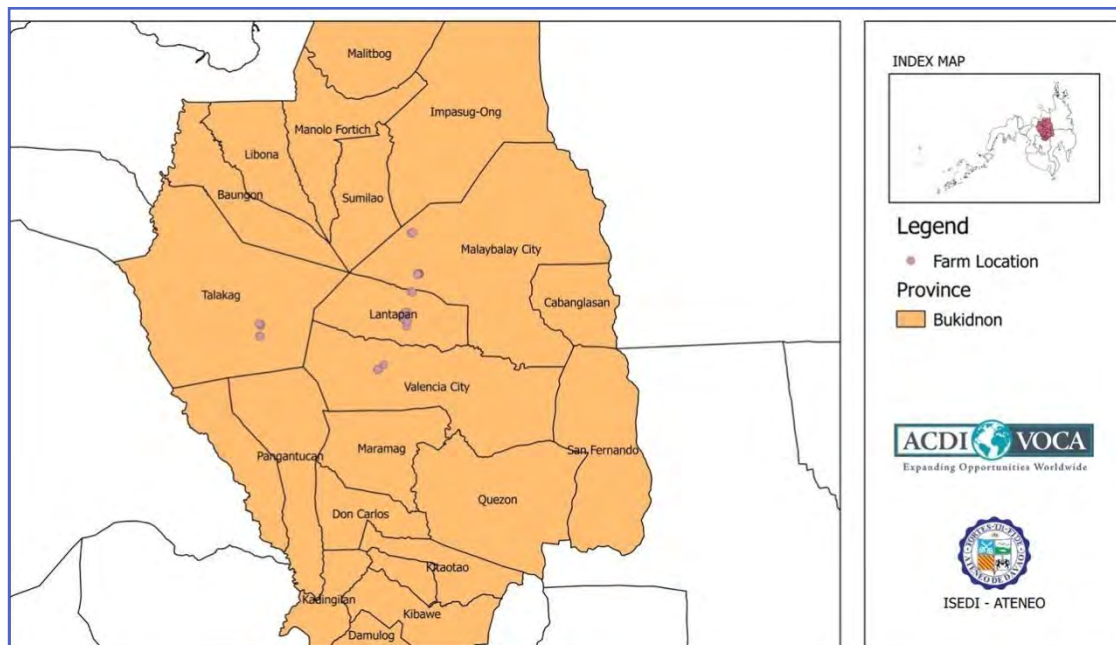


Figure 2: Farm locations in Bukidnon

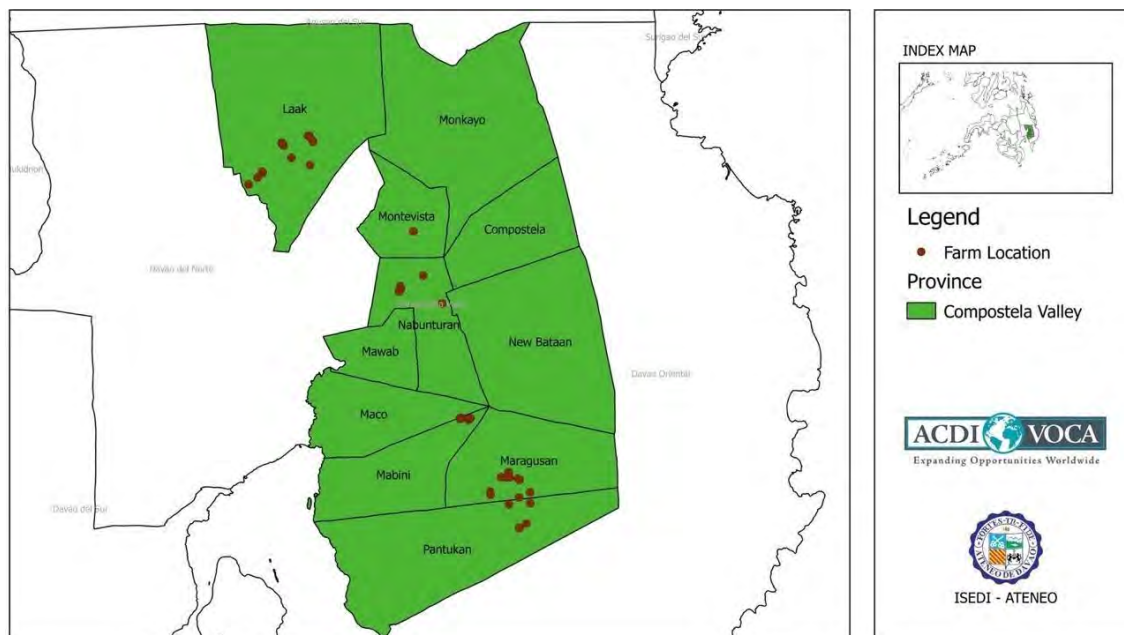


Figure 3: Farm locations in Compostela Valley

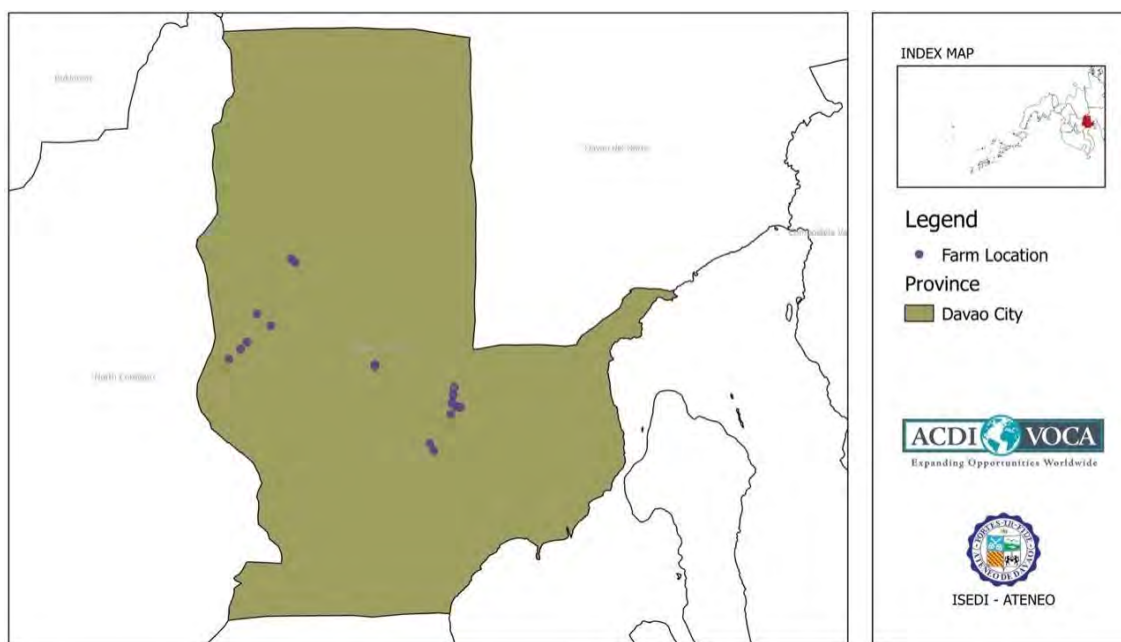


Figure 4: Farm Locations in Davao City

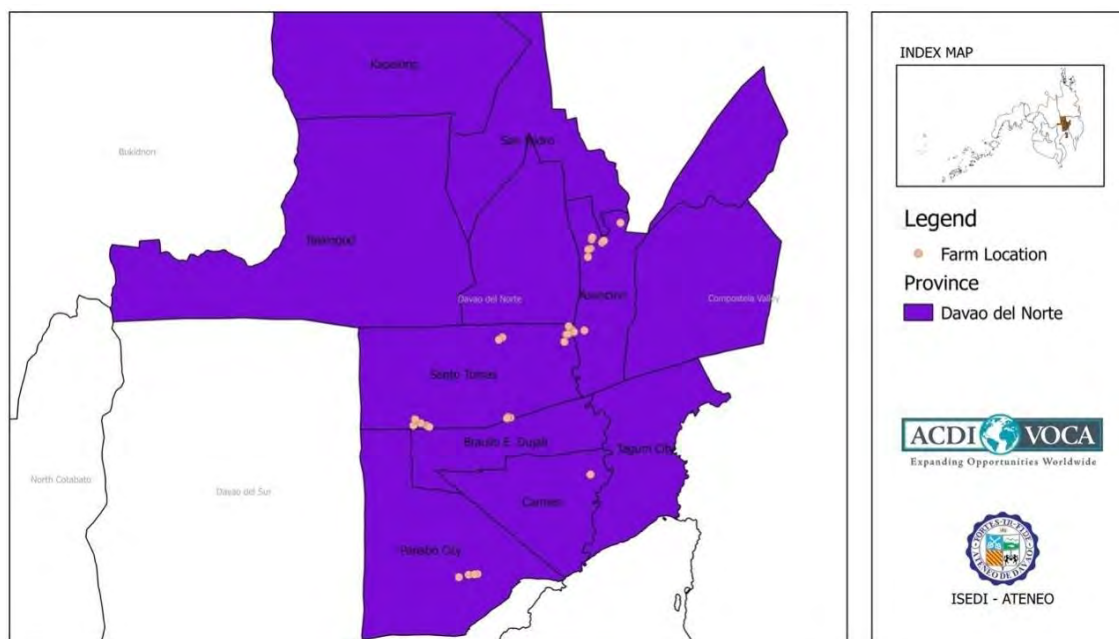


Figure 5: Farm locations in Davao del Norte

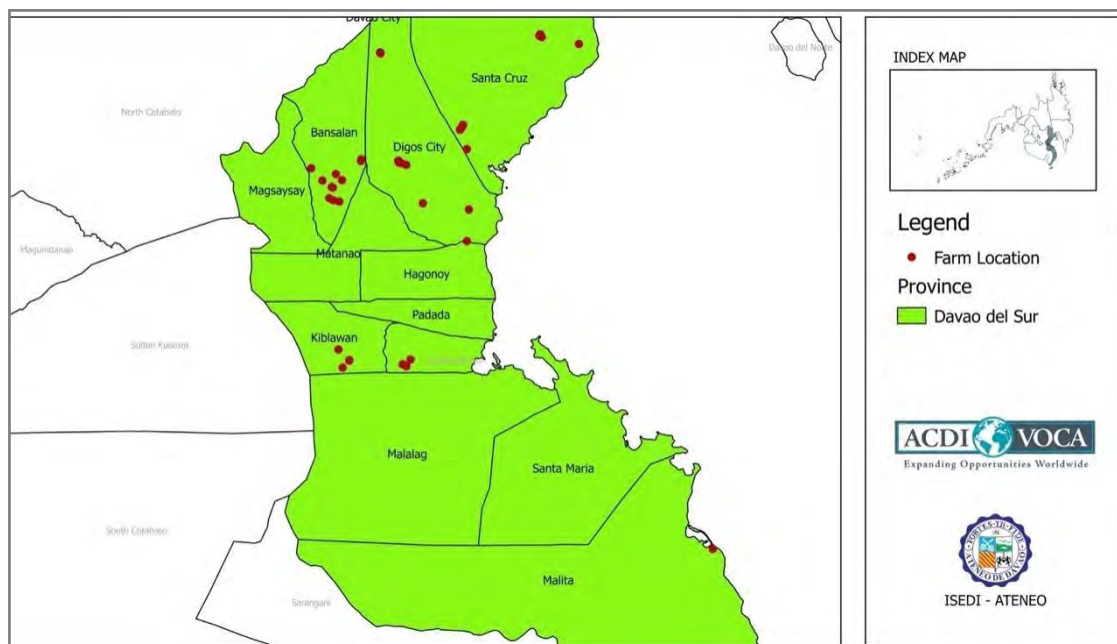


Figure 6: Farm locations in Davao del Sur

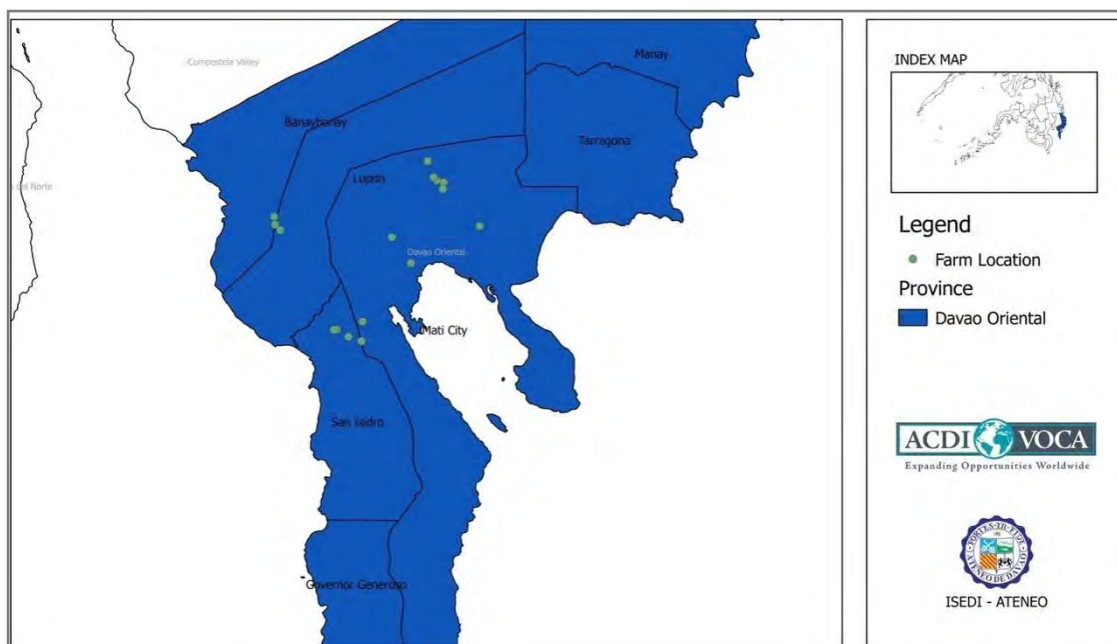


Figure 7: Farm locations in Davao Oriental

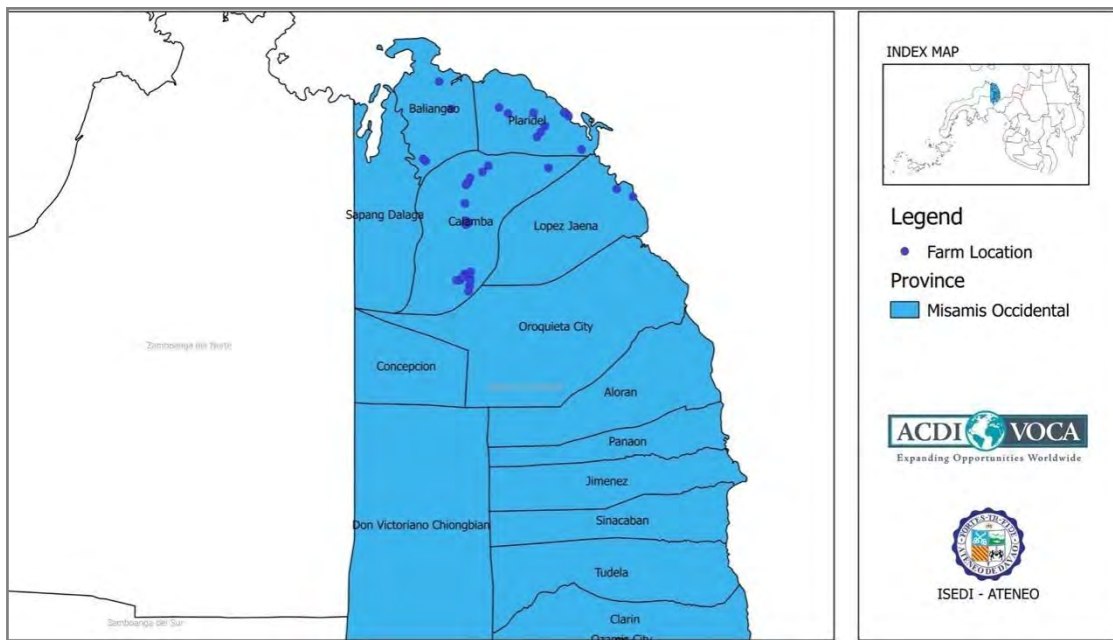


Figure 8: Farm locations in Misamis Occidental

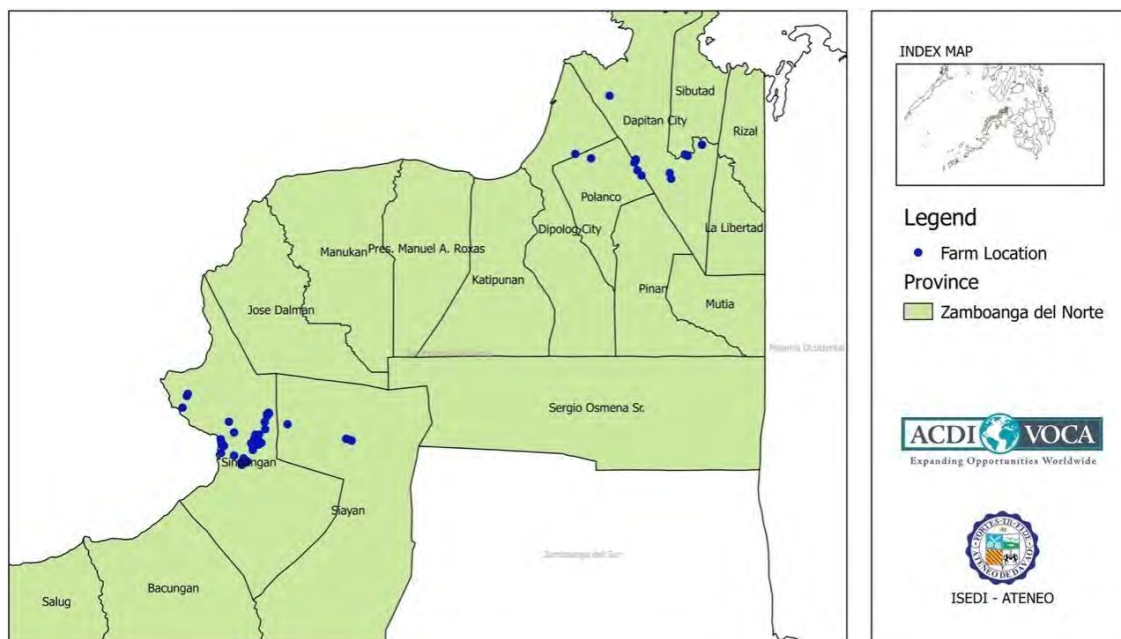


Figure 9: Farm locations in Zamboanga del Norte

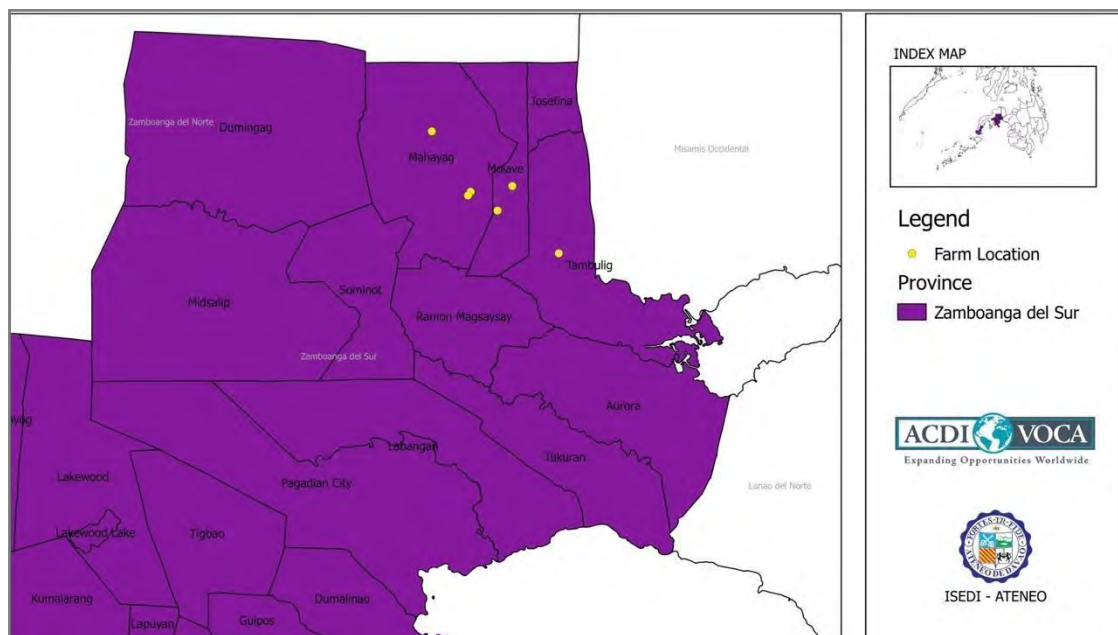


Figure 10: Farm Locations in Zamboanga del Sur

Results and Discussion

A. Information on the Farmers and Farms

1. Information About the Farmers

DISTRIBUTION OF RESPONDENTS BY CROP, AGE, MARITAL STATUS, AND SEX. The MTE interviewed 542 respondents distributed as follows: 25% cacao farmers, 28% coconut farmers, 25% coffee farmers and 22% farmers with mixed crops. In terms of PO, FEDCO has the most number of cacao respondents, representing 24% for cacao group; Sindangan FACOMA had 23% of the coconut group; Imbayao had 31% of the coffee group; and Paglaum MPC represented 14% of the mixed category.

The average age of the respondents is 49.1 years (younger compared to the baseline survey average of 54 years old). The group with the oldest average age are those engaged in cacao-coconut-coffee at 61.7 years, while the youngest group are farmers engaged in coffee at 41.8 years old. Counting other members of the family (parents of the respondents, children and other relatives), the average age of family members is 31 years old. There are more male respondents (57%) than female respondents (43%). Eight in every 10 respondents are married (80%), while 9% are widow/widower. Please refer to Annex 5 for the Statistical Tables (ST) #1, 2 and 3, page 74.

Table 2: Number, Average Age, Average Household Size and Married respondents, by Crop

	Cacao	Coconut	Coffee	Mixed
Respondents, in number	133	151	138	120
Average age, in years	49.6	53.6	41.8	55.8
Average household size, in number	4	4	5	4
Married, in number	111	111	111	111

YEARS IN SCHOOL AND MAIN OCCUPATION. The average number of years in formal schooling is 9 years (which is 2 years more than the baseline average of 7 years) across the different commodity groups. The group with the longest average years in school are the farmers belonging to cacao-coconut group with 10 years, while the lowest are the farmers of coconut-coffee with only 6 years. Farming (78%) is the main occupation of the farmer-respondents. Majority of the farmer-respondents are married (80%), while 9% are widow/widower. Please refer to STs #4 and 5, page 75.

HOUSEHOLD SIZE AND TYPE. The average household size across groups is 4 members (which is smaller than the baseline average of 5 members), equally divided in terms of sex (average of 2 males and 2 females). Nine in every 10 respondents have nuclear⁸ family type (92%). The extended families composed the remainder (8%) with an average of six (6) members (refer to STs #6 and 7, page 75).

DISTRIBUTION IN YEARS IN FARMING AND IN FARMING 3Cs. Among the farmers interviewed, the average years engaged in farming, regardless of crop, is 22.3 years. The group with the longest farming years (all types of crop) are families involved in coconut-coffee (30 years) while the families with the shortest years in farming are those producing coffee (19.6 years). When asked about the number of years engaged in 3Cs, the average years in farming coconut is 11.2 years, while the

⁸Per the Philippine Statistics Authority, a nuclear family is composed of a father and a mother with unmarried children or a parent with children, while the extended family refers to household composed of a nuclear family with relatives like son in-law, daughter in-law, grandson, granddaughter, father, mother and other relatives. See <http://nap.psa.gov.ph/technotes/poverty/concept.asp>.

farmers engaged in coffee and cacao have been involved in producing these crops for only 3.4 and 5.5 years respectively. Thus, the farmer-respondents have long been into coconut production and only recent planters of coffee and cacao. While the latter is true, it must be emphasized that there are several areas in Mindanao where cacao and coffee used to be dominant crops a few decades ago. Diseases and dampening of price in the world market were the two factors that drove farmers to cut/abandon their coffee and cacao. Many local industry experts say that the prominence of cacao and coffee now is considered as the resurgence of the two crops' contribution to employment, income, and agro-forestry efforts, including the strong international demand (ST #8, page 76).

Table 3: Average Years in Farming (all crops) and Growing 3C Crops

	Average years in farming	Average years growing the 3C
Cacao farmers	20.4	2.3
Coconut farmers	26.6	11.2
Coffee farmers	19.6	2.2

Note: Mixed group's average years are shown in annex.

2. Farm Operations

CHANGES IN CROP CULTIVATION, FROM 2015 TO 2016. The introduction of or the availability of improved technologies have encouraged farmers to expand (the number) of existing crops or to add/shift to new crops. Based on the MTE survey, 28% of the respondents have expanded their original cultivated crops; 24% have recently gotten into planting any of the 3Cs; 20% have diversified (for example, originally coconut only but now have added cacao); and 15% have no change in cultivation. The remaining 13% chose not to respond to the question. Seven (7) for every 10 respondents have made changes in their farm configuration in the past two years.

Table 4: Farmers by crop cultivation, during MinPACT

	Number	Percentage
Respondents who expanded original cultivated crops	154	28%
Respondents who newly planted any of 3Cs crops	132	24%
Respondents who diversified their 3Cs	106	20%
No change in cultivation	79	15%
Respondents who chose not to respond	71	13%

Cacao farmers represent the biggest group with expanded 3C crop (31%). Coffee farmers represent the group with the most number of old trees (56%), while coffee farmers represent the group with the most number who have yet to plant seedlings (58%). The detailed distribution per PO is shown as Annex 6.

Cacao farmers is the biggest group who expanded their original crops (19% of total respondents). Coffee farmers is the biggest group with new cultivation (13%). Please refer ST #9, page 76.

The PO in Maragusan narrates their crop history, saying they used to plant cacao decades before but abandoned it due to low local and international market price. They shifted to bananas for export when plantations were set up in the province, but Typhoon Pablo in December 2012 devastated the plantations. The entry of MinPACT soon after provided them an opportunity to return to cacao.

Table 5: Crop Cultivation⁹ by type of crop

	Old trees	Expanded	Newly planted	No plant	Total
Cacao farmers	22%	31%	3%	44%	100%
Coconut farmers	56%	24%	1%	19%	100%
Coffee farmers	20%	10%	13%	58%	100%

AREA PLANTED. There is very minimal change in the area planted among the respondents. Monocrop cacao registers the highest average increase in land area with 0.8 hectares, followed by coconut (both mono-crop and intercrop) at 0.7 hectare while coffee has the least area expansion with only 0.3 hectare. The area expansion is evident in farms practicing mono-cropping rather than in farms where inter-cropping is done (details are in ST #10, page 77).

Table 6: Changes in Area Planted, Before and During MinPACT

	Average Area Planted (Ha) Before MinPACT (2015)	Average Area Planted (Ha) during MinPACT (2016)	Difference (Ha)	% Growth
Cacao	1.6	2.1	0.5	31.2%
Coconut	2.2	3.0	0.7	36.4%
Coffee	0.89	1.18	0.3	32.6%

Note: Mono and intercrop combined.

AVERAGE NUMBER OF TREES PER HECTARE. The average density of cacao plants per hectare is highest among the 3Cs, with 112 before MinPACT to 247 during the project (an increase of 135 trees). Coffee trees count was an average of 170 before MinPACT and this swelled to 200 during the project (an increase of 30 trees). Coconut density per hectare was 136 before project and an increase of 6 trees during the project. The increase in the number of trees can be partly attributed to MinPACT since there are no other external but similar projects supporting these communities. The LGU in Davao Oriental have distributed cacao seedlings but the number vary per community.

Table 7: Average Number of Trees per Hectare, Before and During MinPACT

	Average Number of Trees per Hectare (Ha) Before MinPACT (2015)	Average Number of Trees per Hectare (Ha) during MinPACT (2016)	Difference (Ha)	% Growth
Cacao	112	247	135	121%
Coconut	136	142	6	4%
Coffee	170	200	30	18%

Note: Combination of mono and inter-crop

AVERAGE CACAO PRODUCTION SOLD, PRICE, NET INCOME AND DISPOSAL DISTRIBUTION. On wet beans, the cacao farmers have reported a very slight increase in production, by an average of 1.6 kilos per hectare or a growth rate of 2.3%. Similarly, there is an increase in the volume of fermented beans, from an average of 3 kilos before the project to 6.4 kilos during the project (a difference of 3 kilos or a growth rate of 113%). On the other hand, dried beans increased from 12.8 kilos per hectare to 20.4 kilos per hectare, a difference of 7.6 kilos or 59% growth rate. The production of beans is

⁹Expanded- Farm with old trees planted before MinPACT and newly planted during MinPACT

Old Trees- All trees are planted before MinPACT

Newly Planted- All trees are planted during MinPACT

No Plant- Farm without 3C yet, but planning to plant soon

typically measured by farmers in two forms: wet or dried (and now fermented, which is relatively a recent technology). The decision on what form the cacao should be sold is specified by the buyers, the price, the available of post-harvest facilities/tools, and the farmers' financial needs.

Based on the experience of the farmer-respondents, the prices for wet beans and fermented beans have decreased (national average for dried cacao beans was on the increasing trend though, according to the Philippine Statistics Authority). Wet beans dropped by Php 7.60 per kilo (-14%), from Php 52.8 before project to Php 45.2. Dried bean price also fell by Php 3.6 per kilo (-3.5%). There is no price reference for fermented beans before the project, but today it fetches Php 98.2 per kilo. CIDAMI Chair says that the prevailing local price for cacao is dictated by the world prices, which is also fluctuating.

On average for both mono and intercrop cacao, gross income and net income have improved before and during the project, with 74% and 114% respectively. The cost has dropped by 47.07%.

Table 8: Production, Price and Net Income, Cacao, Before and During MinPACT

Item	Cacao			
	Yield/Harvest, kl per ha		Price, Php/kl	
	Before	During	Before	During
Wet Beans	68.8	70.4	52.8	45.2
Fermented Beans	3.0	6.4	No data	98.5
Dried Beans	12.8	20.4	103.1	99.5
Total (Kgs)	84.6	97.2		
Average Annual:	Before	During	% Change	
Gross Income (Php)/Hectare	7,271.35	12,665.70	74.19	
Annual Cost (Php)/Hectare	4,839.62	2,561.56	(47.07)	
Net Income (Php)/Hectare	5,570.95	11,939.56	114.32	

Note: Combination of mono and inter-crop

AVERAGE COCONUT PRODUCTION SOLD, PRICE, NET INCOME AND DISPOSAL DISTRIBUTION. Coconut farmers in Mindanao typically sell coconut in two forms: as whole nut or as copra. The average production for whole nut dipped by 743 nuts per hectare or equivalent to -45%. The copra production also declined by an average of 134 kilos per hectare or -21%.

Prices, on the other hand, increased. Whole nut price moved by an average of Php 1.75 per piece or a growth rate of 22.1% while copra price jumped by an average of Php 15.02 per kilo or 61%. This is largely precipitated by the low supply. In KII with PCA – XI Regional Office and DRCICI, the main reason for the increase in price is the competition of raw materials among local buyers and processors. The supply of coconut has been affected by the long dry spell, lowering the Mindanao-wide production. PCA-XI says there are more local processors setting-up in the region that are also serving foreign markets. The range of coconut-based export products have reportedly increased. The agency also relays information that Franklin Baker, based in the Davao region, has gone to other regions to procure whole nuts for their processing requirements.

There is a parallel increase in the gross income and net income per hectare. Coconut farmers enjoy an average boost of Php 13,952 more per hectare on gross income (26% growth rate) and Php 12,678 more for net income (27% growth rate).

Table 9: Production, Price and Net Income, Coconut, Before and During MinPACT

Item	Coconut			
	Yield/Harvest, kl/ha		Price, PhP/kl	
	Before	During	Before	During
Whole Nuts (piece)	1,660	917	7.91	9.66
Copra (kilo)	653.36	518.72	24.76	39.78
Average Annual:	Before	During	% Change	
Gross Income (Php)/Hectare	53,687.65	67,639.56	26%	
Cost (Php)/Hectare	6,623.45	6,900.43	4%	
Net Income (Php)/Hectare	46,868.77	59,457.00	27%	

Note: Combination of mono and inter-crop

AVERAGE COFFEE PRODUCTION SOLD, PRICE, NET INCOME AND DISPOSAL DISTRIBUTION. Farmers sell their coffee either as fresh cherries or as green coffee beans. The average production of green beans and fresh cherries have increased with 34 kilos per hectare (22% growth rate) and 4 kilos per hectare (merely 1% growth rate) respectively. The price for green coffee beans is now Php 106.82 per kilo compared to Php 75.27 per kilo before, an increase of Php 31.05 more per kilo (or 41% growth rate) while fresh cherries are Php 86.67 now from Php 65.40 before, up by Php 21.2 (33% growth rate).

Income of coffee farmers have also increased comparing before and during MinPACT, with a difference of Php 5,743 (20% growth) for gross income and Php 5,520 (22% growth) for net income. There is an average reduction of 14% in cost.

Table 10: Production, Price and Net Income, Coffee, Before and During MinPACT

Item	Coffee			
	Yield/Harvest, kl/ha		Price, PhP/Kg	
	Before	During	Before	During
Green Beans	157.43	191.52	75.27	106.82
Cherries	395.46	399.64	65.40	86.67
Total (Kgs)	552.89	591.16		
Average Annual:	Before	During	% Change	
Gross Income (Php)/Hectare	28,434.83	34,178.46	20%	
Cost (Php)/Hectare	3,115.00	2,679.41	-14%	
Net Income (Php)/Hectare	24,590.65	30,110.36	22%	

Note: Combination of mono and inter-crop

PERCEPTION OF POSSIBLE FACTORS THAT WILL AFFECT CHANGES IN INCOME. The farmer-respondents are asked what they perceived are the factors that will affect changes in their income, nearly half of the respondents say it will be the technology adoption (259 or 47.8%) that will have the biggest positive impact on their net income (details on ST #11, page 77).

AVAILABILITY OF AND SATISFACTION ON MINPACT TECHNICIAN/STAFF SERVICES. MinPACT has between 1 to 2 field staff per province, with some technicians having to cover more than one (1) project area because the POs have members across provinces. The ratio of field technician to MinPACT beneficiaries is at least 500, but it is more than this number in some areas. The respondents were asked to recall the number of visits on their farms by MinPACT technician/staff in 2016. Per responses received, MinPACT technician/staff make on average 4 visits a year, with the highest number of visits done for coffee farmer groups and zero visits for coco-coffee group. Cacao, coconut and cacao-coconut groups have an average of 3 farm visits per year, while cacao-coffee have 2 visits

(details on ST #12, page 77). Depending on the terrain and location of farms, a technician can visit 8 farms in a day (KII with field technician).

Moreover, 60% of respondents say the technicians are accessible for consultation, typically done through face-to-face during farm visits or through text or call. Considering the physical limitations, majority of the farmer-respondents are still contented (64%) with the services provided by the field technicians. About half of this (32%) want more interactions with field technicians (details on ST 13 and 14, pages 77 - 78).

D. Survey Results vis-à-vis MinPACT Performance Indicators

1. Individuals Who Attended MinPACT-Organized Trainings

From the 542 farmer-respondents, 98% have attended at least one technology training and 42% have attended at least one farm management-related training.

Table 11: Attendance to Technology and Farm Management Trainings

Crops	N	Technology Training		Farm Management Training	
		Number	Percentage	Number	Percentage
Cacao	133	131	99	54	41
Coconut	151	146	97	47	31
Coffee	138	137	99	65	47
Mixed	120	118	98	58	48
Total	542	532	98	224	41
Average			98		42

On the cascading training on farm technologies, MinPACT has trained people nominated by the POs to become the Master Trainers. They are expected to support MinPACT field technicians and to re-echo the technology trainings to the rest of the PO members and those interested to venture into 3C production. Cascading training is ongoing during the data gathering. However, concerns have been raised on the capacity gaps (i.e. facilitation skills) of some of the appointed Master Trainers. Another is the availability of some Master Trainers to proceed based on training timetable since they must attend to their other responsibilities. These are the Master Trainers who are also PO Chair, PO officer or staff, employee of the local government, or employee of another NGO.

2. Increased Use of Financial Services

SOURCES OF FUNDING FOR FARM OPERATIONS. The farmer-respondents show a modest change in the line-up of their sources of fund for farm operations. Prior to MinPACT, 78% of the respondents have relied on the sales of their farm produce to finance their farm operation while 11% have borrowed. During MinPACT, the number of farmers taking out a loan has increased to 20% (from 61 farmers to 110 farmers). By group, the shift to loans/borrowings comes from farmers who are engaged in cacao (141% increase, from 17 respondents before and to 41 respondents during MinPACT) and from the mixed group (108% increase before project to during MinPACT). The details are on ST #15, page 78.

ACCESS TO FINANCIAL SERVICES. Financial services can support farmers in their pursuit of increased productivity. Only 15% of farmer-respondents have availed of the financial services from POs linked by MinPACT with Land Bank of the Philippines. Among those who were linked, 66% received financial services, and 87% of whom obtained it from their PO. On the other hand, the remaining

13% those who did not receive from their POs obtained loan from other sources such as traders or

From 542 (100%) respondents → 82 (15% of 542) were assisted/linked → only 54 (66% of 82) accessed loan/credit → only 47 (87% of 54) sourced it from their producer organizations.

relatives (details on ST #16, page 78).

The 15% assisted/linked and consequently the 10% equivalent to total respondents who accessed loan/credit are indeed a very small proportion to the 542 respondents. Based on interviews with the key informant of the Land Bank of the Philippines and the MinPACT officer who does the financial linkages, not all POs are qualified as the bank's conduit for loans. These POs are still considered financially weak – i.e. financial systems are not installed and lack of personnel with financial background. There are also reasons such as reluctance of farmers to get a loan because of the strict requirements, misconception of the need for collaterals, or bad loan experience (crop failure, price fluctuations) which had further pushed them to debt.

The producer organizations are the main conduit for financial services for the 47 who received financial services or 87% (details on ST #17, page 74). Overall, the average amount of loan received is Php 47,699 while the average monthly interest is 2.69% per month and the terms of payment is 32.57 months. By commodity, the mixed group has the highest average amount of loan at Php 59,563; coconut has the highest monthly interest at 3.64% monthly, and the most considerate terms of payment is cacao at 56 months. No monocrop coffee farmer-respondents accessed loan/financial services at the time of the MTE data gathering.

Table 12: Average Amount of Loan, Terms of Payment and Monthly Interest

Crop	Amount of Loan (in Php)	Terms of Payment (Months)	Monthly Interest Rate (%)
Cacao	52,396.67	56.17	1.82
Coconut	10,514.29	12.57	3.64
Mixed	59,562.50	23.63	2.88
Average	47,698.68	32.57	2.69

Note: Combination of mono and inter-crop

Seventy percent (70%) of those who have received financial services find the amount sufficient to their needs. The farmer-respondents are hoping that such loan will assist in improving their crop productivity and eventually redound to increase in income (83%). When asked to rate the linkage to financial services, both directly experienced by those with loan and indirectly observed by others, 42% said the linkage is effective. Details are on ST # 18,19 and 20, on page 79).

In the baseline survey, majority of those who borrowed approached their cooperative (76%), paying a monthly interest rate of 2.59% and the average amount borrowed was Php 39,369.

During the stakeholder validation forum, a representative of the Model Network Cooperative which supports the project's capacity building activities says good number of POs are not yet ready to be conduit of financial services. Some systems need to be institutionalized. She says that cooperatives are typically manned/managed by farmers who do not have sufficient business skills. CIDAMI representative suggests the need to hire, for POs with large loan portfolio, a professional manager who can manage the investments of the cooperative.

3. Increased Use of Improved Agricultural Techniques and Technologies

PLANTING MATERIALS USED. Excluding mixed group, 69% of the respondents practicing monocrop say that before the project, they preferred traditional varieties of planting materials. Today, majority of respondents now favor clone varieties (55%). The number of traditional varieties users has decreased while the number of clonal varieties has increased. For details, please refer to ST #21, page 80.

Table 13: Planting Materials Used, Before and During MinPACT (monocrop farmers only), in percentage

	Before the Project	During the Project	Difference
Clone	14	54	40
Traditional variety	69	26	-43
Wildlings	3	-	-2
No response (choose not to respond to question)	14	19	5
Total	100	100	-

SOURCES OF PLANTING MATERIALS. Prior to MinPACT, majority (51%) farmer-respondents took seedlings from their existing plants and while others sourced it from their friends/community (28%). Now, there is an increase in number of farmer-respondents who are getting their planting materials from MinPACT-supported PO nurseries (39% from 2% previously) and from accredited/certified nurseries (25% from 14% previously). Please note that the some MinPACT-supported PO nurseries have already operated a nursery before MinPACT whose operation got upgraded/improved under MinPACT, hence the existence of “2%” (details on ST # 22, page 80).

Table 14: Sources of Planting Materials, Before and During MinPACT (monocrop farmers only), in percentage

	Before the Project	During the Project	Difference
Unaccredited and Uncertified Nurseries	3	0	-2
Unaccredited Nurseries	2	1	-1
Friends/Community	28	8	-20
Own	51	26	-25
Accredited and Certified Nurseries	14	25	11
MinPACT supported PO Nurseries	2	39	37
Total	100	100%	-

Note: For mono-cropping farmers only, whose number has decreased during the project.

At the time of data gathering, 17 of the 24 POs have already benefited from nursery establishment support of MinPACT, but these are in various levels of operation (some already completed first cycle, while few are still putting up the physical structures). The delay experienced by some POs was due to late compliance with the in-kind grant requirements. In general, it is yet early to see concrete evidence of outcomes/sustainability indicators since the nurseries are all in the incipient stages of operation. In general, the POs recognize the importance of nursery establishment so their members can have easy access to quality seedlings. The nurseries can earn additional income for the POs by selling seedlings to non-beneficiaries or the local government units.

TECHNOLOGIES ADOPTED CACAO FARMERS: Among the 249 cacao farmers (mono and inter-crop), only 33% have adopted the recommended technologies. Disease management garners the highest proportion of adoptees at 46% of cacao farmers. This is followed by farm diversification 39% and crop genetics at 38%. Please refer to ST #23, page 80.

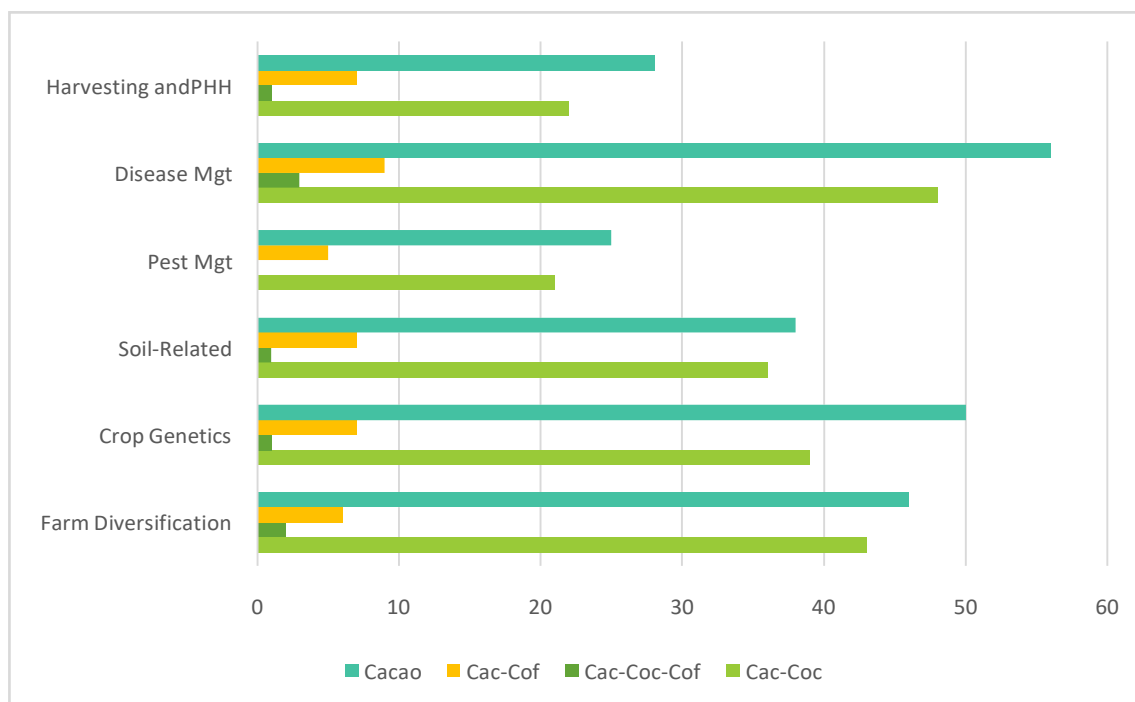


Figure 11: Technologies Adopted, Cacao Farmer-Respondent by type, in number

Looking at the adoption rate by type of trees, farmers who have higher rate of adoption are those who have expanded their farm, representing 59% for that group. The group with least adoption rate are those without cacao plant yet but have attended MinPACT training (16%).

Table 15: Rate of Technology Adoption by Type of Trees¹⁰, Cacao, in percentage

	Expanded	Old Trees	Newly-Planted	No Plant Yet
Farm Diversification	55	34	42	20
Crop Genetics	65	35	54	20
Soil-related Fertility and Conservation	47	27	44	16
Pest Management	70	35	50	21
Disease Management	73	52	54	16
Harvesting and Post-Harvest Handling	45	22	29	4
Average percentage of adoptees	59	34	46	16
Average percentage of non-adoptees	41	66	54	84

Albeit still early to observe concrete changes, the cacao farmers who have already adopted the recommended technologies share the observed and anticipated changes due to technology adoption. Details on STs #24, 25, 26 and 27, pages 80-81.

Table 16: Technologies that have caused or likely to cause changes, Cacao Farmers, in percentage

Result of Adoption	Top 3 Technologies that have started or likely to cause changes, in
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¹⁰ Expanded- Farm with old trees planted before MinPACT and newly planted cacao during MinPACT

Old Trees- All cacao trees are planted before MinPACT

Newly Planted- All cacao trees are planted during MinPACT

No Plant- Farm without cacao yet, but planning to plant soon, attended MinPACT training/s

	percentage
Improved quality	a. Farm diversification (92%) b. Soil-related fertility and conservation (90%) c. Disease management (90%)
Increased productivity	a. Harvesting and post-harvest handling (88%) b. Disease management (84%) c. Soil-related fertility and conservation (81%)
Reduced cost	a. Harvesting and post-harvest handling (79%) b. Disease management (70%) c. Farm diversification (68%)
Enhanced marketability	a. Harvesting and post-harvest handling (85%) b. Disease management (68%) c. Soil-related fertility and conservation (68%)

Note: The percentage is based on the number of adoptees for each technology, and not against the total adoptees.

The reasons for the non-adoption of recommended technologies: they have not yet received the seedlings/have not planted yet or the cacao seedlings are still young/not harvested yet. The average number of non-adoptees across the six (6) groups of technology is 36 (details on ST #28, page 81).

These reasons for non-adoption are confirmed by coconut and cacao farmers. Lack of seedlings, seedlings not yet planted, or plants are still too young are mainly attributed to the delays in the project activities (i.e. training and nursery establishment). In fact, 80% of the respondents attended MinPACT training between the period 2nd to the 4th quarter of 2016. The farmers who have not yet adopted the technologies tied the adoption to receipt of seedlings coming from MinPACT-supported nurseries.

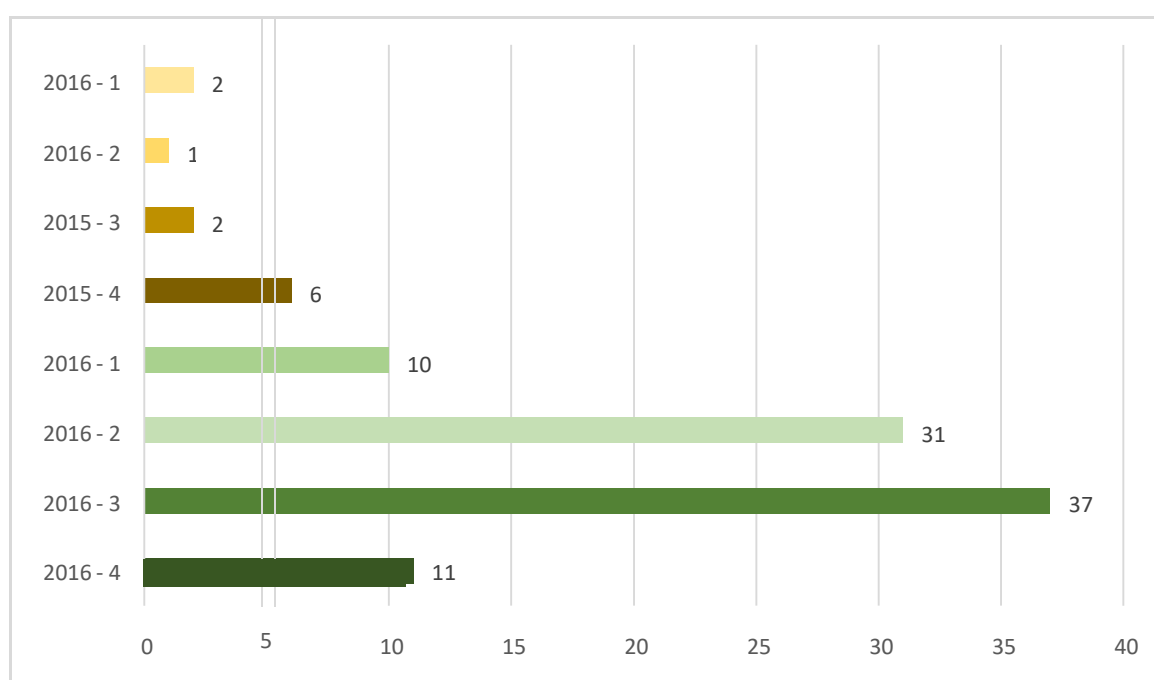


Figure 12: Distribution of MinPACT Training, by participant

TECHNOLOGIES ADOPTED BY COCONUT FARMERS. There are 258 farmers engaged in mono and intercropping of coconut. Based on the MTE results, only an average 9% of the coconut farmer-respondents have started adopting the recommended technologies. Pest management is the

technology with most number of adoptees (11%) while the harvesting and post-harvest handling has the least adoptees (8%). Details on ST #29, page 82).

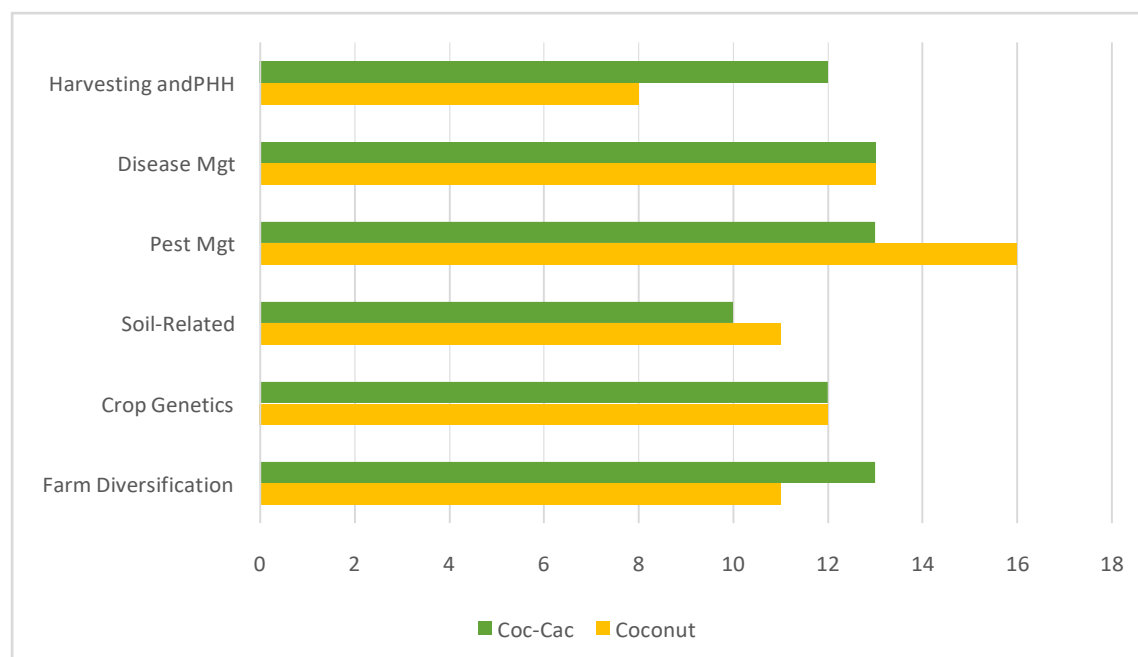


Figure 13: Technologies Adopted, Coconut Farmer-Respondent by type, in number

In terms of technology adoption by classification of trees, coconut farmers with expanded farms (26%) are likely to adopt the recommended technologies.

Table 17: Rate of Technology Adoption by Type of Trees¹¹, Coconut, in percentage

	Expanded	Old Trees	Newly-Planted	No Plant Yet
Farm Diversification	25	3	-	5
Crop Genetics	27	4	-	3
Soil-related Fertility and Conservation	23	3	-	5
Pest Management	32	4	-	-
Disease Management	32	2	-	5
Harvesting and Post-Harvest Handling	20	2	-	-
Average percentage of adoptees	26	3	-	4
Average percentage of non-adoptees	74	97	100	96

Note: Combined mono and inter-crop coconut.

The coconut farmers are asked to pinpoint the specific technologies they believe have already or will likely cause positive changes in their farm activities. Farm diversification and soil-related fertility and conservation are the two technology groups that are anticipated to have caused or like to cause positive changes in their farms (details on STs #30, 31, 32 and 33, pages 82-83).

¹¹ Expanded- Farm with old trees planted before MinPACT and newly planted coconut during MinPACT

Old Trees- All coconut trees are planted before MinPACT

Newly Planted- All coconut trees are planted during MinPACT

No Plant- Farm without coconut yet, but planning to plant soon

Table 18: Technologies that have caused or likely to cause changes, coconut farmers, in percentage

Result of Adoption	Technologies that have started or likely to cause changes, in percentage
Improved quality	a. Soil-related fertility and conservation (93%) b. Farm diversification (86%) c. Pest management (86%)
Increased productivity	a. Farm diversification (94%) b. Soil-related fertility and conservation (93%) c. Pest management (86%)
Reduced cost	a. Farm diversification (88%) b. Soil-related fertility and conservation (83%) c. Crop genetics (81%)
Enhanced marketability	a. Farm diversification (85%) b. Soil-related fertility and conservation (85%) c. Pest management (79%)

Note: The percentage is based on the number of adoptees for each technology, and not against total adoptees.

Like cacao, the primary reasons for non-adoption are lack of seedlings/have not yet planted or the plants are still young (details on ST #34, page 83).

TECHNOLOGIES ADOPTED BY COFFEE FARMERS. There are 161 farmer-respondents engaged in monocrop and intercrop coffee, with only 25% have adopted the recommended technologies. Farmers who are into mono-crop are more inclined to adopt the technologies (details on ST #35, page 83).

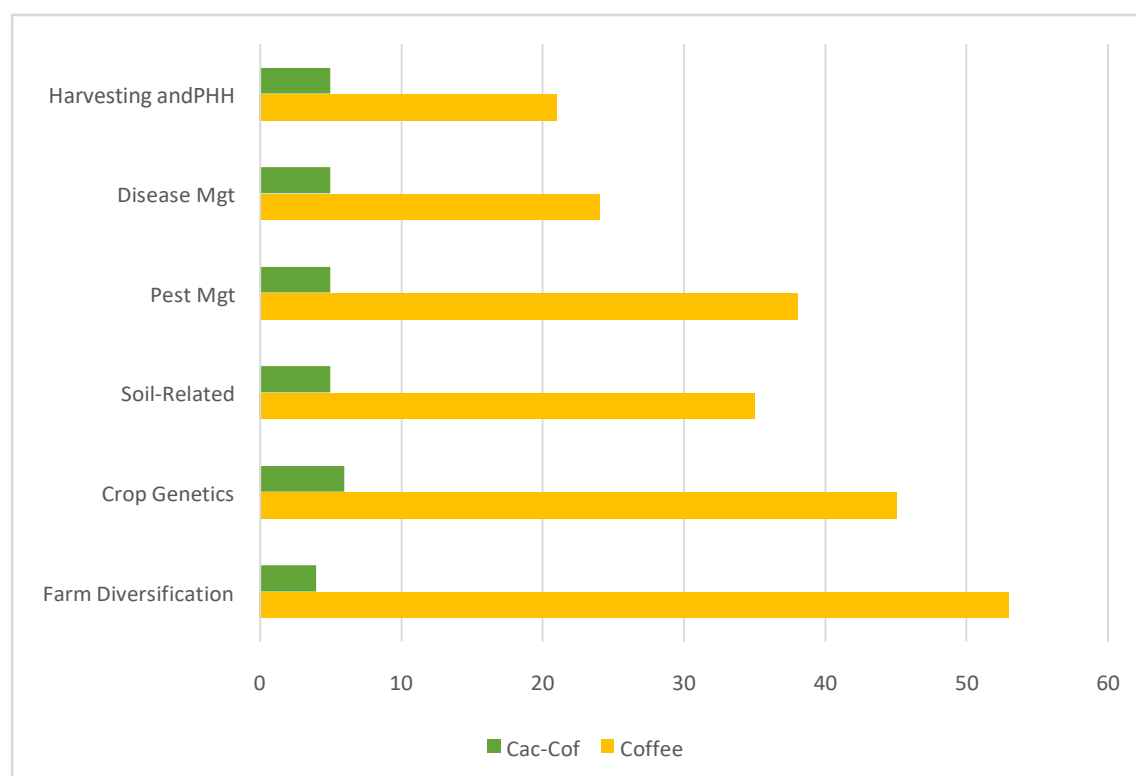


Figure 14: Technologies Adopted, Coffee Farmer-Respondent by type, in number

In terms of the tree classification, farmers who have expanded their coffee trees (planted before MinPACT and have planted recently during the project) have the higher tendency to adopt new/recommended technologies.

Table 19: Rate of Technology Adoption by Type of Trees¹², Coffee, in percentage

	Expanded	Old Trees	Newly-Planted	No Plant
Farm Diversification	71	29	100	34
Crop Genetics	55	32	50	27
Soil-related Fertility and Conservation	30	22	75	24
Pest Management	68	26	-	20
Disease Management	53	40	-	11
Harvesting and Post-Harvest Handling	42	26	-	8
Average percentage of adoptees	53	29	38	21
Average percentage of non-adoptees	47	71	62	79

The farmer-respondents engaged in the production of coffee are consistent in rating rehabilitation as a major contributory factor in improving the quality, increasing productivity, reducing cost and enhancing the marketability of coconuts. For the details, please refer to STs # 36, 37, 38 and 39, pages 84-85.

Table 20: Technologies that have caused or likely to cause changes, coffee farmers, in percentage

	Technologies that have started or likely to cause changes (top 3), in percentage
Improved quality	a. Disease management (91%) b. Harvesting and post-harvest handling (75%) c. Crop genetics (61%)
Increased productivity	a. Disease management (86%) b. Harvesting and post-harvest handling (73%) c. Soil-related fertility and conservation (60%)
Reduced cost	a. Harvesting and post-harvest handling (60%) b. Pest management (51%) c. Crop genetics (51%)
Enhanced marketability	a. Disease management (78%) b. Harvesting and post-harvest handling (69%) c. Crop genetics (57%)

Note: The percentage is based on the number of adoptees for each technology, and not against total adoptees.

Like the two other crops, the main reasons for the non-adoption of the recommended technologies are seedlings have not been received yet or newly planted, or the coffee seedlings are still too young. Two minor reasons are laborious/time-consuming and input-intensive/expensive (STs # 40 a page 85).

FACTORS OF TECHNOLOGY ADOPTION. Regression analysis was employed to examine the factors affecting rate of adoption of the recommended crop technologies. Separate analyses were conducted for the 3Cs. The empirical model applied per crop in this study is:

¹² Expanded- Farm with old trees planted before MinPACT and newly planted coffee during MinPACT

Old Trees- All coffee trees are planted before MinPACT

Newly Planted- All coffee trees are planted during MinPACT

No Plant- Farm without coffee yet, but planning to plant soon

$$\begin{aligned}
Y = & Q_0 + Q_1\textit{Treeb} + Q_2\textit{Treed} + Q_3\textit{Areab} + Q_4\textit{Treed} + Q_5\textit{Age} + Q_6\textit{Gender} \\
& + Q_7\textit{CivilStat} + Q_8\textit{Ownersh} + Q_9\textit{Educ} + Q_{10}\textit{Occupa} + Q_{11}\textit{OtherOccu} \\
& + Q_{12}\textit{Membership} + Q_{13}\textit{DPlant} + Q_{14}\textit{DPlant2} + Q_{15}\textit{DPlant3} \\
& + Q_{16}\textit{Financial} + Q_{17}\textit{YearsFarm} + Q_{18}\textit{YearsCrop} \\
& + Q_{19}\textit{FarmManTrain} + Q_{20}\textit{HHSIZE} + Q_{21}\textit{HHFemale} + s
\end{aligned}$$

The table below summarizes the factors affecting the rate of adoption among 3Cs farmers. Cacao technologies are greatly influenced by land ownership. In this case, ownership of farm increases the percentage of adopted technologies by 34% from 28% of those who do not own their cultivated farm. Secondly, a year increase in the number of years of formal schooling increases the percentage of technology adopted by 1.37%. The per unit increase of existing cacao tree increases the technology adopted by 0.021%, and a year increase in year of cacao farming increases the percentage of technology adopted by 0.86%, ceteris paribus.

The coconut technologies are largely influenced by access to financial services, where those with access to financial services has a percentage increase of 25.39% of adopted technologies. Moreover, a per hectare expansion of area planted to coconut during the project increases the percentages of adopted technologies by 0.23%.

Coffee technologies on the other hand are affected number of trees, number of years of formal schooling and household size. Estimated coefficients reveal that per tree increase of existing coffee tree prior to MinPACT decreases the percentage of technologies adopted by 0.03%. However, an expansion (per tree of newly planted) increases the technologies adopted by 0.02%. A year increase in educational level (in years) and an increase in the number of household members increase the percentage of technologies adopted by 2.11% and 4.18% respectively.

Table 21: Regression Analysis on the Factors of Adoption

	Significant at 1% Level of alpha	Significant at 5% Level of alpha	Significant at 10% Level of alpha
Cacao technologies	Land ownership	- Farm with old trees - Attendance to farm management training	- Number of trees of crop before MinPACT - Number of years of formal schooling - Farm contains new planted crop - Number of years cultivating the crop
Coconut technologies	Access to financial services	Number of hectares planted for crop during MinPact	
Coffee technologies		- Number of trees of crop before MinPACT - Number of years of formal schooling - Total number of household members	Number of trees of crop during MinPACT

Please refer to Annex 4 for the details of the regression analysis, including the result table per commodity/crop.

ADDITIONAL TRAINING NEEDS AND MODALITIES FOR KNOWLEDGE TRANSFER. Farmer-respondents express their desire to learn more (76%), with the coffee group (81% against other groups) showing the highest percentage wanting to acquire more knowledge. In terms of topic, majority of these farmer-respondents want additional production-related trainings (62%), followed by the topic post-harvest practices and marketing (12%).

Training is the best modality for transferring knowledge/technology (92%) as rated majority of the farmer-respondents. Training activities happen in their community, which do not require them to be away from their farms or houses for too long, has good mix of inputs and application; spread across days for the knowledge be given in chunks, and provides them reference materials which they refer to occasionally. For those who do not consider training as the best modality, they select “demo farms” as a better alternative (83%). Details on ST # 41, 42, 43 and 44, pages 85-86.

OTHER NON-TRAINING ACTIVITIES. There are 20% of the total respondents who say that they have participated in activities other than technical and farm-management trainings. These non-training activities are farm exposure (46%), referring to visiting farmers with good practices; and demonstration farms (43%), referring farms supported by MinPACT which showcase the recommended technologies. The remaining 11% refer to buyer referrals, IEC materials, field school, market information, forum/conferences, and competition/linkages (details on ST #45 and 46, page 86). Nursery establishment is not part of the non-training services, since this section only points to “learning/acquiring recommended technologies”. Nurseries are interventions aimed at improving access to quality inputs. The MTE recognizes that these are operated and will be sustained by beneficiaries, becoming a communal resource of the PO/community.

When asked on the perceived benefits of participating in non-training activities¹³, the respondents say these activities support increasing their farm productivity and income (72%). Other reasons include reduction in post-harvest losses (16%), increase in market value/price of products (9%), and increase competitiveness in market (9%). Details on ST #47, page 86.

When asked to rate these non-training activities, majority declare that MinPACT interventions match their needs (98%) and these interventions are believed sufficient to create changes in their farms (95%). Nearly all (93%) also think that these services are effective. Please refer to ST 48, page 87.

ADDITIONAL SUPPORT. Given that MinPACT has already provided training and funneled in-kind grants through the POs, farmers still clamor for more support (43%). Farmers are seeking in the form of access to fertilizer (59%). They also ask for an increase the amount of credit (36%), even if there are only a small number of the farmer-beneficiaries who reported to have accessed financial services.

¹³ Farmers can have more than one response.

Table 22: Number of Respondents Requiring Additional Support from MinPACT (multiple answers)

	Cacao	Coconut	Coffee	Mixed	Total	% to Total
Increase amount of credit	30	43	79	42	194	36
Postharvest facilities support	60	54	89	54	257	47
Access to fertilizer	58	67	119	74	318	59
Others	51	62	7	36	156	29
Total	199	226	294	206		
Average					231	43

Note: "Others" refer to seedlings (31%), training (19%), credit (9%), and other reasons (7%).

4. Farm Management Related-Practices

ADOPTION OF FARM MANAGEMENT-RELATED PRACTICES. Farming is not all physical work in the field, as farmers make several decisions in a day to maximize their resources. MinPACT shares management related practices to make farm activities more cost-efficient and meaningful. The MTE finds that 41% of the total farmer-respondents have availed of training related to farm management (details on ST #49, page 87).

Nearly all (92%) who trained on farm management say that they now compute much they spend and earn from their farm activities. This is supported by the farm records they keep (81%), particularly receipts and expenses, inventory of input supply and harvest, and other financial/production documents. With these farm management practices, the farmers are guided what decisions to make (details on ST # 50, page83).

Gender equity/equality/mainstreaming is also integrated in MinPACT's knowledge and practice-sharing with the farmers. Twenty-seven percent (27%) have attended these sessions, and among those who attended, 90% have already integrated gender in work division.

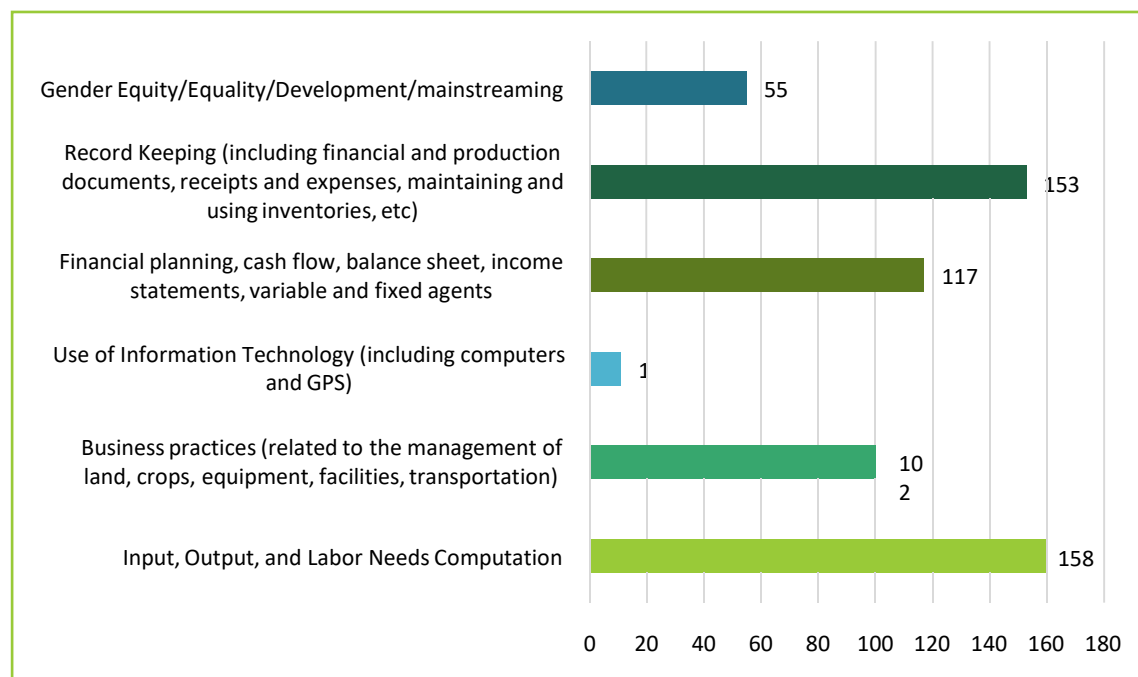


Figure 15: Farmers who adopted farm management practices, in numbers (n=224, farmers can provide multiple answers)

REASONS FOR ADOPTION AND NON-ADOPTION¹⁴ OF FARM MANAGEMENT PRACTICES. The farmer-respondents have been encouraged to adopt the management practices because these are easy to follow (40%), helpful in decision-making (31%), and enhances efficiency in farm operations (22%). These practices help the farmers improve their farm efficiency and optimize their resources. Nine in every 10 farmer-respondents find these topics/practices effective or necessary (92%).

On the other hand, those who are reluctant to adopt the recommended practices say these are time-consuming (3%) and they lack the equipment/tools needed to apply the practice (i.e. use of information technology, at 4%). These farmers will need additional time or explanation to fully appreciate the benefits of recommended management practices. Details on ST #51, 52 and 53, pages 87-88.

FARM PLANNING AS A PRACTICE. Prior to MinPACT, only 29% farmer-respondents have farm plans and this increased to 54% during MinPACT. The biggest jump in farm planning practice are farmers engaged in cacao-coffee and coffee, from 31% to 69% (details on ST #54, page 89). It helps that one of the requirements for seedlings distribution is the farm plan of the beneficiary.

CROP INSURANCE. Crop insurance provides farmers protection for their crops against losses caused by plant diseases, infestations and natural calamities. At present, only 7.6% of farmer-respondents have insured their farms (details on ST #55, page 89).

5. Increased Adoption of Established Standards by Industry

CERTIFICATION OF FARMS. Thirty-three (33) farmer-respondents say that their farms are already certified, representing only 6% of the total respondents. These are distributed as follows: 13 for GAP and 20 for others (Organic and FairTrade). Among the POs supported by MinPACT, four have FairTrade certification: KSCFMPC, Nagmasid, BCS-MPC and LAMPCO. During the Validation Forum after the data gathering, a representative of a coconut-based PO in Davao del Sur shares their experience of having to secure Fair Trade certification with the help of Franklin Baker, a major producer and exporter of coconut-based products. The PO narrates being paid premium price for their coconuts, where part of the proceeds went to physical improvement of their office.

Farm certification is a quality indicator. This is an information shared by MinPACT to farmer beneficiaries. Government organizations like DA and DTI, as well as value chain actors like Nestle Philippines, Coffee for Peace and Catholic Relief Services share information on the importance of complying with quality standards. However, getting one's farm to be certified require resources and processes that are compliant with the certifying body. In addition, certification is also worth the investment if there are assured buyers willing to pay for the premium price or a private sector willing to support the farm's certification (like Nestle for coffee, Franklin Baker for coconut and Chokolade de San Isidro for cacao). For farmers with very limited production and limited financial resources, getting a certification without assured buyers will be a risk.

Some farmer-respondents believe that certification has benefits: 19% say it improves the marketability of their product, 14% say it allows producers to sell his/her product at premium, and 9% say it allows them to penetrate target markets. Among the commodity groups, more coffee farmers are knowledgeable of the benefits (20%). The certifications are Details on ST #56, page 89.

¹⁴ Farmer-respondents can have more than one response.

AWARENESS ON RESPECTIVE PRODUCT QUALITY STANDARDS¹⁵. The Bureau of Agriculture and Fisheries Product Standards (BAFPS) is responsible for developing the Philippine National Standards for different agricultural crops. The survey shows that only 30% were aware of this crops standards prior to MinPACT, but this number has increased to 70% during the project years. The increase of farmers is attributed to the exposure activities coordinated and information materials produced by MinPACT (details on ST #57, page 89).

6. Women and Youth Participation in MinPACT

WOMEN PARTICIPATION IN MINPACT. Majority (72%) of the respondents are aware of women-friendly practices being promoted by MinPACT, the highest proportion of these respondents are engaged in coffee production (86%) and the lowest proportion are those engaged in coconut-coffee production (50%). The respondents have observed this practice as “inclusion of women in technical and leadership skills training” (667%). Second on the list is equal access to input supply (9%) and the third is representation in decision-making bodies (8%). Details on ST #58 and 59, page 90.

On average, there is nearly one (0.93) woman in every family who is involved in MinPACT project (details on ST #60, page 91). In addition, more than half of the respondents perceive that women have equal chance to participate in MinPACT project (61%).

MinPACT M&E Manager has informed the evaluation team on the high participation rate of women in technical trainings. The survey verifies how these trained women transfer knowledge obtained from technical trainings to their husband, father or son. More than half of the farmer-respondents say women share the training materials (57%), while others say women physically demonstrate (41%) such knowledge/skills in the farm to their husband, father or son. Details on ST #61, page 91.

The respondents also say that there is no perceptible change on the number of women holding leadership positions in any MinPACT supported groups (12%). On the other hand, there is a bit higher number of women in leadership positions in other non-MinPACT groups ((from 9 to 11%) in their own communities. Details on ST #62 and 63, pages 91-92.

Table 23: Women Holding Leadership Position, Before and During MinPACT, number and percentage

	Before MinPACT		During MinPACT	
	Number	%	Number	%
Women Holding Leadership Position in MinPACT supported POs	63	12	64	12
Women Holding Leadership Position in any POs (in their community)	50	9	58	11

Participation also means women being able to contribute their voice in deciding local activities as well as in managing their family farm. Even prior to the project, women have been participating in community-development activities with the frequency of “a few times in a year” (48%).

Under MinPACT, they are asked if there are relative changes in women participation in community activities. Nearly one fourth (24%) have noticed an improvement, translating to more women now

¹⁵The aim of the product quality standards is to “provide common understanding on the scope, definition, quality requirements, grading, sampling, marking and labelling, storage, fumigation, and contaminants... to reduce hazards associated with all stages of production to processing” (BAFS, 2016).

are increasing their participation in different activities. Still, there is 61% who say nothing has changed on women's participation in their community. Details on ST #64, page 92.

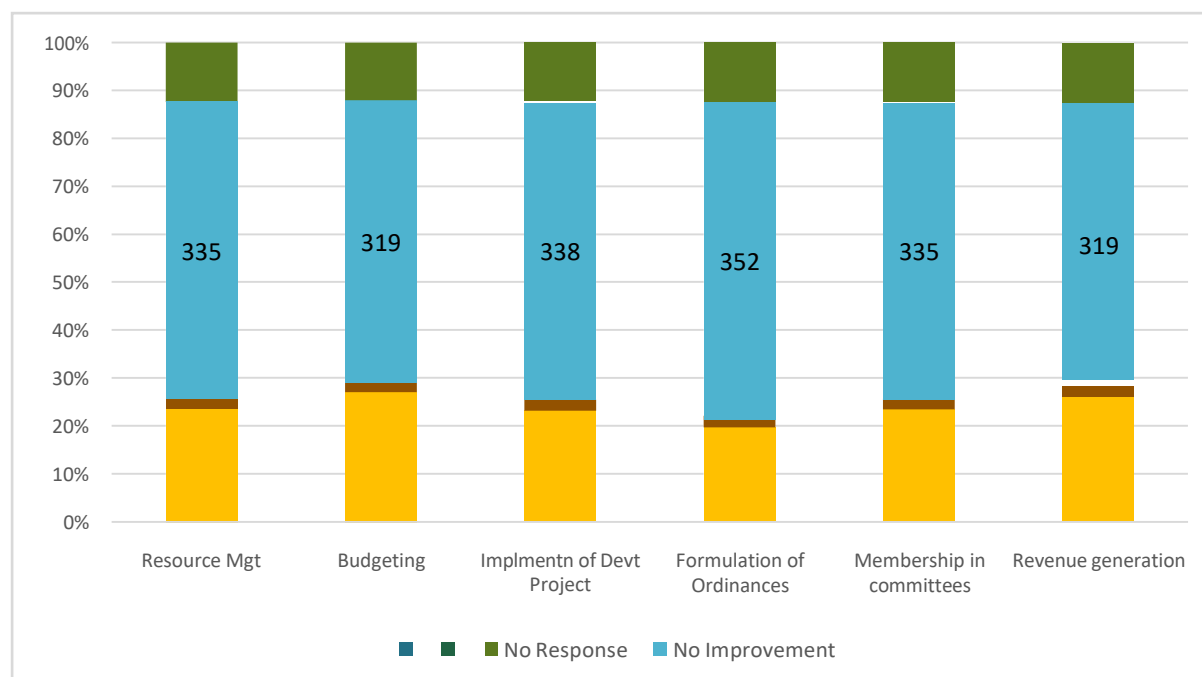


Figure 16: Change in Women Participation in local development activities during MinPACT, in number

On farm activities, women are also involved in several activities and the frequency is still dominantly “a few times” (50%). During the project, 23% of respondents say that there is improvement in women's participation across different farm activities. Again, majority of respondents have said nothing has changed yet (63%) in women's frequency of involvement on farm-activities.

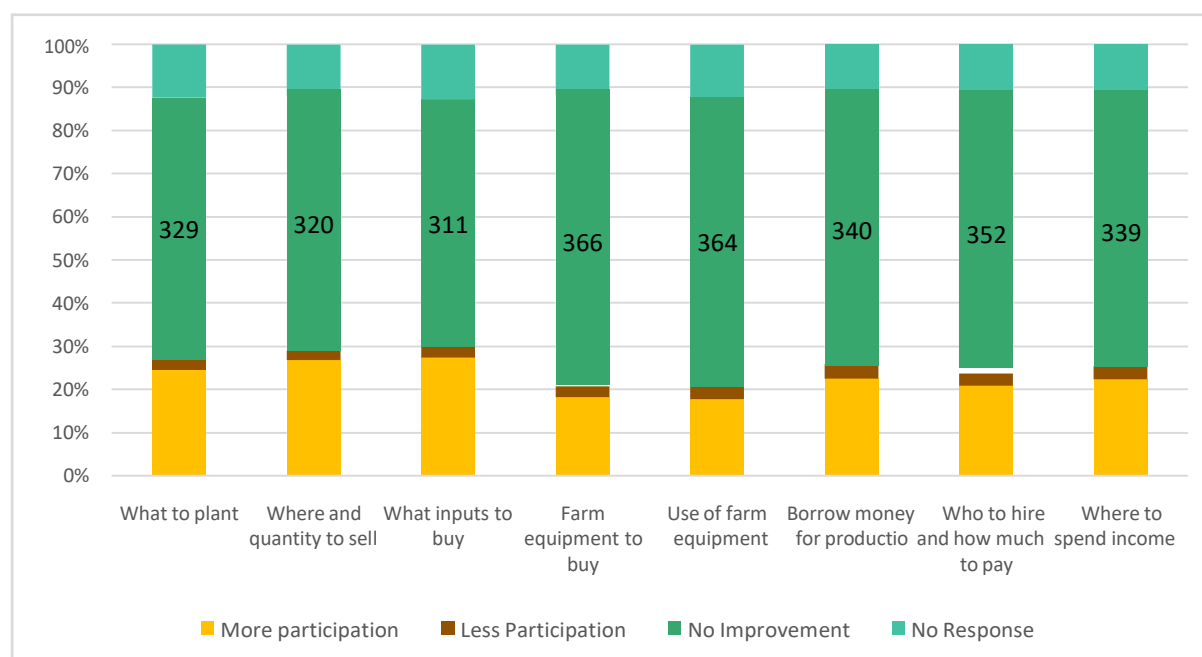


Figure 17: Change in Women Participation in Farm Activities during MinPACT, in number

YOUTH PARTICIPATION IN MINPACT. The youth have low participation in local development activities, marked by “only a few times a year” (43%) or never at all (37%). During MinPACT, majority (62%) of the respondents say nothing have changed in the frequency of participation.

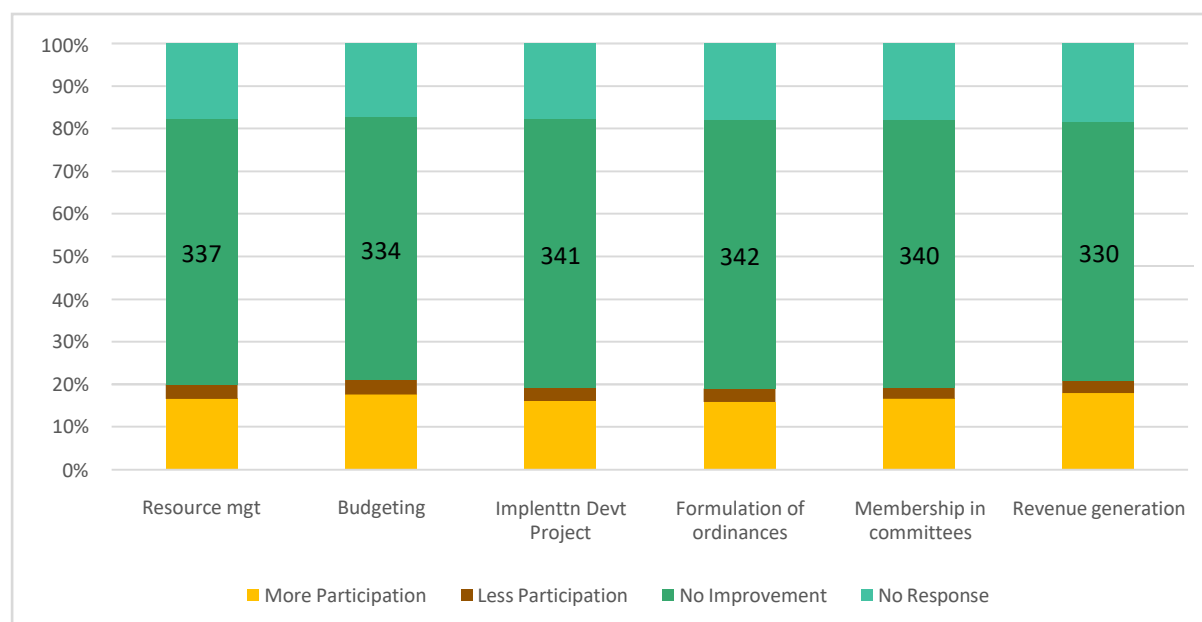


Figure 18: Change in Youth Participation in Local Development Processes during MinPACT, in number

The youth are also expected to assist in farm activities, during week-end or school breaks. Most of the respondents (43%) said that children were expected to assist in farm activities, likely a few times such as during week-ends or school breaks. During MinPACT, 16% of respondents have noted that there is an improvement on the frequency of youth participation in farm activities.

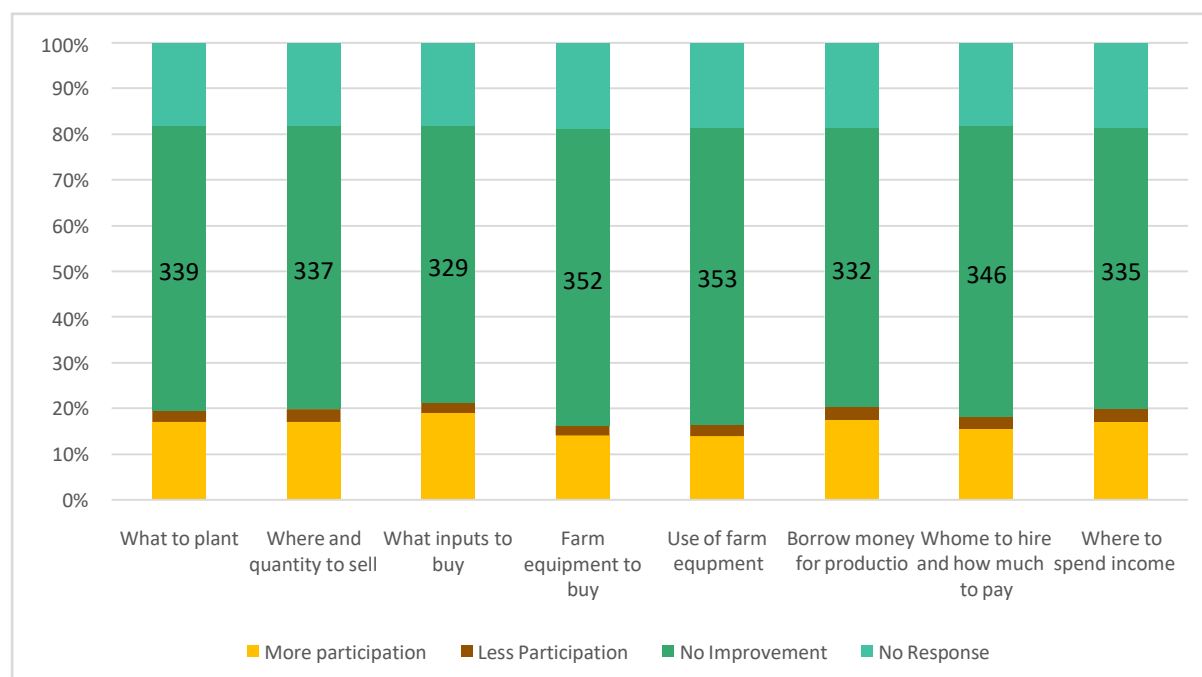


Figure 19: Change in Youth Participation in Farm Activities during MinPACT

In term of number, there is at least one (1) youth member who participate in MinPACT¹⁶ for every family of four (4). More than half (57%) of the respondents perceive that MinPACT promotes youth friendly practices, and nearly half (41%) say that the youth have equal access to MinPACT support.

Like women, the youth participate in local development activities and farm activities only a few times in a year. There are no major changes in youth participation, comparing the before and during MinPACT periods. Details on ST # 65 and 66, pages 92-93.

DECISION-MAKING ON DOMESTIC MATTERS. In the eight (8) FGDs with the farm families, the respondents were asked on how they make the final decision on typical issues affecting the households. After sharing their own family experiences and by consensus, what emerged is a picture of both household head and the spouse making most of the decisions jointly on domestic, farm and social matters. This practice of giving equal weight on the opinion of the head and spouse are reflections of fairness, unity, understanding and trust within the family, resulting to harmonious family environment. FGD participants also convey that nothing has changed in the way major decisions are made in the family. In the FGD, the participants discussed decision-making as the main responsibilities of the couples, because majority of the youth in their families are still in school.

Table 24: Consensus on Decision-Makers in the Household, Based on FGD (n=8)

	Both	Father	Mother
Budgeting household income and expenses	8	0	0
Educating and rearing children	8	0	0
Marrying off children	8	0	0
Attending important social functions	2	0	6
Constructing or renovating the house	6	2	0
Deciding on the types of crop and fertilizers to use	1	6	1
Owning or selling the land or livestock	3	5	0
Purchasing major farm equipment	6	2	0
Adopting farm technologies	1	6	1
Accessing credit and other financial services	7	1	0
Selling of agricultural output (where and how much)	3	2	4
Negotiating with buyers	5	2	1
Managing sales and income	7	0	1
Participating in community organizations	2	0	6
Holding leadership position in organizations	5	0	3
Participating in community events like barangay meetings and other civic activities	2	0	6

DECISION-MAKING ON FARM PRODUCTION AND MARKETING. In the FGDs where distribution of work was discussed, it was revealed that the men in the family undertake the heavy physical work, such as holing, planting, fertilization, plowing, and pasture of livestock. The women are responsible for the weeding, planting, fertilization, harvesting, selling, seed preparation, and drying. They also cook and bring the food for their husbands while deep in farm work. The youth, during their free time (after school, week-end or during summer break) help in weeding, collecting grass for the farm animals, feed the animals and fetch water. In terms of hours, men work between 6 to 8 hours a day, with

¹⁶In the baseline survey, only 8% of the 781 respondents said that youth in their family were involved in farming or providing off-farm labor.

break on Sunday, while women work between 2 to 6 hours per day in farm. The youth or children take part in the farm work, ranging between 1 to 2 hours per day.

Still coming from the FGDs, the men are generally satisfied having to learn or update themselves on matters related to crop production. They have also gained confidence because of the awareness on technology and the market potentials, which have helped them arrive at better decisions related to their farms. The men talk about “less burden” on their part because their wives can replace them when they get sick or must attend to urgent concerns. The women also discuss how their husbands are liking the women’s new role “as more-knowledgeable alternate/assistant” in farming activities. Women FGD participants in Davao del Sur say their husbands are sometimes hard-headed in sticking to old practices; fortunately, the wives have also been trained and thus they can point out important facets of the recommended technologies. Most women feel empowered and confident when they do these.

The FGD also finds out that daily wage rate between men and women working in farms are the same (but women are paid lower if they spend shorter time in farm). In Misamis Occidental and Bukidnon though, the rates are different, men are paid PHP 250 per day while women only PHP 150 per day. At home, food allocation is same for the men and women of the family.

PERCEPTION THAT YOUTH IN FAMILY ARE MOTIVATED TO CONTINUE FARMING. More than a third of the farmer-respondents say that there is likelihood a youth in their family will continue farming (38%) because of their exposure to MinPACT activities. The highest motivation is exhibited by farmers engaged in cacao-coffee (62%) and coffee (59%). Details on ST #67, page 93.

There are 332 farmer-respondent (61%) who gave a “No” answer. Their reasons include: children are still in school and have not made conveyed yet any motivation (28%), children not interested in farming as a livelihood (20%), there is no more youth in the family (18%), the children are still too young (14%), and children are now old and are currently working on other types of livelihood engaged in non-farm work (20%).

POSSIBLE INDICATIONS OF SUSTAINABILITY AND LOOKING FORWARD. Like other development projects, MinPACT also aims to prolong the benefits of its interventions well beyond the project’s end. One way of ensuring this is how the beneficiaries will perpetuate the recommended technologies. The survey finds out that the farmer-beneficiaries share what they learned to follow 3C producers (59%) as well as to other farmers engaged in other crops (63%).

Among the groups, cacao-coffee farmers exhibit the highest proportion of farmer-respondents who share their MinPACT-gained knowledge/technologies with other farmers (at 85%). Details on STs #68 and 69, page 94.

On POs with nurseries already established, particularly those in Bukidnon say they will continue producing seedlings for their members. One PO with nursery in Davao Oriental says their nursery operation has been delayed due to unfavorable weather condition. Four POs in Davao del Sur (2), Davao del Norte (1) and Misamis Occidental (1) are still in the initial stages of their nursery operation.

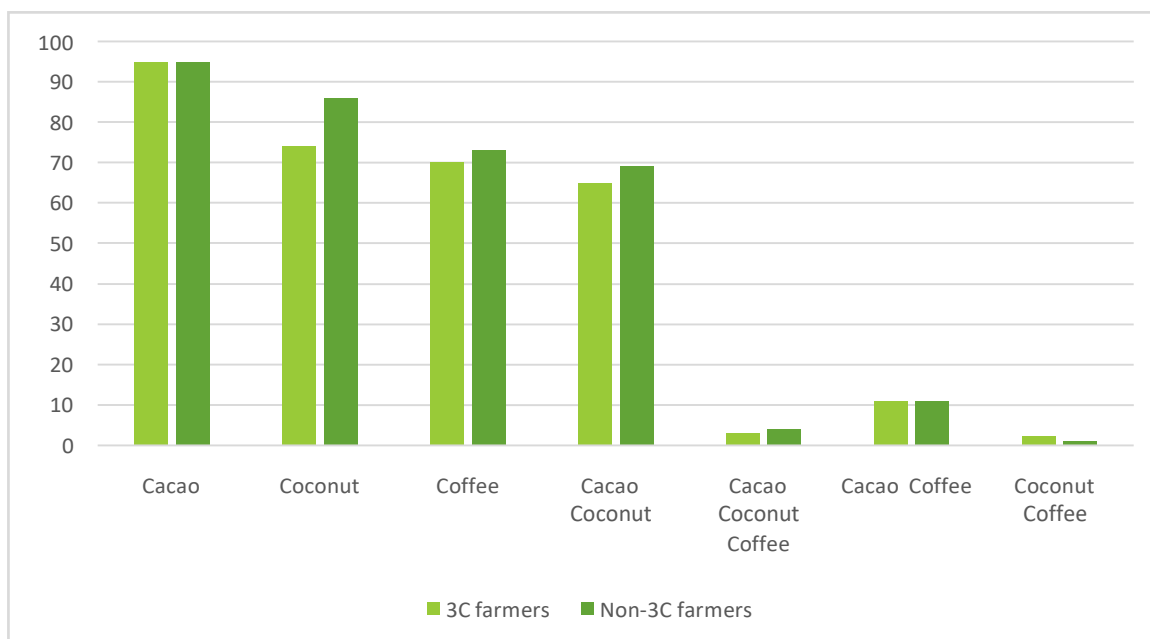


Figure 20: Farmer-respondents sharing MinPACT-gained knowledge and technologies with other farmers (not MinPACT beneficiaries)

Based on their mid-project experience, eight in every 10 farmer-respondents are anticipating that things will improve in their farm, enabling them to have better yield and income. They rest this optimism on the information and the opportunities possible because of MinPACT participation, based on their observation as well as the experiences of others who are already enjoying better market linkages.

Very few of farmer-respondents are aware of the timeline or termination of the project (17%), the highest proportion is exhibited by farmers engaged in coffee (20%). Further, 81% of farmer-beneficiaries are hoping that small changes (gaining new knowledge and expanding their market beyond traditional traders in their area), effected by MinPACT will continue, such as the technical training and market linkages via industry organizations, local government and national agencies; seedlings, technical advice and financial services through their POs.

A small portion (17%) of farmer-respondents admit they have been supported by other projects, both completed and ongoing, such as those funded by the government (i.e. DAR, DSWD and DA) and the private sector (i.e. Nestle Philippines). The projects vary from provision of agricultural inputs, livelihood activities, water supply, training for out-of-school youths, conditional cash transfer, and financial assistance. Details on ST # 70, 71, 72 and 73, pages 95-96.

7. Implications of the MTE Farming Family Survey Results

The MTE Farming family survey results suggest the following:

- Five (5) years younger as a median age.** The MTE respondents are five (5) years younger than the baseline survey respondents, 49 years old compared to baseline's 54 years old, with 95% confidence. The difference in means between the baseline and midterm results lies between -30 to 20 (within the margin of error). This difference offers the MTE respondents half a decade more to enjoy the fruits of their labor.

- **Same representation in terms of sex distribution.** The gender ratio is nearly the same between the MTE and the baseline respondents. There is only a slight increase of 1% (from 42% female respondents in baseline to 43% in MTE respondents).
- **Nine (9) years average of formal schooling.** MTE respondents have attended an average of nine (9) years of formal education, which places them at secondary level. This is two years more than the average of baseline respondents with only seven (7) years of formal education. The difference in means between the two periods lies within the 95% confidence interval.
- **Coffee farmers have the lowest years of formal education.** Coffee farmers into mono-cropping have the lowest number of years in formal schooling and this is also reflected by farmers planting coconut-coffee. Arabica coffee is typically planted in high altitude areas, where school facilities are hard to come by because of the terrain, distance, and low population count. At best, only primary or elementary educational facilities are established in these areas.
- **Nuclear families have fewer hands available working in the farms.** MTE respondents are overwhelmingly nuclear families having an average of two children (school age). The respondent or household heads only have their spouses to support them in their farm work, without having to directly pay for additional labor. Allowing couples to attend training ensures that women have the same access to recommended technologies.
- **Respondents have long been planters of coconut, but recent for cacao and coffee.** It should be mentioned that there were many areas in Davao Region where cacao and coffee used to be dominant crops. Plant diseases (i.e. pod borer), dampening of price in the world market and cacao corporate farms subjected to land reforms were the three (3) factors that drove farmers to cut/abandon their cacao in between 1980-1990s. Coffee export from Davao Region was also high in the 1990s, but when the coffee export quota system ended, it also plunged the price of coffee in the world market, severely affecting local farmers back then. The renewed support on cacao and coffee by the government and MinPACT are giving the farmers reason to engage in these two crops again.
- **Farm diversification catches the interest of the farmers.** Majority of the farmers (7 in every 10) have been receptive to changing their farm configuration by adding, shifting or intercropping the 3Cs, even if their farm areas have not increased at all. The messaging on the benefits of farm diversification is good, as the move maximizes the existing support and may likely augment income in the future.
- **Respondents look forward to value-adding activities (i.e. primary processing) to earn more.** More farmers are gradually selling fermented cacao beans and green coffee beans due to higher price offered compared to fresh/unprocessed form. Naturally, this requires additional investment in labor, post-harvest facilities and time from the farmers. They must also be more conscious on the post-harvest processes that will allow them to achieve and maintain quality of their products. Thus, advancing MinPACT's support along the value chain will be appreciated, such as the provision of post-harvest tools/equipment.
- **Net income of cacao, coconut and cacao farmers have increased.** A great part of the increase are reflection of the general supply and demand, particularly for coconut. However, there is a strong demand for cacao, as there are anecdotes from respondents that buyers now procure at farm gate. In such cases, the buyers are the ones going to the farm or nearby consolidation centers to pick the 3Cs. Some farmers prefer/settle to selling their

products in fresh form because these afford them immediate return for their efforts or they do not have to spend for the transport from farm to traders/market. The MTE has focused on collecting the overall cost and income from the 3Cs crop, and not on a per cost item. Therefore, the movement in income can only come from the cost and volume of fertilizers and seedlings, labor cost, yield, and post-harvest activities.

- **Awareness on how to attain increased income is half the battle won.** The MTE shows that the farmers are well-aware that increased in net income can be attained because of the quality seedlings, access to financial services, enhanced farm management knowledge and skills, and adoption of the recommended techniques. The crucial part is to follow or apply this knowledge, requiring discipline, some investments, linkages, among others.
- **POs are slowly improving their services to members.** Respondents say that their respective organizations are slowly showing some improvement in providing services to members. This is due to the nursery establishment, availability of master trainers, exposure to more markets, and access to financial services. This is understandable given that MinPACT is still actively supporting the POs, either directly through the field technicians and specialists or through the training service providers. To optimize these nascent gains, the POs need to have to clear plan on what to do once MinPACT is over.
- **Farm operation is still primarily financed through income from the previous cropping cycle, but the number of farmers borrowing for production is on the rise, comparing the before MinPACT (11%) and during MinPACT (20%).** Lack of access to financial services is one of the long-standing complaint of farmers. There is sufficient number of financing windows, both offered by the government financing institutions and other non-government organizations. What apparently prevent farmers from accessing available credit are their reluctance to comply with the requirements (and rigor of maintaining financial records) and bad experience of their own cooperative mishandling the funds or a suffering crop/market failure that drove them deeper in debt.
- **Quality starts from planting materials and sources.** MinPACT delivered this message quite well to the respondents, with 55% of the respondents now planting clones and 51% now sourcing materials from accredited/certified nurseries and MinPACT-supported nurseries. This message needs to be amplified further by lobbying with the local government units to either have their nurseries accredited or source seedlings for dispersal from accredited sources.
- **Farm certification is recognized to benefit farmers but this requires investment.** Farmers know the benefits of certification. Certification also requires continuous investment and compliance. Farmers or their cooperatives need to have prior agreement or contract with buyers willing to bankroll the cost of the certification or pay the product's premium price.
- **Technologies that are adopted at this stage are the typically done at the initial stage of planting, relatively easy to follow, and do not cost a lot.** The more important concern for MinPACT is to pay close attention on how farmers will follow the other recommended technologies as the crops grow.
- **Primary reason for delayed adoption of technologies is the delay in seedling distribution.** Farmers with old 3C trees must be encouraged to apply the recommended technologies on their existing plants. There is no need to wait for the seedlings to be distributed. They can also apply these technologies on existing non-3C crops in their farms.

- **Factors of adoption differ per type of farmer.** Based on regression analysis done, factors differ per type of farmer (crop-differentiated). However, this information will help in formulating or strengthening behavior change intervention in the future.
- **Farmers are asking for more trainings and believe training is still the best modality for transferring technology/knowledge.** MinPACT has been training-centric in the first half of the project and still, the respondents seem to be clamoring for more similar activities. There are several anecdotes where the farmers favor the typical MinPACT training as “20% inputs and 80% actual demonstration/field application”. Training using this mix is still the most efficient way to disperse knowledge.
- **The proportion of farmers who have availed financial services is still small and more are likely to be needing this support.** MinPACT understands that not all POs are financially-mature to lend out capital to their members: they do not have sufficient credit management experience and they do not have the appropriate personnel. Since farmers require capital typically for seedlings, fertilizers, labor or rental of equipment, it will help if their POs can provide these material support instead of cash/loan.
- **Inclusion of women in technical and leadership training is one of the strengths of the project.** The knowledge, skills and technology imparted by the project to women create ways for women to contribute effectively in improving their farms, strengthening their cooperatives and helping their families. It gives them confidence and voice. However, the frequency of participation is still found wanting since majority of them are only able to participate “a few times” in community development processes and farm activities.
- **Succession in the farming family.** Smallholder farming is one of the country’s least-paying yet backbreaking job. Naturally, some parents wish a different career for their children. The MTE shows that there is nearly 4 in every 10 respondents who say that youth members in their family are now motivated to continue farming because of their exposure to MinPACT. This proportion will likely increase if the families start to enjoy higher yields and are paid better for their quality products.
- **MinPACT optimizes the government priority on the 3C and these crops have high potential in the local and international markets.** MinPACT operates as a facilitator and a catalyst in its relationship with the government, sharing its rich experience in the 3Cs and value chain development. It implements a different approach when working with farmers, industry organizations, and other value chain actors as it is more responsive (i.e. faster in making decision as it is not encumbered by bureaucracy).

E. Key Observations using Evaluation Criteria

This part of the report covers the qualitative information gathered by the evaluation team, organized under the five (5) evaluation criteria of relevance, effectiveness, efficiency, impact and sustainability.

1. Relevance

Overall assessment: MinPACT is relevant.

RELEVANCE WITH RESPECT TO GOVERNMENT DIRECTIONS AND PRIORITIES. The strategic objectives of increasing productivity and expanding trade reflect the priorities of the national government, specifically the DA, DTI, PCA, and BPI. When MinPACT started two years ago, the previous government administration rallied its resources in bringing inclusive growth, defined simply as “...high growth that is sustained, massively creates jobs, and reduces poverty”. Cacao, coffee and coconut were already considered as channels of inclusive growth, with respect to the number of farmers, vastness of land devoted to these crops, their adaptability to different terrains, indications of increasing market demand, and their potential contribution to combating the impact of climate change. Even today, the above-mentioned government agencies have not abandoned these crops and instead, continue to pour resources to keep the momentum forward. The Cacao Roadmap was recently signed (March 2017) and the Coffee Roadmap has already been finalized (January 2017). The government still have less than three years to go to achieve its target of 200,000 hectares of cacao and an estimated of 100 million cacao trees.

Referring to the results framework (Figure 1), MinPACT offers similar interventions with the government agencies (i.e. DA, DTI, PCA and DAR) – seedlings distribution, technology training, and provision of post-harvest facilities – yet these cannot be considered outright duplication because MinPACT’s beneficiaries are clearly identified and these are the members of the 24 producer organizations.

RELEVANCE IN RELATION TO THE NEEDS OF THE BENEFICIARIES AND CAPACITY OF THE PARTNERS. The agricultural sector provides employment to one-fourth (26% or 39.35 million as of January 2017, National Economic and Development Authority), while there is no accurate number of farmers engaged in planting the 3Cs, there could still be millions of them (in Davao Region, there are 203,000 coconut farmers alone). Regional representatives of these national agencies admit that there are simply too many farmers still unserved, such as those living in far-flung or geographically difficult areas. If they are hardly visited by an extension worker, these farmers are presumed to be still following traditional farming practices.

Smallholder farmers (less than 5 hectares of land) have long struggled to overcome low productivity, which is a confluence of many factors such as scant extension service, traditional farming practices, lack of access to quality planting materials and credit, limited connectivity to markets, unpredictable weather condition, and ageing farmers. Government statistics shows that because of poor productivity, many among the farmers live within the edge of poverty. It does not help that farmers also cite the unfair practices of traders, giving them low price for their harvests.

Therefore, increasing the farm productivity with quality planting materials and transferring appropriate technology combined with the promise of sustainable market, MinPACT responds to the needs of the farmers. One indication of this demand-supply fit is the report of producer organizations of increased membership over the past two years, as new members are drawn by the MinPACT training and free seedlings. The Maragusan-based PO says the project has given them new hope, considering that the bad experience of the past decades made them abandoned their cacao farms. Now, the training and market demand have convinced them to revive the farms.

On the post-production front, CIDAMI reports that there is more movement of cacao products out of Mindanao to other parts of the country, particularly now that a fine chocolate processing plant has opened recently in Laguna. Now, the buyers do the trip to the farms to source their cacao beans. Moreover, the farmers are getting themselves drawn into fermentation and value-adding activities, whereas before they only focus on production. CIDAMI is also elated that their proposal to include a mandatory training for every seedling dispersal is gaining traction with relevant national government agencies via National Cacao Roadmap signed March 2017.

When asked to rate the different interventions, using the 3-point scale of very relevant (1), relevant (2) and not relevant (3), the most relevant support for the beneficiaries are the nursery establishment (average 1.13), followed by cooperative systems improvement (1.17) and access to financial services (1.21). When asked to rank eight (8) typical support given by MinPACT, at the top of the list is agricultural/farm technique training (1st rank), nursery establishment (2nd rank) and access to financial services 3.04). Twenty-two (22) of the producer cooperatives are “very likely” to continue working with MinPACT on the remaining two years and two (2) rated “likely” to continue.

The project areas identified by MinPACT are suited to growing cacao, coffee and coconut. Davao Region is the country’s most dominant cacao producer, Bukidnon is replete with upland areas conducive for Arabica coffee, and Davao del Norte and Zamboanga del Norte are major contributor to coconut production.

Farmers also appreciate the presence of MinPACT field technicians – as they learned a lot from the farm visits, and the coaching and mentoring.

The DA-Davao Region appreciates the fact that MinPACT has been reaching out to the indigenous peoples cultivating cacao and coffee. The agency is having a difficulty of serving this group because of distance and limitation on personnel. DA-Davao even reveals that DAR-Davao has turned over a list of more than 200 producer groups (both formally-recognized cooperatives and still-unaccredited farmer associations) that are seeking technical support on agricultural production (i.e. cacao and coffee). This number of producer groups is potentially larger if we consider the other five (5) regions in Mindanao.

RELEVANCE OF INTERVENTIONS VIS-À-VIS LOCAL CONDITION. MinPACT endeavors to customize its approaches to the local situation. While other organizations provide seedlings, it is typically accompanied by a very brief orientation (one or half a day). MinPACT departs from this “ineffective” practice by amply preparing the beneficiaries with a series of technology trainings replete with “what” but also with “why, when, how, and the alternatives”. Technical inputs are richly supported with hands-on and return demonstration. The delivery of lecture is in vernacular. For participants who cannot read and write can bring a relative to the training who can take notes on his/her behalf.

In the Stakeholder Forum organized by MinPACT last March 2017, women belonging to indigenous people groups in Bukidnon admit that MinPACT’s recommended technologies do not run counter with their traditional farm practices (i.e. observing the moon and stars as guide in farming). They have never been advised to abandon these generations-long beliefs, rather how these two schools of practice can work together.

2. Efficiency

Overall Assessment: MinPACT is efficient. (Please note that the MTE refrained from measuring the economic efficiency of the project as the MTE timeframe did not allow for it; rather the focus is on the adequacy of the resources to implement the activities and achieve results).

EFFICIENCY IN THE USE OF PROJECT RESOURCES. MinPACT assigns 1 to 2 field technicians per project area and the ratio can be as many as one technician for at least 500 beneficiaries; or 1 technical for at least 3 producer organizations. Based on interviews, the field technicians are within comfortable level of accomplishment, although they admit being delayed in submission of internal financial documents and reports, since most of them are one-man team (handling the operational and administrative concerns). Technicians can communicate with their superiors, using email, calls, and applications such as Outlook. The technicians enjoy flexibility and can make decisions based on their

45-day work program. Concerns and issues are immediately resolved. Monthly meetings are held on regular basis.

However, it is possible that the field technicians and some positions (i.e. Communications) may be experiencing overload of responsibilities given the number of clients they serve (technicians for the beneficiaries and producer cooperatives; lone communications staff to support the technicians). It is assumed that there may be lost opportunities to capture learning and to provide more proactive support.

The M&E system appears robust and comprehensive. Internal communication is fast as well as transparent. The financial system has clear procedures and uses online banking to support the field activities, reducing time physically going to the bank for transactions.

Delays in the implementation are external to the project, such as the late start of technical interventions due to late monetization of the Crude Degummed Soybean Oil (initial months were spent of capacity-building for the project staff and introducing the project to partners), weather condition, and conflict of schedule for the trainings. There were concerns, though minimal, on internal dynamics within two producer organizations and one industry association, fortunately these are not addressed.

The recent cupping competition (Kape Pilipino Green Coffee Quality Competition, which had 78 entries from 15 regions) last March 2017 catapulted the Inhandig Tribal Multi-Purpose Cooperative and the Kape Maramag to a national stage after winning the Arabica and Robusta categories respectively. These community-based organizations were essentially non-entities before, yet the chance to compete and to win made them realize that they have the best coffee in the country, which they anticipate will open more market opportunities in the future (i.e. the cupping scores will translate into marketing linkages and demand for specific coffees, as CQI predicts). The winning POs will also use this recent recognition to lobby for more support from their provincial government (Bukidnon). CQI boasts that partnership with MinPACT has increased the number of licensed Arabica Graders from 15 to 26 and the Q Robusta Graders from zero (0) to 10. These competitions are a chance to be exposed to market expectation, create name/brand recognition as quality source, and motivate farmers/POs to continue with their quality journey (as quality pays well).

EFFICIENCY IN LEVERAGING NETWORK AND LINKAGES. MinPACT has scored and nurtured good relationship with the national government agencies, value chain actors, industry associations, and the local government units. It helped that ACDI-VOCA has had previous projects in Mindanao (i.e. Success Alliance and CocoPal), which established its credibility.

MinPACT's decision to work and strengthen the industry organizations (CIDAMI, PCB, DRCICI and CQI) has propelled the 3Cs to a wider audience, not only within Mindanao but also at the national sphere. This is evident in MinPACT's strong sponsorship in the conduct of industry-wide conferences, summit and related gatherings. MinPACT has supported CIDAMI in the conduct of the Kakao Konek, the PCB in the conduct of the Philippine Coffee Summit, and the DRCICI in the conduct of the CocoLink. These events are geared largely on advocacy, where problems and opportunities are brought to the wider stage, discussed by the industry players, and elevated to the concerned government agencies for proper policy formulation and technical response. Since these events are large assemblies, these are also venue to disseminate latest technology and updates on government and non-government projects and services on the three crops. These events can also be taken as introductory activity to new industry entrants (producers, processors and buyers).

MinPACT has done well in leveraging with the presence of Franklin Baker, which has helped coconut POs obtained their Fair Trade certification. Kennemer Foods, on the other hand, has been operating

before MinPACT. It is largely a marketing company, seeking to buy cacao beans from Mindanao farmers and POs, formalized by short-term supply arrangements. While Kennermer is procuring cacao beans from farmers and POs with matured cacao plants (it supplies to world famous chocolate brands), it is also working with the POs on the production side, particularly in the conduct of training and extension service through their Cacao Doctors (the company has a comprehensive package of assistance to farmers under its Growership Program). These Cacao Doctors have received intensive capacity-building from the company, who will later become consolidators under their buying program. Kennermer presents itself as a major buyer of cacao beans in the future and it cements its relationship with farmers as early as now by providing technology advice.

EFFICIENCY IN DELIVERING EFFORTS TO THE DIFFERENT VALUE CHAINS. Cacao and coffee enjoy higher level of effort from MinPACT, based on the frequency and variety of activities undertaken with the respective IOs. This level of intensity (compared to coconut) can be attributed to the active participation of the DA and DTI. The Philippine Coconut Authority which has the primary mandate over the development of coconut industry, has been limited by its financial and personnel resources. The level of organizational maturity and the strength of linkages they now have, due to the depth of involvement and range of experience of the Board can also be a factor. A good case is the production of manual, where coffee and cacao have already completed their version, while the coconut is still being finalized (as of March 2017).

3. Effectiveness

Overall Assessment: MinPACT activities, strategies and approaches are effective.

EFFECTIVENESS IN REACHING THE TARGET GROUPS. Suffice it to say that the MinPACT trainings have been considered “packed”, with more participants turning up than the number expected. MinPACT has allowed this, recognizing that the people in project sites have rare opportunities to attend technical training that are brought to their communities. The farmer-respondents have found the training very useful that they expressed their need for additional training. Another sharing done by a representative of indigenous women from Bukidnon is the fact that they did not think highly of their coffee before, since coffee was selling at a low price in their area. MinPACT has emphasized the importance of quality which takes root in using the quality seedlings and following the recommend production and harvesting protocols.

The value chain actors are also pleased to be part of the project. They get to participate in the post-production node of the value chain, drumming up awareness and opening market opportunities for the farmers. CIDAMI representative compares the number of cacao exporters in the Philippines prior to MinPACT and now, which was only two (2) prior to the project and has not increased to seven (7).

EFFECTIVENESS IN DISSEMINATING THE FARMING AND POST-PRODUCTION TECHNOLOGIES. Training is considered as the most efficient and appropriate method for disseminating the farming technologies. MinPACT field technicians deliver their training in modules, gradually breaking down the technical information enriched with demonstration and hands-on for the farmers. This strategy allows the farmers to fully understand the principle behind the proposed technology. There are also learning sites established for visual appreciation of the process and results of recommended technologies. By giving the information in digestible chunks, the farmers have become more receptive. It should be noted that not all recommended technologies are new to the farmers; these may be familiar only that they did not have the earlier motivation, understanding or resources to adopt these technologies before.

EFFECTIVENESS IN CONVERTING KNOWLEDGE INTO PRACTICE AT FARM LEVEL. Technology adoption is a process that starts from the farmers being aware what the technology entails, how it will benefit

them, and finally the decision to apply such technology. Still, it is a process and a decision that can be influenced several factors – such as costs, perceived benefits, complexity and risks, as well as the access to inputs, land tenure and area, availability of credit, and extension services.

MinPACT attempts to provide some of these factors directly or indirectly. What is clear from the survey is the relatively easy to follow technologies are gradually being practiced, such as farm planning and diversification, planting distance, weed management, and fertilizer application. Other recommended technologies still have low level of application because these require a lot of physical work, investment, or time. An example of the beneficiaries slowly adhering to crop genetics is how they are becoming selective of the free seedlings being distributed by the national and local government units. Field technicians report that seedlings appearing to be of dubious origin are either not accepted or not planted by the trained beneficiaries.

The backlog in seedlings distribution proves to be a major hindrance to farmer-beneficiaries who have been trained but are still waiting for their share of seedlings. This delay is linked to POs yet to establish their nurseries.

EFFECTIVENESS IN STRENGTHENING ORGANIZATIONS. MinPACT has granted three local industry associations with Fixed Obligation Grant. The agreement encompasses several activities and deliverables, both to strengthen the capacity of the industry association in extending services to their members, and to push to value chain-wide advocacy. PCB now has an M&E system, database on its members, and accounting system. CIDAMI is expanding its linkages and has become very visible – so visible that they cannot hardly cope with the request for trainings sent by other farmer groups and local government units. Compared to the two associations, DRCICI by comparison is considered infant, having gone through several staff turnovers. They are grateful for partnership with MinPACT, allowing them to launch the organization in Cocolink and to hire additional staff serve the coconut cluster (IT staff, entomologist and technician). DRCICI is also working on its systems for more efficient operations.

The producer organizations are beneficiary of the ACIDI-VOCA's Sell More for More, which looks at four dimensions of membership, money, management and marketing. Most of the producer organizations have received the two modules and it is still too early to tell how these leadership modules have been translated into their menu of services to members. Some early indications are membership increase, ability to negotiate with buyers and establish and operate nursery, and the desire for forward integration.

The 24 producer organizations and the 3 industry associations (+ Coffee Quality Institute) rated the quality of coordination with MinPACT and the overall picture is shown below. The five-point scale refers to: 1 as Very Satisfied, 2-Satisfied, 3-Neither, 4-Dissatisfied, and 5-Very Dissatisfied. Please refer to Annex 4 for the details per producer organization.

Table 25: Level of Satisfaction, POs and Industry Associations

	24 Producer Organizations	4 Industry Associations (Fixed Obligation Grants)
Discuss clearly the objectives, targets, proposed activities, timelines and delineation of roles	1.67	1.33
Involve you in major decision-making points	1.79	2.00
Accommodate reasonable changes in schedule, arrangements, activities, priorities	1.75	1.33
Transfer knowledge and provide advice on improving organizational processes, systems, etc.	1.67	1.67
Communication/coordination, including frequency and	1.71	1.33

	24 Producer Organizations	4 Industry Associations (Fixed Obligation Grants)
quality		
Debriefing or learning session (after each important activity)	1.67	1.67
Average	1.71	1.56

MinPACT has not limited itself working with POs and industry associations. It has reached out to organizational value chain actors such as the academe. An example is the Southern Philippines Agri-Business and Marine and Aquatic School of Technology (SPAMAST), based in Malita, Davao del Sur. SPAMAST has already worked with ACIDI-VOCA on its previous project (CoCoPAL in 2012) and has been a partner of the DTI-Davao Region on an industry clustering project funded by the Japan International Cooperation Agency. With the agreement with MinPACT only made recently (February 2017), the school will be lending its expertise to the cacao sector with the production of quality cacao seedlings through cloning, with the possibility of embedding the cacao production in their Agriculture Curriculum, and the establishment of a coffee cupping laboratory in their newly-constructed Production Development Center.

EFFECTIVENESS IN MAINSTREAMING GENDER AND OTHER CROSS-CUTTING THEMES. Part of the project team's induction and capacity building initiatives are gender-related orientation and training. The team is nearly gender-balanced. The M&E Manager also serves as the Gender Advisor. The M&E database is sex and age-disaggregated.

Further, MinPACT cascaded gender concerns in relevant aspects of partner/beneficiary coordination. MinPACT advises the producer organizations to integrate gender concerns in their policies, activities, budget and tools. Some POs have more than 50% women and youth participation (although more skewed on women as the youth are still in school), in terms of membership and in participation to training. Women are involved in key aspects of PO operation, including the nursery management. PCB discloses that more women coffee farmers are in touch with them, tuning into the organization's "women in coffee" advocacy and how coffee is helping them earn income and acknowledging their meticulousness as a factor in attaining post-harvest quality. For their part, CQI sees that women assuming a "leadership role in modifying practices at the farm level", although they have yet to formally document this.

MinPACT has also supported social inclusion. USPD, one PO based in Davao del Sur, was previously focused only on sugarcane. They have expanded to other crops because of the climate change. Their clientele or members have also expanded and they now extend support on fertilizers and equipment or provide loans to rebel returnees who are reportedly convinced to lay down arms and get into cacao, coffee or coconut production. Indirectly therefore, the project a chance for former rebels to reset their lives and become productive members of the communities.

At the family level, decision-making responsibilities are shared on domestic matters: more farming concerns within the territory of men (type of crop and fertilizers to use, purchase of farm equipment, adopting farm technologies); while women's voices are somewhat dominant on access to market (computing the price of product, negotiating with buyers, bringing the produce to buyers, receiving and managing the sales).

For more than a year between the first quarter of 2015 until 2016, Mindanao has been affected by long dry spell. The hardest hit between the three crops is coconut, which has experienced a relatively lower production vis-à-vis high demand from the local processors. Such experience reminds the farmer-beneficiaries of their vulnerabilities to the unpredictable weather patterns. This

lesson makes them more appreciative of the MinPACT's push for farm diversification. It also helps that coffee planted in the upland areas is used to support the agro-forestry initiatives of the government, particularly for the POs based in Bukidnon. As the farmer-beneficiaries are gradually transitioning from purely to lesser use of synthetic fertilizers, the project teaches the beneficiaries better management of the soil in their farms.

EFFECTIVENESS IN EXPANDING ACCESS AND UTILIZATION OF SERVICES. Government agencies and local government units are duty-bound to provide services to their clients/constituents. MinPACT have raised the level of awareness on the income potentials of the 3Cs and more farmers are now expressing interest to engage in the production and processing of these crops. DA representative has revealed that they have been getting many requests for seedlings and trainings. Similar requests are also pouring in at CIDAMI and PCB offices.

CIDAMI is now working closely with the City Government of Davao and the Department of Tourism to establish an exclusive chocolate *pasalubong center* (souvenir shop) in the city, where they envisioned to showcase and sell all kinds of chocolates made in Davao Region. This is part of the move among the local stakeholders to make Davao City the “Cacao and Chocolate Capital” of the country. It should be noted that Malagos Chocolate Museum was opened in the city last November 2016 to show guests the “tree-to-bar mysteries of chocolate production.”

DTI representative shares an anecdote from a participant of fine chocolate training where the latter found the activity to be “life-changing...a once-in-a-lifetime opportunity”. The agency reveals they do not have access to such international expertise and with MinPACT bringing that service in the country augurs exciting prospects for small-scale chocolate confectionery companies.

The project is making a strong pitch for quality – not only on the seedlings and the technologies, but also the type of post-harvest or processing facilities. Both DTI and DA representatives agree that locally-fabricated processing facilities may be cheaper deals but the end-products do not measure up to the quality standards of more exacting yet high-paying markets. If the country is targeting to serve premium international markets, a corresponding increase on equipment investment is called for. All efforts on quality are ruined if cacao, coffee and even coconut are processed in precise, hygienic and scientific manner so that flavors come out, contamination is avoided, and consistency and safety ensured.

4. Impact

Overall Assessment: MinPACT is likely to make an impact on the lives of the beneficiaries and capacity of the partners.

LIKELIHOOD OF IMPACT ON CHANGING THE PERSPECTIVE AND BEHAVIOR OF THE BENEFICIARIES. What has been noticeable among the early adopters is the understanding that “quality” equates to better income. What they also know, achieving quality takes a lot of physical work, discipline, and possibly costs. In trainings, the field technicians compare sizes of beans; in cupping training, the participants use their senses in determining the quality coffee; in business-to-business sessions in industry events, producers meet buyers and are acquainted with the potential demand for quality products; in working with big brothers like Franklin Baker, POs’ products are paid higher because they have passed quality certification.

CQI describes that the country was “not producing coffee against benchmarked international coffee standards or producing and trading coffee based on cup quality or differentiated flavor profiles”. Now the organization, together with MinPACT, there is an overall initiative “to produce clean, defect-free, grade coffee, and trade based on differentiated quality”.

While both CQI and PCB report what they are doing to improve perception on Philippine coffee, there are reports that buyers are starting to notice Mindanao-sourced coffee, driven proactively by Mindanao-based producers and processors, while others are promoted by government and NGOs. For instance, Hineleban Foundation in Bukidnon once shared that they have sent product samples to Starbucks in the US and Japan. Universal Robina Corporation has recently inked a deal with Sulu-based farmers in Autonomous Region in Muslim Mindanao for a 10-tons Robusta Coffee. Mindanao is also carving a niche as a source of civet coffee, which is aggressively promoted by Mt. Apo Coffee. The recent win of MinPACT-supported Bukidnon-based POs is an additional boost to the claim that Mindanao produces quality coffee. Parallel to this effort of elevating Mindanao as a source of coffee, an officer of PCB reminds the coffee POs that it is important to first increase the yield and quality, so any bid to go out of Mindanao is strongly supported by volume and quality products.

The push for full technology adoption will take years and more years for these to become second nature to the farmers. The government and external projects like MinPACT can only provide so much while the market and the weather continuously sway erratically. A more definite assurance of technology adoption is predicated on the farmers' behavior change, say the compulsion to continuously practice recommended technologies are internally driven. MinPACT has laid down the foundation (i.e. explain the science, which is the foundation), show the potential benefits (i.e. preview the economics, which is the motivation), and now it must latch on behavior change so they do not back slide to old, convenient or cheaper practices.

LIKELIHOOD OF IMPACT ON THE CAPACITY OF THE PRODUCER ORGANIZATIONS AND PARTNERS. At the PO level, the sense of “cooperativism” is rekindled to some degree. The POs are moving forward to become consolidators and the members are exhorted (once they start producing) to sell their products to their group. By offering quality products and in volume, the POs can earn higher income and have more dividends to share among members. POs who now have regular buyers are developing skills and confidence in dealing with institutional buyers. A PO in Davao del Sur enjoys repeat orders in increasing volume and is considering to seek more capital for farm equipment and machineries and warehouse for centralized quality control.

LIKELIHOOD OF IMPACT OF THE MINPACT VALUE CHAIN APPROACH. Value chain as an approach to industry development is relatively a new concept in Mindanao (less than 10 years old), with some earlier tracks hinged on industry cluster and one-town, one product strategies. Recently, more government agencies are using value chain approach in their projects (i.e. DA and World Bank-funded Philippine Rural Development Program, Department of Agrarian Reform's Convergence on Value Chain Enhancement for Rural Growth and Empowerment, and DTI's forthcoming project with IFAD to be called Rural Agro-Industry Partnership for Inclusive Development and Growth).

At this point, what MinPACT may contribute to or illustrate is a different way of implementing value chain project. ACDI-VOCA has better track record in completing value chain projects, enriched by its experience in other countries. It appears to have a better grasp on the approach, looking at the scope of its engagement partners and diversity of activities it has introduced so far. Combining all these, MinPACT has the appropriate macro-level lens in understanding the needs and realizing the potentials of the value chains. A market-driven value chain approach has better chance to ensure financial and operational sustainability of 3C farms and POs.

5. Sustainability

Overall Assessment: At this stage, beneficiaries and partners **know** it will take behavior change, functioning internal systems, improved capacity, expanded network, and investment to attain some level of sustainability in the future.

EARLY INDICATIONS OF SUSTAINABILITY. The main question raised is, “do beneficiaries and partners now have the capacity to continue reaping the benefits of improved productivity and expanded trade?”. A good indicator is the adoption of selected technologies, though not yet massive at this stage since technology transfer only started last year and a good number of training participants have yet to receive their seedlings and start application.

At the PO level, it is important to consider the differences in organizational resources, maturity, commitment of the management and board, and internal culture; therefore, what is expected is the varying levels of improvement in organizational capacity.

ACKNOWLEDGING THE LEVERS OF SUSTAINABILITY AND INSTALLING THESE. The beneficiaries and partners know how to continue reaping the benefits of MinPACT interventions. For the project team, forming and capacitating Master Trainers will ensure the continuous promotion of the recommended technologies. They will also need to produce videos and manuals, which will serve as reference materials. For the POs, improving their services (i.e. nursery, lending and consolidation) will help their members and increase their capital. For value chain actors, there is a need to continue the quality-related activities such as cupping, competitions, and market promotion.

For LGUs and contingent on their budget and personnel, they will continue reaching out to farmers, provide seedlings and fertilizers, sponsorship to exposure trips, among others. For the national government agencies, they will implement national roadmaps, based on their respective mandates. For industry association, they will continue with the resource generation, networking, training, and advocating quality across the value chain.

Therefore, for the remaining time, MinPACT needs to work with beneficiaries and partners, discuss how to install these levers.

FACILITATING AND HINDERING FACTORS. MinPACT’s remaining two years will be supported with the increasing awareness on the activities of the three sectors (i.e. winning competitions, private investments in processing activities, strategic directions). This awareness has spawned interest from potential partners (Peace and Equity Foundation and the Japan International Cooperation Agency) who may consider implementing support to the 3Cs to keep the momentum going. Another facilitating factor is the good relationship MinPACT has nurtured with its national government partners and industry organizations.

On the contrary, there are also factors that may slow the pace of the project activities. Some of these are external to the project, such as the industry-specific concerns that are beyond MinPACT’s control: senile coconut trees estimated at 30% in Davao Region alone, farm-to-market road, security condition in major production areas, etc. There are provincial and municipal LGUs that are still on the sideline when it comes to the 3Cs – not because they do not believe in the potential of the crops – rather they have more pressing priorities, limited staff, and funding. Some farmers divulge that they do not own their land, hence, they cannot go full steam with the technology adoption. The PO-beneficiaries have different levels of development and maturity, which mar their commitment and allocation of resources. The weather continues to be erratic and increases the farming risks for the farmers. The coconut and cacao industries have been affected by the 13-month long dry spell that started March 2015 and ended April 2016. The PCA estimates that the coconut industry will be able to recover last quarter of 2018. Finally, there is the possible “over-load” among staff versus the areas to cover and the number of beneficiaries to serve.

These facilitating and hindering factors are admittedly focused on the implementation, given that there are few indications of concrete outcomes at the time of data gathering (February 2017) – i.e. nurseries are recently established, seedlings planted in the farms are still young, trainings conducted

are relatively recent. At best, the evaluation team has gathered the “knowledge, plans, possible steps” that most of the farmers, POs and IOs would pursue in the coming months. Application of knowledge and systems improvement require time to be fully digested and lead to outcomes.

Conclusion and Recommendations

A. Conclusion

1. Overall Conclusion

Physically, based on the M&E report shared to the evaluation team, the project is within the comfortable level of achievement. The delays to implementation are primarily external in nature – such as conflict of schedule, internal dynamics within beneficiary organizations, and weather and security condition. Beneficiaries and partners exhibit a general sentiment of satisfaction on the initial project results as well as optimism of the things to come, should all project activities fall into their right places. The project team must accelerate some activities (distribution of seedlings, provision of post-harvest support, linkage to financial services) to move closer to the achievement of the strategic objectives.

MinPACT is expected to contribute in helping the small farm holders in Mindanao, using the value chain approach in developing and promoting the industries of cacao, coffee and coconut.

2. Comments on the Results Framework

Based on what has been captured in the data gathering phase and the feedback of the stakeholders during the validation forum, the evaluation teams reviewed the project’s results framework. The general opinion is that the logic of the framework still stands; a few of the activities show early indications of contributing strongly to attaining the strategic objectives but many of activities need fast-tracking.

For easier reference, the first column shows the items under the project’s Result Framework, while the second column show the proposed activities that will lead to the results. Please note that these activities are from the evaluation team’s perspective – not based on the official work plan of MinPACT. **Blue rows** are the activities that are progressing extremely well, contributing to the achievement of the expected results. **Orange rows** are activities that are making satisfactory/moderate progress, based on the information gathered during the MTE. **Red rows** are activities that need to be fast-tracked by the project, to increase the likelihood to attaining the results by the end of the project.

Table 26: Proposed Activities Leading to Results

Expected Results	Proposed Activities Leading to Results
FFPr 1.2.4: Increased knowledge by farmers of improved agricultural techniques and technologies	- Continue cascading of training activities - Improve capacity, increase pool of Master Trainer - Distribute 3Cs manuals and techno videos (if available) - Explore other modalities for learning (e.g. farmer field schools)
FFPr 1.3.1: Improved knowledge regarding farm	increase frequency and length of farmer-to-

Expected Results	Proposed Activities Leading to Results
management	technician/trainer engagement, to provide continued guidance to support management adoption
FFPr 1.4.3: Increased access to improved market information	• Provide market information, trends and prospects to POs and value chain actors using ICT (social media) or through dynamic websites of IOs • Support participation to trade fairs
FFPr 1.4.4: Improved capacity of key groups in the agricultural production sector	• Continue Sell More For More curriculum and handhold POs are they install proposed systems and protocols • Update knowledge and skills of MinPACT, PO, and value chain technicians
FFPr 2.4.4: Improved capacity of key organizations in the trade sector	• Monitor IO's milestone targets and performance • Provide advice/support as IOs pursue resource generation activities
FFPr 2.1.1.1: Increased adoption of established standards by industry	• Continue messaging/awareness on the importance of quality
FFPr 2.1.2.1: Increased use of improved post-production processing and handling practices	• Consider the immediate release of post-production and post-harvest equipment and tools • Implement post-production and post-harvest training courses
FFPr 1.2.1: Increased availability of improved inputs	• Consider direct or indirect provision of fertilizers • Continue providing extension services • Find, develop or link with other innovative financial services/products
FFPr 2.1.3/2.2.1: Improved marketing of agricultural products	• Improve general quality of 3Cs products by following GAPs and recommended technologies • Promote, where possible, value adding activities (i.e. fermentation)
FFPr 2.2.2: Improved linkages between buyers and sellers	• Emphasize quality-enhancing activities and policies • Continue participation to competitions • Support participation of qualified POs/farmers to selected trade fairs • Link with government for an industry-wide commodity promotion
FFPr 1.3: Improved farm management (operations, financial)	• Continue to provide advice to farmers and POs
FFPr 2.2: Increased access to markets to sell agricultural products	• Maximize market linkages through government offices • Leverage with ACDI-VOCA's market linkages in other countries
FFPr 2.3: Improved transaction efficiency	• Upgrade/update MinPACT, POs and IOs staff capacity

Expected Results	Proposed Activities Leading to Results
	Tighten operational, financial and managerial systems
FFPr 1.2.3/2.2.3.1: Increased use of financial services	- Conduct orientation on available financial services - Conduct training to enhance financial knowledge - Install/strengthen financial systems in qualified POs - Promote crop/weather-based insurance as additional financial safety net to farmers
FFPr 2.1.2.2: Improved post-harvest infrastructure	- Continue to monitor the operation and maintenance of nurseries - Require business plan and O&M plan of post-harvest facilities and tools
FFPr 1.2.2: Improved infrastructure to support farm production	Support POs and IOs as they lobby to connect their production areas to the market via construction or improvement of roads, power and water services
FFPr 2.1.1/2.1.2: Improved quality and efficiency of post-production agricultural products/processes	Emphasize post-production practices and processes through training or mentoring, provision of tools/equipment
FFPr 1.1: Improved quality of land and water resources	- Promote GAP practices to encourage farmers, POs and value chain actors use these resources judiciously - Conduct additional orientation - Cooperate with LGUs and other partners that have advocacies/activities related to land and water resources
FFPr 1.2: Increased use of improved agricultural techniques and technologies	- While the first two rows are on “knowledge”, this focuses on the application or adoption.; therefore, closely monitor farmers’ yield, and quality of produce - Continue linking with markets/buyers
FFPr 2.1: Increased value added to post-production, agricultural products	- Distribute post-production and post-harvest facilities - Explore other value-adding activities

B. Recommendations

1. Proposed Short and Medium-to-Long Term Recommendations

Table 27 enumerates the MTE recommendations arranged under short-term (within the project timetable) to be led by the MinPACT Project Team and medium-to-long term (three years onward), which may be led by the government and other partners. The explanation for each recommendation is shown after the table.

Table 27: Short and Medium-to-Long Term Recommendations

Findings	Short-Term	Medium- to – Long Term
1. Nascent evidence of technology adoption	- Consider extending the project by adding two more years in time for the first harvest of newly planted 3C crops - POs with nurseries: - Formulate management plan - Obtain accreditation from the Bureau of Plant Industry - Enroll nurseries with the Barangay and Municipal Development Councils - Improve financial transparency on nursery operations - Retooling and strengthening of the Master Trainers - All POs: - Explore qualified POs to be accredited as suppliers of fertilizers - Continue with the cascading of training activities - Explore other modalities of technology transfer - Project Team to enhance project messaging on: - Quality at all stages - Technologies can be employed in existing and other selected crops (no need to wait for MinPACT seedlings) - Nurseries and master trainers as community resource - Consolidation of products when volume is sufficient and market is found - Availability of financial support to qualified farmers - Continue the validation/updating of the MinPACT Sharepoint M&E database, as basis for targeting for the 1st half reinforcement or 2nd half planned activities - Partners - Promote short-gestating crops to augment income from 3Cs - Design or implement a Mindanao-nuanced 3c behavior change	- Explore a parallel mechanism solely focused on reinforcing technology adoption (i.e. including massive info drive on services offered by the government) - Organize a regional experts pool - Promote crop insurance - Maintain BPI and other government accreditations
2. Increase efforts related to marketin	- Increase focus on processing and marketing-related intervention for the 2nd half of the project. - Distribute appropriate post-harvest facilities to qualified POs - Explore activities that encourage product upgrading	Share contacts with the relevant government agencies (for post-harvest technologies,

Findings	Short-Term	Medium- to – Long Term
g, to include closing supply agreements with institutional buyers	(i.e. technology training offered by DOST, product development and market promotion by DTI) • Support POs in the participation to national and international competitions • Continue grading and cupping activities • Support the relatively-advanced POs to obtain certifications (required by buyers) • Explore activities where buyers/markets will pull 3Cs products (rather than the farmers/cooperatives do the pushing), such as the exposure tours, product sampling/testing • Support POs with processing activities to secure License to Operate from Bureau of Food and Drugs Administration • Continue, albeit seeking better outcomes, support on industry-wide marketing/advocacy events like summits, conferences • Continue support to farmers, POs and value chain actors participation to product and quality competitions • Continue working with local buyers that are supplying international markets (Franklin Baker, Kennemer Foods and CSI, among others)	processing and marketing) • Work with government in demand-driven upgrading interventions (quality upgrading or product value-adding, efficient transport, etc.)
3. Different levels of PO capacity	• Continue or complete the Sell More for More program • Conduct revisiting of M4 results of the producer organizations to re-calibrate them in the areas of resources, capacities, project achievements, transparency, etc. • Conduct exit and sustainability planning • Realign staff to focus on the 2nd phase farmers' technology adoption, marketing and POs' organizational support • Strengthen enterprises (nursery establishment, financial services, possible consolidation) of the POs by formulating management and business plans: - o On management plan: clarify the roles and responsibilities in the operation and maintenance; draw production schedule, secure and maintain the BPI accreditation. - o On business plan: find possible markets for seedlings (beyond members), "charge" cascading training to non-members or non-beneficiaries; price the seedlings appropriately	• Provide support for POs that are still association to transition as cooperatives
4. Differing capacities of the Industry organizations	• Conduct exit and sustainability planning with the industry organizations • Discuss resource generation or mobilization plan to make strong transition after end of MinPACT	

Findings	Short-Term	Medium- to – Long Term
5. Women's participation	Create “women or youth-only” project activities, such as those that tap into their creativity (for new products or business opportunities that do not take up much of their time)	
6. Youth's participation	Succession training/activities for farming families or more project activities enjoining youth	- Curriculum in 3Cs in local agricultural /vocational schools in project areas - Lobby for more local colleges to offer agricultural courses or vocational schools to offer short-term certificates on processing 3C food and non-food products
7. Value chain development	- Meet with relevant agencies and discuss MinPACT exit and sustainability plan - Continue the documentation of learnings from the beneficiaries and partners' perspective - Document project processes to share with government and NGOs on Mindanao-based value chain development project - Continue supporting interaction/space for the farmers to meet with their buyers/markets	- Support the lobby for an industry-wide quality assurance - Study the feasibility and benefits being a member of the International Coffee Organization and International Cocoa Organization - Lobby for assistance on other value chain constraints to relevant agencies (i.e. roads)

C. Recommendations

1. Increase adoption rate of recommended technologies.

- Consider the extension of the project with additional two years, to end by 2020.** The MTE results show that a good number of respondents have only recently planted the recommended 3C clone varieties (less than 6 months prior to February 2017). More have yet to plant their seedlings as they are waiting for these to be available, although there are also respondents who have existing trees. Considering that cacao and coffee need at least 2 to 3 years before first harvest and coconut longer than that, it is only fitting that the project will be extended in time for the first harvest of the varieties it has introduced. The project will also be able to walk through the farmer-beneficiaries on the recommended technologies at every critical stage of the crops.
- Explore other modalities of technology transfer.** Training is regarded as the best (and perhaps the most efficient) modality for technology transfer. While cascading of training will continue and review of the master trainer intervention is proposed, MinPACT may consider

other modalities. First is to weigh the possibility of the Farmer Field School, which is proven effective by the DA and the Department of Science and Technology. A farmer leader/scientist who has his/her own land can be identified by either the PO or the field technician. He or she may be provided with customized capacity building, provided with inputs, become priority for linkages and exposures but in exchange for transferring technology with at least 25 other farmers in his/her communities. In addition, he or she will do monitoring of the farms, devoting specific number of hours per week on the project. He or she will have his/her own farm be open for visits or demonstration. Other qualifications may include having a one-hectare, fully diversified farm, showcasing all the recommended technologies of the project. The second modality is to have a school on the air, a radio program, disseminating technology information on the 3Cs. One coffee PO in Bukidnon said there was a previous coffee course that ran for four (4) months, but this only reached three (3) municipalities. Third modality can be the holding of an annual Farmers' Day showcasing technologies and products of the farmers. These three modalities can be done in partnership with the DA.

- The evaluation team recognizes that MinPACT has only 1 or 2 field staff per major project area, thus it will be physically impossible for them to be visiting the farm to check on their adoption progress. Perhaps, MinPACT can devise a way that emphasizes the reliability and frequency of interaction between MinPACT and the farmers so they do not backslide on old habits. It is possible that there might be a third-party service provider who can offer a mobile value-added service on 3C production and marketing.
- **Fast-track cascading training and distribution of seedlings.** There are still many beneficiaries who have not received or planted the recommended seedlings.
- **Explore parallel mechanism focused on reinforcing technology adoption.** MinPACT can explore parallel activities that reinforce technology adoption, so farmers do not slide back on their traditional, non-efficient habits.
- **Organize a regional experts pool.** This is akin to the master trainers already set-up at the producer organizations' level, only that the members of the pool have higher level of technical skills on production and processing. They can be fielded to support farmers and advice processors within and outside of their region. It is preferred that the experts have their own farm or processing facilities.

2. Improve reach and quality of extension services

- **Strengthen operation of the nurseries.** The MTE results show that PO-nurseries are on different stages of operation, some have completed the first cycles and some are still completing the physical structures. In general, the nurseries can be considered in the early stages of operation and have not yet yield concrete evidence of outcomes and sustainability, except that the officers and staff involved are aware they need to operate it well so their members can have access to quality seedlings and they can earn from selling the seedlings to non-beneficiaries or the LGU.

Some interviews with PO representatives (e.g. SUFA and BFA) yielded concerns on the financial transparency of the nursery operations. Thus, it will help the nursery in-charge and guide the members to have a specific management plan for each nursery. This will include production scheduling, marketing efforts (i.e. get accredited with the LGUs and national government agencies as a source of seedlings), maintenance of accreditation, etc.

- **Review Master Trainer intervention.** The master trainers are expected to fast-track the cascading of the trainings. In interviews with the field technicians and farmer-respondents, not all master trainers have been fully utilized. While most of them can be regarded as technical experts, not all possess the appropriate facilitation skills or have conflicting schedules/priorities. It may be useful to review the intervention (i.e. existing strengths and weaknesses) and how this particularly technology transfer modality be further improved. For a start, look for people who already have training experience with the right mix of technical and facilitation skills, and those who do not have restrictive formal responsibilities with an organization. Another strategy is to refresh/retrain them, or groom new ones.
- **Further strengthen project messaging.** MinPACT has been doing well in emphasizing “quality” across the chains and this is reflected on the level of awareness among the farmers, POs and partners. This is not a reason to be complacent; instead, MinPACT needs to link quality with other opportunities:
 - That quality starts from the planting materials, crop establishment and management, harvesting, processing, marketing and logistics
 - That good management of nurseries, credit assistance and other forthcoming post-harvest facilities are community resource that will earn the POs more income
 - That adoption can also be used in other non-3Cs crop and that farmers need not wait for the seedlings that will be provided by MinPACT
 - That consolidation of products will enable them to have better bargaining power with the buyers and increase income for the PO (eventually, dividends for members too)
 - That quality requires investment and investment may not necessarily be coming from their last cropping’s sale, but can be borrowed.

MinPACT can also explore other platforms, not only face-to-face, but other delivery mechanisms as well (i.e. a gardening subject in elementary school). Other key messages must include extensive dissemination of available services (i.e. free soil sampling from DA), addressing the reluctance cooperatives to borrow from government financing institutions, or enrolling crop/weather insurance.

- **Continue the validation and updating of the SharePoint M&E database as a tool for effective audience design and targeting.** The continuous validation and updating of the database (i.e. types of crop engaged in, technology adoption, etc.) will further classify or prioritize beneficiaries by the type of interventions they will receive for the remaining months of the project. MinPACT SharePoint M&E database is a useful resource for effective audience design and targeting.
- **Provide support to associations as they transition as cooperatives.** POs that are still “association” in form will need to register/transition as cooperatives. They will be under a regulatory agency (Cooperative Development Authority), which will help them formalize their processes.

3. Advance project activities along the value chain (moving from production to processing and marketing)

- **Increase focus on processing and marketing-related activities on the 2nd half.** Much of MinPACT’s focus in the first half of the project has been on production technologies. The

MTE showed the beneficiaries, POs and other value chain actors' satisfaction on how MinPACT has widened the market links for the 3C products. As the newly-planted 3Cs are growing, MinPACT can further motivate them to adopt recommended technologies by conveying the quality and volume requirements of the markets as well as the value-adding potentials.

- **Distribute appropriate post-harvest facilities to qualified/ready POs.** The distribution of the appropriate post-harvest facilities to qualified POs will further encourage them to adopt the recommended technologies. With the possibilities of increased yield, the POs can gradually upgrade their product offerings by further processing their 3Cs in products of good quality. The “appropriate” refers to facilities or equipment that will ensure quality outputs as required by the buyers/markets. The farmers are too familiar with stories of post-harvest facilities that are locally-fabricated and cheap, but process products that are not at par with the quality standards (i.e. concerns on food safety, shelf life, taste, etc.).
- **Explore other activities that encourage product upgrading.** The general value chain of Mindanao agricultural products is short, as most crops are sold as fresh/raw or dried. MinPACT, by working with DTI and DOST, may come up with activities that will encourage local innovation using the 3Cs as raw materials. It can be a competition through schools or among organizations, from professional product designers, women or youth.
- **Support participation of farmers, POs and value chain actors to competitions, domestic and international.** The experience of Kape Maramag and Inhandig Tribal MPC was a precious confirmation of the uniqueness of coffee being raised in upland Mindanao. Without MinPACT, they would have never found out that they stand a chance to compete nationwide and perhaps globally. Winning competition is a good market promotion activity and serves as an inspiration for other cooperatives to do better, because through quality, it opens a whole new world for them.
- **Continue grading and cupping activities.** The value chain actors were happy with the quality-related activities such as the grading and cupping. It made them confident about their crops and their capabilities.
- **Explore activities where buyers/markets that will pull 3Cs products, farmers and POs.** MinPACT's support is not about increasing the size of the pie slice, rather it is increasing the size of the pie so everyone can have a bigger slice. As the industry organizations suggest, established buyers both in the country and abroad can be invited to visit Mindanao and try its 3C products. This can also be a reverse of winning international competitions, where an appreciation tour brings credible selected buyers to visit the island and see for themselves the conditions for growing coffee and the people behind the beans. This introduces the buyers to new sources of coffee and cacao beans.
- **Guide POs with certification processes, if certification is required/supported by their buyers/markets.** Certification = quality = premium price – but only works if there is a market/buyer willing to co-share the cost of certification. Coconut POs working with Franklin Baker can attest to the benefits linked to certification. Thus, for qualified POs that can take similar path needs advice or guidance so they are not left to their own devices in navigating the stringent process.
- **Continue Sell More for More curriculum.** Fast-track the implementation of the training program, so POs can gradually adopt/install the recommended systems and protocols.

- **Conduct/revisit POs M4 Result.** The MTE did not dwell on organizational diagnosis, but there were snippets of internal dynamics that have affected the pace of their MinPACT-related implementation. Secondly, there is a stark contrast on levels of capacities, resources, priorities, transparency, achievements, etc. across the 24 POs. For instance, there are POs with below than 50 members while others are bursting with thousands of members. There are POs that are less than 5 years in existence to POs with decades of service. There are POs that have profitable enterprises and established partnerships, while some POs are new to entrepreneurship.

For the second half of the project, MinPACT may consider classifying the POs, i.e. weak and strong, using different criteria. The result of the diagnosis can further customize how MinPACT technical and support staff address weaknesses and threats (i.e. speed-up pace in critical activities, find acceptable solutions to gaps) in the remaining 2nd half.

- **Continue to support IO-led industry-wide conferences and summits, but review expected outcomes.** Kakao Konek, Philippine Coffee Summit and Cocolink are the major industry-wide events organized by the IOs and supported by MinPACT. Considering the enormity of the expected attendance, these events are understandably demand time, effort and funds. However, these events largely advocacy-focused, where problems are elevated and solutions are discussed. These events must be treated as “investment” with long-gestating returns or impact. These events do not produce immediate results, but are crucial in establishing/sustaining “enabling” environment for the 3C production and businesses to thrive.
- Continue creating/nurturing relationships with local buyers that have international markets. Franklin Baker, Kennemer Foods, CSI and others are key market partners of the farmers and the POs. They play a role in integrating the farmers/POs to the global value chains.
- **Realign staff to focus on marketing, finance, and organizational strengthening.** Based on the database updating, re-assessment of POs, and completion of the exit and sustainability planning, MinPACT may need to realign staff assignment to place emphasis on communications, marketing, financial literacy, and organizational strengthening. Another option is to hire additional staff or a business development provider to support the readjustment of activities.

4. Sustain gains of the first half of the project

- **Seek accreditation with LGUs and NGAs.** The POs with nurseries will need to sustain their operation. They need move beyond serving their members with seedlings, but offer their products to the LGUs and national government agencies that are into seedling dispersal as support to their farmers. They must be accredited as suppliers first, in which their BPI accreditation will come in handy. Another accreditation from the Fertilizers and Pesticides Authority will be needed for POs wanting to get into the distribution of fertilizers later, starting with their members and others in their communities. Finally, a separate accreditation, specifically License to Operate from the Bureau of Food and Drugs Administration, will be required for POs wanting to process and sell 3C-based food products. All these accreditations will require advice in complying with the legal and technical documents.
- **Conduct exit and sustainability planning.** The awareness on the project timetable is not enough to lay-down the foundation of MinPACT’s exit and how POs and industry organizations can sustain the gains after project closure. It is necessary to have exit and

sustainability planning, which includes orientation and discussion on several issues. The agreements need to be documented in a plan to guide the POs after MinPACT's exit. The activity can focus on the following:

- Review targets versus accomplishment vis-à-vis remaining timeline and newly-developed capacities
- Handover of responsibilities, clarify roles and responsibilities
- Entrepreneurial possibilities or business planning
- Policies, standards and procedures (nurseries, credit, master trainers)
- Resource mobilization of the POs (and industry associations too) so they can formulate plans or enter agreement to support income-generating projects (spin-off or not of MinPACT)

Another important result of the PO diagnosis will be the decision to open-up to other POs or drop POs that are lagging with their targets.

- **Design or pilot a Mindanao-nuanced 3C behavior change approach.** Drawing from ACIDI-VOCA's experience in implementing value chains and promoting 3Cs across the globe, it may be able to craft a customized strategy for promoting behavior change, given Mindanao conditions, capacities, and the early gains of the project. If the time is too short to pursue the model massively, at least it can be tested in pilot areas/POs, which can be a stepping point to scale-up the project. The regression analysis done on the factors of adoption only validates the variability of reasons why farmers do what they do.
- **Conduct exit and sustainability planning with the industry associations:**
 - Review milestones and fast-track critical activities
 - Discuss resource generation and mobilization
- **Implement "women or youth-only" activities.** The MTE results indicate participation of women in project activities – as these are gender-blind. Still, MinPACT may consider offering other technologies (i.e. processing-related) that are designed around women and youth's interest and limitations.
- **Conduct succession training/activities for youth.** There are indications of youths wanting to continue the farming tradition of their family. Such interest may be galvanized by more information or application opportunities. Speaking of the national government agencies, it is clear both DA and DTI are fully supportive of the project. MinPACT may want to consider meeting the key officials on how these agencies can continue the gains of the project that are within their respective mandates (i.e. technology training, pre-production equipment, post-harvest facilities, and farm-to-market roads for DA; and trade promotion, quality assurance and product development for DTI, etc.). In addition, MinPACT may lobby with the DA regional offices and the LGUs to procure their seedlings requirement from BPI-accredited POs with nurseries.
- **Meet with relevant national government agencies and local government units to discuss exit and sustainability.** MinPACT needs to meet with receptive LGUs discussing the steps leading to and following the project exit. There may be activities the latter wish to assume/strengthen. MinPACT may also need to share with the national government agencies its contacts outside of the country. Other information may also be shared with these agencies (i.e. specific needs and solutions related to local development such as roads connecting to major 3C production areas, manufacturers of quality processing equipment).

- **Document learning and process.** MinPACT brings in unique approaches and encouraging results. These processes and lessons need to be documented so other organizations may learn from them. The present administration has recognized the importance of value chains and has considered it a vehicle for achieving development in the countryside.
- **Lobby with LGUs and NGAs to provide short-gestating crops to augment 3Cs.** MinPACT can coordinate with LGUs and NGAs to continue extending free vegetables seedlings, do livestock dispersal, and conduct food processing activities as farmers wait for their newly-planted 3Cs to mature.
- **Lobby for more local colleges to offer agriculture courses or propose curriculum on 3Cs.** Mindanao has very few colleges and universities that offer agriculture-related courses, even if the island is the primary producer and exporter of agricultural products. Together with the DA and DTI, this move should be proposed to the Center for Higher Education. Otherwise, work with existing schools (like SPAMAST) to have 3Cs-specific courses.
- **Support for industry-wide quality assurance.** CIDAMI has been campaigning to set-up quality assurance for the Mindanao cacao and coffee industries, now that the industry is still relatively small and getting the people to agree is easier. Quality assurance for Mindanao is a branding effort and once established/strictly maintain, can become a competitive advantage.
- **Study the benefits of the country** being a member of the International Coffee Organization and International Cocoa Organization.
- **Study feasibility of the following:**
 - Develop a “commodity champion” who can command attention and rally support to elevate certain crop-specific issue or activity
 - Study other modalities for transferring/strengthening capacity at the PO level, such as mentoring via manager to manager, big-small sister cooperatives, or hiring professional managers to run the POs.
 - Consider the warehousing needs of the deserving POs to enable them maintain the quality of products (may or may not be funded by MinPACT).

Works Cited

Chua et al, K. (2016). *Mindanao Jobs Report, Volume 1*. World Bank.

NEDA. (2017). *Philippine Development Plan 2017-2022*. Retrieved March 14, 2017, from National Economic and Development Authority: <http://pdp.neda.gov.ph>

BAFS. (2016). *Approved Philippine National Standards*. Retrieved April 6, 2017, from Bureau of Agriculture and Fisheries Standards (BAFS):
<http://www.bafps.da.gov.ph/index.php/standard-formulation/philippine-national-standards>

Annexes

Annex 1: MinPACT Beneficiary Producer Organizations

Province/City	Name of the Producer Organization
Compostela Valley	Maragusan Growers Multi-Purpose Cooperative (MAGROW)
	New Leyte Cocoa Farmers Producers Cooperative
	Laak Multi-Purpose Cooperative (LAMPCO)
	Nabunturan Integrated Cooperative (NICO)
Davao del Norte	Federation of Cooperatives in Mindanao (FEDCO)
	Katipunan Small Coconut Farmers' Cooperative
Davao City	MarilogCalinan Baguio Tugbok Cooperative Federation (MACOFED)
	Salaysay Upland Farmers Association
Davao del Sur	USPD Savings and Credit Cooperative
	Bansalan Cooperative Society mPC
	Jose Rizal Farmers Association
	Balutakay Coffee Farmer Association (BOCOFA)
	BMan's Community Cooperative
Davao Oriental	Mati Lapagan Multi-Purpose Cooperative (MALACO)
	Kooperative sa Nagkahiusang Mag-uumasa San Isidro (Nagmasid Koop)
	Mati Davao Oriental Upland Farmers MPC (MDOUPMCO)
Bukidnon	Imbayao Community-Based Forest Management Farmers Association
	Batanggason Farmers Association
	MILALITTRA
	InhandigTrival MPC
Zamboanga del Norte	Paglaum Multi-purpose cooperative
	People's Officials, Employees and Community MPC (POEMCO)
	Sindangan FACOMA Community Cooperative (FACOMA)
	Barcelona Primary Multi-Purpose Agricultural Cooperative

Annex 2: Actual versus Target Respondents (Deviation)

Cooperative	ACTUAL SURVEY					TARGET RESPONDENTS					DEVIATION FROM TARGET SAMPLE				
	CA	CT	CF	M	Total	CA	CT	CF	Mixed	Total	CA	CT	CF	Mixed	Total
Balutakay Coffee Farm Association BACOFA			8		8	0	1	7	0	8	0	-1	1	0	0
Barcelona Primary Multi purpose Agricultural Cooperative BPMAC	2	3		6	11	2	4	0	4	10	0	-1	0	2	1
Batangason Farmers Association			23		23	0	0	23	0	23	0	0	0	0	0
Bansalan Cooperative Society-MPC	5	21		4	30	4	15	0	17	36	1	6	0	-13	-6
BMAN s Binaton BagoboTagabawa Farmers Livelihood Association BBTFLA	1	2	2	4	9	1	1	0	7	9	0	1	2	-3	0
FEDCO	32	2		1	35	33	2	0	4	39	-1	0	0	-3	-4
Imbayao Community based Forest Management Farmers Association ICBFMFA			43		43	0	0	44	0	44	0	0	-1	0	-1
Inhandig Tribal MPC			19		19	0	0	19	0	19	0	0	0	0	0
Jose Rizal Farmers Association JORIFA	4	5	1	1	11	2	1	0	9	12	2	4	1	-8	-1
Katipunan Small Coconut Farmers Cooperative		6		12	18	1	7	0	6	14	-1	-1	0	6	4
KooperatibasaNagkahiusang Mag uumasa San Isidro Nagmasid Koop		3		5	8	1	3	0	4	8	-1	0	0	1	0
LaakMulti purposeCooperative LAMPCO	3	9		10	22	4	10	0	11	25	-1	-1	0	-1	-3
MACOFED	6	2		12	20	6	1	0	12	19	0	1	0	0	1
Maragusan Growers Multi PurposeCooperative MAGRO	17			7	24	12	0	0	9	21	5	0	0	-2	3
Mati CityLapaganMulti purpose Cooperative MALACO	1	4		2	7	1	4	0	2	7	0	0	0	0	0
Mati Davao Oriental Upland Farmers MPC MDOUNPMC		2		4	6	0	2	0	4	6	0	0	0	0	0
MILALITTRA		1	40		41	0	0	41	0	41	0	1	-1	0	0
Nabunturan Integrated Cooperative NICO	1	3		6	10	1	3	0	5	9	0	0	0	1	1
New Leyte Cocoa Farmers Producer Association NELECOFAPA	16			14	30	12	3	0	12	27	4	-3	0	2	3
PaglaumMulti Purpose Cooperative	23	29		17	69	24	28	0	17	69	-1	1	0	0	0
People s Officials Employees Community Multi Purpose Cooperative POEMCO	2	6		2	10	1	8	0	2	11	1	-2	0	0	-1
Salaysay Upland Farmers Association	2		2	4	8	2	0	2	4	8	0	0	0	0	0
Sindangan FACOMA Community Multipurpose Cooperative FACOMA	11	34		6	51	15	23	0	14	52	-4	11	0	-8	-1
USPD Savings and Credit Cooperative	9	18		2	29	9	12	0	4	25	0	6	0	-2	4
Total	135	150	138	119	542	131	128	136	147	542	4	22	2	-28	0

Annex 3: Most Significant Change Stories

Barangay Captain

Misamis Occidental

“I have been a farmer since my youth. However, I did not know much about Cacao Growing or Production. This all changed when PAGLAUM MPC encouraged me to try planting Cacao. With the help of Kennemer, and ACDI-VOCA’s MinPACT Project, I was able to plant cacao. I received various trainings, and there were even times when we were taken on learning expeditions to Davao and Cagayan. These trainings were all designed to help me become a better and more efficient farmer, especially since I’m not getting younger.”

Representative of Balingaeng Multi-Purpose Cooperative (BMPC)

Davao City

“MinPACT training on cacao production has taught farmers like me a lot of things that are very useful. We in the BMPC were trained in various modules like crop establishment, crop and farm maintenance, soil and nutrient management, integrated pest and diseases management and cacao harvest and postharvest practices. What I liked best in these trainings is that they mostly had hands on demonstrations and actual field activities. I’m especially thankful for the pest and diseases management training as that was my problem with my cacao farm before: I didn’t know what to do when pests and diseases struck my cacao trees. However, now I know how to identify and manage these pests and diseases and it has greatly increased the production of my farm.

Since the coop has existing fermentation boxes and solar dryer facilities, we were also taught the proper way and right process on fermentation techniques. They also gave us tips like how fermented cacao beans can fetch a higher price compared to just selling cacao wet beans and dried cacao.

The MinPACT project has really transformed our mindset. Now we are resolute in learning more on cacao technology that is taught by MinPact and apply the learnings in actual and become more productive in our existing cacao farms. I really believe that the learnings that we have gained from the trainings gave us a good start as producer and consolidator of cacao fermented bean that can command good price in the market.”

Local Coffee Producer

Davao del Sur

“Our association was quite messy: full of political issues and people who only think of their own benefit. When MinPACT started the intervention, I recognized that it fits our need. So when the assembly was held to decide between staying in MinPACT or KAPWA was held, I really campaigned for us to stay with MinPACT . I have no regrets because from then on, doors were opened for us and we as a cooperative improved in managing our community. We became aligned and we agreed on a common goal: to improve and give quality coffee and to become more profitable.

Because of our involvement with MinPACT, BACOFAs has increased in productions and sales. Thanks to MinPACT, we have become more conscious of the quality of the coffee that we are producing. This is because of the trainings that were conducted we learned how to process good quality coffee. They also helped us in marketing our products. After we attended the MinPACT sponsored October 2016 Summit, we were approached by a lot of prospective buyers from different places. We had buyers from Davao, Bacolod and Iloilo. During the coffee cupping contest held during the Coffee Congress in Baguio, our coffee won 1st Runner Up. And because it was in the news, we became

instantly popular. I am proud to say that we are close to grade 12 coffee and we will and we can achieve that by the help of MinPACT. All of that is because of MinPACT. We learned from the trainings and applied it in our farm.”

Local Coffee Farmer

Davao del Norte

“Our farm was devastated by Typhoon Pablo. All our crops were ruined and we were left with basically nothing. Thankfully, on 2013, we were given two hundred hills of Cacao seedlings through ACDI-VOCA’s CoCoPal Project. We planted the seedlings despite not having enough knowledge on how to grow it properly. Fortunately, the ACDI-VOCA followed it up with the MinPACT project. Through this, they trained us farmers on how to take care of the cacao. Before MinPACT, the cacao just grew taller and taller. At times, the fruits would just fall off the tree because we couldn’t see them through the leaves. After the trainings provided by the MinPACT Project, we have now learned how to prune the cacao properly. Aside from that, we learned everything from land preparation to harvesting. They also taught us the proper cacao bean fermentation techniques to achieve the texture and taste of high quality cacao beans. Through this, we will be able to earn money to help us recover from Typhoon Pablo.”

Local Coffee Farmer

Compostela Valley

“Before the MinPACT project, cacao seedlings were simply too expensive for us farmers. I kept hoping that someone will assist us and so when MinPACT arrived and conducted a training about cacao, I didn’t hesitate about joining. I learned a lot during the training and you can also see that MinPACT is really involved and dedicated in giving us quality trainings. The members of the association were also very happy about the provision of not only cacao seedlings, but an entire nursery. We are really grateful for what ACDI-VOCA, through the MinPACT Project, has done for us.

Changes in our association are very visible as well, especially in the membership. Because of the MinPACT intervention, we increased from 33 to 337 members. And these farmer members are very much willing to learn from trainings and apply what they learned in their own farms.”

LAMPCO

Compostela Valley

“Before, we had no nursery. But last year, because of ACDI VOCA interventions, we were able to put up a nursery, complete with structures. They shouldered all the expenses and also helped us in **registering the nursery with the Bureau of Plant and Industry**. If it was only the coop, it wouldn’t have been possible. We are really thankful for MinPACT and it has helped us a lot in our operations.”

Local Coffee Farmer

Bukidnon

“We have engaged in coffee production a long time ago. However, we used the old variety and the traditional way of farming. However, through the technical input provided by MinPACT I have learned the new practices/technology in coffee farming such as: holing, fertilizer application, planting distance and inter-cropping. It is very significant because my farming practices have been changed and updated. The trainings have made me a better farmer, and at the same time, a teacher for my co-farmers here in our locality since I have been sharing my learnings with them. The demo farm planted with typica and catimor that was established in our area. Tinaytayana also greatly helped us in adopting the technology.”

Annex 4: Regression Analysis on Factors Affecting Rate of Adoption

Regression analysis was employed to examine the factors affecting percentage of adoption of introduced MinPACT technologies. Separate analyses were conducted for the 3Cs. The empirical model to be applied per crop in this study is :

$$Y = \beta_0 + \beta_1 Treeb + \beta_2 Treed + \beta_3 Areab + \beta_4 Treed + \beta_5 Age + \beta_6 Gender + \beta_7 CivilStat + \beta_8 Ownersh + \beta_9 Educ + \beta_{10} Occupa + \beta_{11} OtherOccu + \beta_{12} Membership + \beta_{13} DPlant + \beta_{14} DPlant2 + \beta_{15} DPlant3 + \beta_{16} Financial + \beta_{17} YearsFarm + \beta_{18} YearsCrop + \beta_{19} FarmManTrain + \beta_{20} HHSIZE + \beta_{21} HHFemale + \varepsilon$$

where:

Y- Percentage adopted among the technologies introduced by MinPACT

Treeb- Number of trees of crop C before MinPACT

Treed- Number of trees of crop C during MinPACT

Areab- Number of hectarage planted of crop C before MinPACT

Aread- Number of hectarage planted of crop C during MinPACT

Age- Age of respondent in years

Gender- is a dummy variable (1- Male, 0-Otherwise)

CivilStat- is the dummy variable on civil status of respondent (1- Married, 0-otherwise)

Ownersh- is a dummy variable on land ownership (1- Owner, 0- otherwise)

Educ- is the number of years of formal schooling of the respondent

Occupa- is the type of occupation of the respondent (1- if farmer, 0-otherwise)

OtherOccu- is a dummy variable on other occupation of the respondent (1-if with other occupation, 0- otherwise)

Membership- is a dummy variable on organizational membership (1- if with membership, 0= otherwise)

DPlant- is a dummy on the type of farm (1- if farm contains old trees only, 0-otherwise)

DPlant2- is a dummy on the type of farm (1- if farm is expanded, 0-otherwise)

DPlant3- is a dummy on the type of farm (1- if farm contains new planted crop c, 0- otherwise)

Financial- is a dummy on access to financial services (1- if availed financial services, 0- otherwise)

YearsFarm- is the number of years of farming

YearsCrop- is the number of years of cultivating crop c

FarmManTrain- is dummy variable on attendance to farm management training (1-if respondent attended farm management training, 0-otherwise)

HHSIZE- is the total number of household members.

HHFemale –is the number of women in the household.

β_s - are the parameters to be estimated

ε - is the error term

Table A shows the estimated coefficient of parameters for factors affecting percentage of technology adoption of Cacao technologies. Among Cacao farmers, adoption of introduced farm technologies are

affected and enhanced by the following factors: (1) the number of cacao trees planted before the introduction of the production technologies, (2) land ownership, those who owned the farm land has a higher percentage of technology adoption compared to those farmers who do not own their land, (3) number of years of formal schooling significantly and positively affects percentage of adoption, (4) number of years of cacao farming and (5) access to information on farm management as complement to farm production technology trainings attended. Ownership of farm increases the percentage of adopted technologies by 34% from 28% of those who do not own their cultivated farm, a year increase in number of years of formal schooling increases percentage of technology adopted by 1.37%, per unit increase of existing cacao tree increases percentage of technology adopted by 0.021%, and an a year increase in year of cacao farming increases percentage of technology adopted by 0.86%, *ceteris paribus*.

Table A. Estimated coefficients of the factors affecting adoption rate of MinPACT Cacao technologies.

Variables	Coef.	Std. Err.	T-Stat	P Value	[95% Conf. Interval]	
Treeb	0.021*	0.012	1.720	0.088	-0.003	0.046
Treed	-0.002 ^{ns}	0.006	-0.300	0.762	-0.013	0.010
Areab	0.524 ^{ns}	2.337	0.220	0.823	-4.108	5.156
Aread	-0.579 ^{ns}	0.583	-0.990	0.323	-1.735	0.577
Age	0.261 ^{ns}	0.166	1.570	0.119	-0.069	0.590
Gender	2.804 ^{ns}	5.071	0.550	0.581	-7.246	12.854
Civilsta	-4.538 ^{ns}	6.427	-0.710	0.482	-17.276	8.201
Ownersh	34.183***	5.714	5.980	0.000	22.859	45.508
Educ	1.367*	0.757	1.810	0.074	-0.133	2.867
Occupa	-6.471 ^{ns}	6.631	-0.980	0.331	-19.613	6.671
Otheroccu	-3.072 ^{ns}	5.062	-0.610	0.545	-13.104	6.960
Membership	-6.883 ^{ns}	6.294	-1.090	0.277	-19.358	5.591
Dplant	-16.374**	7.381	-2.220	0.029	-31.003	-1.745
dplant2	-11.724 ^{ns}	7.915	-1.480	0.141	-27.412	3.964
dplant3	-18.982*	9.992	-1.900	0.060	-38.786	0.822
Financial	10.772 ^{ns}	7.706	1.400	0.165	-4.501	26.045
Yearsfarm	-0.237 ^{ns}	0.163	-1.460	0.148	-0.560	0.085
Yearscacao	0.859*	0.469	1.830	0.070	-0.071	1.790
Farmmantrain	18.789**	5.663	3.320	0.001	7.565	30.012
Hhsize	-1.642 ^{ns}	1.991	-0.820	0.411	-5.588	2.305
Hhfemale	1.513 ^{ns}	2.855	0.530	0.597	-4.146	7.172
Constant	27.955*	15.145	1.850	0.068	-2.062	57.972
Prob> F =			0.0000			
R-squared =			0.5208			
Adj R-squared =			0.4284			

Note: *** significant at 1% level of alpha, ** significant at 5% level of alpha, * significant at 10% level of alpha, ^{ns} not significant 10% level of alpha

In terms of coconut, significant factors affecting percentage adoption of technologies are number of hectares planted with coconut during MinPACT and availment of financial services. Result suggest that farmers with larger farms planted with coconut trees during the MinPACT project has a higher percentage of technology adoption. Among coconut farmers, it shows that those with access and availed financial services (credit) have significantly higher percentage of adoption compared to those without access and availment of financial services.

A per hectare expansion of area planted to coconut during the project increase percentage of adopted technologies on coconut production by 0.23%. Those with access to financial services has a percentage of

Table B. Estimated coefficients of the factors affecting adoption rate of MinPACT Coconut technologies.

Variables	Coef.	Std. Err.	T-Stat	P Value	[95% Conf.	Interval]
Treeb	-0.008 ^{ns}	0.018	-0.450	0.652	-0.043	0.027
Treed	0.017 ^{ns}	0.017	0.980	0.330	-0.017	0.051
Areab	0.170 ^{ns}	0.542	0.310	0.754	-0.903	1.244
aread	0.230 ^{**}	0.084	2.740	0.007	0.064	0.396
age	0.160 ^{ns}	0.109	1.470	0.145	-0.056	0.376
gender	-0.731 ^{ns}	2.916	-0.250	0.802	-6.500	5.038
civilsta	0.775 ^{ns}	3.694	0.210	0.834	-6.534	8.084
ownersh	3.094 ^{ns}	4.428	0.700	0.486	-5.668	11.856
educ	0.662 ^{ns}	0.409	1.620	0.108	-0.147	1.471
occupa	0.890 ^{ns}	4.354	0.200	0.838	-7.725	9.506
otheroccu	-3.966 ^{ns}	3.999	-0.990	0.323	-11.878	3.946
membership	4.454 ^{ns}	3.736	1.190	0.235	-2.938	11.846
dplant	-0.217 ^{ns}	5.849	-0.040	0.970	-11.789	11.355
dplant2	7.421 ^{ns}	6.871	1.080	0.282	-6.174	21.015
dplant3	-16.125 ^{ns}	22.126	-0.730	0.467	-59.903	27.652
financial	46.102 ^{***}	5.714	8.070	0.000	34.797	57.407
yearsfarm	-0.032 ^{ns}	0.118	-0.270	0.788	-0.266	0.202
yearscaao	-0.153 ^{ns}	0.145	-1.050	0.294	-0.439	0.134
farmmantrain	0.981 ^{ns}	3.180	0.310	0.758	-5.311	7.273
hhsize	0.509 ^{ns}	1.287	0.400	0.693	-2.037	3.055
hhmale	1.691 ^{ns}	2.008	0.840	0.401	-2.282	5.663
Constant	-20.712 [*]	10.110	-2.050	0.043	-40.715	-0.709
Prob> F =			0.0000			
R-squared =			0.5249			
Adj R-squared =			0.4476			

Note: *** significant at 1% level of alpha, ** significant at 5% level of alpha, * significant at 10% level of alpha, ^{ns} not significant 10% level of alpha

Technology adoption among coffee farmers are significantly affected by number of trees planted, level of education, and household size. The higher numbers of existing coffee trees before MinPACT suggest

decreasing percentage adoption, while those who able to expand number of trees during the MinPACT increase percentage of adoption. Number of years of formal schooling and household size positively and significantly affect percentage of technology adoption. Financial variable was omitted in the model for coffee since none of the farmers have availed financial services.

The P-value (Prob> F) of the three models are below 0.005 which suggest that there is significant relationship between the dependent and independent variables. R squared ranged from 23% (Coffee) to 52% (Cacao and Coconut) which is the amount of variance of percentage of technology adoption explained by the independent variables included in the analysis.

Estimated coefficients revealed that per tree increase of existing coffee tree prior to MinPACT decreases the percentage of technologies adopted by 0.03%, however, an expansion (per tree of newly planted) increases the technologies adopted by 0.02%. A year increase in educational level (in years) and an increase in the number of household members increases the percentage of technologies adopted by 2.11% and 4.18%, respectively.

Table C. Estimated coefficients of the factors affecting adoption rate of MinPACT Coffee technologies.

Variables	Coef.	Std. Err.	T-Stat	P Value	[95% Conf. Interval]	
treeb	-0.031**	0.013	-2.340	0.021	-0.058	-0.005
treed	0.023*	0.013	1.760	0.082	-0.003	0.049
areab	0.015 ^{ns}	0.061	0.240	0.812	-0.106	0.135
aread	0.014 ^{ns}	0.049	0.290	0.773	-0.083	0.112
age	0.140 ^{ns}	0.170	0.820	0.413	-0.198	0.478
gender	-1.087 ^{ns}	5.263	-0.210	0.837	-11.513	9.338
civilsta	-5.482 ^{ns}	5.964	-0.920	0.360	-17.297	6.334
ownersh	15.470 ^{ns}	16.790	0.920	0.359	-17.791	48.730
educ	2.117**	0.730	2.900	0.005	0.670	3.564
occupa	-0.543 ^{ns}	6.809	-0.080	0.937	-14.033	12.946
otheroccu	0.989 ^{ns}	7.716	0.130	0.898	-14.297	16.276
membership	1.083 ^{ns}	6.416	0.170	0.866	-11.627	13.792
dplant	4.362 ^{ns}	16.360	0.270	0.790	-28.048	36.772
dplant2	-9.154 ^{ns}	15.955	-0.570	0.567	-40.762	22.453
dplant3	-30.777 ^{ns}	33.030	-0.930	0.353	-96.210	34.656
yearsfarm	0.338 ^{ns}	0.231	1.460	0.147	-0.120	0.797
yearscacao	-0.153 ^{ns}	0.381	-0.400	0.690	-0.908	0.603
farmmantrain	-1.753 ^{ns}	5.380	-0.330	0.745	-12.410	8.904
hhsize	4.179**	2.030	2.060	0.042	0.158	8.200
hhfemale	-0.329 ^{ns}	3.031	-0.110	0.914	-6.333	5.676
Constant	26.456*	14.107	1.880	0.063	-1.489	54.402
Prob> F =			0.0414			
R-squared =			0.2308			
Adj R-squared =			0.0958			

Note: *** significant at 1% level of alpha, ** significant at 5% level of alpha, * significant at 10% level of alpha, ^{ns} not significant 10% level of alpha

ANNEX 5: MTE STATISTICAL TABLES

Statistical Table 1: Distribution of respondents, by crop

	Distribution
Cacao	133
Coconut	151
Coffee	138
Mixed	120
• Cacao Coconut	97
• Cacao Coconut Coffee	6
• Cacao Coffee	13
• Coconut Coffee	4
Total	542

Note: In succeeding tables and unless specified, the 4 sub-groups under “Mixed” will be combined.

Statistical Table 2: Distribution of respondents by average age and sex, by crop

	Average Age	Sex				
		Female	Male	Total	% Female	% Male
Cacao	49.6	50	91	141	35.5	64.5
Coconut	53.6	58	87	145	40.0	60.0
Coffee	41.8	71	66	137	51.8	48.2
Cacao Coconut	50.3	46	50	96	47.9	52.1
Cacao Coconut Coffee	61.7	1	5	6	16.7	83.3
Cacao Coffee	52.7	7	5	12	58.3	41.7
Coconut Coffee	58.6	2	3	5	40.0	60.0
Average	49.1	235	307	542	43.4	56.6

Note: The evaluation team was not able to include sex as a sampling factor.

Statistical Table 3: Distribution of respondents by marital status, by crop

	Married	Single	Widowed	Common Law/Live in	Divorced/ Separated	Total
Cacao	111	11	15	3	1	141
Coconut	111	10	17	3	4	145
Coffee	111	15	6	4	1	137
Cacao Coconut	82	3	7	3	1	96
Cacao Coconut Coffee	5		1			6
Cacao Coffee	10	2				12
Coconut Coffee	3		2			5

Statistical Table 4: Average years of formal schooling by respondents, by crop

	Average Years of Education
Cacao	9
Coconut	9
Coffee	7
Cacao Coconut	10
Cacao Coconut Coffee	8
Cacao Coffee	8
Coconut Coffee	6
Average	9

Statistical Table 5: Main occupation of respondents, by crop

	Farmer	Business Operator	Hired Farm Worker	OF W	Others	Professional Employment	Professional Practice	Skilled Labor	Student	Total	% Farmer
Cacao	108	1	3		9	11	2	4	3	141	76.6
Coconut	118	4	2	2	10	7		2		145	81.4
Coffee	113	1	11		8	1		2	1	137	82.5
Cacao Coconut	67	1	1	1	13	6	4	2	1	96	69.8
Cacao Coconut Coffee	5					1				6	83.3
Cacao Coffee	8	1	1						2	12	66.7
Coconut Coffee	5									5	100
Total	424	8	18	3	40	26	6	10	7	542	78.2

Statistical Table 6: Average household size, by crop

	Household Size	Ave. Number of Male	Ave. Number of Female
Cacao	4	2	2
Coconut	4	2	2
Coffee	5	3	2
Mixed	4	2	2
Average	4	2	2

Statistical Table 7: Type of household and average size of extended households, by crop

	Nuclear	%	Extended	%	Total	Ave. number of members of extended Household
Cacao	120	90.2	13	9.8	133	2
Coconut	136	90.1	15	9.9	151	2
Coffee	135	97.8	3	2.2	138	2
Mixed	108	90.0	12	10.0	120	2
Total	499	92.1	43	7.9	542	2

Statistical Table 8: Average years in farming and in farming 3Cs, 2017

	Average Years of Farming	Ave. years of growing Cacao	Ave. years of growing Coconut	Ave. years of growing Coffee
Cacao	20.4	3.4		
Coconut	26.6		19.9	
Coffee	19.6			5.5
Cacao Coconut	22.0	5.0	18.8	
Cacao Coconut Coffee	23.2	2.5	12.8	1.3
Cacao Coffee	23.0	5.8		9.5
Coconut Coffee	30.0		17.8	21.5
Average	22.3	2.3	11.2	2.2

Statistical Table 9: Changes in crop cultivation from before and during MinPACT

	Frequency	%
Additional Crop Cacao and Coconut	1	0.2
Additional Crop Cacao	101	18.6
Additional Crop Coffee	2	0.4
Additional Crop Cacao and Coffee	2	0.4
Additional Crop Coconut	26	4.8
Expanded Cacao Cultivation	49	9.0
Expanded Coconut Cultivation	39	7.2
Expanded Coffee Cultivation	32	5.9
Expanded of Cacao and Coconut	30	5.5
Expanded of Cacao and Coffee	4	0.7
Newly Cultivated Cacao	25	4.6
Newly Cultivated Cacao and Coconut	6	1.1
Newly cultivated Cacao and Coffee	3	0.6
Newly Cultivated Coconut	4	0.7
Newly Cultivated Coffee	68	12.5
No Change	79	14.6
No Response	71	13.1
Total	542	100.0
Percentage expanded original cultivated crops		28.4
Percentage newly planted 3Cs		19.6
Percentage diversified 3Cs		24.4

Statistical Table 10: Area planted to 3Cs before and during MinPACT

	Area Planted (Has.) Before MinPACT (2015)	Area Planted (Has.) during MinPACT (2016)	% Change
Cacao	1.4	2.2	0.8
Cacao intercropped with Coconut	2.1	2.2	0.0
Cacao intercropped with Coconut and Coffee	0.6	0.6	0.0
Cacao intercropped with Coffee	0.7	0.9	0.2
Average (Cacao)	1.6	2.1	0.5
Coconut	2.2	3.4	1.2
Coconut intercropped with Cacao	2.4	2.5	0.1
Coconut intercropped with Cacao and Coffee	1.4	1.4	0.0
Coconut intercropped with Coffee	0.2	0.3	0.0
Average (Coconut)	2.2	3.0	0.7
Coffee	0.78	1.26	0.5
Coffee intercropped with Coconut and Cacao	0.21	0.21	0.0
Coffee intercropped with Cacao	2.08	1.42	-0.7
Coffee intercropped with Coconut	0.75	0.68	-0.1
Average (Coffee)	0.89	1.18	0.3

Statistical Table 11: Perception on farmer-respondents that changes in net income will be due to adoption of farming techniques and technologies

	Yes	No	No response	Total	% Yes
Cacao	59	70	4	133	44.4
Coconut	45	98	8	151	29.8
Coffee	89	44	5	138	64.5
Cacao Coconut	51	43	3	97	52.6
Cacao Coconut Coffee	3	2	1	6	50.0
Cacao Coffee	9	3	1	13	69.2
Coconut Coffee	3		1	4	75.0
Total	259	260	23	542	47.8

Statistical Table 12: Average number of visits of MinPACT Technician/Staff in 2016

	Average Number Visits
Cacao	3
Coconut	3
Coffee	8
Cacao Coconut	3
Cacao Coconut Coffee	4
Cacao Coffee	2
Coconut Coffee	0
Total	4

Statistical Table 13: Perception of farmer-respondents on MinPACT technician/staff's availability for consultation

	Yes	No	No response	Total	% Yes
Cacao	83	47	3	133	62.4
Coconut	72	70	9	151	47.7
Coffee	101	35	2	138	73.2
Cacao Coconut	53	41	3	97	54.6
Cacao Coconut Coffee	4	1	1	6	66.7
Cacao Coffee	9	3	1	13	69.2
Coconut Coffee	1	1	2	4	25.0
Total	323	198	21	542	59.6

Statistical Table 14: Satisfaction of farmer-respondents on services of MinPACT Field Technicians

	Yes	No	No response	Total	% Yes
Cacao	90	40	3	133	67.7
Coconut	79	65	7	151	52.3
Coffee	104	30	4	138	75.4
Cacao Coconut	58	36	3	97	59.8
Cacao Coconut Coffee	5		1	6	83.3
Cacao Coffee	10	2	1	13	76.9
Coconut Coffee	1	2	1	4	25.0
Total	347	175	20	542	64.0

Statistical Table 15: Sources of funds for farm operation, before and during MinPACT

	Before MinPACT						During MinPACT						Diff.
	Cacao	Coconut	Coffee	Mixed	Total	%	Cacao	Coconut	Coffee	Mixed	Total	%	
Sale of farm produce	86	117	126	93	422	77.9	76	95	128	77	376	69.4	-8.5
Loans/borrowings	17	12	8	24	61	11.3	41	19	0	50	110	20.3	9.0
Remittances	3	7	0	2	12	2.2	1	3	0	2	6	1.11	-1.1
Off-farm employment	35	25	12	20	92	17.0	35	23	15	22	95	17.5	0.6
Business or other investment	7	14	21	5	47	8.7	6	7	14	4	31	5.72	-3.0

Statistical Table 16: Number of farmer-respondents assisted/linked and received financial services through MinPACT

Crop	Assisted/Linked to financial services (n=542)				Received Financial Services (n=82)		
	Yes	No	No Response	% Yes	Yes	No	% Yes
Cacao	29	101	3	21.8	24	5	82.8
Coconut	24	125	2	15.9	11	13	45.8
Coffee	3	133	2	2.2	0	3	0.0
Mixed	26	93	1	21.7	19	7	73.1
Total	82	452	8	15.1	54	28	65.9

Statistical Table 17: Sources of financial services (n=54)

Crop	Producer Organization	Others
Cacao	24	0
Coconut	6	5
Coffee	0	0
Mixed	17	2
Total	47	7

Statistical Table 18: Sufficiency of the loan amount availed (N=54)

Crop	Yes	No	No Response	% Yes
Cacao	16	5	3	66.7
Coconut	7	4	0	63.6
Mixed	15	3	1	78.9
Total	38	12	4	70.4

Statistical Table 19: Perceived benefits to farmer-respondents after access to financial service (N=54, multiple response)

	Cacao	Coconut	Coffee	Mixed	Total	%
Enhance/Increase crop productivity and income	21	6	0	18	45	83.3
Align with quality standards	1	0	0	1	2	3.7
Increase market value (price) of products	2	0	0	3	5	9.3
Better farm fertility through improved quality of land and water resources	6	1	0	5	12	22.2
Enhance/Increase marketability/quality of farm produce	2	2	0	2	6	11.1
Reduce post-harvest losses	1	0	0	3	4	7.4
Others (ability to buy additional seedlings)	0	3	0	0	3	5.6

Statistical Table 20: Effectiveness of the MinPACT-supported financial services (N=542)

Crop	Very effective	Effective	Not effective; No response	% Effective
Cacao	4	68	61	54.1
Coconut	3	42	106	29.8
Coffee	6	47	85	38.4
Mixed	3	50	67	44.2
Total	16	207	319	41.6

Statistical Table 21: Type of planting materials, before and during MinPACT

	Before MinPACT					During MinPACT					<i>Diff.</i>
	Cacao	Coconut	Coffee	Total	%	Cacao	Coconut	Coffee	Total	%	
Clone	40	13	8	61	14.5	85	52	93	230	54.5	40.0
Traditional variety	77	126	88	291	69.0	32	55	23	110	26.1	-42.9
Wildlings			11	11	2.6			1	1	0.2	-2.4
Non-response	16	12	31	59	14.0	16	44	21	81	19.2	5.2
Total	133	151	138	422	100.0	133	151	138	422	100.0	

Note: Data for mixed crops were not included.

Statistical Table 22: Sources of planting materials, before and during MinPACT

	Before MinPACT					During MinPACT					<i>Diff</i>
	Cacao	Coconut	Coffee	Total	%	Cacao	Coconut	Coffee	Total	%	
Unaccredited and Uncertified Nurseries	1	4	6	11	2.5	0	1	1	2	0.5	-2.0
Unaccredited Nurseries	2	0	8	10	2.3	0	0	6	6	1.4	-0.9
Friends/Community	15	28	81	124	28.3	3	7	26	36	8.4	-20.0
Own	83	80	62	225	51.4	43	42	27	112	26.0	-25.4
Accredited and Certified Nurseries	29	27	5	61	13.9	32	31	46	109	25.3	11.4
MinPACT supported PO Nurseries	2	4	1	7	1.6	64	35	67	166	38.5	36.9
Total	132	143	163	438	100.0	142	116	173	431	100	

Statistical Table 23: Number and percentage of farmer-respondents who adopted the recommended technologies, cacao, N=249

	Cacao Coconut	Cacao Coconut Coffee	Cacao Coffee	Cacao	Total	% Adopted
Farm Diversification	43	2	6	46	96	39%
Crop Genetics	39	1	7	50	96	38%
Soil-related Fertility and Conservation	36	1	7	38	81	33%
Pest Management	21	0	5	25	51	20%
Disease Management	48	3	9	56	115	46%
Harvesting and Post-Harvest Handling	22	1	7	28	58	23%
Average	35	1	7	41	83	33%

Statistical Table 24: Observed/perceived changes in quality due to adopted technologies, cacao

Technology	Number of Adoptees	Positive	Negative	None/Same	% Positive Change
Farm Diversification	96	88	2	6	92%
Crop Genetics	96	81	1	8	84%
Soil-related Fertility and Conservation	81	73	1	7	90%
Pest Management	51	41	1	9	76%
Disease Management	115	104	-	11	90%
Harvesting and Post-Harvest Handling	58	51	-	7	88%

Statistical Table 25: Observed/perceived changes in productivity due to adoption of technologies, cacao

Technology	Number of Adoptees	Positive	Negative	None/Same	% of Positive Change
Farm Diversification	96	75	2	19	78%
Crop Genetics	96	75	2	19	78%
Soil-related Fertility and Conservation	81	65	1	15	81%
Pest Management	51	34	1	16	67%
Disease Management	115	97	3	15	84%
Harvesting and Post-Harvest Handling	58	51	1	6	88%

Statistical Table 26: Observed/perceived changes in cost reduction due to adoption of technologies, cacao

Technology	Number of Adoptees	Positive	Negative	None/Same	% of Positive Change
Farm Diversification	96	65	3	28	68%
Crop Genetics	96	62	3	31	65%
Soil-related Fertility and Conservation	81	53	2	26	65%
Pest Management	51	21	3	27	51%
Disease Management	115	80	5	30	70%
Harvesting and Post-Harvest Handling	58	46	2	10	79%

Statistical Table 27: Observed/perceived changes in marketability due to adoption of technologies, cacao

Technology	Number of Adoptees	Positive	Negative	None/Same	% of Positive Change
Farm Diversification	96	64	3	28	67%
Crop Genetics	96	61	2	33	64%
Soil-related Fertility and Conservation	81	55	1	25	68%
Pest Management	51	20	2	29	39%
Disease Management	115	78	-	37	68%
Harvesting and Post-Harvest Handling	58	50	1	7	85%

Statistical Table 28: Reasons for non-adoption of recommended technologies, cacao

Technology	n	Not appropriate for the crop	Input intensive, expensive	Laborious, time consuming	Do not own a land (Tenure)	Not convinced on the benefits of the technology	No seedlings, Not yet planted, too young
Farm Diversification	26	2	1	3	3	-	17
Crop Genetics	37	1	2	2	3	-	29
Soil-related Fertility and Conservation	29	3	1	1	1	-	22
Pest Management	46	1	1	3	2	0	39
Disease Management	53	5	-	2	2	-	45
Harvesting and Post-Harvest Handling	25	-	-	-	1	-	24

Statistical Table 29: Number and percentage of farmers who adopted recommended technologies, coconut, N=258

Technology	Coconut	Cacao Coconut	Total	% adopted
Farm Diversification	11	13	24	9.1%
Crop Genetics	12	12	24	9.3%
Soil-related Fertility and Conservation	11	10	21	8.0%
Pest Management	16	13	29	11.2%
Disease Management	13	13	26	10.1%
Harvesting and Post-Harvest Handling	8	12	20	7.6%
Average	12	12	24	9%

Statistical Table 30: Observed/perceived changes in quality due to adopted technologies, coconut

Technology	Number of Adoptees	Positive	Negative	None	% of Positive Change
Farm Diversification	24	23		1	86.2%
Crop Genetics	24	21		3	85.4%
Soil-related Fertility and Conservation	21	20		1	92.8%
Pest Management	29	25		4	86.2%
Disease Management	26	22		4	84.6%
Harvesting and Post-Harvest Handling	20	13		17	41.7%

Statistical Table 31: Observed/perceived changes productivity due to adopted technologies, coconut

Technology	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	24	23	1	93.8%
Crop Genetics	24	21	3	85.4%
Soil-related Fertility and Conservation	21	20	1	92.9%
Pest Management	29	25	4	86.2%
Disease Management	26	22	4	84.6%
Harvesting and Post-Harvest Handling	20	18	12	58.3%

Statistical Table 32: Observed/perceived changes in cost reduction due to adopted technologies, coconut

Technology	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	24	21	3	87.5%
Crop Genetics	24	20	4	81.3%
Soil-related Fertility and Conservation	21	18	3	83.3%
Pest Management	29	23	6	79.3%
Disease Management	26	21	5	80.8%
Harvesting and Post-Harvest Handling	20	16	13	51.7%

Statistical Table 33: Observed/perceived changes in marketability due to adopted technologies, coconut

Technology	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	24	21	3	85.4
Crop Genetics	24	19	5	79.2
Soil-related Fertility and Conservation	21	18	3	84.5
Pest Management	29	23	3	79.3
Disease Management	26	20	6	76.9
Harvesting and Post-Harvest Handling	20	16	14	53.3

Statistical Table 34: Reasons for non-adoption of recommended technologies, coconut

	<i>n</i>	Not appropriate for the crop	Input intensive, expensive	Laborious, time consuming	Do not own a land (Tenure)	Not convinced on benefits of technology	No seedlings, Not yet planted, too young
Farm Diversification	7	1	-	-	1	-	6
Crop Genetics	7	1	-	-	1	-	6
Soil-related Fertility and Conservation	9	1	1	1	1	-	5
Pest Management	9	2	0	0	1	0	6
Disease Management	7	0	2	1	1	0	3
Harvesting and Post-Harvest Handling	8	-	-	-	-	-	8

Statistical Table 35: Number and percentage of farmers who adopted recommended technologies, coffee, N=161

	Coffee	Cacao Coconut Coffee	Cacao Coffee	Coconut Coffee	Total	% Adopted
Farm Diversification	53	0	4	1	58	35.7%
Crop Genetics	45	0	6	0	50	31.1%
Soil-related Fertility and Conservation	35	0	5	0	39	24.4%
Pest Management	38	0	5	0	43	26.7%
Disease Management	24	0	5	0	29	18.0%
Harvesting and Post-Harvest Handling	21	0	5	0	26	15.8%
Average	36	0	5	0	41	25%

Statistical Table 36: Observed/perceived changes in quality due to adopted technologies, coffee

	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	58	33	25	59.9%
Crop Genetics	50	31	19	61.0%
Soil-related Fertility and Conservation	39	21	18	53.8%
Pest Management	43	26	17	60.5%
Disease Management	29	27	2	91.4%
Harvesting and Post-Harvest Handling	26	20	6	75.0%

Statistical Table 37: Observed/perceived changes in productivity due to adopted technologies, coffee

	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	58	31	27	53.4%
Crop Genetics	50	30	20	60.0%
Soil-related Fertility and Conservation	39	24	16	60.3%
Pest Management	43	25	18	58.1%
Disease Management	29	25	4	86.2%
Harvesting and Post-Harvest Handling	26	19	7	73.1%

Statistical Table 38: Observed/perceived changes in cost reduction due to adopted technologies, coffee

	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	58	25	33	43.1%
Crop Genetics	50	26	24	51.0%
Soil-related Fertility and Conservation	39	20	19	50.0%
Pest Management	43	22	41	51.2%
Disease Management	29	20	9	29%
Harvesting and Post-Harvest Handling	26	16	10	59.6%

Statistical Table 39: Observed/Perceived changes in marketability due to adopted technologies, coffee

	Number of Adoptees	Positive	None	% of Positive Change
Farm Diversification	58	29	29	49.1%
Crop Genetics	50	29	21	57.0%
Soil-related Fertility and Conservation	39	21	18	54.5%
Pest Management	43	24	19	55.8%
Disease Management	29	23	6	77.6%
Harvesting and Post-Harvest Handling	26	18	18	69.2%

Statistical Table 40: Reasons for non-adoption of recommended technologies, coffee

	<i>n</i>	Not appropriate for the crop	Input intensive, expensive	Laborious, time consuming	Do not own a land (Tenure)	Not convinced on the benefits of the technology	No seedlings, Not yet planted, too young
Farm Diversification	74	3	1	7	1	2	61
Crop Genetics	52	1	0	1	0	0	50
Soil-related Fertility and Conservation	92	2	9	8	1	2	70
Pest Management	91	2	4	0	1	0	84
Disease Management	99	2	3	2	1	0	92
Harvesting and Post-Harvest Handling	100	3	1	4	-	-	93

Statistical Table 41: Number of farmers with additional training needs

	Yes	No	No Response	Total	% Yes
Cacao	101	27	5	133	75.9
Coconut	117	27	7	151	77.5
Coffee	112	22	4	138	81.2
Mixed	79	39	2	120	65.8
Total	409	115	18	542	75.5

Statistical Table 42: Number of farmer-respondents who rated training as the best modality for knowledge transfer

	Yes	No	No Response	% Yes
Cacao	121	8	4	91.0
Coconut	135	9	7	89.4
Coffee	135		3	97.8
Mixed	105	13	2	87.5
Total	496	30	16	91.5

Statistical Table 43: Other modalities perceived as effective

Modality	Cacao	Coconut	Mixed	Total	%
Demo farms	5	7	13	25	83.3
Field technicians/extension workers	1	1	1	3	10.0
IEC/Techno Guides/Manuals	0	2	1	3	10.0
Field school (physical learning sites)	0	2	1	3	10.0
Farm exposure/ "Lakbay Aral"	0	1	0	1	3.3

Note: the percentage is based on the "No response" in the previous table (n=30).

Statistical Table 44: Number and percentage of farmers who availed of non-training activities (n=106)

	Yes	No	No Response	% Yes
Cacao	32	98	3	24.1
Coconut	32	117	2	21.2
Coffee	8	128	2	5.8
Mixed	34	85	1	28.3
Total	106	428	8	19.6

Statistical Table 45: Types of activities and services availed by farmer-respondents (N=106, multiple response)

	Cacao	Coconut	Coffee	Mixed	Total	%
Buyer referrals	5	2	0	1	8	7.5
IEC materials	0	0	0	1	1	0.9
Field School	2	0	0	2	4	3.8
Farm Exposure	20	10	2	17	49	46.2
Demo Farms	12	18	1	14	45	42.5
Market info.	2	1	0	4	7	6.6
Forum/Conferences	2	5	0	2	9	8.5
Others (competition, linkages, meetings)	4	2	1	5	12	11.3

Statistical Table 46: Observed/perceived effects of participating in non-training activities (n=106, multiple response)

	Cacao	Coconut	Coffee	Mixed	Total	%
Increased crop productivity and income	25	24	4	23	76	71.7
Increased market value (or price) of products	3	1	1	4	9	8.5
Increased marketability (or quality) of farm produce	5	1	1	2	9	8.5
Reduced post-harvest losses	7	1	1	8	17	16
Aligned with quality standards	1	1	1	4	7	6.6
Sustainable farming through improved quality of land and water resources	10	6	4	4	24	22.6
Others (more knowledge)	3	3	1	9	16	15.1

Statistical Table 47: Perceived effectiveness of non-training activities (n=106)

	Very effective	Effective	Not effective	% Effective
Cacao	2	27	3	90.6
Coconut	3	29	1	96.9
Coffee	2	6		100.0
Mixed	6	24	4	88.2
Total	13	85	8	92.5

Statistical Table 48: Number and percentage of farmer-respondents on the perceived appropriateness and sufficiency of non-training interventions

	Farmers perceived that services match their needs			The intervention is sufficient to create changes in the farm		
	Yes	No	% Yes	Yes	No	% Yes
Cacao	32		100	31	1	96.9
Coconut	30	2	94	28	5	87.5
Coffee	8		100	8		100.0
Mixed	32	2	97	32	2	94.1
Total	102	4	96	101	8	95.3

Statistical Table 49: Number of farmers who attended farm management trainings

	No. farmers attended training	% attended
Cacao	54	40.6
Coconut	47	31.1
Coffee	65	47.1
Mixed	58	48.3
Total	224	41.3

Statistical Table 50: Percentage of farmer-respondents who applied the management practices

	No. of farmers who attended mgt training	% farmers who attended mgt training	No. of farmers who applied mgt practices	% Applied
Input, Output, and Labor Needs Computation	205	91.5	158	76.0
Business practices (related to the management of land, crops, equipment, facilities, transportation)	133	59.4	102	76.7
Use of Information Technology (including computers and GPS)	45	20.1	11	24.4
Financial planning, cash flow, balance sheet, income statements, variable and fixed agents	148	66.1	117	79.1
Record Keeping (including financial and production documents, receipts and expenses, maintaining and using inventories, etc)	182	81.3	153	84.1
Gender Equity/Equality/Development/mainstreaming	205	27.2	55	90.2

Statistical Table 51: Reasons for adoption of recommended management practices

	Easy to follow	Helpful in decision making	professionalize/ formalize the farm operation	Enhances efficiency of the operation	Others (new info, knowledge)
Input, Output, and Labor Needs Computation	142	111	28	80	9
Business practices (related to the management of land, crops, equipment, facilities, transportation)	94	64	13	47	2
Use of Information Technology (including computers and GPS)	10	8	6	7	0
Financial planning, cash flow, balance sheet, income statements, variable and fixed agents	109	87	28	60	4
Record Keeping (including financial and production documents, receipts and expenses, maintaining and using inventories, etc.)	138	113	42	92	4
Gender Equity/Equality/Development/mainstreaming	47	36	6	15	1
Average	90	70	21	50	3
% to those who attended management training	40%	31%	9%	22%	1%

Statistical Table 52: Perceived level of effectiveness of farm management practices

	Very Effective	Effective	Not Effective	Total	% Effective
Cacao	5	50	8	63	87
Coconut	10	42	7	59	88
Coffee	2	59	2	63	97
Mixed	17	46	2	65	97
Total	34	197	19	250	92

Note: The excess of 26 who gave rating on this question learned the practice from other farmers.

Statistical Table 53: Reasons for non-adoption of recommended management practices

	Very hard to follow and apply	Lack of equipment, tools to apply the practice	Does not think this is helpful in my operation	Inconvenient	Time consuming	Did not fully understand the management practice	Others (have not yet planted, no plants)
Input, Output, and Labor Needs Computation	9	6	1	3	13	0	32
Business practices (related to the management of land, crops, equipment, facilities, transportation)	7	7	1	0	6	2	18
Use of Information Technology (including computers and GPS)	4	29	2	1	0	1	4
Financial planning, cash flow, balance sheet, income statements, variable and fixed agents	6	4	1	1	10	1	15
Record Keeping (including financial and production documents, receipts and expenses, maintaining and using inventories, etc)	2	3	3	2	6	2	10
Gender Equity/Equality/Development/mainstreaming	2	3	0	0	0	1	4
Average	5	9	1	1	6	1	14
% to those who attended management training	2%	4%	1%	1%	3%	1%	6%

Statistical Table 54: Farm planning practice, before and during MinPACT

	Before MinPACT					During MinPACT					Diff.
	Yes	No	No response	Total	% Yes	Yes	No	No response	Total	% Yes	
Cacao	31	98	4	133	23.3	70	58	5	133	52.6	29.3
Coconut	47	98	6	151	31.1	63	78	10	151	41.7	10.6
Coffee	40	97	1	138	29.0	92	45	1	138	66.7	37.7
Cacao Coconut	33	60	4	97	34.0	57	36	4	97	58.8	24.7
Cacao Coconut Coffee	2	3	1	6	33.3	1	4	1	6	16.7	-16.7
Cacao Coffee	4	8	1	13	30.8	9	3	1	13	69.2	38.5
Coconut Coffee	2	1	1	4	50.0	3		1	4	75.0	25.0
Total	159	365	18	542	29.3	295	224	23	542	54.4	25.1

Statistical Table 55: Percentage of MinPACT beneficiaries covered by crop insurance

	Yes	No	No response	Total	% Yes
Cacao	20	109	4	133	15.0
Coconut	9	134	8	151	6.0
Coffee	1	134	3	138	0.7
Mixed	11	100	9	120	9.2
Total	41	477	24	542	7.6

Statistical Table 56: Percentage of farmers whose farm is certified

	GAP	Organic, thers	No	No response	Total	% Yes
Cacao	3	4	111	15	133	5.3
Coconut	4	6	118	23	151	6.6
Coffee	0	0	115	23	138	0
Mixed	6	10	83	21	120	13.3
Total	13	20	427	82	542	6.08

Statistical Table 57: Percentage of farmers who are aware of product quality standards

	Before MinPACT					During MinPACT					Diff.
	Yes	No	No response	Total	% Yes	Yes	No	No response	Total	% Yes	
Cacao	54	70	9	133	40.6	101	25	7	133	75.9	35.3
Coconut	46	91	14	151	30.46	89	50	12	151	58.9	28.5
Coffee	20	109	9	138	14.49	98	34	6	138	71.0	56.5
Mixed	43	67	10	120	35.83	92	17	11	120	76.7	40.8
Total	163	337	42	542	30.07	380	126	36	542	70.1	40.0

Statistical Table 58: Awareness of women-friendly farm practices being promoted by MinPACT

	Yes	No	No response	Total	% Yes
Cacao	88	42	3	133	66.2
Coconut	102	41	8	151	67.5
Coffee	119	15	4	138	86.2
Cacao Coconut	63	30	4	97	64.9
Cacao Coconut Coffee	4	1	1	6	66.7
Cacao Coffee	10	2	1	13	76.9
Coconut Coffee	2	1	1	4	50.0
Total	388	132	22	542	71.6

Statistical Table 59: Identification of women-friendly farm practices promoted by MinPACT

Item	Cacao	Coconut	Coffee	Cacao Coconut	Cacao Coconut Coffee	Cacao Coffee	Coconut Coffee	Total	%
Inclusion of women and youth in technical training, leadership skills, etc.	76	99	109	62	4	10	1	361	66.6
Flexible working arrangements (productive and reproductive responsibilities)	2	2	7	1	0	0	0	12	2.2
Gender division of labor	5	6	7	4	0	1	0	23	4.2
Representation in marketing-related activities	2	0	8	1	0	1	0	12	2.2
Representation in decision-making bodies (cooperative, association, group)	3	3	33	3	0	0	0	42	7.7
Equal access to advice/mentor/extension	12	15	8	3	0	2	0	40	7.4
Equal access to input supply	10	10	25	4	1	0	1	51	9.4
Equal access to credit or gender-specific window	9	8	26	1	0	0	0	44	8.1
Others (bagging of seedlings, organization of cooperative, selling of produce)	18	10	1	13	0	0	0	42	7.7

Statistical Table 60: Average number of women in family involved in MinPACT

	Ave. number of women per family participated in MinPACT	% perceived that women have equal access to MinPACT Project				
		Yes	No	No response	Total	% Yes
Cacao	0.98	67	63	3	133	50.4
Coconut	1.30	80	53	18	151	53.0
Coffee	0.83	120	12	6	138	87.0
Cacao Coconut	0.56	47	43	7	97	48.5
Cacao Coconut Coffee	0.60	4	1	1	6	66.7
Cacao Coffee	0.64	8	4	1	13	61.5
Coconut Coffee	0.67	2	1	1	4	50.0
Average/Total	0.93	328	177	37	542	60.5

Statistical Table 61: Method of transferring knowledge learned from training by women to their husband/father/son

	Cacao	Coconut	Coffee	Cacao Coconut	Cacao Coconut Coffee	Cacao Coffee	Coconut Coffee	Total	%
Share the training materials	55	70	115	56	3	8	1	308	56.8
Women opt to perform learned knowledge in the farm	19	11	12	4	0	0	0	46	8.5
Demonstrate the knowledge/skills in the farm to husband/father/son	52	47	77	37	4	7	0	224	41.3
Not shared/transferred at all	5	2	6	0	0	0	0	13	2.4
Others	9	10	0	15	1	0	0	35	6.5

Note: All respondents were asked this question. For male respondents, they relayed what their spouse/daughter did if the latter happened to attend the training on their behalf.

Statistical Table 62: Perception on the difference of women holding leadership position in any MinPACT supported groups, before and during MinPACT

	Before MinPACT					During MinPACT					Difference
	Yes	No	Non-response	Total	% Yes	Yes	No	Non-response	Total	% Yes	
Cacao	15	114	4	133	11.3	17	112	4	133	12.8	1.5
Coconut	18	114	19	151	11.9	17	113	21	151	11.3	-0.7
Coffee	10	121	7	138	7.2	10	120	8	138	7.2	0.0
Cacao Coconut	18	72	7	97	18.6	18	73	6	97	18.6	0.0
Cacao Coconut Coffee		5	1	6	0.0		5	1	6	0.0	0.0
Cacao Coffee	1	11	1	13	7.7	1	10	2	13	7.7	0.0
Coconut Coffee	1	2	1	4	25.0	1	2	1	4	25.0	0.0
Total	63	439	40	542	11.6	64	435	43	542	11.8	0.2

Statistical Table 63: Perception on the difference of women holding leadership positions in any other groups, before and during MinPACT

	Before MinPACT					During MinPACT					Difference
	Yes	No	No response	Total	% Yes	Yes	No	No response	Total	% Yes	
Cacao	13	116	4	133	9.8	14	114	5	133	10.5	0.8
Coconut	15	115	21	151	9.9	16	113	22	151	10.6	0.7
Coffee	2	128	8	138	1.4	7	122	9	138	5.1	3.6
Cacao Coconut	18	72	7	97	18.6	18	72	7	97	18.6	0.0
Cacao Coconut Coffee		5	1	6	0.0		5	1	6	0.0	0.0
Cacao Coffee	1	10	2	13	7.7	2	9	2	13	15.4	7.7
Coconut Coffee	1	2	1	4	25.0	1	2	1	4	25.0	0.0
Total	50	448	44	542	9.2	58	437	47	542	10.7	1.5

Statistical Table 64: Extent of women participation and change in women participation in several themes/issues due to MinPACT

	Extent of Women Participation before MinPACT					Relative change of women participation due to MinPACT					
	All the time	Most of the time	Few Time	Never	No response	Inc	Dec	Same	No response	Total	% Increase
Resource management and development planning	25	94	297	81	45	128	12	335	67	542	23.6
Budgeting	78	142	221	54	47	147	11	319	65	542	27.1
Implementation of development projects and activities	22	92	290	91	47	126	12	338	66	542	23.2
Formulation of ordinances related to agri and trade	21	71	271	131	48	107	13	352	70	542	19.7
Membership in committees	23	114	257	100	48	127	13	335	67	542	23.4
Revenue generation	22	102	240	130	48	142	12	319	69	542	26.2
Farm Management											
What to plant	35	93	281	86	47	132	14	329	67	542	24.4
Where and Quantity to Sell	32	101	290	72	47	145	12	320	65	542	26.8
What inputs to procure	26	94	279	95	48	148	14	311	69	542	27.3
Farming equipment to buy	20	77	283	114	48	98	14	366	64	542	18.1
Use of farming equipment	17	75	291	113	46	96	16	364	66	542	17.7
Borrowing money for production	57	122	218	98	47	122	18	340	62	542	22.5
Whom to hire and how much labor to pay	31	79	281	104	47	113	15	352	62	542	20.8
Where to spend farm earnings	66	112	247	71	46	121	17	339	65	542	22.3

Statistical Table 65: Average number of youth participants, access and promotion of youth in MinPACT Project

	Ave. number of youth members in the family involved in MinPACT	% perceived that MinPACT promotes youth participation				% perceived that youth have equal access to MinPACT project			
		Yes	No	No response	% Yes	Yes	No	No response	% Yes
Cacao	0.22	71	55	7	13.1	44	82	7	8.1
Coconut	0.19	79	53	19	14.6	49	79	23	9.0
Coffee	0.31	95	32	11	17.5	85	41	12	15.7
Cacao Coconut	0.15	50	42	5	9.2	33	58	6	6.1
Cacao Coconut Coffee	0.20	4	1	1	0.7	3	2	1	0.6
Cacao Coffee	0.25	11	1	1	2.0	6	6	1	1.1
Coconut Coffee	1.00	1	1	2	0.2		2	2	0.0
Average/Total	0.23	311	185	46	57.4	220	270	52	40.6

Note: This question was asked to all respondents.

Statistical Table 66: Extent of youth participation and change in women participation in several themes/issues due to MinPACT

	General participation of youth					Relative change of youth participation due to MinPACT				
	All the time	Most of the time	Few Time	Never	No response	Increase	Decrease	Same	No response	% Increase
Resource management and development planning	11	26	245	200	60	90	19	337	96	16.6
Budgeting	12	42	227	199	62	96	19	334	93	17.7
Implementation of development projects and activities	8	32	242	198	62	88	17	341	96	16.2
Formulation of ordinances related to agri and trade	8	26	233	213	62	86	17	342	97	15.9
Membership in committees	8	46	228	198	62	90	15	340	97	16.6
Revenue generation	8	47	221	204	62	98	15	330	99	18.1
What to plant	11	32	250	185	64	92	13	339	98	17.0
Where and Quantity to Sell	11	39	235	194	63	92	15	337	98	17.0
What inputs to procure	10	48	225	197	62	103	12	329	98	19.0
Farming equipment to buy	11	31	238	200	62	76	12	352	102	14.0
Use of farming equipment	11	40	237	192	62	75	14	353	100	13.8
Borrowing money for production	11	41	213	214	63	95	15	332	100	17.5
Whom to hire and how much labor to pay	10	35	236	199	62	84	14	346	98	15.5
Where to spend farm earnings	12	48	221	199	62	92	15	335	100	17.0

Statistical Table 67: Number and percentage of youth members who are motivated to continue farming due to exposure/participation in MinPACT

	Yes	No	No response	Total	% Yes
Cacao	47	75	11	133	35.3
Coconut	43	85	23	151	28.5
Coffee	81	48	9	138	58.7
Cacao Coconut	29	62	6	97	29.9
Cacao Coconut Coffee	2	3	1	6	33.3
Cacao Coffee	8	4	1	13	61.5
Coconut Coffee		2	2	4	0.0
Total	210	279	53	542	38.7

Statistical Table 68: Number and percentage of MinPACT -trained farmers who shared MinPACT-gained knowledge and technologies to fellow 3C farmers

	Yes	No	No response	Total	% Yes
Cacao	95	35	3	133	71.4
Coconut	74	74	3	151	49.0
Coffee	70	66	2	138	50.7
Cacao Coconut	65	28	4	97	67.0
Cacao Coconut Coffee	3	2	1	6	50.0
Cacao Coffee	11	1	1	13	84.6
Coconut Coffee	2	1	1	4	50.0
Total	320	320	15	542	59.0

Statistical Table 69: Number and percentage of MinPact-trained farmers who shared MinPACT-gained knowLedge and technologies to non-3C farmers

	Yes	No	No response	Total	% Yes
Cacao	95	36	2	133	71.4
Coconut	86	62	3	151	57.0
Coffee	73	64	1	138	52.9
Cacao Coconut	69	24	4	97	71.1
Cacao Coconut Coffee	4	1	1	6	66.7
Cacao Coffee	11	1	1	13	84.6
Coconut Coffee	1	2	1	4	25.0
Total	339	190	13	542	62.5

Statistical Table 70: Number and percentage of MinPACT beneficiaries who are aware of the timeline/termination of the project

	Yes	No	No response	Total	% Yes
Cacao	25	106	2	133	18.8
Coconut	27	122	2	151	17.9
Coffee	28	109	1	138	20.3
Cacao Coconut	13	81	3	97	13.4
Cacao Coconut Coffee		5	1	6	0.0
Cacao Coffee	1	11	1	13	7.7
Coconut Coffee		3	1	4	0.0
Total	94	437	11	542	17.3

Statistical Table 71: Number and percentage of MinPACT-beneficiaries who perceived that project interventions created will be sustained and even after the termination of the project

	Yes	No	No response	Total	% Yes
Cacao	98	33	2	133	73.7
Coconut	118	31	2	151	78.1
Coffee	126	11	1	138	91.3
Cacao Coconut	78	16	3	97	80.4
Cacao Coconut Coffee	5		1	6	83.3
Cacao Coffee	11	1	1	13	84.6
Coconut Coffee	3		1	4	75.0
Total	439	92	11	542	81.0

Statistical Table 72: Number and percentage of MinPACT-beneficiaries who are beneficiaries of other projects

	Yes	No	No response	Total	% Yes
Cacao	19	112	2	133	14.3
Coconut	28	118	5	151	18.5
Coffee	31	105	2	138	22.5
Cacao Coconut	12	82	3	97	12.4
Cacao Coconut Coffee	2	3	1	6	33.3
Cacao Coffee	1	11	1	13	7.7
Coconut Coffee		3	1	4	0.0
Total	93	434	15	542	17.2

Statistical Table 73: Number and percentage of farmer-beneficiaries' perception on life becoming better due to MinPACT involvement

	Yes	No	No response	Total	% Yes
Cacao	107	23	3	133	80.5
Coconut	107	40	4	151	70.9
Coffee	118	18	2	138	85.5
Cacao Coconut	86	8	3	97	88.7
Cacao Coconut Coffee	5	1		6	83.3
Cacao Coffee	12		1	13	92.3
Coconut Coffee	3		1	4	75.0
Total	438	90	14	542	80.8

Annex 6: Crop Cultivation by crop, by PO, in percentage

Distribution of respondent of plant classification per organization (ALL CROPS), in percentage.

Organizations	Old Trees	Expanded	Newly Planted	No Plant
Balutakay Coffee Farm Association BACOFA	62.5	25.0	0.0	12.5
Barcelona Primary Multi purpose Agricultural Cooperative BPMAC	60.0	0.0	0.0	40.0
Batangason Farmers Association	17.4	21.7	0.0	60.9
BCS MPC	64.3	14.3	0.0	21.4
BMAN s BinatonBagoboTagabawa Farmers Livelihood Association BBTFLA	40.0	40.0	0.0	20.0
FEDCO	28.6	28.6	22.9	20.0
Imbayao Community based Forest Management Farmers Association ICBFMFA	14.0	18.6	2.3	65.1
Inhandig Tribal MPC	10.5	15.8	0.0	73.7
Jose Rizal Farmers Association JORIFA	40.0	20.0	0.0	40.0
Katipunan Small Coconut Farmers Cooperative	83.3	16.7	0.0	0.0
KooperatibasaNagkahiusang Mag uumasa San Isidro Nagmasid Koop	100.0	0.0	0.0	0.0
LaakMulti purpose Cooperative LAMPCO	21.4	50.0	14.3	14.3
MACOFED	62.5	25.0	0.0	12.5
Maragusan Growers Multi Purpose Cooperative MAGRO	21.1	26.3	31.6	21.1
Mati City LapaganMulti purpose Cooperative MALACO	40.0	60.0	0.0	0.0
Mati Davao Oriental Upland Farmers MPC MDOUPMC	50.0	50.0	0.0	0.0
MILALITTRA	2.4	0.0	0.0	97.6
Nabunturan Integrated Cooperative NICO	25.0	50.0	0.0	25.0
New Leyte Cocoa Farmers Producer Association NELECOFAPA	35.3	47.1	5.9	11.8
PaglaumMulti Purpose Cooperative	51.9	3.8	1.9	42.3
People s Officials Employees Community Multi Purpose Cooperative POEMCO	37.5	12.5	12.5	37.5
Salaysay Upland Farmers Association	25.0	0.0	0.0	75.0
Sindangan FACOMA Community Multipurpose Cooperative FACOMA	59.1	15.9	0.0	25.0
USPD Savings and Credit Cooperative	50.0	8.3	0.0	41.7

For CACAO

Organizations	Old Trees	Expanded	Newly Planted	No Plant
Barcelona Primary Multi purpose Agricultural Cooperative BPMAC	50.0	0.0	0.0	50.0
BCS MPC	0.0	25.0	0.0	75.0
BMAN s BinatonBagoboTagabawa Farmers Livelihood Association BBTFLA	0.0	100.0	0.0	0.0
FEDCO	28.1	31.3	21.9	18.8
Jose Rizal Farmers Association JORIFA	25.0	0.0	0.0	75.0
LaakMulti purpose Cooperative LAMPCO	33.3	33.3	0.0	33.3
MACOFED	66.7	16.7	0.0	16.7

Maragusan Growers Multi Purpose Cooperative MAGRO	23.5	29.4	23.5	23.5
Mati City LapaganMulti purpose Cooperative MALACO	0.0	100.0	0.0	0.0
Nabunturan Integrated Cooperative NICO	0.0	100.0	0.0	0.0
New Leyte Cocoa Farmers Producer Association NELECOFAPA	37.5	50.0	0.0	12.5
PaglaumMulti Purpose Cooperative	17.4	4.3	4.3	73.9
People s Officials Employees Community Multi Purpose Cooperative POEMCO	0.0	0.0	0.0	100.0
Salaysay Upland Farmers Association	50.0	0.0	0.0	50.0
Sindangan FACOMA Community Multipurpose Cooperative FACOMA	18.2	0.0	0.0	81.8
USPD Savings and Credit Cooperative	12.5	0.0	0.0	87.5
Average	22.6	30.6	3.1	43.6

For COFFEE

Organizations	Old Trees	Expanded	Newly Planted	No Plant
Balutakay Coffee Farm Association BACOFA	62.5	25.0	0.0	12.5
Batangason Farmers Association	17.4	21.7	0.0	60.9
BMAN s BinatonBagoboTagabawa Farmers Livelihood Association BBTFLA	50.0	0.0	0.0	50.0
Imbayao Community based Forest Management Farmers Association ICBFMFA	14.0	18.6	2.3	65.1
Inhandig Tribal MPC	10.5	15.8	0.0	73.7
Jose Rizal Farmers Association JORIFA	0.0	0.0	100.0	0.0
MILALITTRA	2.5	0.0	0.0	97.5
Salaysay Upland Farmers Association	0.0	0.0	0.0	100.0
Average	19.6	10.1	12.8	57.5

For Coconut

	Old Trees	Expanded	Newly Planted	No Plant
Barcelona Primary Multi purpose Agricultural Cooperative BPMAC	66.7	0.0	0.0	33.3
BCS MPC	75.0	12.5	0.0	12.5
BMAN s BinatonBagoboTagabawa Farmers Livelihood Association BBTFLA	50.0	50.0	0.0	0.0
FEDCO	50.0	0.0	0.0	50.0
Jose Rizal Farmers Association JORIFA	60.0	20.0	0.0	20.0
Katipunan Small Coconut Farmers Cooperative	83.3	16.7	0.0	0.0
KooperatibasaNagkahiusang Mag uumasa San Isidro Nagmasid Koop	100.0	0.0	0.0	0.0
LaakMulti purpose Cooperative LAMPCO	22.2	66.7	0.0	11.1
MACOFED	50.0	50.0	0.0	0.0
Mati City LapaganMulti purpose Cooperative MALACO	50.0	50.0	0.0	0.0
Mati Davao Oriental Upland Farmers MPC MDOUPMC	50.0	50.0	0.0	0.0
MILALITTRA	0.0	0.0	0.0	100.0
Nabunturan Integrated Cooperative NICO	33.3	33.3	0.0	33.3

PaglaumMulti Purpose Cooperative	79.3	3.4	0.0	17.2
People s Officials Employees Community Multi Purpose Cooperative POEMCO	50.0	16.7	16.7	16.7
Sindangan FACOMA Community Multipurpose Cooperative FACOMA	72.7	21.2	0.0	6.1
USPD Savings and Credit Cooperative	68.8	12.5	0.0	18.8
Average	56.5	23.7	1.0	18.8

ANNEX 7: SATISFACTION RATING ON MINPACT STAFF

	Discuss clearly the objectives, targets, proposed activities, timelines and delineation of roles	Involve the POs in major decision-making points	Accommodate reasonable changes in schedule, arrangements, activities and priorities	Transfer knowledge and provide advice on improving organizational processes, systems, tec.	Communication, coordination, including frequency and quality	Debriefing or learning session after each important activity
Milalitra	2	2	2	2	2	2
Inihanding	2	2	2	2	2	2
Batangason	2	2	2	2	2	2
Imbayao	2	2	2	2	2	2
Maragusan	2	2	2	2	2	2
Laak	2	2	2	2	2	2
New Leyte	2	2	2	2	2	2
Nabunturan	2	2	2	2	2	2
Macofed	1	2	2	2	2	2
Salaylay	3	3	3	3	3	3
Mati Davao	2	2	2	1	2	1
Mati City	2	2	1	1	1	1
Nagmasid	2	2	2	2	2	2
Jose	1	1	1	1	1	1
USPD	1	1	1	1	1	1
BBTFLA	2	2	2	2	2	2
Bansalan	1	2	1	1	1	1
Balutakay	1	1	1	1	1	1
KSCF	2	2	2	2	2	2
FEDCO	1	2	2	2	2	2
Paglaum	2	2	2	2	2	2
Barcelona	1	1	1	1	1	1
Facoma	1	1	1	1	1	1
POEMCO	1	1	2	1	1	1
Average	1.10	1.32	1.36	1.17	1.19	1.17

Legend:

- 1 – Very satisfied
- 2 – Satisfied
- 3 – Neither
- 4 – Dissatisfied
- 5 – Very dissatisfied

ANNEX 8: PRODUCER ORGANIZATIONS RELEVANCE AND RANKING OF MINPACT SERVICES

A: Relevance of the services

	Agricultural/Farm technique training	Management training (cooperative level)	Exposure trips	Participation to summit, conferences and related events	Nursery establishment	Financial services (credit)	Printed materials (brochure, directory, manual, bulletin)	Cooperative financial, organizational and marketing systems improvement
Milalittra	1	2	2	2	1	1	2	2
Inihanding	2	1	1	2	2	0	0	0
Batangason	1	3	2	2	1	1	3	2
Imbayao	1	1	1	2	1	1	3	2
Maragusan	2	2	2	2	2	2	2	2
Laak	2	2	2	2	2	2	2	2
New Leyte	2	2	2	2	2	2	2	2
Nabunturan	2	2	2	2	2	2	2	2
Macofed	1	1	1	1	1	1	1	1
Salaylay	2	2	2	2	2	2	2	2
Mati Davao	1	1	1	1	1	1	1	1
Mati City	1	1	1	1	1	1	1	1
Nagmasid	2	2	2	2	2	2	2	2
Jose	1	0	1	1	0	0	1	0
USPD	2	1	1	1	1	1	2	2
BBTFLA	2	2	1	2	0	1	2	2
Bansalan	1	2	1	1	1	1	2	0
Balutakay	1	2	1	1	1	1	2	0
KSCF	2	2	2	2	0	2	0	0
FEDCO	2	2	0	0	0	0	0	0
Paglaum	1	2	1	2	1	3	3	1
Barcelona	1	1	1	1	1	1	1	1
Facoma	1	1	1	1	1	1	1	1
POEMCO	3	1	2	2	1	0	0	0
Average	1.54	1.58	1.38	1.54	1.13	1.21	1.54	1.17

Legend: 1- Very relevant; 2 – Relevant; and 3- Not relevant to farmer-respondents

B. Ranking of the services

	Agricultural/Farm technique training	Management training (cooperative level)	Exposure trips	Participation to summit, conferences and related events	Nursery establishment	Financial services (credit)	Printed materials (brochure, directory, manual, bulletin)	Cooperative financial, organizational and marketing systems improvement
Milalitra	3	5	4	6	2	1	8	7
Inihanding	6	2	1	8	7	0	0	0
Batangason	3	5	4	6	2	1	8	7
Imbayao	3	4	5	6	2	1	8	7
Maragusan	4	6	7	5	2	1	8	3
Laak	2	5	7	6	3	1	8	4
New Leyte	4	3	7	6	2	1	8	4
Nabunturan	3	4	7	6	2	1	8	3
Macofed	1	1	1	2	2	0	2	2
Salaylay	1	2	4	5	3	7	8	6
Mati Davao	1	5	7	6	3	4	2	8
Mati City	2	3	1	7	6	8	4	5
Nagmasid	3	4	5	2	1	7	8	6
Jose	1	0	3	4	0	0	2	0
USPD	1	8	3	4	2	6	6	7
BBTFLA	1	2	3	4	0	4	7	6
Bansalan	1	4	3	4	2	5	7	0
Balutakay	1	5	3	2	4	7	7	7
KSCF	0	0	0	0	0	0	0	0
FEDCO	0	0	0	0	0	0	0	0
Paglaum	2	3	4	6	1	8	5	7
Barcelona	1	2	4	5	6	7	8	3
Facoma	2	1	6	7	4	3	8	5
POEMCO	4	5	6	7	8	0	0	0
Average	2.08	3.29	3.96	4.75	2.67	3.04	5.42	4.04
Rank	1 st	4 th	5 th	7 th	2 nd	3 rd	8 th	6 th

Legend: 1 – Service that is most important to the PO and 8 – Service that is least important.