



Expanding Opportunities Worldwide

# MINPACT BASELINE STUDY

(MINDANAO PRODUCTIVITY FOR  
AGRICULTURAL COMMERCE AND TRADE)



## REPORT



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# [FY 2014 Food For Progress MinPACT Baseline Study (Mindanao Productivity for Agricultural Commerce and Trade) in the Philippines]

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Inputs at the baseline design phase were provided by the ACDI/VOCA Team based in Davao City and by the M&E unit at ACDI/VOCA's Headquarters in Washington, D.C.

This report uses information shared by 954 farming households and 15 producer organizations as well as 142 value chain actors representing relevant national government agencies, local government units, input suppliers, nursery operators, business development service providers, and micro-finance institutions.

Any errors in this report are the responsibility of the ISED-AdDU.

(Note: US\$ 1 = Php 44.82 conversion is used. Annexes are in a separate volume).

## List of Acronyms and Abbreviations

|           |   |
|-----------|---|
| ARBO      | Agrarian Reform Beneficiary Organization                  |
| BPI       | Bureau of Plant Industry                                  |
| CARD      | Center for Agriculture and Rural Development              |
| CBU       | Capital Build-Up  |
| CDA       | Cooperative Development Administration                    |
| CRS       | Catholic Relief Service                                   |
| CSI       | Chokolade de San Isidro                                   |
| DA        | Department of Agriculture                                 |
| DAR       | Department of Agrarian Reform                             |
| DTI       | Department of Trade and Industry                          |
| FEDO      | Farmers Development Cooperative                           |
| FPA       | Fertilizer and Pesticide Authority                        |
| JICA      | Japan International Cooperation Agency                    |
| JORIFA    | Jose Rizal Farmers Association                            |
| KFI       | Kennemer Foods International                              |
| LAMPCO    | Laak MPC Cooperative                                      |
| LGU       | Local Government Unit                                     |
| LWR       | Lutheran World Relief                                     |
| M&E       | Monitoring and Evaluation                                 |
| MAO       | Municipal Agriculturist Office                            |
| MASS-SPEC | Mindanal Alliance for Self-Help Societies                 |
| MinDA     | Mindanao Development Authority                            |
| MinPACT   | Mindanao Productivity for Agricultural Commerce and Trade |
| MPC       | Multi-Purpose Cooperative                                 |
| NATTCO    | National Confederation of Cooperatives                    |
| NICO      | Nabunturan Integrated Cooperative                         |
| NOMIARC   | Northern Mindanao Integrated Agricultural Research Center |
| OLT       | Operation Land Transfer                                   |
| PCA       | Philippine Coconut Authority                              |
| PMP       | Performance Monitoring Plan                               |
| PRDP      | Philippine Rural Development Program                      |
| PSP       | Policies, Systems and Procedures                          |
| SACPIPCO  | Sto. Tomas Asuncion Cacao Planters Inc.                   |
| SWOT      | Strengths, Weaknesses, Opportunities and Threats          |
| USAID     | US Agency for International Development                   |
| USDA      | US Department of Agriculture                              |
| VC        | Value Chain   |
| ZDN       | Zamboanga del Norte                                       |

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# 1 Executive Summary

**THE BASELINE STUDY.** ACDI/VOCA, with funding from the US Department of Agriculture (USDA), is initiating a four-year project called the Mindanao Productivity for Agricultural Commerce and Trade (MinPACT) project. The project aims to assist at least 9,600 farmers and their producer organizations (associations and cooperatives) engaged in cacao, coffee and coconut (3C) production as well as 1,600 value chain actors in the provinces of Zamboanga del Norte, Bukidnon, Davao Oriental, Davao del Norte, Compostela Valley, Davao del Sur, and Davao City.

MinPACT commissioned the Institute for Socio-Economic Development Initiatives (ISEDI), an outreach arm of the Ateneo de Davao University to conduct a baseline study to gain better understanding of the current situation of the MinPACT target farmers, producer organizations, and value chain actors, including their performance, priorities and perceptions. The baseline study sets the reference points that MinPACT will use to measure the level of change on its outcome and impact indicators.

In February 2015, the baseline study surveyed 954 farming households, and 79 value chain actors, held 15 Focus Group Discussion (FGD) sessions with producer organizations with a total of 175 farmer-members participating, another five (5) FGD sessions for value chain actors, and 61 key informants interviews. Participants shared their experiences in growing, processing, trading and buying cacao, coffee and coconut, as well as their aspirations for more inclusive industry growth.

**THE CONTEXT.** Fueled by increasing local and global demand cacao, coffee and coconut are promising crops, aggressively pushed for farm investment by national government agencies, local government units, and traders/processors. Presently, Davao Region leads in the production of cacao with 72% share to the national figure (DTI- XI, 2014), and is home to region-based cacao exporters and local buying agents representing international chocolate brands. Coffee continues its rise locally and worldwide, both for at-home and out-of-home consumption. Café culture is prevalent as more coffee shops open and more establishments offer specialty coffee; in the same manner, the instant coffee segment is still on its uptrend (Colbert, 2013). The country remains a net importer of coffee, importing three (3) metric tons from Vietnam and Indonesia for every one (1) metric ton produced locally (Valencia, 2013). Coconut, with its seemingly unending possibilities, has never left its position as the country's most important crop, being a net exporter and as a raw material source for a wide variety of products. Other than the traditional coconut oil, desiccated coconut, and copra meal, new export winners from coconut are virgin coconut oil, coco sap sugar, coconut water, coconut flour and coir (PCA, 2013).

While there are farmers already engaged in planting cacao, coffee and coconut, the quality of the crops and level of farm productivity/yield are found wanting – leading to a weakening of the chains and the farmers' competitiveness. The ideal yield per hectare for inter-cropped cacao is 1,200 kilogram per hectare per year (Department of Trade and Industry XI) and the baseline result is 709 kilograms (wet); for coffee, the ideal is 1,000

kilograms for Arabica and 1,200 for Robusta per hectare (Department of Agriculture, 2013) while the baseline result is 217 kilograms (green beans); and for coconut, the ideal number is 9,100 nuts per hectare (Philippine Coconut Authority, 2013) while the baseline result is only 2,406 nuts. The prevailing yield varies per area, differentiated by the use of varieties, fertilizer application and tree stock (Department of Agriculture, 2014).

A gamut of reasons can explain this situation: farmers have relatively small land parcel, high cost of production inputs, low adoption rate of appropriate farming technologies, lack of post-harvest facilities, and limited access to credit and financing. Farmers also struggle to adapt with the changing temperature and rainfall pattern, degraded environment (i.e. erosion), and limited access to agricultural extension services (the agri-fishery frontline services have been devolved to the local government units, where a typical Municipal Agriculturist Office has less than 15 regular staff). Farmers complain of low market price, yet traders say farmers do not comply with the required standards (i.e. moisture content higher than specified by trader or farmers harvest crops before full maturity).

As the MinPACT Baseline Study corroborates the above challenges, the farmers are also trying to maximize their land area, which the baseline results show at 83% utilization. This is also exhibited by the proportion of farmers now practicing inter-cropping (61% of respondents), which provides them more than one source of income, although their chosen crops are largely dictated by seasons. The yield per tree or per hectare is below the ideal (as explained above), likely due to the age of trees, (either recently planted seedlings or trees already senile) or inadequate quantity of fertilizer applied. They have access to credit, primarily intended to procure farm inputs, although nearly half of those who borrowed (44% of respondents with debts) use the credit or cash advances to buy food. They have attended training related to their crops, on farm management, and livelihood skills but they seemingly thirst for more.

It is fortunate that farmers have an organized support system as the baseline study finds that most of the producer organizations (cooperatives or associations) are able to provide services to their members. For an appropriate fee, the producer organizations can do bulk procurement of inputs and sell these to members at reasonable cost; manage nurseries and sell seedlings; share technology via demonstration plots and fielding of para-technicians or farmer leaders; rental of farm equipment and post-harvest facilities; consolidate and market the members' produce; lend capital for production and money for personal uses.

Farmers and their groups have linkages with input suppliers, nursery operators, micro-finance institutions; business development services providers, traders, processors, national government agencies, local government units, and other non-government organizations. These actors provide products and services based on their nature (e.g. for profit) or mandates (i.e. the government). However, these linkages need strengthening— so that government and private resources improve and invest in the farmers' productivity, profitability, competitiveness and sustainability.

**RECOMMENDATIONS.** MinPACT can assist the 3C value chains in several ways. First will be by complementing government and non-government programs that are addressing the problem of low productivity. Specifically, MinPACT can support increasing the production/availability of high-yielding varieties and adoption of such varieties by farmers.

MinPACT can support expanding farmers' access to financial services, farm equipment, quality inputs, appropriate crop and farm technologies, and post-harvest protocols and facilities. At the industry level, MinPACT can support developing, disseminating, and the adoption of quality assurance standards for the three value chains.

MinPACT can assist in improving producer organizations' consolidation/aggregation activities. Further, MinPACT can build capacity of organizations to understand and respond to market/buyers' procurement requirements and patterns. MinPACT can help producer organizations and value chain actors maximize the traditional and social media in marketing their products and services.

MinPACT can leverage the existing structures and networks by supporting initiatives that create spaces for industry-level discussion, innovation and recognition. MinPACT can use its local and international network to identify partners who are willing to invest in quality and productivity interventions. Finally, MinPACT can highlight the contribution of women and youth in the development of the chains to enable gender-inclusive value chains.

## 2 Background/Brief Project Description, Context and Rationale

Among the three major island groups in the country, Mindanao is the leading food producer and primary exporter of traditional products such as coconut, banana and pineapple. Working in its favor are fertile soils, agro-climatic conditions, and extensive river systems (Mindanao Development Authority, 2012), allowing its agriculture, hunting and forestry (AHF) sector to contribute 38% (Philippine Statistics Authority, 2014) to the country's Gross Value Added (GVA) from years 2011 to 2013.

Scores of government, non-government and donor-funded interventions have worked to stem the worsening plight of the smallholder farmers, using different approaches and schemes. To complement the ongoing government programs and development projects, ACDI/VOCA implements the USDA-funded four-year project Mindanao Productivity for Agricultural Commerce and Trade (MinPACT) and uses an integrated approach with value chains as the entry points to farm families.

MinPACT focuses on three major commodities: cacao, coffee and coconut (3C). The project concentrates on six (6) provinces (Davao del Norte, Davao del Sur, Davao Oriental, Compostela Valley, Bukidnon and Zamboanga del Norte) and one city (Davao). The project aims to work with 9,600 organized coffee, cacao and coconut producers (farm families) and another 1,600 value chain actors.

With the twin objectives of increasing agricultural productivity and expanding trade of agricultural products, the MinPACT activities include training of organized farmers, producer organizations, and agribusiness service providers; providing supportive grants; identifying and addressing the value chain constraints; improving post-harvest management; enhancing product quality and value of agricultural products; and expanding access to markets. MinPACT also embeds crosscutting themes of climate change mitigation, gender and cultural equity, youth engagement, and maximization of information technologies in its strategies and approaches. Lastly, MinPACT collaborates with the local and national government, private and non-government organizations for a coordinated delivery of sustainable services to target beneficiaries.

MinPACT, funded by the US Department of Agriculture's Food for Progress Program through the monetization of commodities in a third country, will run until 2018.

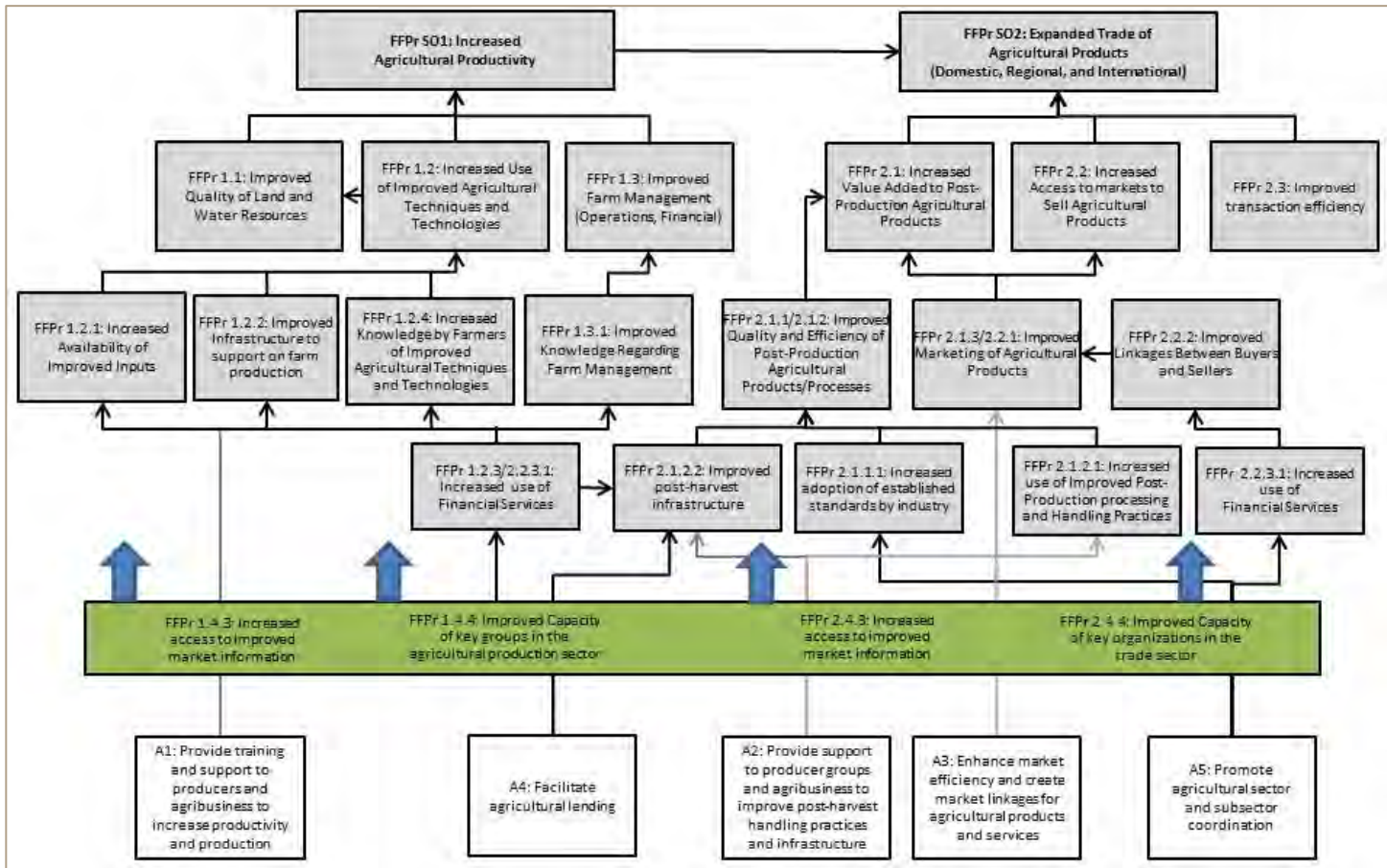


Figure 1: MinPACT Results Framework

### 3 Purpose, Objectives and Expected Use of the Baseline Study

The purpose of the baseline study was to gather data on MinPACT performance indicators at the start of the project. It sought to find out the current socio-economic situation of the cacao, coffee and coconut value chains and its actors. Where possible, the baseline study also explored the factors behind and barriers to the level of farm productivity, the farmer responsiveness to the services available, and the quality of relationships among the value chain actors.

The specific objectives of the study were to:

- Collect data to determine the level of change on impact and outcome indicators from the beginning of the project to the end of the project
- Establish reliable baseline information on socio-economic status, cultural attitudes, behavior, practices, and access to information, services and financial resources
- Gain in-depth understanding of the value chain actor conditions, services and constraints

The baseline study guides MinPACT on refining its strategies, prioritizing its activities, and customizing its engagement approaches with the target beneficiaries and prospective partners.

### 4 Study Methodology, Survey Sampling and Data Collection Techniques

#### 4.1 Study Methodology

The baseline study collected quantitative and qualitative data. For the quantitative data, it used a structured survey. ISEDI developed different sets of survey questions for the household and control group respondents as well as the value chain actors. The surveys made use of the mobile application Magpi (please refer to <https://www.magpi.com>). For the qualitative data, ISEDI developed guide questions for the key informant interviews (KII) and focus group discussions (FGDs). Whenever available, the baseline team gathered copies of documents (published reports, commodity profiles, presentations, and news articles) related to the 3Cs. Please refer to Annex 1 for the Baseline Tools.

#### 4.2 Survey Sampling Procedures

**SAMPLING PROCEDURES.** To determine the sample size for the baseline, the baseline team used the formula below.

ISEDI used the list of producer organizations and other value chain actors (i.e. business development service providers, micro-finance institutions, and input suppliers) as a guide on the location, size of membership, and the number of members identified as potential MinPACT beneficiaries.

$$n = \frac{NZ^2 \times p(1-p)}{Nd^2 + Z^2 \times p(1-p)}$$

where:  $n$  = sample size

$N$  = population size

$Z = 1.96$  (the value of the normal variable for a reliability level of 0.95.

This means having a 95% reliability in obtaining the sample size)

$p$  = the probability of getting a good sample

$1-p$  = the probability of getting a poor sample

Based on MinPACT target number of beneficiaries, the intended number of household respondents was 960 (780 for the target beneficiaries and 180 for the control group). ISEDI achieved the number for target beneficiaries but lacked seven for the control group. ISEDI intended to survey 160 value chain actors but only able to complete 79 because many declined to be interviewed.

**SELECTION OF THE HOUSEHOLD RESPONDENTS (SURVEY).** The household survey collected quantitative data from the members of the MinPACT-identified producer organizations. Prior to the fieldwork, ISEDI coordinated with most of the producer organizations to give initial background on baseline study and to obtain list of members. After receiving the list, ISEDI requested the management or office staff in identifying the “active” members (those who were still making capital contributions and attending activities regularly). ISEDI proceeded with the random sampling by dividing the active members number with the desired sample size per producer organization (refer to Annex 3). ISEDI rounded-off the resulting number to get the average random interval length and designated the first name as the starting point.

ISEDI used the 4:1 ratio – four males for every one female (baseline result shows higher ratio of 3:2). Based on ISEDI experience, most of the farming households were male-headed and often the land they tilled was in their name. ISEDI ensured that it had 10 replacements per organization should the initially identified respondents were not at home during the visit, were indisposed during the visit, or refused to be interviewed. There were 781 household respondents in seven (7) study sites. Among them, 30 were beneficiaries of CoCoPal and Success Alliance (previous USDA-funded, ACDI/VOCA implemented projects).

**SELECTION OF THE VALUE CHAIN ACTORS FOR THE QUANTITATIVE SURVEY.** During the household interviews with the producer organization members, ISEDI asked the households whom were people/organizations presently supporting or dealing with them. The farmers referred ISEDI to operators, input suppliers, micro-finance institutions, business development services (BDS) providers, traders and processors (snowball technique) they regularly deal with. There were 79 value chain actors for the quantitative survey.

**SELECTION OF THE VALUE CHAIN ACTORS FOR THE KEY INFORMANT INTERVIEWS.** ISEDI carried out 61 key informant interviews with value chain actors. The questions raised were more in-depth, asking for descriptions of relationships as well as their perceptions.

**SELECTION OF THE PARTICIPANTS TO THE FOCUS GROUP DISCUSSIONS.** ISEDI selected at least two producer organizations per area. ISEDI asked the organizations to identify different sets of members and officers (between 6 to 10) who were not included in household interviews to take part in the FGD. The FGD focused on the strengths, gaps and opportunities they faced as farmers, as member of the producer organization and as actors in the value chains. There were 15 producer organizations for the FGD sessions, with 175 participants, and another five (5) FGDs conducted with value chain actors. Thus, the total number of FGDs was 20.

**SELECTION OF THE CONTROL GROUP.** The local Agriculturist Office assisted in identifying the areas for the control group. The control group is a group of people resembling closely the treatment group (target beneficiaries) in many demographic variables but not receiving the active intervention, thereby serving as a comparison group when the treatment results are evaluated. There were 173 farmers interviewed to represent the control group.

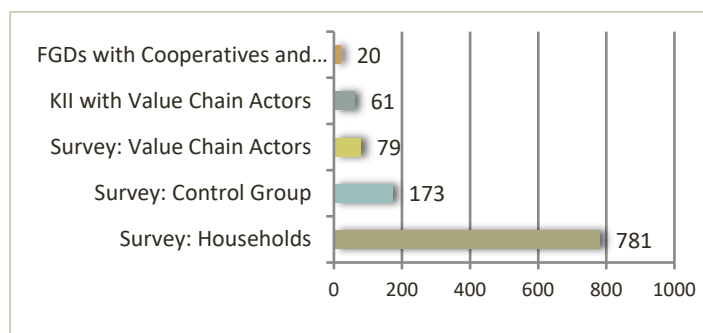


Figure 2: Number of Respondents, by type of baseline instrument

### 4.3 Data Collection Techniques

**TRAINING OF FIELD STAFF.** ISEDI held an orientation for the field supervisors and enumerators. The training ensured that the members of the study team were on the same page in regards to the purpose of the baseline, the sampling procedures and the protocols to follow. They became familiar with the tools and the use of the tablet (with the Magpi application installed).

**PRE-TESTING OF THE TOOLS.** Following the orientation, ISEDI tested the tools in one cooperative located in Panabo City, Davao del Norte. ISEDI calibrated the length of time needed to administer the household survey (which had the most number of questions and respondents). Unclear and redundant questions were identified and modified. Technical issues on the use of the tablet also surfaced, i.e. radio buttons, saving and uploading commands.

**UTILIZATION OF THE EXISTING INFORMATION (SECONDARY DATA).** ISEDI also used reports and presentations. These included the list of input suppliers from the Fertilizers and Pesticides Authority (FPA), the Southern Mindanao Cacao Industry Roadmap by Department of Trade and Industry (DTI), Value Chain Analysis and Competitiveness

Strategy for Cocoa Bean – Mindanao by Philippine Rural Development Program, and list of approved projects for funding by Department of Agrarian Reform (DAR).

**GENERATION OF PRIMARY DATA.** The baseline study administered structured surveys for the household and control group respondents and value chain actors. The surveys were supplemented by FGDs and KIIs.

- **ADMINISTRATION OF THE HOUSEHOLD AND CONTROL GROUP SURVEYS:** ISEDI interviewed the household respondents at their houses. The farmers were informed at least a day ahead of the schedule and the estimated arrival of the interview. ISEDI presented a short background on MinPACT and explained the purpose of the baseline survey, stressing the confidentiality of the respondents' identity and responses. ISEDI asked permission to take photo of the respondents and their GPS coordinates.
- **ADMINISTRATION OF VALUE CHAIN ACTOR SURVEY:** ISEDI gave a formal letter to value chain actors referred by the household respondents: nursery operators, input suppliers, business development service (BDS) providers, and micro-finance institutions. If given permission, ISEDI either interviewed the value chain actors' on-the-spot or returned on an agreed date.
- **CONDUCT OF THE FGDs:** ISEDI started the FGD sessions with MinPACT background, the purpose of the baseline study, and the uses of the FGD to the project. ISEDI showed the factors usually attributed to the success and failure of the farm. The participants classified by consensus if a certain factor was a strength, a weakness, an opportunity or a threat. ISEDI facilitated the discussion, ensuring all participants had the same opportunity to share their views.
- **CONDUCT OF THE KIIs.** ISEDI approached the key informants for an in-depth interview, based on their affiliation/involvement on the 3Cs.

## 5 Survey Teams Management and Operations

### 5.1 Survey Teams Management

The baseline study spanned six (6) provinces and one (1) city, and was undertaken over a period of three (3) weeks (February 9 to 27). Supervising the data gathering activities were the team leader and survey specialist, under the overall guidance of the ISEDI Executive Director. While onsite, MinPACT staff also observed the procedures, led by the MinPACT Monitoring and Evaluation (M&E) Manager/Gender Specialist. ISEDI Team leader and field supervisors closely coordinated with ACDI/VOCA for the daily updates (via telephone), allowing for immediate decisions and actions. ISEDI sent weekly updates to the MinPACT Chief of Party.

The survey specialist and technical support staff monitored the progress of the team via the Magpi dashboard. The dashboard displayed the location and number of completed survey forms, thus, tracking both the physical accomplishment and geographical location of the teams.

### 5.2 Operations

Following the orientation and the pre-test, the field teams deployed to their specific areas. ISEDI fielded seven (7) teams in all, with each team composed of at least three (3) members (supervisor, enumerator and local hire/s). Each team had at least two tablets and one GPS tool. Local hires used their Android phones or the printed copy of the survey. Completed survey forms in paper were encoded and uploaded at the end of the day, whenever possible.

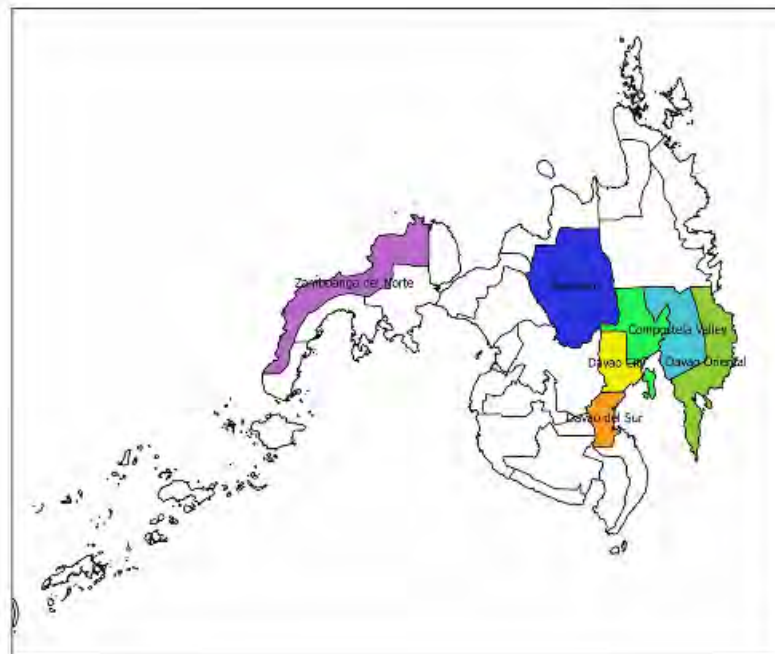


Figure 3: Baseline Study Areas

With the challenges of distance/location of the households, the completion of the actual interviews took longer than originally anticipated, also with farmers proceeding with their daily activities, there were occasions when the farmers were not at home when the teams arrived. ISEDI had three options: interview the spouse if they knew the farming details, request the principal farmer to meet the team at a designated place the next day, or in most cases, choose the nearest house with the farmer-owner present, if he/she was a member of the producer organization. Many value chain actors refused to be interviewed, and those who gave permission, chose not to provide financial details.

ISEDI found out that there were fewer value chain actors (especially BDS providers and MFIs) than anticipated, as the farmers relied heavily on their producer organizations for inputs and other services. In addition, some producer organizations were more cooperative and receptive than other groups. They assisted ISEDI in relaying information on the day and estimated time of interview or they allowed one of their staff/member to accompany ISEDI and locate houses.

ISEDI also had to contend with security and safety issues, which had bearing on pace of the field teams' movement. In Zamboanga del Norte for instance, farmers who refused to have their photo taken and their GPS coordinates recorded were respected, following the highly polarizing armed clash in Mamasapano, Maguindanao last January 25 between government troops and suspected terrorist group. Other incidences that coincided with gathering data were the firefight between government troops and alleged New Peoples' Army (NPA) near Mt. Kitanglad in Bukidnon (February 13), NPA attack on a police station in Davao Oriental (February 15), and a murder of a girl in a barangay in Davao City (February 10). The teams had to be cautious in their movement and in engaging with the respondents because of the high alert situation.

The use of the tablet for data collection was partially efficient. There was less eye-to-eye interaction between respondent and interviewer, the session was long<sup>1</sup>, and the Internet connection in the areas was generally slow. As a result, un-uploaded forms of the previous day clogged the tablet's storage space and slowed the taking in of new data. On average, the tablet could accommodate six (6) interviews per day, considering that the field teams had to travel (mostly on foot) between interviews.

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<sup>1</sup> The shortest interview was 1 hour for farmers who had only one of the three crops. A total of 528 swipes were needed to reach the end of survey questions.

## **6 Analysis, Management and Presentation**

### **6.1 Data Entry and Analysis Methods, Processes and Limitations**

ISED I opted to use the Magpi mobile technology rather than developing a specific program for the baseline. The ISEDI Survey Specialist conducted a daily checking of content completeness, range and consistency checking. Then exported the completed database to Microsoft Excel for the final data audit. The audit checked for data errors, such as transpositions, coding errors, consistency errors and range errors. A final Microsoft Excel file database became the source of data. Graphical analysis was conducted in Excel while data for descriptive analysis was imported to SPSS software. Data analyses were mainly descriptive statistics such as frequency counts and mean.

## **7 Limitations of the Study**

The study was conducted in six provinces and one city in Mindanao, with household respondents distributed across 22 producer organizations engaged in cacao, coffee and coconut production. In addition, from the list of value chain actors identified, only 79 participated because many refused the ISEDI request for interview.

## **8 Household Locations**

ISED I recorded the GPS coordinates of the household respondents. The coordinates were plotted using QGIS program. Please refer to Figure 4 showing the seven project sites. The provincial maps included as annexes.

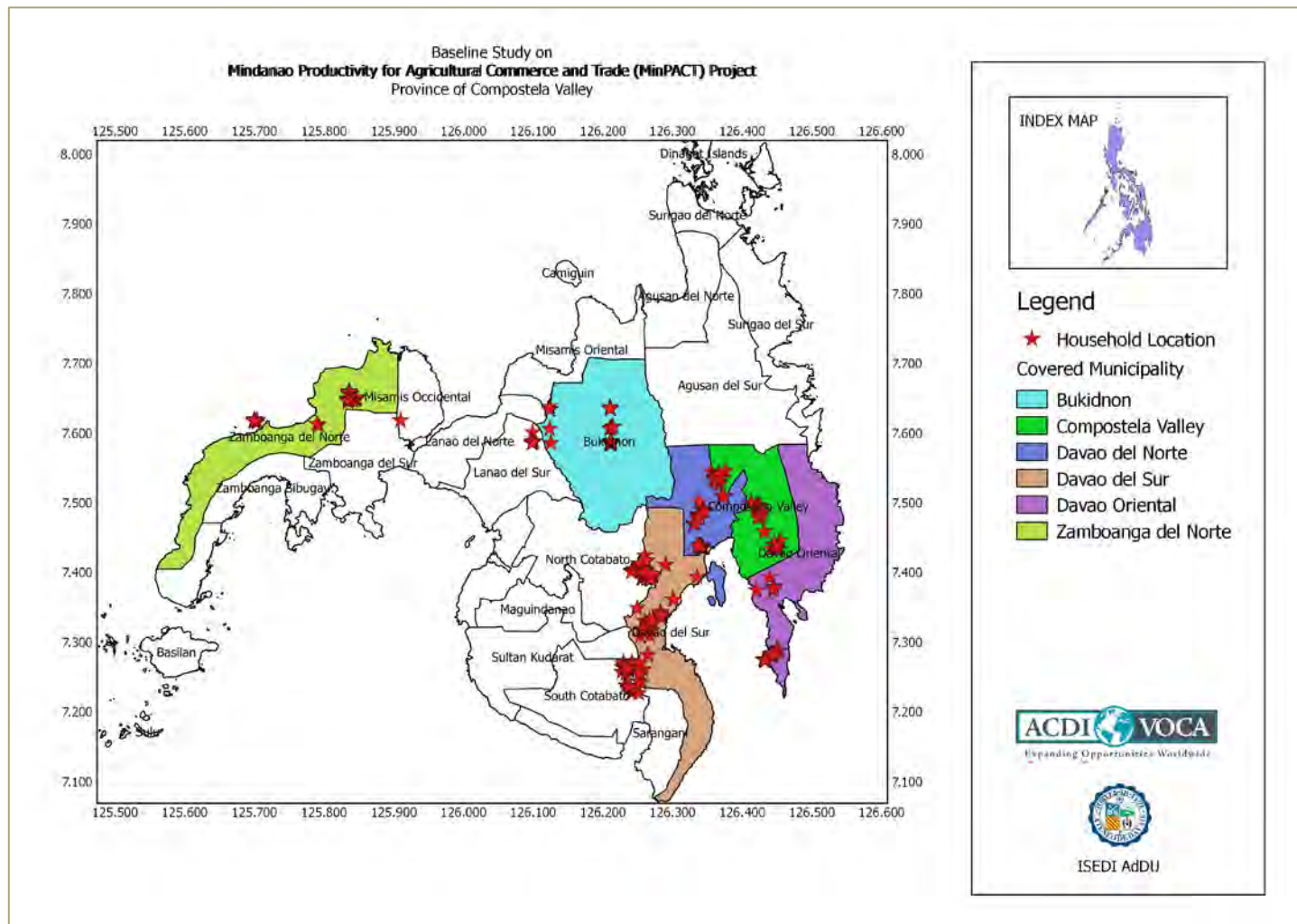


Figure 4: Households Location

## 9 Results and Discussion

### 9.1 Indicators Related to MinPACT Performance Monitoring Plan (Households)

The following sections (8.1.1 to 8.1.13) are the results of the survey of 781 farming households. All detailed matrices (provincial distribution and results of the control group) are under Annex 4.

#### 9.1.1 Profile of the Respondents

**BASIC INFORMATION.** The baseline survey interviewed 781 farming households. There were more males (58%) than females (42%). The median age of the respondents was 54 years old. Majority of the respondents were married (84%). The single respondents represent 5% of the sample population and the widow/widower/separated composed the remaining 11%. The average years of formal education is only seven (7) years (at least secondary level) and nearly all respondents can read and write (97%).

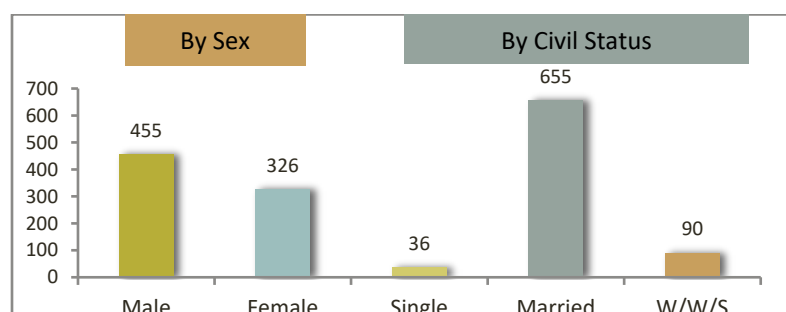


Figure 5: Distribution of Respondents by Sex and Civil Status

The average household size is five (5), which is the same as the national average (Philippine Statistics Authority, 2010). Bukidnon respondents have the highest number of household size at six (6) members, while Davao City, Davao del Norte and Davao del Sur have an average household size of four (4) members.

In terms of distribution of household members by age range, majority of respondents have members within the 15 to 60 years old range (91%, while national figure is 60%), followed by households with members who are 5 – 14 years old (54%, while national figure is 22%) and members over 60 years old (41%, while the national figure is 7%). Twenty-one (21) households have disabled family members, and another 21 households with chronically ill members.

In terms of ethnicity, more than half of the respondents belong to the Cebuano tribe (55%), followed by Boholano (10%) and Higaonon (5%).

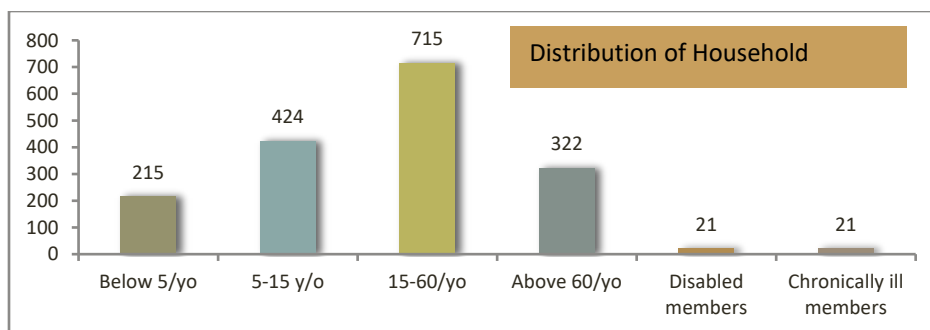


Figure 6: Distribution of Household Members by Age Range

**HOUSE AND ACCESS TO BASIC SERVICES.** Nearly half of the respondents said that their house condition is average (43%) or good (39%). Respondents own the house where they are staying (85%). Electricity is their source of lighting (85%). Majority of the respondents live in communities where there are nearby schools (57%) and have health facility (40%). In terms of distance, the average time needed to reach the closest elementary school is 21 minutes and to the closest health clinic/care facility is 26 minutes).

Table 1: House Condition and Ownership, Lighting, and Access to Education and Health Services

|  | Count | Percentage |
|--|-------|------------|
| <b>Current house condition</b>   |       |            |
| • Very Good  | 48    | 6.15%      |
| • Good   | 307   | 39.31%     |
| • Average  | 362   | 46.35%     |
| • Bad  | 59    | 7.55%      |
| • Very Bad   | 5     | 0.64%      |
| <b>House ownership</b>   |       |            |
| • Own  | 663   | 84.89%     |
| • Rent   | 16    | 2.05%      |
| • Access for Free  | 80    | 10.24%     |
| • Others   | 22    | 2.82%      |
| <b>Source of lighting</b>  |       |            |
| • Battery  | 1     | 0.13%      |
| • Electricity  | 667   | 85.40%     |
| • Kerosene   | 49    | 6.27%      |
| • None   | 2     | 0.26%      |
| • Oil/Gas  | 45    | 5.76%      |
| • Solar  | 17    | 2.18%      |
| <b>Access to education for children in the barangay (schools are nearby)</b> |       |            |
| • Very Good  | 78    | 9.99%      |
| • Good   | 447   | 57.23%     |
| • Average  | 217   | 27.78%     |
| • Bad  | 31    | 3.97%      |
| • Very Bad   | 8     | 1.02%      |
| <b>Access to health services in the barangay</b>                             |       |            |
| • Very Good  | 116   | 14.85%     |
| • Good   | 310   | 39.69%     |
| • Average  | 202   | 25.86%     |
| • Bad  | 105   | 13.44%     |
| • Very Bad   | 48    | 6.15%      |

**ASSETS.** Half of the respondents own motorcycles (51%). Other modes of transportation are animal cart (11%), bicycle (10%), car/jeepney (10%), tractor (2%) and boat (1%). Respondents have their own TV (74%) and mobile phone (74%). Most have radios too (69%). Nearly a tenth (9%) of the respondents have personal computer, and only 5% have access to Internet. On raising animals for food and farm work, the majority raises poultry (74%). They also raise carabao (27%) and cow (24%). Very few have horses (7%) on their farms.

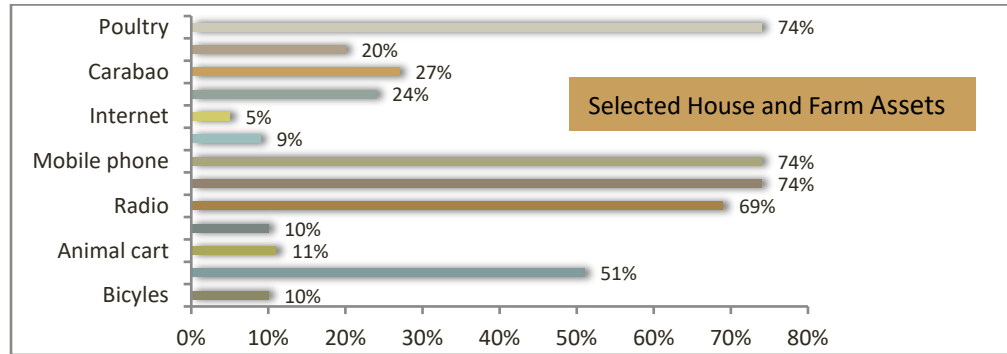


Figure 7: Selected House and Farm Assets, in percentage

### 9.1.2 Farm Characteristics

**FARM AREA AND PERCENTAGE OF PRODUCTIVE LAND.** On the average, 3C farmers have about 2.66 hectares of farmland. Farmers in Compostela Valley have the largest farm area with 4.83 hectares while the smallest are farmers in Davao City.

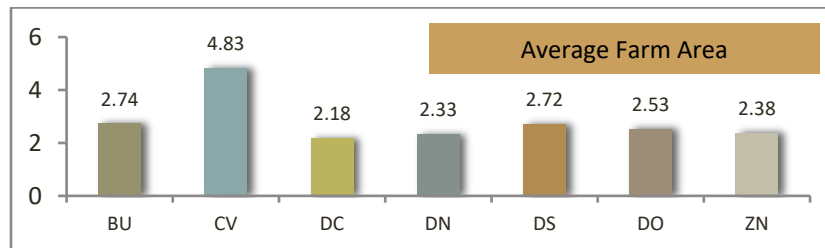


Figure 8: Average Farm Area by province, in hectare

Davao Oriental declares the highest percentage in terms of utilization of their farmland with, 96% rate, followed closely by farmers in Davao del Sur.

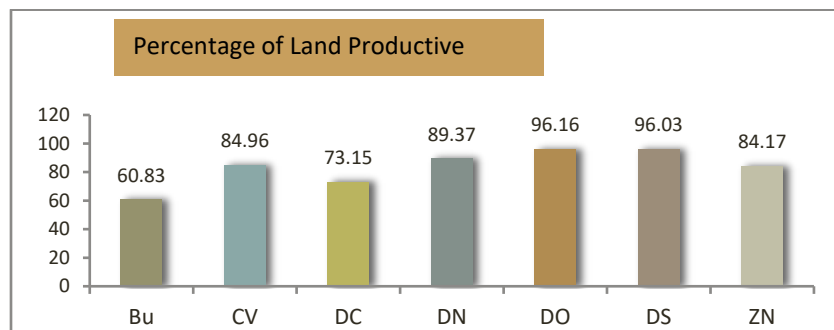


Figure 9: Percentage of the Farm Land that is Productive, by province

**YEARS IN FARMING.** The farmers who participated in the baseline survey have been farming for more than two decades (24.8 years). Farmers in Zamboanga del Norte have clocked an average of 28.88 years, while the “youngest” are the farmers in Compostela Valley with an average of 21.2 years.

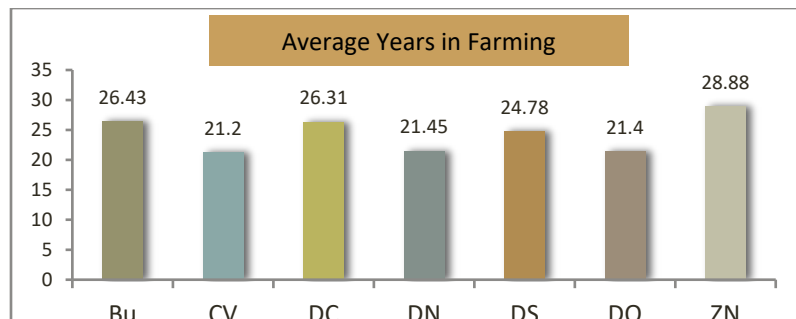


Figure 10: Average Years in Farming, by province, in years

**WAYS OF ACQUIRING THE LAND.** The majority of the 3C farmers have inherited (58%) the land they till while a little over a fifth (22%) have bought their land. Over a tenth (10%) of the land planted with 3C is an agrarian reform land or subjected to Operation Land Transfer (OLT). A few farmers are also farming in areas considered as public land (8%).

Davao del Norte has the highest percentage of inherited land (70%), Compostela Valley for land purchased/bought (40%), Davao Oriental for CARP/OLT (39%), and Zamboanga del Norte for squatting (6%). Note that 15 respondents did not provide responses on ways of acquiring land.

Table 2: Ways of Acquiring Land, by province, in numbers

| Province            | Public land | Bought     | Inheritance | CARP/OLT   | Squatting |
|---------------------|-------------|------------|-------------|------------|-----------|
| Bukidnon            | 8           | 43         | 73          | 2          | 0         |
| Compostela Valley   | 9           | 23         | 22          | 2          | 0         |
| Davao City          | 16          | 22         | 77          | 16         | 1         |
| Davao del Norte     | 4           | 15         | 53          | 4          | 0         |
| Davao del Sur       | 6           | 35         | 82          | 8          | 0         |
| Davao Oriental      | 11          | 12         | 52          | 39         | 1         |
| Zamboanga del Norte | 6           | 20         | 82          | 8          | 7         |
| <b>Aggregate</b>    | <b>60</b>   | <b>170</b> | <b>441</b>  | <b>79</b>  | <b>16</b> |
| <b>Percentage</b>   | <b>8%</b>   | <b>22%</b> | <b>58%</b>  | <b>10%</b> | <b>2%</b> |

**LAND TENURE.** 3C farms in general (86%) are privately owned (in this case, by the farmers interviewed), with Davao del Sur (96%) having the highest proportion of landowners while Davao City (80%) has the lowest. There are also household respondents who are tenants of the land (6%) or caretakers (5%), putting to good use the land entrusted to them.

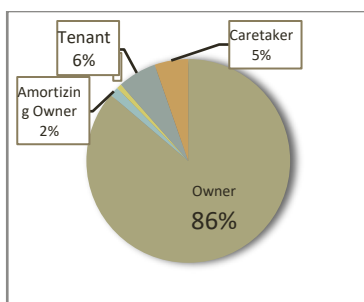


Figure 11: Types of Land Tenure, aggregate of 7 provinces

Table 3: Land Tenure, by province, in percentage

| Province            | Owner        | Amortizing Owner | Leaseholder | Tenant      | Caretaker   |
|---------------------|--------------|------------------|-------------|-------------|-------------|
| Bukidnon            | 89.68        | 0.00             | 1.59        | 0.79        | 7.94        |
| Compostela Valley   | 82.76        | 0.00             | 0.00        | 8.62        | 8.62        |
| Davao City          | 79.55        | 2.27             | 0.76        | 3.03        | 14.39       |
| Davao del Norte     | 86.08        | 0.00             | 0.00        | 11.39       | 2.53        |
| Davao del Sur       | 96.24        | 0.75             | 0.75        | 0.75        | 1.50        |
| Davao Oriental      | 82.47        | 2.06             | 1.03        | 7.22        | 7.22        |
| Zamboanga del Norte | 83.74        | 4.07             | 0.81        | 8.13        | 3.25        |
| <b>Aggregate</b>    | <b>86.23</b> | <b>1.47</b>      | <b>0.80</b> | <b>6.15</b> | <b>5.35</b> |

**LAND USE.** A majority (61%) of the 3C farmers, which are concentrated in Davao City (93%), practice intercropping; the lowest levels of intercropping are in Zamboanga del Norte (38%). Only a third (32%) of the respondents practice mono-cropping with the highest proportion located in Zamboanga del Norte (59%). There are farmers in Bukidnon (7%) and Davao del Norte (9%) who are engaged in agro-forestry.

Table 4: Land Use, by province, in percentage

| Province            | Untilled land | Mono- cropping | Agro- forest | Inter- cropping |
|---------------------|---------------|----------------|--------------|-----------------|
| Bukidnon            | 16.67         | 36.51          | 6.35         | 40.48           |
| Compostela Valley   | 0.00          | 22.41          | 1.72         | 68.97           |
| Davao City          | 2.27          | 3.03           | 1.52         | 93.18           |
| Davao del Norte     | 1.27          | 8.86           | 6.33         | 83.54           |
| Davao del Sur       | 0.00          | 38.35          | 1.50         | 60.15           |
| Davao Oriental      | 0.00          | 49.48          | 3.09         | 47.42           |
| Zamboanga del Norte | 2.44          | 58.54          | 0.81         | 38.21           |
| <b>Aggregate</b>    | <b>3.74</b>   | <b>32.22</b>   | <b>2.94</b>  | <b>61.10</b>    |

**MONO-CROPPING.** With a third of the respondents (241 farmers) engaged in mono-cropping, the majority being coconut farmers (66%) and the highest proportion is in Davao Oriental (94% of the province's respondents) and in Zamboanga del Norte (85%). Secondary to coconut as a mono-crop is coffee (18%), the highest proportion of farmers is located in Bukidnon (98% of the province's respondents). Cacao as mono-crop is practiced by farmers in Davao City (25% of the city's respondents). Some producer organization members are not yet engaged in the 3Cs, and only have rice (4%), sugarcane (3%), banana (3%), and a host of other crops (2%).

Table 5: Percentage of Farmers Practicing Monocrop, by province

| Province            | n          | Cacao       | Coffee       | Coconut      | Sugarcane   | Banana      | Rice        | Others      |
|---------------------|------------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|
| Bukidnon            | 46         | 0.00        | 97.83        | 0.00         | 0.00        | 2.17        | 0.00        | 0.00        |
| Compostela Valley   | 13         | 0.00        | 0.00         | 46.15        | 0.00        | 38.46       | 0.00        | 15.38       |
| Davao City          | 4          | 25.00       | 0.00         | 50.00        | 0.00        | 0.00        | 25.00       | 0.00        |
| Davao del Norte     | 7          | 14.29       | 0.00         | 71.43        | 0.00        | 0.00        | 14.29       | 0.00        |
| Davao del Sur       | 51         | 1.96        | 0.00         | 76.47        | 15.69       | 0.00        | 1.96        | 3.92        |
| Davao Oriental      | 48         | 2.08        | 0.00         | 93.75        | 0.00        | 4.17        | 0.00        | 0.00        |
| Zamboanga del Norte | 72         | 2.78        | 0.00         | 84.72        | 0.00        | 0.00        | 11.11       | 1.39        |
| <b>Aggregate</b>    | <b>241</b> | <b>2.49</b> | <b>18.26</b> | <b>65.56</b> | <b>3.32</b> | <b>3.32</b> | <b>4.15</b> | <b>2.49</b> |

**NUMBER OF FARMERS ENGAGED IN CACAO, COCONUT AND COFFEE.** There are more than half of the respondents who are presently engaged in coconut (518 or 66%). There are more cacao farmers (223 or 29%) than coffee farmers (176 or 23%). Since most are engaged in inter-cropping, adding the farmers by crop exceeds 781.

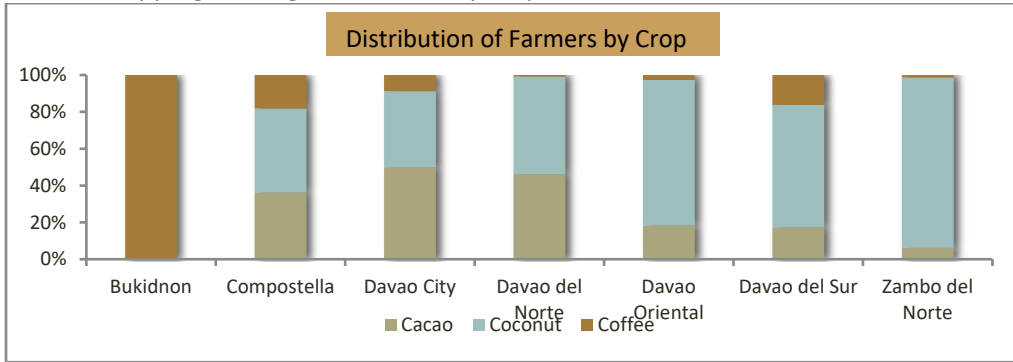


Figure 12: Distribution of Farmers by Crop (3Cs only), in percentage

### 9.1.3 Farm Productivity by Crop

**AREA PLANTED BY CROP.** Among the 3Cs, coconut has the biggest average area (2 hectares) planted compared to cacao (1.5 hectares) and coffee (1 hectare). The farmers are also planting staple crops like rice and corn, vegetables, fruit trees and hardwoods. Rubber shows the biggest in terms of land area.

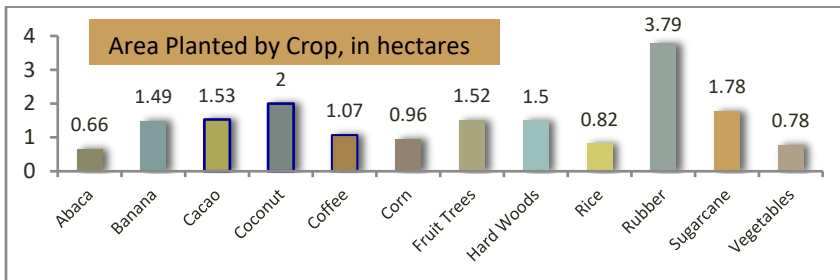
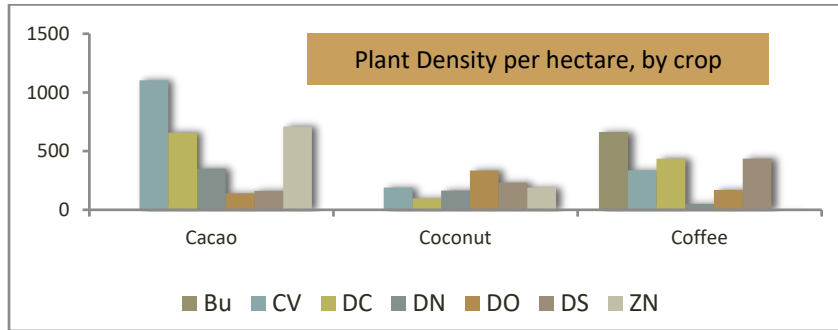


Figure 13: Area Planted by Crop, in hectares

**PLANT DENSITY BY CROP.** On average, the respondents across the seven project sites plant 582 cacao trees per hectare, 571 coffee trees per hectare and 208 trees of coconut per hectare. Compostela Valley has the highest concentration of cacao trees at 1,103 trees while Davao Oriental has the smallest at 140 trees. On the other hand, Davao Oriental has the most number of coconut trees per hectare at 334 trees, opposite Davao

City with only 99 trees. Bukidnon has the highest plant density for coffee with 657 trees, while Davao Norte has 50 trees.



**CACAO, YIELD, PRICE AND INCOME.** The average yield of cacao among the seven sites is 709 kilos per hectare in wet form, and 184 kilos per hectare in dried form. Davao City has the highest yield at 1,207 kilos per hectare for wet while the lowest is Davao del Norte with only 47 kilos. On per tree basis, the baseline average is 0.8 kilo per tree for those who are selling wet beans and 0.85 kg for those who are selling in dried form. The average price for wet is Php 37.28 and for dried, Php 107 per kilo. The average income for cacao farmer per hectare is Php 15,630 per cropping.

For cacao variety, cacao farmers have used relatively larger area for Brazilian (1.92 hectares) compared to combination of varieties (1.73 hectares) and UF18 (1.18 hectares). According to the Vice-President of the Cacao Industry Development in Mindanao (CIDAMI), the “Brazilian” variety is the generic term used by cacao farmers for the native variety planted in the areas. “Brazilian” is reportedly not an established clonal variety. Farmers used that term with the impression that the initial seedlings came from South America. The UF18, on the other hand, is now one of the most popular cacao varieties planted by farmers. Agriculturists describe it as “Trinitario” with big bean size and high productivity.

CIDAMI says that Puentespina Farms of Malagos Chocolate based in Davao City is able to harvest 3.8 kilos per tree. The current industry standard in the region is between 600 grams to 900 grams per tree and the ideal yield is about 2 kilograms per tree. Industry leaders are battling to achieve a medium productivity level of 1.5 kilograms per tree in the next 3-5 years.

**Table 6: Average Cacao Yield, Price and Income, in kilos and in Php**

|              | CV     | DC      | DN      | DO     | DS      | Aggregate |
|--------------|--------|---------|---------|--------|---------|-----------|
| Yield Wet    | 120.33 | 1207.54 | 47.33   | 100.2  | 95.17   | 709.01    |
| Yield Dried  | 38.38  | 259.31  | 176.14  | 27     | 70.54   | 184.43    |
| Price Wet    | 36     | 39.31   | 33      | 42.5   | 30.75   | 37.28     |
| Price Dried  | 99.33  | 113.41  | 95.6    | 82     | 105.62  | 106.91    |
| Gross Income | 4,146  | 17,389  | 30,166. | 1,054. | 10,7267 | 15,630    |

**COCONUT, YIELD, PRICE AND INCOME.** The average yield for seven project sites is 2,406 nuts per hectare. The highest yield is recorded in Davao del Sur with nearly 4,000 nuts, while the lowest is in Zamboanga del Norte with 830 nuts. In dried form, the average for

the seven sites is 641 kilos (of copra). The baseline result on the yield per tree is 4 nuts per tree per cropping and 1.13 kilo in copra (dried). The price per nut (wet) is Php 5.22 per nut, and when dried, it is Php 24.73 per kilo. The average gross income of a coconut farmer in these areas is Php 21,261 per hectare per cropping.

**Table 7: Coconut Yield, Price and Income, in kilos and in Php**

|              | Bu   | CV        | DC        | DN        | DO        | DS        | ZN     | Aggregate |
|--------------|------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
|              | Mean | Mean      | Mean      | Mean      | Mean      | Mean      | Mean   | Mean      |
| Yield Wet    | .    | 1367.23   | 2092.39   | 2018.87   | 848.65    | 3917.23   | 830    | 2406.59   |
| Yield Dried  | .    | 910.03    | 439.83    | 698.76    | 731.61    | 963.08    | 327.23 | 641.34    |
| Price Wet    | .    | 5.5       | 5.54      | 5.79      | 0.71      | 5.07      | .      | 5.22      |
| Price Dried  | .    | 23.99     | 23.15     | 21.92     | 30.55     | 24.27     | 22.56  | 24.73     |
| Gross Income | .    | 28,499.73 | 12,638.60 | 28,697.89 | 23,600.00 | 42,518.13 | 242.60 | 21,260.99 |

**COFFEE YIELD, PRICE AND INCOME.** The average yield of coffee in the seven project sites is 218 kilos (green beans), with Davao del Sur registering the highest average at 353 kilos per hectare. The baseline results on yield is 1.65 kilos for green beans and 0.26 kilos in dried form. The average price of coffee (green beans) is Php 54.79 per kilo and in dried form Php 76.48. A coffee farmer makes about Php 16,835 (or US\$ 376) per hectare harvest.

**Table 8: Coffee Yield, Price and Income**

|              | Bu        | CV       | DC        | DN   | DO     | DS        | Aggregate |
|--------------|-----------|----------|-----------|------|--------|-----------|-----------|
|              | Mean      | Mean     | Mean      | Mean | Mean   | Mean      | Mean      |
| Yield Wet    | 153.89    | .        | 265       | .    | .      | 353.33    | 217.68    |
| Yield Dried  | 165.21    | 160      | 181.75    | .    | 11     | 197.29    | 168.71    |
| Price Wet    | 40        | .        | 59.5      | .    | .      | 56.8      | 54.79     |
| Price Dried  | 80.32     | 57.67    | 76.6      | .    | 63     | 62.63     | 76.48     |
| Gross Income | 16,694.90 | 9,866.67 | 11,355.00 | .    | 691.00 | 21,728.19 | 16,835.14 |

For coffee, Robusta has a slightly larger area with an average of 0.78 hectare compared to Arabica with 0.63 hectare. One of the reasons farmers have more Robusta is that Nestle Philippines buys this particular variety for its instant coffee product line. Farmers also plant Robusta because it is high yielding and can grow at low altitude. Arabica, on the other hand, is grown at higher altitudes (at least over 800 meters) and is known for its flavor and aroma. Please refer to Annex – Table 15 for the yield, price and income of crops planted by the farmers.

#### 9.1.4 Farm Technologies/Practices

**TECHNOLOGIES AND PRACTICES.** The proportion of farmers adopting certain practices is quite small when compared to the number of total respondents. For instance, only 197 cacao and 105 coffee farmers are pruning, which represent 88% of cacao farmers and 60% of coffee farmers. The third column of the table below summarizes their assessment on the usefulness of the technologies/practices.

**Table 9: Technologies and Practices Adopted, and Found Beneficial**

|                    | <b>Top 5 Technologies and Practices Adopted<br/>(Number of Farmers)</b>   | <b>Top 5 Technologies and Practices Found<br/>Beneficial (Percentage of Farmers Who<br/>Find it Beneficial)</b>  |
|--------------------|---|--|
| Cacao Production   | <ul style="list-style-type: none"> <li>• Hand weeding (197)</li> <li>• Pruning (192)</li> <li>• Application of fertilizer (158)</li> <li>• Intercropping (133)</li> <li>• Proper plant spacing (116)</li> </ul>                               | <ul style="list-style-type: none"> <li>• Pruning (65%)</li> <li>• Application of fertilizers (61%)</li> <li>• Hand weeding (54%)</li> <li>• Intercropping (22%)</li> <li>• Mulching and IPM (11%)</li> </ul>     |
| Coffee Production  | <ul style="list-style-type: none"> <li>• Hand weeding (147)</li> <li>• Pruning (105)</li> <li>• Application of fertilizer (68)</li> <li>• Farm planning (56)</li> <li>• Avoid slash and burn (39)</li> </ul>                                  | <ul style="list-style-type: none"> <li>• Hand weeding (66%)</li> <li>• Pruning (57%)</li> <li>• Application of fertilizers (50%)</li> <li>• Farm planning (35%)</li> <li>• Avoid slash and burn (17%)</li> </ul> |
| Coconut Production | <ul style="list-style-type: none"> <li>• Hand weeding (362)</li> <li>• Application of fertilizer (218)</li> <li>• Intercropping (161)</li> <li>• Proper plant spacing (128)</li> <li>• Integrated pest and disease management (50)</li> </ul> | <ul style="list-style-type: none"> <li>• Hand weeding (56%)</li> <li>• Application of fertilizer (41%)</li> <li>• Intercropping (14%)</li> <li>• Proper plant spacing (13%)</li> <li>• IPM (8%)</li> </ul>       |

**FERTILIZERS APPLICATION.** Most farmers apply both synthetic and organic fertilizers. They usually follow calendar dates and their second consideration is the growth of the plant. Below is the comparison on their application strategy:

**Table 10: Fertilizer Application Strategy, by number of farmers**

|                                       | <b>Synthetic</b> | <b>Organic</b> |
|---------------------------------------|------------------|----------------|
| Calendar dates                        | 129              | 57             |
| Done at the first sight of pest, etc. | 5                | 0              |
| Based on crop growth                  | 79               | 48             |
| Recommended by DA technician          | 27               | 12             |

**Table 11: Fertilizer Application Decision, by number of farmers**

|           |                        | <b>Cacao</b> | <b>Coffee</b> | <b>Coconut</b> |
|-----------|------------------------|--------------|---------------|----------------|
| Synthetic | Soil testing           | 31           | 21            | 45             |
|           | Cost of fertilizer     | 27           | 14            | 41             |
|           | Influence by neighbors | 40           | 22            | 70             |
|           | Recommendation of DA   | 49           | 18            | 62             |
| Organic   | Soil testing           | 10           | 15            | 7              |
|           | Cost of fertilizer     | 15           | 8             | 17             |
|           | Influence by neighbors | 8            | 17            | 7              |
|           | Recommendation of DA   | 36           | 23            | 46             |

Only 205 farmers (27%) out of 770 have their own business/farm plans.

### 9.1.5 Access to Capital/Credit and Level of Savings

**BORROWINGS.** More than half (56% or 434) of the farmers have an outstanding debt. Seven out of 10 borrowers (76%) borrow from their cooperative and pay an interest of 2.59% per month. Other farmers borrow from their relatives and friends (19%), paying monthly interest rate of 7.5%. Other sources are banks (9%), traders and processors (7%), and micro-finance institutions (6%) – with monthly interest rate at the range of 3

to 6%. The most exorbitant in terms of interest rate is what farmers call “5-6 borrowing” at 9.83%; fortunately, only nine (9) farmers have borrowed from this source. “5-6” are informal lenders (not licensed to do money lending) who charge as much as 20% interest rate per month or per agreed period of time. For instance, farmers who borrow Php 500 from the “5-6” pay Php 600 on the agreed date. Farmers and even small entrepreneurs borrow from “5-6” because the latter does not require collateral or documents.

Among the sources, banks lend the highest in terms of amount, with an average of Php 109,208 or US\$ 2,436 per borrower. Cooperatives lend an average of Php 39,369 (US\$ 878) and microfinance institutions with Php 33,083(US\$ 738) per borrower.

Farmers borrow for different reasons: to procure farm inputs/finance other activities on the farm (68%), buy food (192 farmers or 44%), pay medicines/medical services because a member of the family became sick (11%) and for community activity (1.15%). Other reasons (representing 20.74% combined) for borrowing include capital for business, education, and house construction.

**Table 12: Sources of Credit, Interest Rates and Average Amount Borrowed**

| Source of credit       | f   | % (n=434) | interest rate/ month | Average amount borrowed |
|------------------------|-----|-----------|----------------------|-------------------------|
| Relatives and Friends  | 81  | 18.66     | 7.54                 | 10,837.31               |
| NGOs                   | 5   | 1.15      | 1.00                 | 9,000.00                |
| Cooperative/ Paluwagan | 328 | 75.58     | 2.59                 | 39,369.34               |
| Local lender/Pawnshop  | 6   | 1.38      | 8.83                 | 9,000.00                |
| Banks                  | 37  | 8.53      | 3.31                 | 109,208.82              |
| Microfinance           | 26  | 5.99      | 5.74                 | 33,083.33               |
| Traders/Processors     | 30  | 6.91      | 3.95                 | 12,378.57               |
| 5-6 borrowing          | 9   | 2.07      | 9.83                 | 8,444.44                |

Note: Column 3 does not add to 100% since farmers have multiple sources of credit.

**SOURCES OF CAPITAL SPECIFIC TO 3Cs.** The baseline study shows that the cacao and coconut farmers sourced their production capital from borrowings (18% both), while coconut farmers only borrow as little as 4% for their production inputs. The rest of their requirements are their own funds/own effort.

**Table 13: Sources of Capital for Production, by crop, in percentage**

|                           | BU    | CV    | DC    | DN    | DO    | DS    | ZN    | Aggregate |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-----------|
| Cacao, own capital        | .     | 43.25 | 87.5  | 56.12 | 40    | 79    | 58.18 | 69.4      |
| Cacao, borrowed capital   | .     | 54.25 | 9.9   | 11.22 | 31.43 | 4.33  | 12.73 | 17.85     |
| Coconut, own capital      | .     | 74.88 | 90.92 | 79.04 | 64.55 | 86.72 | 73.65 | 78.2      |
| Coconut, borrowed capital | .     | 20.47 | 2.5   | 13.95 | 33.43 | 11.77 | 21.79 | 17.85     |
| Coffee, own capital       | 88.86 | 75    | 93.33 | .     | 33.33 | 85.86 | 50    | 85.66     |
| Coffee, borrowed capital  | 3.25  | 0     | 0     | .     | 0     | 3.79  | 12.5  | 3.35      |

**LEVEL OF SAVINGS.** A little less than half (42%) of the respondents say they maintain a savings account. Those who save prefer to safe-keep their money with the cooperatives (78%) rather than the banks (22%).

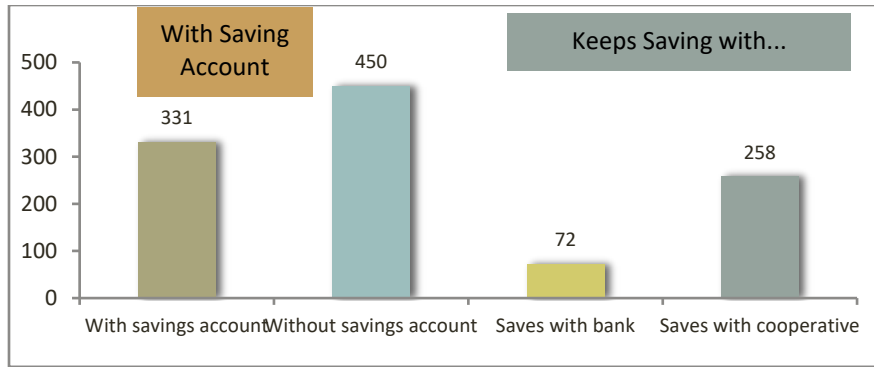


Figure 14: Savings Accounts and Where Money is Kept

**CONTRACT GROWING AS A WAY TO ACCESS FINANCIAL SERVICES.** Only 47 farmers said that they engaged in contract growing (6%). When asked if the contract allows them to access financial service or loan, 36 farmers (77% of the 47) who do contract farming answered affirmatively. Based on their responses, most of these contract-growing farmers belong to cooperatives like LAMPCO, MAGROW, and NICO.

Table 14: Contract Growing to Access Financial Services/Obtain Loan

| Have you engaged in contract growing or farming?                          | Item  | <i>f</i> | %      |
|---|-------|----------|--------|
| (note: 4 did not reply)   | Yes   | 47       | 6.02   |
|   | No    | 730      | 93.47  |
|   | Total | 777      | 100.00 |
| Does this contract/s let you access financial services or to obtain loan? | Yes   | 36       | 76.60  |
|   | No    | 11       | 23.40  |
|   | Total | 47       | 100.00 |

**MOBILE TECHNOLOGIES USED TO PAY/RECEIVE MONEY AND PAY BILLS.** Only 20 farmers or less than 3% use their mobile phones to receive/send money and pay bills. In terms of mobile services, five (5) farmers have sent/received money through Smart Money, and another five (5) farmers who used mobile services to transfer funds.

### 9.1.6 Access to Training on Farming

**ATTENDANCE TO TRAINING.** Nearly half (49% or 382) of the respondents said that they have attended skills training: 35% of these farmers attended cacao production training, 16% attended basic farming training and farmer field school, 13% attended coconut production training, and 5% attended coffee production training.

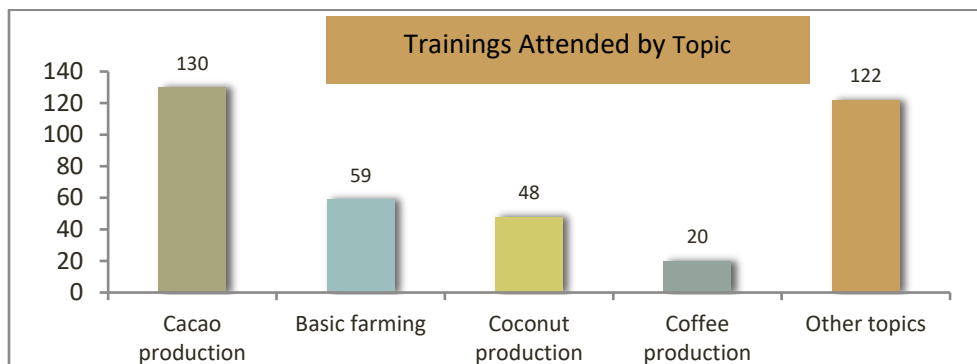


Figure 15: Trainings Attended by Farmers, by topic

Other training activities attended by the respondents include: production of banana, mango, rubber, cassava, corn, and rice; fertilizers, vermicast and composting; post-harvest facilities; poultry and goat raising; post harvest facilities; sustainable agriculture; agri-micro finance and entrepreneurship; cooperative management; and values formation (behavioral change).

**INTEREST TO ATTEND TRAINING RELATED TO AGRICULTURAL/LIVELIHOOD OPPORTUNITIES.** A majority (87%) of the farmers are interested in attending training related to crops and other livelihood opportunities specifically on farm management training (86%), financial management (50%), integrated pest management (47%), and product processing (46%).

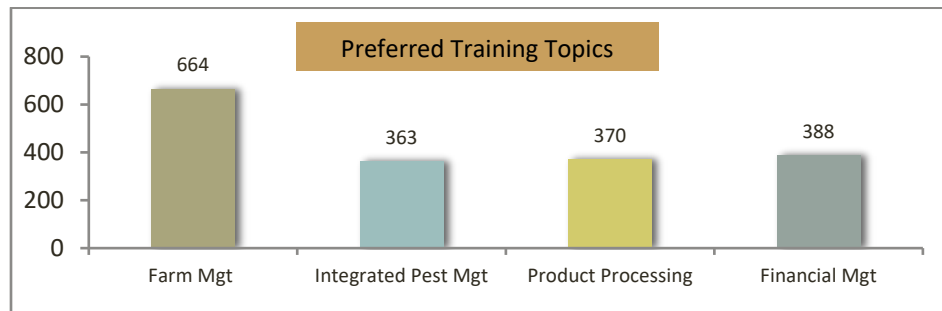


Figure 16: Training Topics Preferred

However, there are also factors that may prevent them from attending training like the lack of funds (47%), location of the training (30%) since attending may incur travel expenses or will make them leave their farm or their families, health problem (25%), family obligation (23%), and current workload (20%). Farmers could not also attend if the training coincides with previously scheduled activities, and unfavorable weather condition.

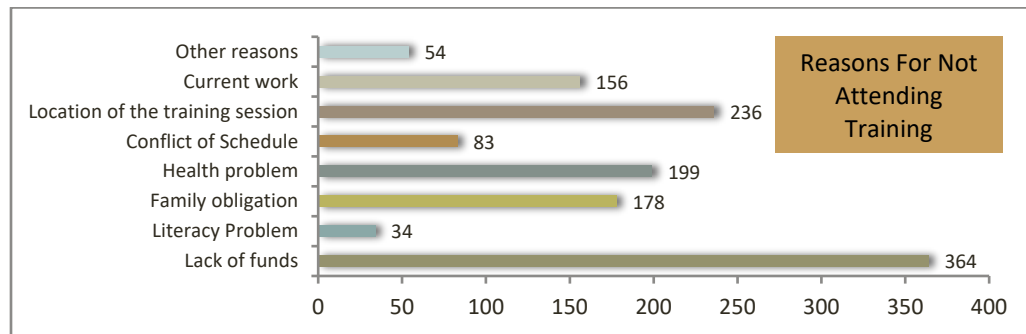


Figure 17: Reasons That Will Influence Attendance to Training

If there is a training they are seriously interested in, they are willing to pay the training fees or provide in-kind counterpart (517 farmers or 73%).

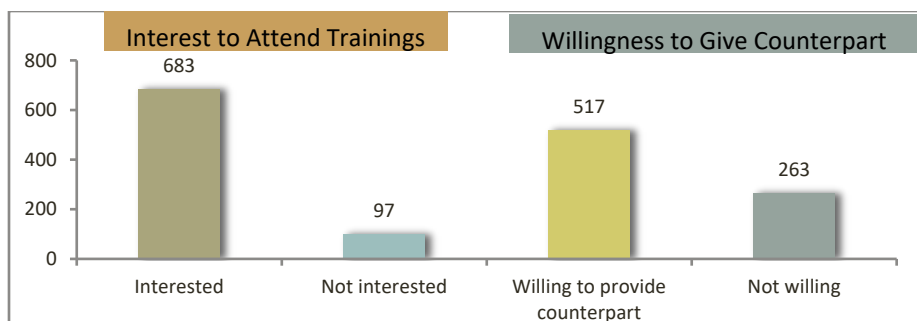


Figure 18: Interest to Attend Training and Willingness to Give Counterpart

### 9.1.7 Post-Harvest Practices and Access to Post-Harvest Facilities

**POST-HARVEST PRACTICES, BY COMMODITY.** From the 233 cacao, 66% say that they dry their cacao beans. Nearly a third (31%) do sorting/classifying and pod breaking (29%). Less than a tenth of the cacao farmers do fermentation (6%) and grading (6%).

From the 518 coconut farmers, majority does cleaning/dehusking (70%) and drying (64%). About a third (32%) split their coconut and 17% store their coconut before selling.

A majority of the coffee farmers dry (77%) their coffee. Hulling is done by only 38% of the farmers. Sorting and classifying is the third most popular post-harvest practice for the 45 farmers (26%).

Table 15: Post-Harvest Practices, by commodity

| Item   | F   | %     |
|--|-----|-------|
| <b>Post-Harvest Practices on Cacao (n=233)</b>   |     |       |
| • Pod Breaking                                   | 65  | 29.15 |
| • Fermentation                                   | 13  | 5.83  |
| • Drying   | 147 | 65.92 |
| • Sorting/classifying                            | 68  | 30.49 |
| • Grading  | 14  | 6.28  |
| • Storage  | 25  | 11.21 |
| <b>Post-Harvest Practices on Coconut (n=518)</b> |     |       |
| • Cleaning/Dehusking                             | 364 | 70.27 |
| • Grading  | 11  | 2.12  |
| • Sorting/classifying                            | 55  | 10.62 |
| • Splitting                                      | 167 | 32.24 |
| • Drying   | 334 | 64.48 |
| • Storage  | 89  | 17.18 |
| • Cleaning/Dehusking                             | 364 | 70.27 |
| <b>Post-Harvest Practices on Coffee (n=176)</b>  |     |       |
| • Pulping  | 53  | 30.11 |
| • Fermentation                                   | 1   | 0.57  |
| • Washing  | 25  | 14.20 |
| • Drying   | 135 | 76.70 |
| • Hulling  | 66  | 37.50 |
| • Polishing                                      | 26  | 14.77 |
| • Grading  | 30  | 17.05 |
| • Sorting/classifying                            | 45  | 25.57 |
| • Storage  | 16  | 9.09  |

**ACCESS TO POST-HARVEST FACILITIES.** Dryer (40%) is the most common post-harvest facility by farmers. Storage facility/room/space ranked second at 31%. All of the post-harvest facilities are located within the barangay.

For the cost for the use of the facility, the most expensive is the post-harvest storage at an average Php 6,462 (US\$ 144) per use, followed by the dryer worth Php 3,331 (US\$ 74) per use.

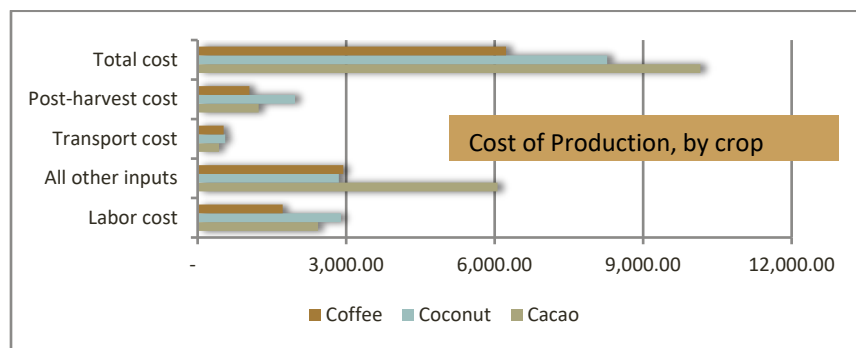
**Table 16: Access to Post-Harvest Facilities, by type, by location**

|                       |                  | Aggregate |       |
|-----------------------|------------------|-----------|-------|
|                       |                  | Count     | %     |
| Postharvest Storage   |                  | 243       | 31.11 |
| Where                 | Within Barangay  | 249       | 31.88 |
|                       | Outside Barangay | 0         | 0.00  |
| Fermentation Facility |                  | 19        | 2.43  |
| Where                 | Within Barangay  | 24        | 3.07  |
|                       | Outside Barangay | 0         | 0.00  |
| Dryer                 |                  | 315       | 40.33 |
| Where                 | Within Barangay  | 310       | 39.69 |

### 9.1.8 Cost of Production per Cropping

**LABOR, INPUTS, POST-HARVEST AND TRANSPORT COSTS.** Comparing the 3Cs, cacao has the highest cost of production per hectare at Php 10,155.99 or US\$ 227. Coconut is in second place with Php 8,272 or US\$ 185, and last is coffee with Php 6,230 or US\$ 139.

Labor cost is highest for coconut at Php 2,893 or US\$ 65, followed by cacao at Php 2,433 or US\$ 54, and last is coffee with Php 1,718 or US\$ 38.



**Figure 19: Average Cost of Production, per cropping, by crop, in Php**

### 9.1.9 Level of Farm Income and Household Expenditures

**FARM INCOME, 3Cs AND OTHER CROPS AND LIVESTOCK.** Income from engaging in coconut production brings the farmer an average income of Php 43,664 US\$ 974 per hectare per cropping, higher compared to income from cacao at Php 35,008 or US\$ 781 and coffee at Php 14,836 or US\$ 331.

However, rubber farmers in Davao del Sur are reportedly earning Php 114,000 or US\$ 2,544 per hectare per cropping, followed by rice farmers with an average income of Php 81,809 or US\$ 1,852 per hectare per cropping and rubber with average income of Php 53,270 or US\$ 1,189.

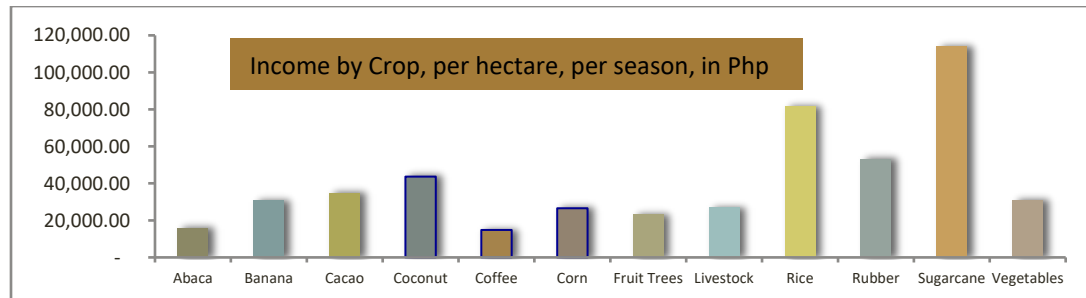


Figure 20: Income by Crop, per hectare, per cropping season, in Php

**CROPS THAT BRING HIGHEST INCOME TO FARMERS, PER PROVINCE.** Among the crops that compensate the farmers for their hard work, vegetables earn most for farmers in Bukidnon; coconut for farmers in Compostela Valley; rubber for farmers in Davao City; rice for farmers in Davao del Norte; charcoal making for farmers in Davao Oriental; and rice for farmers in Davao del Sur and Zamboanga del Norte.

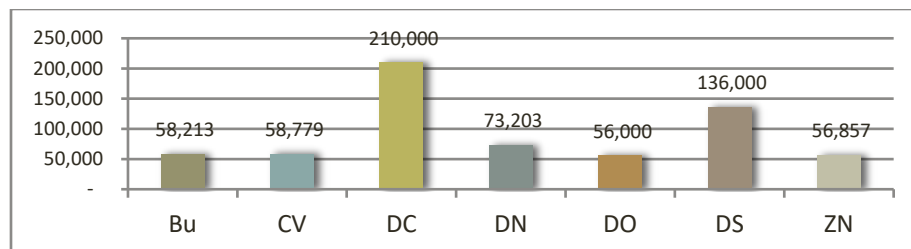


Figure 21: Crops That Bring Highest Income to Farmers, per province, in Php

**HOUSEHOLD INCOME.** The baseline study shows that the average annual income of farmers is Php 99,215 or US\$ 2,214, where 63% comes from the farming activities and the other 37% comes from non-farming activities. The 3C farmers make about Php 8,268 or US\$ 184 per month to support their families. The baseline figure is smaller than the national average of Php 235,000 per family per year, based on the 2012 Family Income and Expenditure Survey.

Compostela Valley-based farmers are relatively the richest, with an annual income of Php 236,925 or US\$ 5,286 (or Php 19,744 or US\$ 440 per month). This income is more than twice the total average. Farmers in Bukidnon have the smallest annual income, with only Php 45,471 or US\$ 1,015 (Php 3,789 or US\$ 86 per month).

Very few among the respondents in Bukidnon reveal that they have other sources of income. During the data gathering interviews, the respondents revealed that they could not even afford to hire farm labor to help on the farm. They do all the manual labor, sometimes helped by their spouse when the spouse has completed the household and child-rearing tasks. The respondents live too far away from the town center, where a

one-way trip to town would cost them Php 200 or US\$ 4.50 per person (or roughly, on their income, a 2-days' worth of work). Farmers would sometimes be reluctant to sell their produce in town because of the high transport cost, but they are forced to because there are no traders who come to buy their harvest.

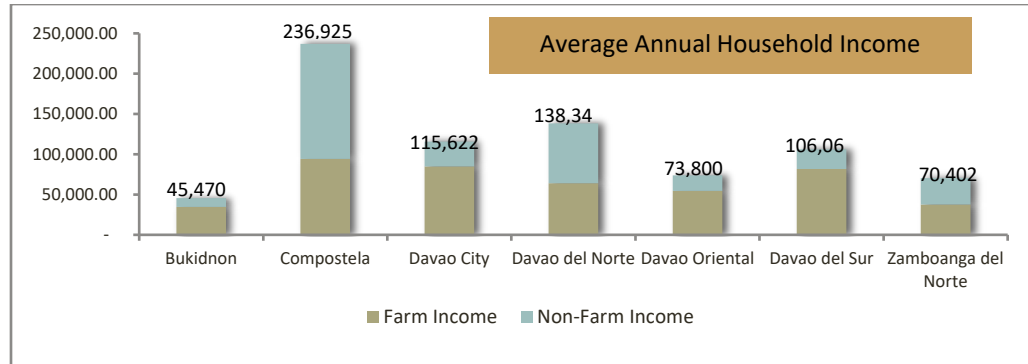


Figure 22: Average Annual Household Income, by province, in Php

**HOUSEHOLD EXPENDITURES.** The average annual expenditures is Php 99,215 or US\$ 2,214. This is below the national average of Php 193,000, based on the 2012 Family Income and Expenditure Survey. Baseline result shows that the average monthly expenses is Php 8,268 or US\$ 184 per month, still allowing a savings/balance of Php 195 or US\$ 4 per month. Farmers located in Compostela Valley have the highest monthly expenses with Php 19,744 or US\$ 441, while the farmers in Bukidnon have the lowest expenditures Php 6,036 per month. When asked to explain why their expenditures appeared higher than their income, most farmers in Bukidnon say they grow their own food. Similar case is noted in Zamboanga del Norte farmers. The said their province is among the highest in terms of food, health, transportation, clothing and leisure expenditures.

Food comprised the largest portion of monthly expenses at 50%, followed by education at 13% and transportation at 11%. Farming households also spend on communications (3%) and water (1%).

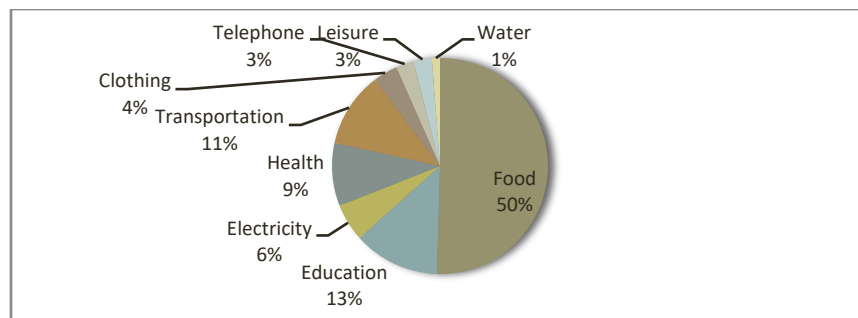


Figure 23: Distribution of Monthly Expenditures, by item, in percentage

Farmers in Bukidnon and Zamboanga are in the red, where their expenditures are higher than their income: Bukidnon farmers have dissavings (at the level of Php 2,247 per month and Zamboanga del Norte with Php 3,691 per month. Davao Oriental is also negative but comparatively lower compared to the two provinces at Php 613 per month.

Dissaving happens when households are spending more than they can earn, considering their low income and increasing expenses. Sometimes, to be able to spend, households borrow or sell their assets.

Table 17: Sources of Income and Level of Monthly Expenditure, by province, in Php

| Sources of Income                      | Bukidnon   | Compostela | Davao City | Davao del Norte | Davao Oriental | Davao del Sur | Zamboanga del Norte | Aggregate |
|--|------------|------------|------------|-----------------|----------------|---------------|---------------------|-----------|
| A. Farm Income                         | 34,544.92  | 94,227.70  | 84,937.20  | 64,014.03       | 54,400.00      | 81,772.96     | 37,600.23           | 62,010.95 |
| <i>Cacao</i>                           |            | 20,911.00  | 36,802.11  | 10,767.47       | 7,289.47       | 6,680.03      | 21,422.36           | 21,422.36 |
| <i>Coconut</i>                         |            | 22,387.28  | 9,971.87   | 16,923.90       | 2,105.26       | 34,837.50     | 13,965.53           | 13,965.53 |
| <i>Coffee</i>                          | 12,053.42  | 39,627.32  | 21,016.78  | 14,113.25       | 45,200.00      | 40,740.46     | 27,953.48           | 27,953.48 |
| B. Non-Farm Income                     | 10,925.91  | 142,697.68 | 30,684.80  | 74,332.99       | 19,400.00      | 24,291.13     | 32,801.57           | 37,156.65 |
| TOTAL ANNUAL INCOME                    | 45,470.83  | 236,925.38 | 115,622.00 | 138,347.00      | 73,800.00      | 106,064.00    | 70,401.80           | 99,215.23 |
| MONTHLY INCOME                         | 3,789.24   | 19,743.78  | 9,635.17   | 11,528.92       | 6,150.00       | 8,838.67      | 5,866.82            | 8,267.94  |
| <i>Cacao % share to total income</i>   |            | 9%         | 32%        | 8%              | 10%            | 6%            | 3%                  | 22%       |
| <i>Coconut % share to total income</i> |            | 9%         | 9%         | 12%             | 3%             | 33%           | 31%                 | 14%       |
| <i>Coffee % share to total income</i>  | 27%        | 17%        | 18%        | 10%             | 61%            | 38%           | 35%                 | 28%       |
| Monthly Expenditure                    |            |            |            |                 |                |               |                     |           |
| Food                                   | 3,697.71   | 5,590.32   | 3,689.55   | 5,453.77        | 3,750.74       | 3,408.61      | 4,357.76            | 4,072.02  |
| Education                              | 769.28     | 1,863.75   | 991.25     | 715.19          | 741.21         | 1,100.89      | 1,455.12            | 1,044.19  |
| Electricity                            | 125.73     | 769.82     | 443.15     | 921.08          | 273.96         | 537.29        | 479.08              | 455.50    |
| Health                                 | 251.11     | 682.86     | 1,141.79   | 430.75          | 937.66         | 895.53        | 811.73              | 760.26    |
| Transportation                         | 780.47     | 1,118.39   | 1,087.44   | 798.49          | 736.70         | 742.33        | 1,186.77            | 911.66    |
| Clothing                               | 133.98     | 460.95     | 224.06     | 172.87          | 158.80         | 442.86        | 505.19              | 293.64    |
| Telephone                              | 122.80     | 317.46     | 317.17     | 148.64          | 93.84          | 217.62        | 310.27              | 214.63    |
| Leisure                                | 135.23     | 224.11     | 278.20     | 126.88          | 27.30          | 338.50        | 380.24              | 222.83    |
| Water                                  | 20.12      | 141.25     | 102.95     | 185.08          | 42.71          | 156.09        | 93.61               | 97.91     |
| TOTAL EXPENDITURE                      | 6,036.42   | 11,168.91  | 8,275.55   | 8,952.75        | 6,762.92       | 7,839.71      | 9,579.77            | 8,072.65  |
| Savings/Disavings                      | (2,247.18) | 8,574.87   | 1,359.62   | 2,576.17        | (612.84)       | 998.96        | (3,691.26)          | 195.29    |

### 9.1.10 Utilization and Disposal of Agricultural Produce

After harvest, the agricultural produce are sold (88%), consumed (7%) and shared to landlord (1%). Farmers usually sell their produce in nearby market (62%), middlemen or consolidator, which are often their cooperatives (19%), direct to processors such as Nestle Philippines (4%), and others (or 1%).

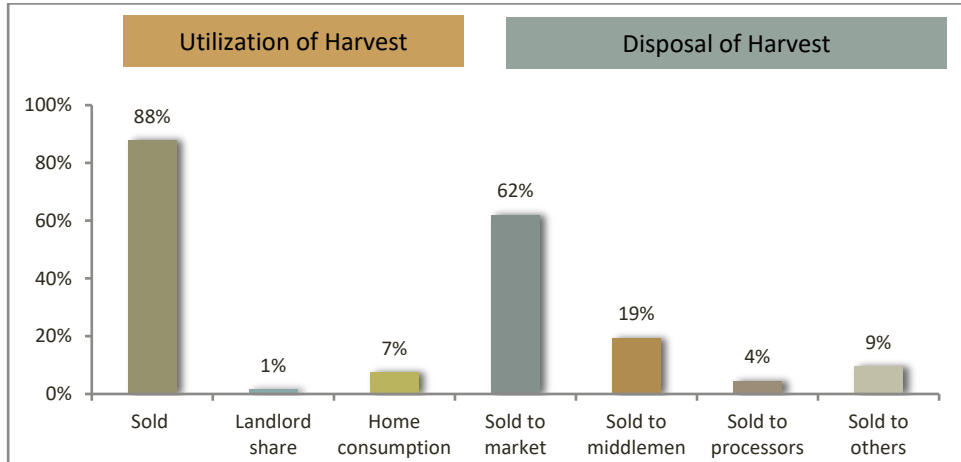


Figure 24: Utilization and Disposal of Agricultural Produce, in percentage

There are also multiple reasons for the farmers not getting the desired volume or profit from the sales of their produce. The top reason is poor market, specifically the low price offered/prevaling in the market (62%). Others attribute their low sales to the poor farm-to-market access (24%). Some said poor post-harvest handling (10%) or absence of post-harvest facilities (7%).

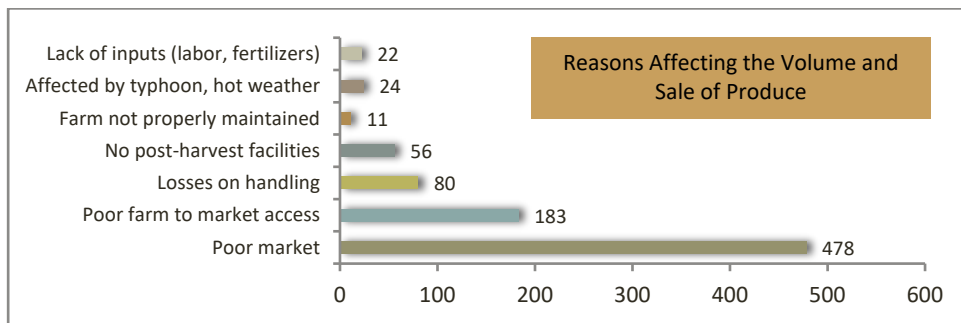


Figure 25: Reasons Affecting the Sales of Agricultural Produce

### 9.1.11 Quality Standard and Certification, and Crop Insurance Coverage

A third of the farmers interviewed said that they are aware what product quality standards related to their dominant crops (33%), while the rest have not heard of it. When asked if any of them have been certified to be compliant, only 26 farmers said they are 4C-certified (Common Code for Coffee Community), which is what Nestle Philippines encourages their farmer-suppliers to utilize. Two farmers say they are organic-certified, while one says their farm is UTZ-certified.

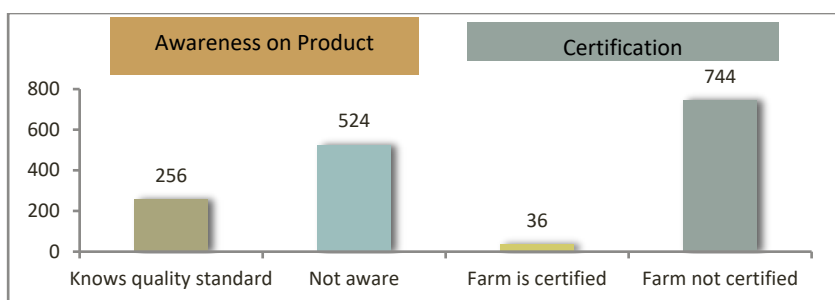


Figure 26: Quality Standards and Certification

### 9.1.12 Crop Insurance Coverage

Very few (3%) farmers have crop insurance, and those that do, are covered by their own cooperatives or sponsored by government agencies like Philippine Crop Insurance Corporation (PCIC), Department of Agriculture (DA), Philippine Coconut Authority (PCA) and Department of Agrarian Reform (DAR). The cooperatives that provided crop insurance cover are USPD Multi-Purpose Cooperative, Cooperative Life Insurance and Mutual Benefit Society (CLIMBS), MAGROW Multi-Purpose Cooperative, POEMCO Cooperative, and the National Irrigators Association.

### 9.1.13 Access to Information

**ACCESS TO GENERAL INFORMATION.** Eight in every 10 farmers have access to information (80%). Television is the principal source of information (66%), followed by friends/family members (63%). Some are dependent on local leaders/authorities (59%) and the radio (54%). Mobile phones and religious leaders have 22% share each. Access to internet is rare (5%).

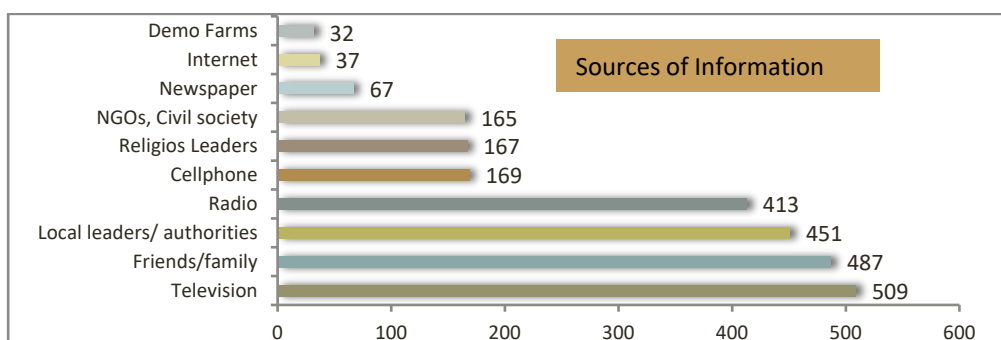


Figure 27: Sources of Information

As to the media outfits, the top radio station among farmer radio-listeners is DXDC (110 farmers); ABS-CBN as the top TV station for those with TV (261 farmers), and Philippine Daily Inquirer for national daily paper (22 farmers).

Table 18: Farmers' Preferred Print, Radio and Broadcast Media

| Radio Stations Most Listened to (n=413) | TV Stations Most Watched (n=509) | Newspapers Most Read (n=67)      |
|---|----------------------------------|----------------------------------|
| DXDC (110 or 27%)                       | ABS-CBN (261 or 51%)             | Phil. Daily Inquirer (22 or 33%) |
| 91.1 FM (24 or 6%)                      | GMA (80 or 16%)                  | Manila Bulletin (19 or 28%)      |
| Bombo Radyo (31 or 8%)                  | TV 5 (6 or 1%)                   | Sun Star (4 or 6%)               |
| DXFL (31 or 8%)                         | All 3 stations (68 or 13%)       |                                  |

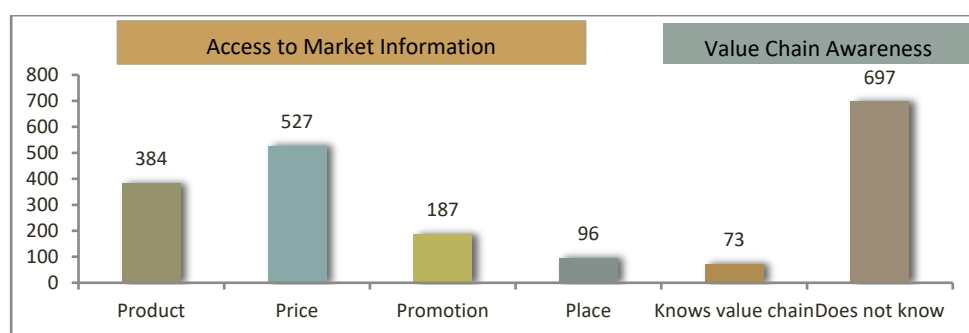
**ACCESS TO INFORMATION ON AGRICULTURAL TECHNOLOGIES AND THE MARKET.** Nearly half (49%) of the respondents have access to agricultural technologies. The

information to which they have access includes crop management (78%), high-yielding varieties (71%), and pest and disease management (53%). The agricultural technologies are obtained from the different media listed above, and from their interaction with the local leaders and local extension workers, NGOs and other civil society organizations that are doing outreach activities in their areas. Since they all belong to cooperatives and associations, they are also able to learn new technologies during sessions, meetings and other informal gatherings.

**Table 19: Farmers' Access to Agricultural Technologies**

| Item   | Frequency | Percentage |
|--|-----------|------------|
| Households with access to information on various agricultural technologies | 361       | 46.88      |
| Household without access   | 409       | 53.12      |
| If with access, what does this information contain?                        |           |            |
| • Crop management  | 281       | 77.84      |
| • High Yielding Varieties  | 255       | 70.64      |
| • Pest & Disease Management  | 191       | 52.91      |
| • Soil fertility management  | 146       | 40.44      |
| • Post-harvest management  | 85        | 23.55      |
| • Improve storage techniques   | 68        | 18.84      |
| • Improved farm machineries  | 57        | 15.79      |
| If without access, what information would you like to know?                |           |            |
| • Crop management  | 206       | 50.37      |
| • High Yielding Varieties  | 189       | 46.21      |
| • Pest & Disease Management  | 131       | 32.03      |
| • Soil fertility management  | 106       | 25.92      |
| • Improve storage techniques   | 67        | 16.38      |
| • Post-harvest management  | 58        | 14.18      |
| • Improved farm machineries  | 55        | 13.45      |

A majority of the farmers have access to price information (67%) and about the product in general (50%). When asked if they know what a value chain is, only 73 (10%) farmers said “yes”.



**Figure 28: Access to Market Information and Awareness on Value Chain**

#### 9.1.14 Awareness and Access to Foreign and Locally-funded Projects

Only a small number of respondents are aware of any foreign-funded project (11%) and local projects (33%) currently operating at the time of the baseline study. When asked if any of have been beneficiaries of such projects in the past, only 16% of the farmers said they were able to access development support. The foreign-funded projects were implemented by Japan International Cooperation Agency (JICA), Australian Agency for International Development (AusAID), World Bank, US Agency for International Development (USAID), US Department of Agriculture (USDA), Belgian Development Agency, European Union, and international organizations such

as Oxfam, Catholic Relief Services, and Lutheran World Relief. Cocopal was mentioned thrice as one of the projects but what are written here are the primary funding organizations, i.e. USDA.

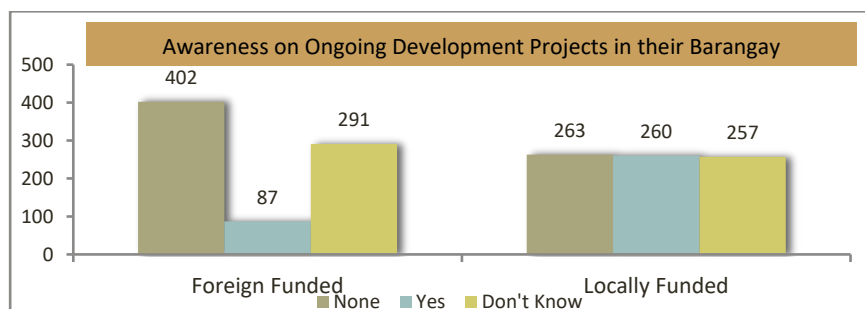


Figure 29: Awareness on Ongoing Development Projects in their Barangay

More than half (53%) of the farmers said they have access to agricultural extension agents, specifically the Agricultural Technicians fielded by the Provincial and Municipal Agriculturist Offices. Only 16% of the respondents have been beneficiaries of foreign and local development projects.

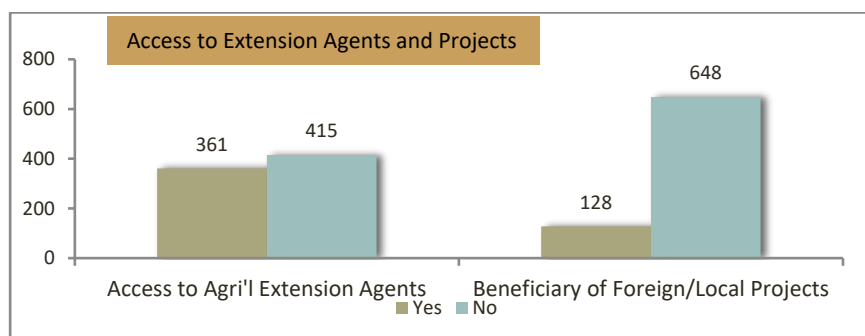


Figure 30: Access to Extension Agents and Foreign/Local Projects

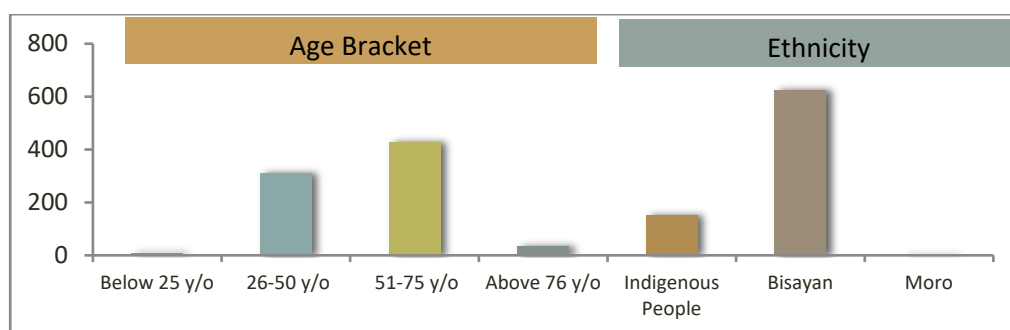
### 9.1.15 Women and Youth

**WOMEN PARTICIPANTS IN THE BASELINE.** Nearly four (4) females for every six (6) males participated in the baseline study. This is higher than expected by the baseline (the four (4) males: one (1) female ratio) because there were cases where only the wife was available at the time of interview (husbands were on the farm, working). The wives, however, are knowledgeable about the farm activities as they also work on the farm, after their household and family chores.

Table 20: Distribution of Baseline Participants, by sex

|                                 | Females    |              | Males      |              | Total        |
|---------------------------------|------------|--------------|------------|--------------|--------------|
|                                 | f          | %            | f          | %            |              |
| Household Respondents           | 326        | 41.74        | 455        | 58.26        | 781          |
| Control Group                   | 68         | 39.31        | 105        | 60.69        | 173          |
| Survey – Value Chain Actors     | 40         | 50.63        | 39         | 49.37        | 79           |
| Key Informant Interviews        | 26         | 42.62        | 35         | 57.38        | 61           |
| FGD with Producer Organizations | 80         | 45.71        | 95         | 54.29        | 175          |
| <b>Total</b>                    | <b>540</b> | <b>42.55</b> | <b>729</b> | <b>57.45</b> | <b>1,269</b> |

**YOUTH AND INDIGENOUS PEOPLE PARTICIPANTS IN THE BASELINE.** There are only nine (9) baseline participants who are below 24 years old, representing only 1% of total respondents. More than half of the participants belong to the age range 51 to 75 years old (428 or 55%). In terms of ethnicity, there are 151 respondents representing the different indigenous people tribe, composing the 19% of the total respondents. There are also five (5) respondents who belong to the Moro tribes (1%) of Mindanao. The Bisayans are the biggest groups, making up 71% of the respondents. These are respondents whose ancestors originated from the Visayas islands of Cebu, Iloilo, and Bohol.



**DECISION ON HOUSEHOLD RESOURCE ALLOCATION.** Baseline result shows that there are more households who let the mother (32%) make the final decision on how to allocate the resources of the family rather than the father alone (17%). Still, nearly half says that the decision on resource allocation rest squarely on both the mother and the father (47%). Those families who give more weight on the decision of mothers are located in Davao City and Davao Oriental.

**Table 21: Decision-Makers in the Household, by province, overall**

|        | Bu | CV | DC | DN | DO | DS | ZN | Aggregate |       |
|--------|----|----|----|----|----|----|----|-----------|-------|
| Mother | 38 | 15 | 59 | 21 | 56 | 15 | 47 | 251       | 32.14 |
| Father | 24 | 12 | 24 | 9  | 26 | 23 | 16 | 134       | 17.16 |
| Both   | 64 | 23 | 46 | 43 | 37 | 89 | 61 | 363       | 46.48 |
| Others | 6  | 6  | 4  | 1  | 2  | 5  | 2  | 26        | 3.33  |

Nearly half of the households (ranging from 42% to 47%) say that decisions related to the farm are both made by the mother and the father. The purchase of additional land has the highest percentage (56% of the households) where mother and father make the decision. The matter on food security and coping mechanism has the highest percentage where women can make their own decision (15%), and the lowest is on which crop to plant (11%).

**Table 22: Specific Decision Points (related to farming), aggregate seven areas**

|                    |          | Count | %            |
|--------------------|----------|-------|--------------|
| Crops to plant     | Father   | 320   | 40.97        |
|                    | Mother   | 94    | 12.04        |
|                    | Both     | 348   | <b>44.56</b> |
|                    | Children | 18    | 2.30         |
| Hectarage to plant | Father   | 321   | 41.10        |
|                    | Mother   | 88    | 11.27        |
|                    | Both     | 351   | <b>44.94</b> |
|                    | Children | 20    | 2.56         |
| Variety to grow    | Father   | 325   | 41.61        |
|                    | Mother   | 87    | 11.14        |

|                                     |          | Count | %            |
|-------------------------------------|----------|-------|--------------|
|                                     | Both     | 346   | <b>44.30</b> |
|                                     | Children | 22    | 2.82         |
| Planting new crop                   | Father   | 328   | 42.00        |
|                                     | Mother   | 85    | 10.88        |
|                                     | Both     | 346   | <b>44.30</b> |
|                                     | Children | 21    | 2.69         |
| Purchase of farm inputs             | Father   | 313   | 40.08        |
|                                     | Mother   | 103   | 13.19        |
|                                     | Both     | 343   | <b>43.92</b> |
|                                     | Children | 21    | 2.69         |
| Food security coping mechanism      | Father   | 274   | 35.08        |
|                                     | Mother   | 116   | 14.85        |
|                                     | Both     | 369   | <b>47.25</b> |
|                                     | Children | 21    | 2.69         |
| Farm Operations                     | Father   | 339   | 43.41        |
|                                     | Mother   | 83    | 10.63        |
|                                     | Both     | 333   | <b>42.64</b> |
|                                     | Children | 25    | 3.20         |
| Purchase of additional or more land | Father   | 247   | 31.63        |
|                                     | Mother   | 75    | 9.60         |
|                                     | Both     | 438   | <b>56.08</b> |
|                                     | Children | 19    | 2.43         |
| New agricultural technology to use  | Father   | 307   | 39.31        |
|                                     | Mother   | 77    | 9.86         |
|                                     | Both     | 370   | <b>47.38</b> |
|                                     | Children | 25    | 3.20         |

#### **WOMEN'S ACCESS TO TRAINING, CREDIT, INFORMATION AND FOREIGN FUNDED PROJECTS.**

The proportion of the women respondents to the different resources available is relatively small compared to men's access. For instance, a little over one-fourth (26%) of the household respondents said that women in their households have been able to participate in training. Likewise, credit has been available to 220 women (either as respondents, as wives, or members of the households). Information, on the other hand, is accessed by 336 women respondents.

However, the proportion of women being the beneficiary of local or foreign-funded project is almost nil, at 57 women or merely 7% of the total household respondents.

**Table 23: Women's Access to Training, Credit and Information**

|                           | f   | %     |
|---------------------------|-----|-------|
| Participation to training | 206 | 26.37 |
| Access to credit          | 220 | 28.17 |
| Access to information     | 336 | 43.02 |
| Beneficiary to projects   | 57  | 7.29  |

**PRIMARY AND SECONDARY ACTIVITIES OF ADULT WOMEN AND YOUTH.** The baseline results show more respondents believe that farming (270 respondents) is the primary activity of women compared to household activities (204 respondents). Some respondents say that women need to pay attention to off-farm labor (42 respondents) and trading (32 respondents).

Moreover, there is very little difference between those who think that farming (53 respondents) is a primary activity of the youth compared to those who think they should prioritize household activities (58 respondents).

| Item                 | Target Household (n=781) |           |         |           |
|----------------------|--------------------------|-----------|---------|-----------|
|                      | Adult Women              |           | Youth   |           |
|                      | Primary                  | Secondary | Primary | Secondary |
| Farming              | 270                      | 135       | 53      | 45        |
| Off farm labor       | 42                       | 39        | 13      | 28        |
| Trading              | 32                       | 34        | 16      | 5         |
| Household activities | 204                      | 169       | 58      | 88        |
| School               | 20                       | 7         | 13      | 6         |
| Other                | 31                       | 22        | 10      | 14        |
| None                 |                          |           | 154     | 64        |

## 9.2 Value Chain Actor Conditions, Services and Constraints

### 9.2.1 Nursery Operators

**LGU-OPERATED NURSERIES.** Most of the farmers interviewed in Davao del Norte (DN) procure their seedlings from their respective local government units (LGUs), specifically the nurseries maintained by the Municipal Agriculturist Office (MAO) in Asuncion and Kapalong. Both LGUs started their nurseries in 2008. Sales from the seedlings and the 20% development fund keep the nurseries functioning. LGUs said that they assure farmers that they are receiving quality and certified seedlings. The nurseries' biggest expenses are the honorarium of the technicians who maintain the nurseries and the organic fertilizers that they use.

LGU nursery operators report that they are producing mainly cacao seedlings in response to high demand. Cacao seedlings sell at Php 25 each. More Davao del Norte farmers are now convinced of the crop's income potentials, prompting the provincial government to submit a proposal worth Php 102 million to Philippine Rural Development Program (PRDP) under its Rural Enterprise and Agricultural Productivity (I-REAP) component. The funding request includes funds for the improvement of LGUs' nursery operations.

With the increasing popularity of cacao, private nurseries are also now crowding the local market with their cacao seedling offerings. LGU nursery operators are concerned about the competition, and they fear that the price of the seedlings may soon drop. Additionally, LGU operators are on alert against pests and diseases.

**FARMER GROUP-OPERATED NURSERIES.** BARBCO, a producer organization based in Davao City, distributes seedlings on a "plant now, pay later program". BARBCO propagates cacao varieties like UF18, VR25, PB123, W10, K1, KW2, K9 and S5. The cooperative requires that the farmer-members adhere to the appropriate technology taught by the cooperative, particularly Good Agricultural Practices (GAP). Farmers can choose between two schemes: (a) payment in the form of budwood (priced at Php 2.50) for grafting to be used in the existing cacao nursery, and (b) payment in terms of cacao beans equivalent to the amount of seedlings taken by the member. Embedded in the cooperative's support for seedlings is the technical assistance on how to handle, transport, unload, and transplant the seedlings.

The other cooperative is the Abijid MPC, based in Bukidnon, that produces cacao, coffee, falcata and rubber seedlings. Qualified members can access seedlings worth between Php 1,000 to 20,000; an 8% interest rate is applied to the amount that was advanced.

**PRIVATE NURSERY OPERATOR.** Barrete Farm is located in Compostela Valley and it was established in 2011. The farm underwent rehabilitation after the 2012 Typhoon Pablo. It is now producing cacao seedlings for Kennemer Foods International (KFI) in the province. As part of its services, the farm shares knowledge on cacao technology. The farm has served about 100 customers from 2014 to present (March 2015).

**VOLUME AND COST OF SEEDLINGS.** The total cacao seedlings in inventory by seven (7) nursery operators is 2,571; 100 seedlings for coconut (1 operator only), and 10,083 coffee seedlings (6 operators). Coconut is sold at Php 35 per seedling, while cacao is sold at Php 16.43 per seedling (cheaper than offered by LGU nurseries); and coffee for Php 10.60 per seedling.

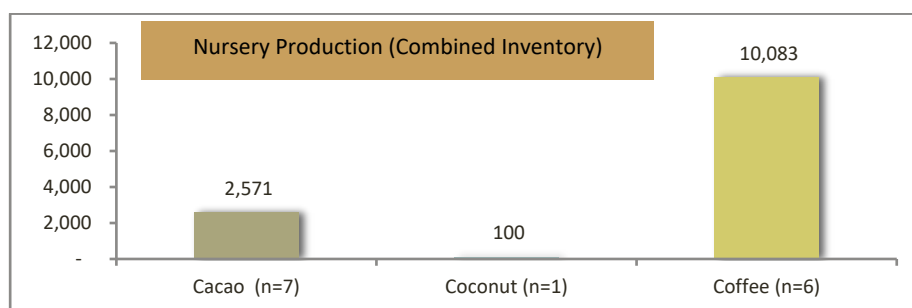


Figure 31: Combined Seedlings Inventory, by number of operators

### 9.2.2 Input Suppliers

**QUANTITATIVE SURVEY RESULTS WITH INPUT SUPPLIERS.** Twenty-five (25) input suppliers participated in the quantitative survey for input suppliers: 13 suppliers sell fertilizers/pesticides, and 12 are nursery operators (please note that in the quantitative survey, only one questionnaire was developed for nursery operators and fertilizers/pesticide dealers. Apparently, dealers who are selling chemical fertilizers are also selling plant protection products (13 respondents). What is noticeable is that among these 13 respondents, they are also selling organic fertilizers – thus, giving the farmers more choices what to use in their farms.

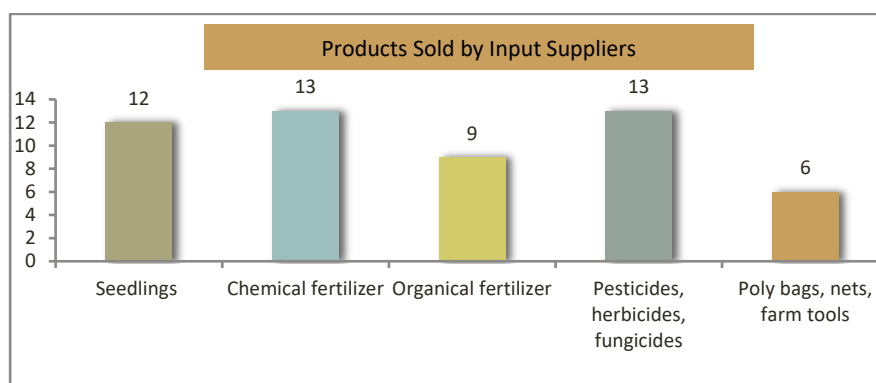


Figure 32: Products Sold by Input Suppliers

**Peak Season.** Nineteen (19) of the 25 respondents say that they experience peak business from October to December.

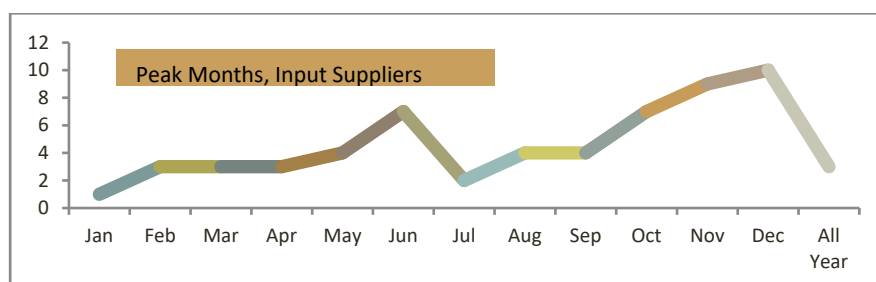


Figure 33: Peak Months of Operation, number of Input Suppliers

**Certifications and Government Licenses/Permits.** Ten (10) of the input suppliers report they have certifications of quality standards, and 19 are operating with permits granted by the Business Licensing Office (of their respective local government units). From the 12 nurseries, there are eight (8) who say that they are already operating with permits from the Bureau of Plant Industry (the other four say they do not have permits because their nursery operations are backyard-scale).

Table 24: Quality Standard Certifications and Government Licenses and Permits

| Item  | <i>f</i> | %     |
|---|----------|-------|
| <b>Quality standard certifications</b>      |          |       |
| • QMS                                       | 4        | 16.00 |
| • GMP                                       | 2        | 8.00  |
| • ISO                                       | 2        | 8.00  |
| • Others (FDA, FPA, and DA)                 | 4        | 16.00 |
| <b>Government registrations and permits</b> |          |       |
| • Business Licensing Office                 | 19       | 76.00 |
| • Department of Trade and Industry          | 17       | 68.00 |
| • Security and Exchange Commission          | 8        | 32.00 |
| • Bureau of Food and Drugs                  | 6        | 24.00 |
| • Bureau of Plant Industry                  | 8        | 32.00 |
| • Fertilizers and Pesticides Authority      | 12       | 48.00 |
| • Others                                    | 8        | 32.00 |

**Problems Encountered.** The respondents rank “lack of capital and other resources” as their primary problem (14 or 56%), followed by “problems internal to the business” (4 or 16%).

Table 25: Problems Encountered, Input Suppliers

| Item  | <i>f</i> | %     |
|---|----------|-------|
| Lack of capital and other resources                           | 22       | 88.00 |
| Lack of awareness to get loans from financial                 | 3        | 12.00 |
| Problems internal to the business (employees                  | 4        | 16.00 |
| Accounts of clients past due                                  | 3        | 12.00 |
| Others (competition, few customers, unstable price of inputs) | 3        | 12.00 |

**Access to Information.** All of the input suppliers have access to information. In terms of sources, they rely more on the local leaders/authorities (80%) while their secondary sources are mobile phones (14 or 56%) and radio (52%). They are particularly interested in getting information about products (76%) and price (68%).

**Table 26: Sources of Information, Input Suppliers**

| Item                             | <i>f</i> | %     |
|----------------------------------|----------|-------|
| Television                       | 6        | 24.00 |
| Friends/family                   | 6        | 24.00 |
| Local leaders/ authorities       | 20       | 80.00 |
| Radio                            | 13       | 52.00 |
| Cellphone                        | 14       | 56.00 |
| Religious Leaders                | 6        | 24.00 |
| NGOs, Civil society              | 2        | 8.00  |
| Newspaper                        | 8        | 32.00 |
| Internet                         | 6        | 24.00 |
| Demo Farms                       | 3        | 12.00 |
| Reference materials/ FITS center | 1        | 4.00  |

**Access to Credit.** Ten (10) of the input suppliers have an outstanding debt. They only borrow from two sources: cooperatives and banks. The bank has slightly higher monthly interest rate (2.83%) compared to cooperatives (2.5%). The average amount borrowed from the cooperatives is Php 215,667 or US\$ 4,812. In comparison, the average amount borrowed from banks is higher at Php 11,958,000 or US\$ 266,800 because one fertilizer dealer borrowed Php 9.5 million or US\$ 211,959 while a cooperative based in Zamboanga del Norte (selling inputs) has borrowed Php 50 million or US\$ 1,115,573, both from Land Bank of the Philippines. The Land Bank has given the cooperative a 3-year grace period, and 3 years to the loan with an interest of 1.5%.

**Access to Development Projects.** Four (4) inputs suppliers have been beneficiaries of foreign-funded projects, which funded the construction of their warehouse/storage (cooperative), all weather dryer and coffee dehuller (nurseries).

**Cost of Fertilizers.** Based on the information given by four sellers of fertilizers and related products, their combined inventory (at the time of the interview) for ammonia is 500 bags, selling at Php 900 (US\$ 20) per bag; urea, 195 bags, selling at Php 1,317 per bag (US\$ 29); complete is 368 bags selling at Php 1,167 per bag (US\$ 26); and potassium, 100 bags, selling at Php 1,283 (US\$ 29). The highest mark-up is on ammonia at Php 30 per bag, while the lowest is for potassium and ammonium sulphate at Php 11.50 per bag.

**Table 27: Inventory Level, Prevailing Price and Mark-Up Price, in bags and in Php**

| Item                    | Total Volume | Price /bag | Mark-up |
|-------------------------|--------------|------------|---------|
| Ammonium Sulphate (n=4) | 27           | 594.00     | 11.50   |
| Ammonia (n=1)           | 500          | 900.00     | 30.00   |
| Complete (n=3)          | 368          | 1,166.67   | 17.67   |
| Urea (n=3)              | 195          | 1,316.66   | 25.00   |
| Potassium (n=1)         | 100          | 1,283.00   | 11.50   |

**Financial Services Offered by Sellers.** From the 25 input suppliers, only 24% (6) of them offers financial services. On average, the loan/advances they granted/released the previous month was Php 377,500 or US\$ 8,423. They offer varying schemes: (a) input sellers provide advances but the farmer has to sell the produce to them for Php 2 less than the prevailing price; (b) another seller provides fertilizers and advances for the labor, for which the farmer must pay at least 50% from his harvest; (c) two sellers provide discounts on volume orders; (d) one

provides credit payable in 30 days; and the last (e) extends credit, the amount depending on the collateral, and imposes a 7% interest rate.

**KII WITH PRODUCER ORGANIZATIONS EXTENDING FARM INPUTS TO MEMBERS.** The baseline study held key informant interviews with two producer organizations in ZDN that provide farm inputs to their members. FACOMA and Barcelona MPC provide fertilizers and pesticides to their members, with monthly interest of 2.5% and 4% respectively. Members pay for the credit (in the form of inputs) in cash or in kind, and repayment can be either weekly or monthly. The producer organizations keep track of credit through their Loan Officer. If a member has not been paying on time, or has not paid at all, the producer organization issues a demand letter, imposes additional interest, and if necessary, litigates.

**KII WITH PRIVATE ENTERPRISES SELLING INPUTS TO FARMERS.** Four (4) private enterprises selling fertilizers and other farm chemicals were interviewed, located in Compostela Valley, Davao Oriental, Bukidnon, Davao del Norte, and Davao City. Two of the suppliers are part of a 220-store chain (Pacifica Agricultural Supply), while the other two have no branches. They usually cater to customers within their province, but the supplier in Compostela Valley also supplies farmers from the adjacent province of Agusan del Sur.

Pacifica offers credit lines of as much as Php 100,000 per client, with an interest rate of 3%. The company pursues legal action in cases when the customer does not pay. The other suppliers offer credit to a maximum of Php 2,000, without interest and collateral as long the farmers sell their produce to them. The repayment period is from 1 week to 3 months after harvest. They will no longer extend credit if the farmer has failed to pay on time or has not paid at all. The Davao City-based supplier often advises the farmers to harvest and sell good quality cacao beans, or in the case of corn, shelled and dried corn to get better price for their produce.

The agri-supplier based in Bukidnon said that salary is their biggest expense, because they need to pay their staff even if their income for the month is low. The owner cites training on the proper application of fertilizer and unpredictable weather as the most important concern for the farmers. High income tax payment and overdue accounts are affecting their profitability.

The survey included a question about whether the value chain actors have heard of ACDI/VOCA, and the private agri-suppliers said that they are not familiar with the organization.

### 9.2.3 Microfinance Institutions

**RESULTS OF THE QUANTITATIVE SURVEY WITH MFIs.** Fifteen organizations and individuals responded in the survey (using Magpi), and only three (3) have special loan/credit portfolio for cacao production (20% of the 15), two (2) for coconut and one (1) for coffee. The special windows and portfolios are offered to serve the capital requirements of farmers who want to expand their land areas or other farmers who have become interested in getting into 3C production.

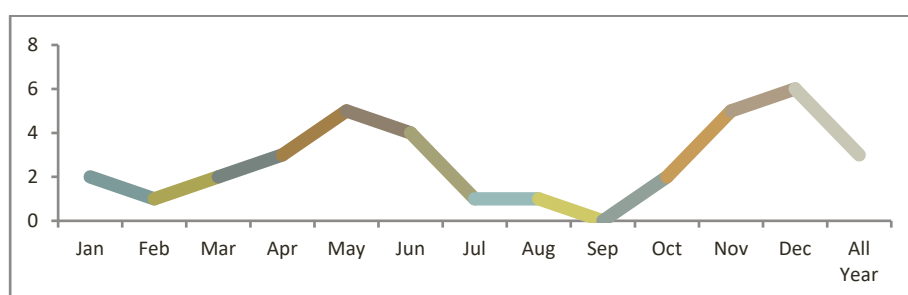
The average number of staff is 15, with more males than females and in terms of position, two (2) financial advisers, three (3) technical personnel, three (3) client

investigator, and six (6) office-based personnel. The average length of operation is 17 years.

**Table 28: Information about the MFIs**

|   | F   | %     |
|---|-----|-------|
| <b>Role in the Value chain</b>            |     |       |
| • Micro-finance institution               | 8   | 53.33 |
| • Lending/financial cooperatives          | 7   | 46.67 |
| <b>With special window related to 3Cs</b> |     |       |
| • Cacao                                   | 3   | 20.00 |
| • Coffee                                  | 1   | 6.67  |
| • Coconut                                 | 2   | 13.33 |
| <b>Combined Employees</b>                 |     |       |
| • Male                                    | 133 | 53.30 |
| • Female                                  | 99  | 46.70 |
| Average employees per MFI                 | 15  |       |
| Average years of operation                | 17  |       |

**Peak Season.** Majority (73%) said that the July to September is the peak season for their lending operations.



**Figure 34: Peak Season for Operations, MFIs**

MFIs extend three major types of loans: consumer loans, business loans, and agricultural loans. Consumer loans are released the most; on average, an MFI releases more than 50 per month (8 MFIs or 53%). On the other hand, agricultural loans of less than Php 100,000 are the most availed of/applied amount.

**Table 29: Monthly Average of Loan Releases, by type**

| Item                                    | Consumer Loans |       | Business Loans |       | Agricultural Loans |       |
|---|----------------|-------|----------------|-------|--------------------|-------|
|   | f              | %     | f              | %     | f                  | %     |
| <b>Average Number of loans released</b> |                |       |                |       |                    |       |
| Less than 10                            | 2              | 13.33 | 4              | 25.00 | 2                  | 13.33 |
| 11 to 20                                | 2              | 13.33 | 4              | 25.00 | 3                  | 20.00 |
| 21 to 50                                | 1              | 6.67  | 1              | 6.25  | 2                  | 13.33 |
| Greater than 51                         | 8              | 53.33 | 4              | 25.00 | 4                  | 26.67 |
| <b>Average Amount of loans released</b> |                |       |                |       |                    |       |
| Less than 100 thousand                  | 3              | 20.00 | 3              | 20.00 | 5                  | 33.33 |
| 101 to 500 thousand                     | 4              | 26.67 | 3              | 20.00 | 2                  | 13.33 |
| 501 thousand to 1 Million               | 4              | 26.67 | 4              | 26.67 | 2                  | 13.33 |
| 1 to 5 Million                          | 2              | 13.33 | 3              | 20.00 | 3                  | 20.00 |
| Greater than 5 Million                  | 0              | 0.00  | 0              | 0.00  | 0                  | 0.00  |

The majority of the MFIs have farmer clients numbering more than 100 (53%), followed by MFIs with more than 100 non-farm clients (47%), and MFIs with less than 30 cooperative-clients (47%).

**Table 30: Estimated Number of Clients, by type**

|                                     | <i>f</i> | %     |
|-------------------------------------|----------|-------|
| Number of clients, farm             |          |       |
| • Less than 30                      | 3        | 20.00 |
| • 31 to 50                          | 0        | 0.00  |
| • 51 to 100                         | 1        | 6.67  |
| • Greater than 100                  | 8        | 53.33 |
| Number of clients, non-farm         |          |       |
| • Less than 30                      | 5        | 33.33 |
| • 31 to 50                          | 1        | 6.67  |
| • 51 to 100                         | 3        | 20.00 |
| • Greater than 100                  | 7        | 46.67 |
| Number of clients, cooperatives     |          |       |
| • Less than 30                      | 7        | 46.67 |
| • 31 to 50                          | 0        | 0.00  |
| • 51 to 100                         | 1        | 6.67  |
| • Greater than 100                  | 2        | 13.33 |
| Number of clients, non-cooperatives |          |       |
| • Less than 30                      | 4        | 25.00 |
| • 31 to 50                          | 1        | 6.25  |
| • 51 to 100                         | 0        | 0.00  |
| • Greater than 100                  | 4        | 25.00 |

MFIs source their funds primarily from the commercial banks (27%). Two MFIs report that they have been certified with Quality Management System and one has an ISO. The majority have a license to operate issued by the local government (87%) and business name registration issued by the Department of Trade and Industry (67%).

**Table 31: Sources of Funds, Certifications Received and Government Licenses**

| Item                                 | <i>f</i> | %     |
|--------------------------------------|----------|-------|
| Sources of Funds                     |          |       |
| • Government                         | 2        | 13.33 |
| • Commercial banks                   | 4        | 26.67 |
| • Foundations, not-for-profit sector | 2        | 13.33 |
| • Bilateral/Multilateral Donors      | 1        | 6.67  |
| Certification of Quality Standard    |          |       |
| • Yes                                | 9        | 60.00 |
| • No                                 | 7        | 46.67 |
| Types of Certifications Received     |          |       |
| • QMS                                | 2        | 13.33 |
| • GMP                                | 0        | 0.00  |
| • ISO                                | 1        | 6.67  |
| • Others (FOCCUS, DOLE, Bu. Of Fire) | 3        | 20.00 |
| Government Registration and Licenses |          |       |
| • Business Licensing Office          | 13       | 86.67 |
| • Department of Trade and Industry   | 10       | 66.67 |
| • Security and Exchange Commission   | 8        | 53.33 |
| • Department of Finance              | 8        | 53.33 |
| • Banko Sentral ng Pilipinas         | 8        | 53.33 |
| • Cooperative Development Authority  | 5        | 33.33 |

MFIs said that they conduct their own financial product service development (80%) and they extend technical support services as part of the loan. The majority (87%) have business plans, which include planning to expand their business. The expansion, however, hinges, on the number of potential clients (9 MFIs) and profitability (7 MFIs).

**Table 32: Financial Services Development and Expansion Plans**

| Item   | <i>f</i> | %     |
|--|----------|-------|
| Undertake own financial product services development |          |       |
| • Yes  | 12       | 80.00 |
| • No   | 3        | 20.00 |
| Extend technical support services as part of loan    |          |       |
| • Yes  | 13       | 86.67 |
| • No   | 2        | 13.33 |
| With business plan                                   |          |       |
| • Yes  | 13       | 86.67 |
| • No   | 2        | 13.33 |
| With future plan to expand business                  |          |       |
| • Yes  | 13       | 86.67 |
| • No   | 2        | 13.33 |
| Factors that might affect plan to expand             |          |       |
| • Profitability                                      | 7        | 46.67 |
| • Number of potential clients                        | 9        | 60.00 |
| • Overall business environment                       | 6        | 40.00 |
| • Fees and other service charges                     | 5        | 33.33 |

MFIs identify clients' lack of awareness about where to get loans as a major operational (6 MFIs) and marketing (8 MFIs) problem while delinquency/default (5 MFIs) is a major financial hurdle.

**Table 33: Problems Encountered, MFIs**

| Item  | <i>f</i> | %     |
|---|----------|-------|
| Major operational problem encountered in running the business                 |          |       |
| • Lack of capital   | 2        | 13.33 |
| • Lack of awareness to get loans from financial                               | 6        | 40.00 |
| • Lack of financial assistance on expanding production                        | 3        | 20.00 |
| • Others (lack of funds for capacity, delinquency, unstable prices of inputs) | 7        | 46.67 |
| Financial challenges encountered in running the business                      |          |       |
| • Lack of knowledge on loan application                                       | 1        | 6.67  |
| • Lack of collateral  | 4        | 26.67 |
| • Default   | 5        | 33.33 |
| • Others (lack of funds for capacity, delinquency, unstable prices of inputs) | 3        | 20.00 |
| Marketing problems do you encounter in promoting your product?                |          |       |
| • Lack of information on the financial services/products offered              | 2        | 13.33 |
| • Low awareness among potential clients                                       | 8        | 53.33 |
| • High level of interest rate/fees  | 3        | 20.00 |

On access to information, all MFIs have access to information. They get their information from the Internet (93%), TV (73%), and local lenders/authorities (60%). Eleven MFIs say they know what a value chain is (73%).

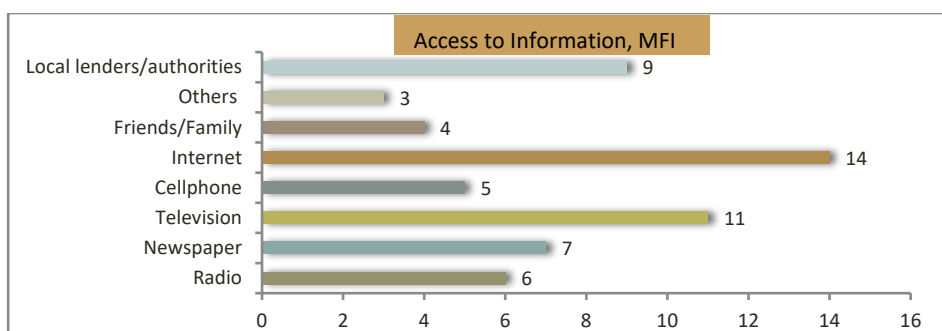


Figure 35: MFI Sources of Information

On sources of the MFIs funds, five (5) MFIs said that they also borrow from the banks, (4 MFIs) particularly from the Land Bank of the Philippines and commercial banks. The total amount of borrowed funds of the four MFIs is Php 27.75 million with a monthly interest rate of 4.13%.

Table 34: MFI Sources of Borrowing

| Source of credit                           | <i>f</i> | %<br>(n=5) | interest rate/<br>month | Average amount<br>borrowed |
|--|----------|------------|-------------------------|----------------------------|
| Relatives and Friends                      | 1        | 16.67      | 0.00                    | 5,000.00                   |
| Bank (Lank Bank of Phil, commercial banks) | 4        | 80.00      | 4.13                    | 27,750,000.00              |

Only five (5) (67%) MFIs have been a beneficiary of foreign-funded projects, managed by JICA (technical assistance), KIVA (training) and Winrock (a local consultancy firm, for financial assistance). To further improve their operations, 10 MFIs plan to expand their financial and frontline personnel, and 10 MFIs want to expand their network and marketing activities to attract more clients.

Table 35: Technical Assistance Needed by MFIs

| Item   | <i>f</i> | %     |
|--|----------|-------|
| Additional financial or technical personnel (to provide direct/frontline services to clients)        | 10       | 66.67 |
| Additional funds for lending to clients  | 7        | 46.67 |
| Additional capability building to improve skills of existing personnel                               | 9        | 60.00 |
| Additional networking and marketing activities to expand the existing clientele base                 | 10       | 66.67 |
| Installation of systems to improve/streamline lending operations                                     | 7        | 46.67 |
| Additional operational funds (in order to procure office equipment, motorcycles, expand space, etc.) | 6        | 40.00 |
| Others (building construction)   | 1        | 6.67  |

**KEY INFORMANT INTERVIEWS WITH MFIs.** The baseline study conducted interviews at two (2) branch offices of the micro-finance institution Center for Agriculture and Rural Development (CARD) Bank and six (6) cooperatives that lend capital/credit to their members (Facoma in ZDN, Kauyagan Savers Cooperative in Bukidnon, Mindanao Credit Cooperative in Davao Oriental, and LAMPCO, NICO and MAGROW in Compostela Valley).

CARD has special financing window for agricultural production, and 22% of that portfolio is allocated for the 3Cs. The loanable amount for individual farmers is between Php 30,000 – 50,000 at 14% interest rate. CARD said that the farmers often take out loans for procurement of farm inputs, construction of nursery/pre-production facilities, and marketing of their produce. CARD offers technical “how-

to's" and other capacity building activities to enable farmers to manage their farm businesses well. CARD intends to increase its agricultural loan portfolio in the future.

The six cooperatives mentioned above extend credit to their members for agricultural activities and non-agricultural activities (enterprise, commercial, salary and emergency loans). The amount of loan varies by cooperative, from Php 2,000 (LAMPCO) to as high as Php 500,000 (NICO). The amount also varies depending on the capital build-up, or in the case of MAGROW, a ceiling of Php 50,000 per hectare. LAMPCO and Kauyagan impose an interest rate of 2.5% per month, while FACOMA, MCC and NICO charge 2% per month.

The top two uses of the credit are procurement of farm equipment and tools, procurement of farm inputs, procurement of farm transport/vehicles and installation of packaging system, and— in decreasing rank — construction/upgrading of processing plant, construction of nurseries, construction of warehouse and shed, fabrication of processing equipment, and marketing/product distribution.

The combined clientele of the lending cooperatives is about 11,000. Training and seminars, technical advice, and marketing arrangements are usually embedded as services of the cooperatives. The cooperatives identified low production, unstable price, pest and diseases, high transport cost, and lack of post-harvest facilities as factors limiting the growth of the 3C. FACOMA worries about farmers delivering their produce to other traders, which reduces the farmers' ability to pay back the cooperative.

CARD and LAMPCO entered the micro-finance business to assist farmers to improve their farm productivity and income. Meanwhile, NICO was prompted to extend financial services when a rat infestation ravaged the farms in their area. CARD's funding comes from the capital build-up, 20% savings, and banking institutions. LAMPCO uses the profit from their buy-and-sell business, credit services, and loan from the Land Bank of the Philippines (LBP). NICO relies on its lending and buy-and-sell business primarily.

CARD also provides training on enterprise development, health/wellness, and micro-insurance (if a member dies, 50% of the member's contribution can be availed by the family). LAMPCO and NICO distribute dividends and patronage refund to their members. The three MFIs' biggest expenses are staff salary, transportation, depreciation and the holding of general assembly. They plan to lower interest rates because of competition in the area and agreed that the farmers' biggest financial needs are production inputs and activities. Typhoon Pablo was a big blow to their members, and some members have defaulted. Other problems include unpredictable weather, inaccessible production sites, and threats to peace and order.

To expand their clientele base, CARD plans to increase the amount of the first loan access, provide scholarships, and offer the facilitation of SSS and PhilHealth registration. CARD will campaign for more membership to increase its portfolio, conduct area mapping and orientation. LAMPCO plans to extend their services from land preparation to marketing for crops such as rubber, cacao, coconut, rice and corn. They also want to increase their capital build-up and savings as well as

increase membership. NICO intends to get into organic farming, coco sugar processing and other programs on agricultural productivity.

### 9.2.4 Business Development Services Providers

**QUANTITATIVE SURVEY WITH BDS PROVIDERS.** The survey interviewed three (3) private BDS providers (Babas Foundation, Bansalan Credit Cooperative, and Development Options and Social Entrepreneurship) and five government BDS providers (i.e. DTI, DA, Department of Environment and Natural Resources, and City Environment and Natural Resources). Except for one provider, all are extending training and technical assistance to farmers.

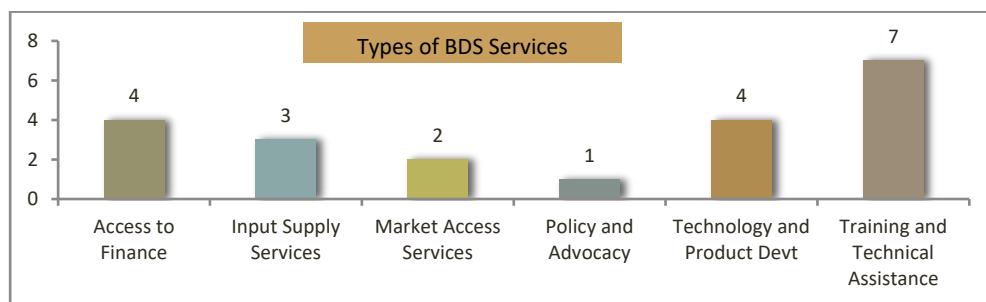


Figure 36: Types of BDS Services Extended to Farmers

**AVERAGE NUMBER OF EMPLOYEES AND YEARS IN OPERATION.** The eight providers have 291 employees combined. The average number of male employees is 20 while the number of female employees is 22. On average, they have been operating for 16 years.

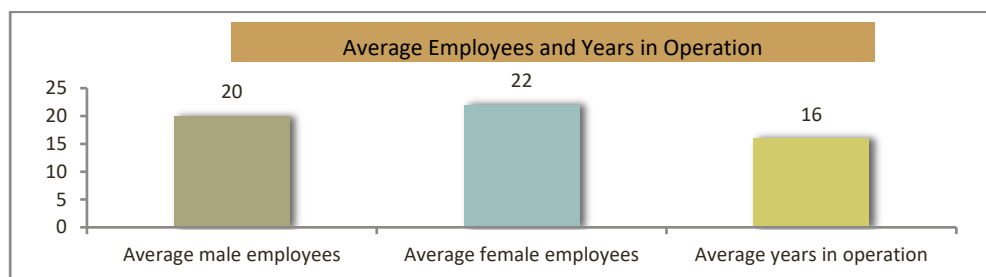


Figure 37: Average Number of Employees and Years in Operation.

**PEAK MONTHS OF OPERATION AND RESOURCES NEEDED TO PROVIDE SERVICES.** Six (6) of the providers experience peak season in extending their services, which occurs from March to May. On average, they need at least two (2) subject matter specialists/experts in their teams, who they pay a daily professional fee of Php 2,286 (US\$ 51). They serve an average of four clients per month. Access to information costs them roughly Php 3,379 (US\$ 75).

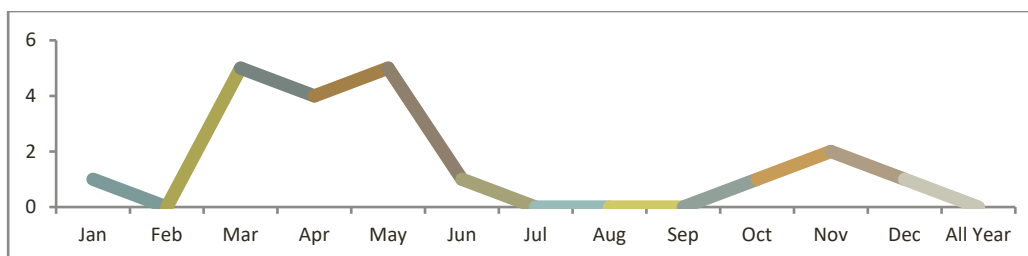


Figure 38: Peak Season of Operation, BDS Providers

**END PRODUCTS AND PAYMENT FOR SERVICES.** BDS providers assist farmers, producer organizations and entrepreneurs differently. End “products” of their services include market referrals/linkages, provision of technology/technical advice, linkage/alliance building, and business plans, proposals and documents. Three (3) BDS providers are extending technology/technical advice to 11 to 29 clients per month, for which the clients pay Php 2,000 – 5,000 or US\$ 45 - 116 for the service.

Table 36: BDS End-Products, Average Volume of Clients and Fees for the Service

| Item  | Volume of Clients |      |          |      | Fees for the Service |      |                 |      |                  |      |
|---|-------------------|------|----------|------|----------------------|------|-----------------|------|------------------|------|
|   | <10               |      | 11 to 29 |      | <1 Thousand          |      | 2 to 5 thousand |      | 6 to 10 thousand |      |
|   | f                 | %    | f        | %    | f                    | %    | f               | %    | f                | %    |
| Plans Proposal and Business-related documents | 1                 | 12.5 | 2        | 25   | 0                    | 0    | 3               | 37.5 | 1                | 12.5 |
| Marketing related activities                  | 2                 | 25   | 2        | 25   | 1                    | 12.5 | 2               | 25   | 1                | 12.5 |
| Technology-related or technical advise        | 1                 | 12.5 | 3        | 37.5 | 0                    | 0    | 2               | 25   | 1                | 12.5 |
| Linkage/Alliance building                     | 1                 | 12.5 | 1        | 12.5 | 0                    | 0    | 2               | 25   | 1                | 12.5 |

**DEVELOPMENT OF NEW SERVICES AND BUSINESS PLANS.** Seven (7) of the providers say they create new services every year in response to the needs of their clients. They rely on internal resources to design these new services, taking note of the industry trends and the feedback from clients and other partners. All providers have their own business plans. All providers are also planning to expand their operations, depending on the types of services requested by clients.

**PROBLEMS ENCOUNTERED AS BDS PROVIDERS.** Five (5) BDS providers say that their main operational problem is the delay encountered in completing/delivering their service, while another four BDS providers say they do not have enough capital for operations. BDS providers say that clients do not value the benefits of hiring/tapping the services of the providers (63%), and instead want to use the free services provided by the government.

Table 37: Problems Encountered, BDS Providers

| Item   | f | %     |
|--|---|-------|
| Operational problems encountered in running the BDS business                             |   |       |
| • Lack of capital  | 4 | 50.00 |
| • Lack of expertise/skills for services frequently asked/availed/demanded by the clients | 2 | 25.00 |
| • Lack of information on the needs of the clients  | 1 | 12.50 |
| • Delays encountered in completing/delivering the service                                | 5 | 62.50 |
| • Stringent government protocols   | 1 | 12.5  |
| Marketing problems encountered in selling/promoting the BDs services                     |   |       |
| • Too many competitors offering similar/cheaper services                                 | 2 | 25.00 |

|  |   |       |
|--|---|-------|
| <ul style="list-style-type: none"> <li>• Clients do not value the benefits of BDS; want free services (i.e. government)</li> </ul> | 5 | 62.50 |
| <ul style="list-style-type: none"> <li>• Clients are not aware of the services</li> </ul>  | 1 | 12.50 |
| <ul style="list-style-type: none"> <li>• Lack of marketing personnel</li> </ul>  | 1 | 12.50 |

**ACCESS TO INFORMATION.** Nearly all (88%) of the BDS providers have access to information. Information is primarily obtained from watching TV (news and current events, at 75%), and secondarily from newspapers, mobile phone, internet and local authorities (63% each).

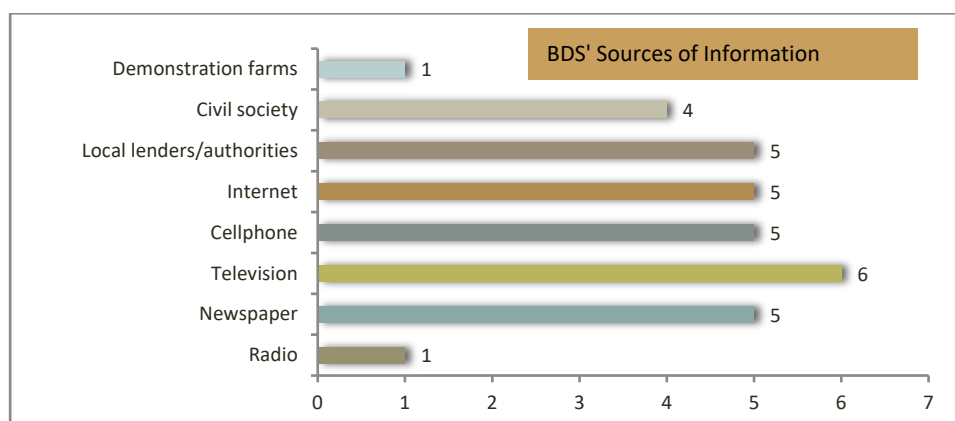


Figure 39: BDS Providers' Sources of Information

**TYPE OF INFORMATION FREQUENTLY SOUGHT.** The majority of the BDS providers find information related to agricultural technology (75%), which they can share readily with their clients. Other information needs include how to market agricultural products, training and technical assistance, and policy and advocacy on agriculture, investment and trade (50%). Most of them are also familiar with the term “value chain” (88%).

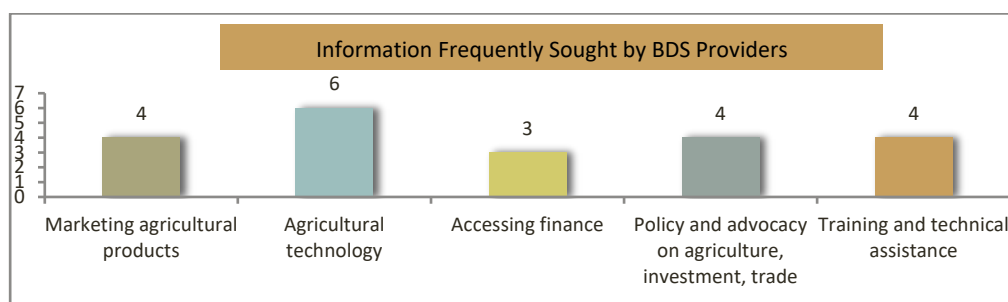


Figure 40: Type of Information Sought by BDS Providers

**TECHNICAL ASSISTANCE NEEDED TO IMPROVE SERVICES TO CLIENTS.** Providers want to have additional capability building activities for their existing staff, so they can deliver more services that are responsive to clients (63%). At the same level, they also want to look for additional funds that will support their operating expenses because fees from the services rendered are not sufficient (63%).



Figure 41: Technical Assistance Needed by BDS Providers

**KEY INFORMANT INTERVIEWS WITH BDS PROVIDERS.** The baseline study covered three BDS providers: a state university in ZDN, a peace advocate in Davao City, and a cooperative in Davao del Norte.

Coffee for Peace and Kapalong Cooperative offer services related to market, input supply, technology, training, infrastructure, and advocacy. The Jose Rizal Memorial State University offers extension services through its faculty and students, and links the farmers with national government agencies and other private institutions.

Coffee for Peace regularly shows its coffee processing facilities to learning tours. They charge fees for their service, based on market rates. Some of the services are at full cost, while the others are subsidized (a portion of which is passed on to their shop’s clients). Kapalong Cooperative, on the other hand, does not charge service fees to members.

Coffee for Peace stresses the lack of research and studies done on cacao and limited availability of experts as challenges not raised by other value chain actors. They also are concerned about big companies making “huge investments” that may interfere with the community dynamics, highlighting profit-oriented practices rather than communal partnership and community development. They even suggest a BDS forum to generate more ideas and knowledge related to cacao.

### 9.2.5 Traders/Buyers and Processors

**QUANTITATIVE SURVEY ON ASSEMBLERS, PROCESSORS, AND TRADERS.** Thirty-three (33) value chain actors (on marketing/processing) participated in the quantitative survey, and the majority of them are into trading business (79%). The average number of employees is 31 per company, and the total employees is 1,024. The average years of operation is 15 years.

Table 38: Information on Traders, Buyers and Processors

| Item                       | <i>f</i> | %     |
|----------------------------|----------|-------|
| Role in the value chain    |          |       |
| • Assembler/consolidator   | 2        | 6.06  |
| • Processor                | 5        | 15.15 |
| • Traders                  | 26       | 78.79 |
| Cacao                      | 11       | 33.33 |
| Coffee                     | 15       | 45.45 |
| Coconut                    | 20       | 60.61 |
| Total Employees (combined) | 1,021    |       |

|                            |     |  |
|----------------------------|-----|--|
| • Male                     | 579 |  |
| • Female                   | 445 |  |
| Average Years in Operation | 15  |  |

**Peak Season.** Nearly all (94%) of the actors experience some peak months in their operations. The most pronounced peak months are November to December.

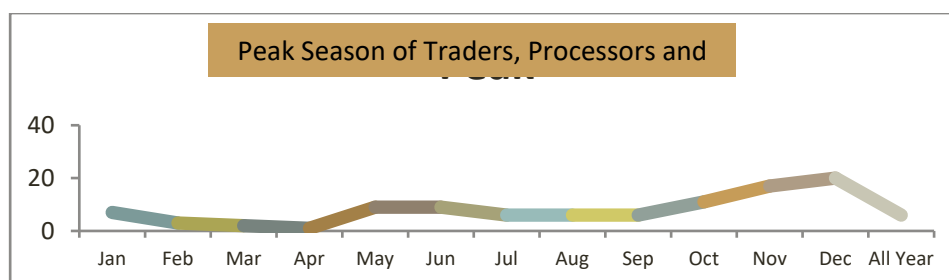


Figure 42: Peak and Lean Months (Traders, Processors and Assemblers)

**Certification and Licenses.** Only eight (8) of the actors have certification, specifically ISO (4 actors), GMP (1 actor), HACCP (2 actors), and Bureau of Food and Drugs or BFAD (1 actor). Incidentally, the four actors that are ISO-certified are all located in Davao del Sur because they are external processors of the large coconut processing company Frankin Baker (which also audited 8 certification bodies). Nearly all are operating with license granted by the LGUs (91%) and the business name registration from DTI (76%).

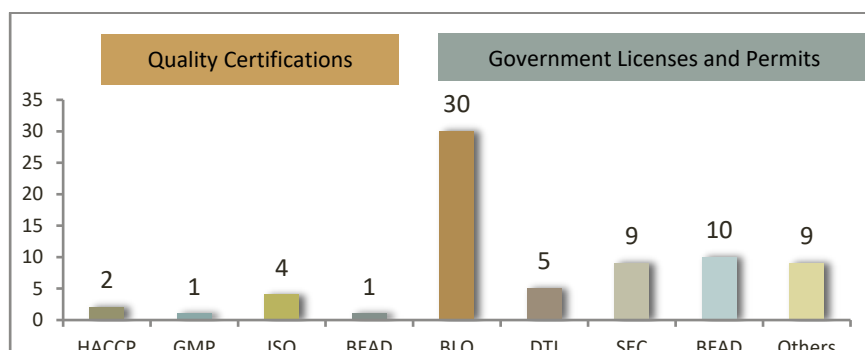


Figure 43: Quality Certifications and Government Licenses and Permits (Traders, Processors and Assemblers)

**R&D and Business Plans.** Only five actors (15%) do their own research and development, while majority rely on the information shared by DTI and DA. One-fourth (24%) have formulated their business plan. The majority of the actors are intending to expand their business (58%), depending on their profitability level (46%) and price of the products they trade/procure (33%). The lack of capital (42%) affects their operation. On the marketing side, the actors identified low awareness of consumers/suppliers on their products/services as their main problem.

Table 39: R&D, and Business Plans

| Item                                    | f  | %     |
|---|----|-------|
| Undertaken own Research and Development |    |       |
| • Yes                                   | 5  | 15.15 |
| • No                                    | 28 | 84.85 |
| Has a business plan                     |    |       |
| • Yes                                   | 8  | 24.24 |
| • No                                    | 25 | 75.76 |
| Planning to expand business             |    |       |

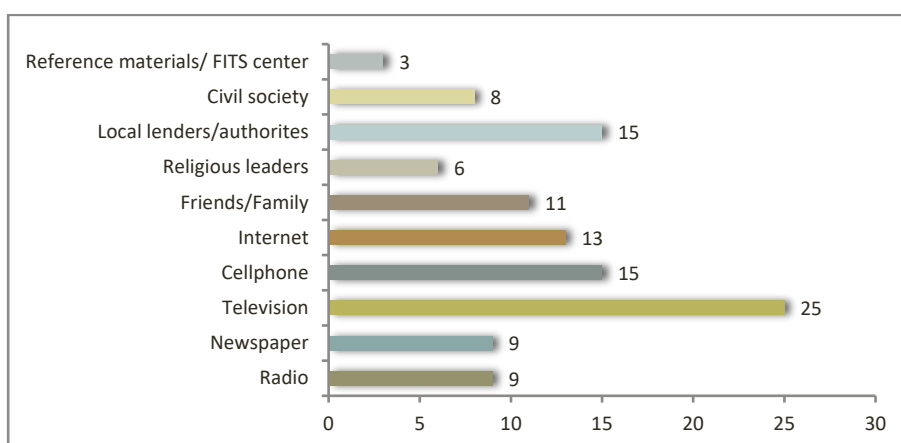
|   |    |       |
|---|----|-------|
| • Yes   | 19 | 57.58 |
| • No  | 14 | 42.42 |
| Business expansion contingent on              |    |       |
| • Profitability                               | 15 | 45.45 |
| • Price of the product                        | 11 | 33.33 |
| • Input prices                                | 5  | 15.15 |
| • Others (competition, increase in suppliers) | 5  | 24.24 |

**Problems Encountered.** The lack of capital (22 or 67%) affects the majority of the traders, processors and assemblers interviewed in the baseline. Lack of capital limits them on expanding their production as well as their funds for procuring raw materials. They are also concerned about competition (18%), particularly at peak season. They have observed some farmers who have taken advances from them, and instead delivered their products to other traders (pole-vaulting). In terms of marketing, the respondents identify the low consumer awareness of the products (15 or 45%) they are manufacturing as their main problem. They want the government to support them by doing industry-wide promotion of their products (8 or 25%), while some want to have more information marketing strategies (8 or 25%).

**Table 40: Operations and Marketing Problems (Traders, Processors and Assemblers)**

| Item  | <i>f</i> | %     |
|---|----------|-------|
| Operations problems encountered:                                    |          |       |
| • Lack of capital   | 22       | 66.67 |
| • Lack of awareness to get loans from financial                     | 4        | 12.12 |
| • Internal to organization (labor problems, staff capacity)         | 4        | 12.12 |
| • Competition   | 6        | 18.18 |
| • Other problems: crop failure, unstable price,                     | 6        | 18.18 |
| Marketing problems encountered                                      |          |       |
| • Lack of information on marketing strategies                       | 8        | 24.24 |
| • Low awareness of consumers on the product                         | 15       | 45.45 |
| • Lack of government programs on general promotions of commodities. | 8        | 24.24 |
| • Others (pricing, quality, competition, lack of drying facilities) | 9        | 27.27 |

**Access to Information.** Nearly all actors have access to information (88%), which are delivered to them via TV (25 actors or 76%), mobile phones (45%) and local lenders/authority (45%). The information on price (67%) is the most critical for them. Only 13 actors (39%) are aware of the definition of a value chain.



**Figure 44: Sources of Information (Traders, Processors and Assemblers)**

**Outstanding Loan/Debt.** The majority of the actors have outstanding loans (18 or 55%), which are obtained from banks at an interest of 8.05% per month. The average loan amount of the actors is Php 2.315 million.

**Table 41: Sources of Borrowing, Interest Rate per Month and Average Amount Borrowed**

| Source of credit       | f  | % (n=18) | interest rate/ month | Average amount borrowed |
|------------------------|----|----------|----------------------|-------------------------|
| Relatives and Friends  | 4  | 22.22    | 5.83                 | 220,000.00              |
| Cooperative/ Paluwagan | 1  | 5.56     | 2.50                 | 100,000.00              |
| Local lender/Pawnshop  | 1  | 5.56     | 5.00                 | 6,500.00                |
| Bank                   | 11 | 61.11    | 8.05                 | 2,315,200.00            |

Only five (15%) of the actors have been able to benefit from a foreign-funded projects, specifically on roasting/grinding machinery and solar dryers (coming from the DA-implemented Mindanao/Philippines Rural Development Program).

**Monthly Volume of Production.** The 12 actors have a combined raw material requirement of 1.3 million kilograms of coconut white meat, bought at Php 9.57 per kilogram and sold with an average mark-up of 8.46%. The eight (8) actors dealing in dried cacao have a monthly volume of 54,125 kilograms, bought at Php 115 per kilogram and adds a mark up of 6.61%. The five (5) coffee bean actors have a combined requirement of 6,461 kilograms, bought at Php 87 per kilogram and sold to the next buyer with a mark-up of 5.04%.

**Table 42: Monthly Volume of Production (Traders, Processors and Assemblers)**

| Name of product      | n  | Volume    | Unit | Price/kg | Price Mark-up (%) |
|----------------------|----|-----------|------|----------|-------------------|
| Cacao (Dried)        | 8  | 54,125    | Kgs  | 115.06   | 6.61              |
| Coconut (White Meat) | 12 | 1,302,500 | kgs  | 9.57     | 8.46              |
| Copra                | 5  | 8,000     | kgs  | 29.38    | 5.63              |
| Coffee Beans         | 5  | 6,461     | kgs  | 87.00    | 5.04              |

**KII WITH COFFEE SHOPS.** The baseline study interviewed three coffee shops located in Davao City: two homegrown and one local franchise.

Green Coffee reported that they require 20 kilograms of roasted coffee per month, a mix of Robusta (75%) and Arabica (25%). The coffee shop has its own coffee farm located in Mati City, Davao Oriental. A farm technician assists their coffee farmers and workers in maintaining the plantation and ensuring the quality of the beans. If they are low in supply, they buy coffee beans from neighboring farms. They also roast their own coffee.

Green Coffee says business has been good allowing them to open a second branch within two years. However, they still lack technical expertise to maximize the existing coffee plants. In addition, the company’s limited funding curtails their coffee expansion. Although they are affected indirectly, they cite the coffee farmers’ tendency to overspend or “live as one-day millionaire,” rather than investing back in their own farms.

BluGre Coffee is another local success story. It opened in 1998 and claims to have started the local coffee culture (BluGre, 2014). Today, it has six branches in the city and three franchised branches in Koronadal City, General Santo City, and Tagum City. BluGre needs about 60 kilograms of coffee for its main branch alone. They only use Arabica variety and source the roasted coffee beans from Boyd’s Coffee in Manila. When asked about challenges, the company finds that local competition is

very stiff. They see that climate change is having an impact on the volume and quality of local coffee beans.

Sourcing its coffee beans from Boyd's Coffee does not preclude BluGre from serving the community. BluGre Coffee participates in environmental activities such as tree planting and works with the local government and business sector in charitable projects like a feeding program. Thus, it is interested in working with ACDI/VOCA to help local farmers grow coffee as a sustainable livelihood.

Bo's Coffee is a Cebu-based coffee shop chain. It is reported to be the second largest in the country with about 60 branches (Starbucks is the largest) (Flores, 2014). One branch in Davao City consumed about seven kilograms of espresso beans and eight kilograms of barista beans per week. They use a mix of Robusta and Arabica, roasted in Bo's Coffee plant in Cebu.

The Bo's Coffee Davao City key informant observed that among the challenges facing the coffee industry are the climate change, pest and diseases, lack of financing for farm inputs, continuous use of synthetic fertilizers, and the values of the farmers. The franchise in Davao City is studying the feasibility of adding function room to serve about 15 people for meetings and special occasions and reviving their delivery services.

**KII WITH COCONUT TRADERS/BUYERS.** The baseline study interviewed two copra buyers, one edible oil producer, one cooperative, and three traders of agricultural crops. The Wilmar Edible Oils in ZDN buys about 15,000 metric tons per year, while Dupa Enterprises in DO buys about 7,300 metric tons per year (or 20 tons per day). Traders of agricultural crops (those who buy 3C) have not indicated their volume requirement, saying that they accept whatever volume that is delivered by the farmers to their stores. The same practice is also observed by the cooperative, which is bound to buy their members' products.

Five of these buyers do not prefer any specific variety, but the Miranda Copra Buyer in ZDN prefers the old varieties to new ones. The six buyers source their whole nut/copra within their municipality. Wilmar, on the other hand, scouts as far as Palawan, Bohol, Basilan and the Surigao provinces. Wilmar clarifies that Surigao copra has reportedly higher oil content, while Palawan copra is thin and dusty.

Wilmar ensures its supply with a formal contract, while others are open market. Wilmar has quality parameters on thickness, moisture, dust, elasticity and molds, with most of their farmer-suppliers only able to meet thickness and moisture. Dupa Enterprises in DO imposes penalty at the rate of 12 to 14% if the farmers are not able to meet the moisture content requirement. Traders in Davao City prefer to buy matured nuts. Davao City traders understand that farmers have difficulty meeting the quality requirements because the farmers' volume is small and the farmers have the tendency to harvest their crops earlier than necessary.

The coconut traders/buyers extend services to their farmer-suppliers. For ZDN-based buyers, they offer cash advance, price information, commodity trends, and training; for DS-based buyer, price information and linkages; for DO-based buyer, capital, price information and commodity trends; and for DC-based buyers, fertilizers, market information and technology.

The traders/buyers have rated the farmers' receptiveness to invest or adapt the following (using the scale of 1 to 10, with 10 the most receptive): product quality improvement (7.43 points), capacity development (7.17), appropriate farming/productivity technology (6.86 points), and farm/business planning (5.43 points). They also say they have fairly good relationships with the farmers.

From the traders'/buyers' perspective, the major factors that limit growth are: lack of capital/financing for the farmers, pest and diseases, limited land area, senile trees, low quality, and low adoption of technology. Risks traders are facing include non-payment of cash advances, low supply because of too many competitors, and volatile market price. Opportunities for coconut are found in the export market and its many value-adding possibilities.

**KII WITH CACAO TRADERS/BUYERS.** Kennemer Foods International (KFI) and three agricultural traders (also interviewed for coconut) shared their experience and outlook for cacao buying. Only the Bonjong Golden Traders (based in Compostela Valley) indicates a weekly procurement of 500 kilos of dried cacao beans, while the two traders in Davao City take what the farmers can deliver. The procurement arrangement is a mix of own farm and open market.

Davao cacao bean traders have standard on moisture/dryness and color. The trader in Davao City uses only practical knowledge in testing the moisture of cacao beans, which he does by simply holding the beans. Farmers know the quality requirement of the traders, but they are sometimes forced to harvest their crops because they need money.

CSI Trade Ventures, a cacao exporter, requires 500 metric tons per season (between September to May), selling it to Netherlands, Belgium, Germany, US and Japan. It follows the international standards on bean grading (bean size, moisture, fermentation percentage, and flavor/aroma). It is has a Rainforest Alliance certification. The company provides advances, technology (they have cacao masters/specialists), training, price information, commodity/market trends, and linkages. Based on their dealings with the farmers, the latter are more receptive to invest in product quality improvement, capacity development, new technology, and farm/business planning.

**KII WITH COFFEE ROASTER/BUYERS.** The Monastery Farms in Bukidnon get their coffee beans from their own farm and from other farmers in the province. They only use Arabica beans. At present, they see the limited supply of Arabica beans and the lack of post-harvest facilities for processing as the two challenges for the industry.

Nestle Philippines is the largest buyer of Robusta coffee grown in the Philippines. It provides seedlings, compost, and farm technology training to about 20,000 coffee farmers with combined area of 30,000 hectares (Lumawag, Coffee farmers urged to plant in-demand robusta, 2014). Nestle Philippines has its own network of agronomists, technology technicians and 4C technicians (37 in Mindanao alone) who make farm visits to ensure that coffee farmers have adopted the company's recommended farm management practices. The company encourages the coffee farmers to adopt/align with the Common Code for Coffee Community (4Cs) principles. The company has a training center in Davao del Norte and a

demonstration farm in Bukidnon. Only 30% of the Nestlé’s Robusta requirement is served by the local farmers; the rest is imported, primarily from imported Vietnam and Indonesia. The company has been working with the government, particularly the Philippine Coconut Authority, to promote intercropping of coffee with coconut. This is part of the company’s global “Nescafe Plan” (Valencia, 2014).

#### 9.2.6 Producer organizations

**KII WITH FARMER GROUP KEY INFORMANTS.** There were 13 key informant interview sessions with representatives of the FGs.

**AGE, MEMBERSHIP AND ASSETS.** The average age of the producer organization is 22 years old; the oldest was established in 1956 while the youngest was only in 2013. The combined number of male members is 18,414 while the female members is 22,159 (55%). The total asset size (based on their latest data) is Php 1.228 billion, the most considerable share comes from NICO with Php 827 million and the smallest from the Binaton Mans Community Cooperative with Php 250,000.

**CROPS PRODUCED BY MEMBERS.** All 13 FGs interviewed are involved in 3Cs as well as rice, abaca, rubber, falcata, fruit trees, corn, cassava and vegetables.

**SERVICES EXTENDED TO MEMBERS.** Consolidation and marketing of members’ produce (9 of 13 producer organizations) is the service extended by the most producer organizations. The groups buy the members’ produce at market price with a little mark-up. For instance, MAPICO adds a mark-up of Php 0.50 for every kilogram of banana sold, Batangason adds Php 4.00 per kilogram of coffee and NICO adds Php 3.00 for every kilogram of copra. Functioning as the “consolidator and seller” for the members, the FGs usually do not have contracts with the other buyers and traders; only POEMCO has a standing contract with KFI for cacao and San Miguel for cassava. JORIFA is now on a market test with Nestle Philippines. Most producer organizations do not have fixed volume requirement or set frequency of procurement activities because harvest of the crops is seasonal. NICO estimates that they are able to buy from members about 342 metric tons of copra month and 2,000 sacks of rice per cropping/season. Bansalan Savers Cooperative procurement level is 44 metric tons of copra per month. The producer organizations cannot absorb all of the produce of their members, which ranges from 25% (JORIFA) to 80% (Katipunan) because of their limited cash for procurement, limited storage space, and limited drying space. They say they need to secure additional marketing contracts to increase their present level of procurement.

The second most common service is the provision of training and related capacity building activities (8 of 13 producer organizations). Essentially, their trainings echo the trainings they have received from government agencies (DA, PCA and CDA) and private groups (i.e. Nestle, CRS, KFI and SDC Asia). MAPICO also holds literacy education for its members and residents belonging to the indigenous groups. The training and education sessions are free of charge.

On equal footing for the 3<sup>rd</sup> place service are the technology sharing (7 of 13 producer organizations) and lending (7 of 13 producer organizations). FADECO, MAPICO, SACPIPCO and NICO have their own members to act as the para-technicians after having been trained by the government and NGOs assisting the area. SACPIPCO calls them Community Farm Leaders (CFLs). Four of the seven FGs

have their own nurseries and demonstration plots to make technology diffusion faster and more credible to the members. They also do not charge fees for the technology.

The level of capital build-up (CBU) is the basis for the value of loans that a member can borrow. For FACOMA, it is as much as six times the CBU. Other groups have different ranges: Kauyagan between Php 5,000 to 600,000 (with collateral) and Katipunan with maximum of Php 50,000 based on the farmer's farm produce. NICO has several windows: cash advance for copra is Php 200,000 maximum per member; Php 24,000 per hectare for purchase of land and palay financing; Php 100,000 for purchase of fertilizers and farm chemicals; Php 100,000 for educational and emergency needs. NICO requires collaterals, such as contract to sell, land title, and copra products. NICO has a repayment rate of 80%. While SACPIPCO does not extend loans for agricultural purpose, they have commercial loans (Php 300,000), salary loans, and quick/emergency loans (Php 2,000). Interest rates are within the vicinity of 2% to 2.5% per month. All FGs report that there is no preferential treatment for female members. There are no penalties on delayed payments or non-payments, although members may find it hard to borrow again.

At the fourth rank of services provided is bulk procurement of farm inputs (6 of 13). For the producer organizations based in ZDN, the inputs are considered to be a form of production loan, with a service fee of 4%. For FADECO in DS, the fertilizers are provided to the members who plant cacao and is considered free because it is part of the DENR's National Greening Program. The MAPICO in DC provides fertilizers and adds a mark-up of 10% on the cost, with payment upon harvest of the produce. Batangason in Bukidnon distributes 10 sacks of fertilizers per farmer-member, free of charge because it is subsidized by NOMIARC.

The fifth most common service is the rental of farm equipment and transport services. Producer organizations in ZDN allow members to use the DA-provided tractors. Batangason charges its members Php 5.00 for every kilo of coffee that goes through their huller, which is on a first-come first-served basis. JORIFA charges Php 3.00 per kilo for the trucking while Katipunan only asks for Php 0.60 per kilo.

Producer organizations also rent out their solar drying space, usually at the rate Php 10 per sack. For coffee beans, the rate is Php 5.00 per kilo, rice and corn for Php 0.15 per kilo, and Php 0.25 per kilo for copra. Please refer to Annex – Table 65 for the services offered.

**GOVERNANCE.** All 13 producer organizations say they have business plans, PSPs, and financial statements. They also conduct regular audit and annual assemblies. Except for the FGs in ZDN, the 11 producer organizations have experience working with another cooperative in order to improve productivity, quality and market reach.

**LOANS AND GRANTS ACCESSED BY THE PRODUCER ORGANIZATIONS.** FACOMA accessed a Php 60 million loan from the Land Bank of the Philippines intended for livelihood projects. Kauyagan has a Php 5 million loan from NATTCO and another Php 3 million from MASSPECC. NICO was granted Php 800,000 for the building from a party list group ABBA, while the PLGU gave a counterpart of Php 500,000.00 for construction materials of the said building.

**NON-GOVERNMENT ORGANIZATIONS PRODUCER ORGANIZATIONS HAVE WORKED WITH:** ZDN-based groups have worked with San Miguel on technology and capacity development. Davao del Sur-based groups have worked Josefa Segovia for training on cacao production and livestock production, and SDC Asia for processing of kaong. Davao City-based MAPICO had worked with ISEDI on a Reforestation Project funded by DENR. Bukidnon-based groups have worked with CRS for coffee huller and Kaanib Foundation for financing. Davao del Norte-based groups have worked with FEDCO for the Cocopal project.

**FOCUS GROUP DISCUSSIONS WITH THE PRODUCER ORGANIZATIONS.** The baseline study met 15 producer organizations for FGD sessions, with the total number of participants reaching 175.

**PERSPECTIVES ON 3C SWOT.** What emerged from the FGD sessions was the varying capacities, situations and experiences of the producer organizations. The strength of one can be a weakness for another, the opportunity for some groups can be a threat to others. The result is the consensus of the male and female participants. Pooling their responses and classifying them, the table below shows where a certain factor falls (in terms of frequency of mention):

**Table 43: SWOT Analysis, Producer organizations**

| Strengths  | Weaknesses   | Opportunities  | Threats  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>• Access to input supply</li> <li>• Availability of farm labor</li> <li>• Availability of extension services</li> <li>• Access to credit or financing</li> <li>• Soil suitability for 3Cs</li> <li>• Availability of transport services</li> <li>• Awareness and compliance to quality requirement of the market</li> <li>• Presence of farmer organizations</li> </ul> | <ul style="list-style-type: none"> <li>• Low adoption of production technology</li> <li>• Lack of seedlings and nurseries</li> <li>• Occurrence of pests and disease</li> <li>• Low farm yield/volume</li> <li>• Lack of post-harvest facilities</li> <li>• Fluctuating or low market price</li> <li>• Low farmer or household income</li> </ul> | <ul style="list-style-type: none"> <li>• Meeting quality requirements of the markets</li> <li>• Increasing market demand</li> <li>• Income potentials if certified</li> <li>• Ownership of land</li> <li>• Technology that can lower production costs</li> </ul> | <ul style="list-style-type: none"> <li>• Stiff competition</li> <li>• Conversion of agricultural land to other purpose</li> <li>• Changing temperature and rainfall pattern</li> </ul> |

Please refer to Annex – Table 66 for the response per producer organization.

**SERVICES COMMONLY AVAILABLE TO FARMER MEMBERS.** The services of the producer organizations can be categorized into three types: agricultural or farming-related, non-farm and personal needs. For farm-related needs, production loans comes first, followed by nursery or seedlings dispersal, and rental for the use of post-harvest facilities. For non-farm activities, the services frequently availed are buy-and-sell services and the consolidation of products for marketing. Farmer members also approach their cooperatives or associations to avail of other services such as day-to-

day needs from the consumer store, emergency loan (e.g. for hospitalization and mortuary assistance), health insurance, and training.

**RECOMMENDATIONS TO IMPROVE PRODUCER ORGANIZATIONS' SERVICES TO MEMBERS.**

The members suggest that groups should work on increasing their membership, strengthening the cooperative/association by installing financial and management systems, and offering new services. Producer organizations can be more responsive if they continue to provide production support to their members, in the form of seedlings, fertilizers, farm technicians and technology trainings. Members appreciate if they are consulted prior to introducing a project or they are trained/oriented properly prior to implementation.

**GOVERNMENT AGENCIES PRESENTLY EXTENDING SUPPORT TO THE PRODUCER**

**ORGANIZATIONS.** Producer organizations are tapped by government agencies as a channel for their interventions or projects. These government agencies are (a) DA, (b) PCA, (c) DAR, (4) LGUs, DTI and non-government organizations, (e) Cooperative Development Authority (CDA), and Department of Environment and Natural Resources (DENR).

**TYPES OF ASSISTANCE MOST NEEDED BY THE FARMERS ENGAGED IN 3C.** When asked to identify that assistance they most wanted from their groups, the farmers rank it as follows: (a) financial assistance, (b) production technology, (c) seminars and trainings, (d) post-harvest facilities, and working capital for the cooperative so it can pursue livelihood projects.

### 9.2.7 Provincial Local Government Units

The baseline study solicited the views of six provincial and one city agriculturist office.

**3C AS PRIORITY PRODUCTS OF THE LGU.** Cacao and coffee are part of the LGUs' priority products, although most have caught on only as recent as 2013. Davao del Sur, on the other hand, admits to have placed the 3Cs on top of its agricultural priorities as early as 1980s. Coconut is "not" a priority of Davao City, Bukidnon, Compostela Valley and Davao Oriental because there is already a dedicated government agency that promotes it. In terms of budget allocation (2013-2015), Davao City LGU has the highest allocation, Php 20 million, for both cacao and coffee, followed by Davao Oriental with Php 5 million. Zamboanga del Norte has the lowest allocation with Php 732,332, but it has a pending proposal under the PRDP for cacao amounting to hundreds of million encompassing infrastructure and enterprise development needs. Interestingly, Davao del Sur reports a budget of Php 30 million for each commodity, but reports that the fund will come from DA-XI.

**AVAILABILITY OF DEDICATED STAFF AND THEIR SKILLS LEVEL.** LGUs have assigned staff to look after the development and extension needs of farmers and groups engaged in the production of 3Cs. The assignment is not based on commodity, but rather on specific functions. For instance, the LGU has staff who undertake market promotion activities for the 3Cs and another staff person who provides technical services.

When asked to rate the skills level of the staff assigned to focus on the 3Cs requirements, their staff are most adept in doing extension services and partnership/alliance building (4 LGUs rate themselves "5" on a scale of 1 to 5, with 5

as the highest). Secondly, they are also experienced in mobilizing communities (3 LGUs rated themselves “5”). The LGUs rate themselves mid-to-low on the following skills: enforcing standards and quality control, identification of agri-based projects, and development of new products. Among the seven (7) LGUs, Davao del Norte gives its staff “5” on the above skills, while Davao del Sur a modest “1”.

**INFORMATION ON FARMERS AND VALUE CHAIN ACTORS IN THEIR AREAS.** The baseline study discovers that all LGUs do not yet have an updated list/directory of the value chain actors in their respective areas. What they have on hand are the estimates of farmers engaged in cacao and coffee (since coconut-related information is supposed to be with PCA). Four (4) LGUs have a combined number of 15,000 farmers for cacao while three LGUs have 7,732 coffee farmers.

Based on what they can recall or estimate, there are 162 agri-traders (in 3 LGUs), 126 nurseries (in 4 LGUs), 136 suppliers of fertilizers/pesticides (in 3 LGUs), 6 fabricators of post-harvest facilities (in 3 LGUs), 13 companies/individuals renting farm equipment (in 2 LGUs), and 22 MFIs (in 2 LGUs).

**3Cs LAND AREA AND PRODUCTION VOLUME.** Using the latest data each LGU has on the 3C land area, the total for cacao is 18,365 hectares (in 5 LGUs) and for coffee is 8,542 hectares (in 6 LGUs). The largest land area for cacao is in Compostela Valley (5,852 hectares) and for coffee is Bukidnon (2,400 hectares).

The latest (combined six LGUs) production volume for cacao is 7,698 metric tons, with the biggest contribution coming from Davao del Norte (3,572 metric tons). For coffee, the total production is 5,956 metric tons from six LGUs, with the largest contribution from Bukidnon (3,000 metric tons).

**LGUs’ PARTNERS FOR 3Cs** LGUs leverage the funds and technical services of national agencies. Leading the list are DA and PCA, followed by DTI, DENR, and DAR.

From the private sector, the LGUs have worked with CSI, Monks Blend Premium Coffee and Nestle Philippines. They have also identified foreign-funded projects/organizations such as PRDP, Catholic Relief Services (CRS), and ACDI/VOCA as partners.

#### 9.2.8 National Government Agencies and National-Based Organizations

**THE ORGANIZATIONS.** The baseline study identified six national government agencies, one Mindanao-based agency, and one Philippines-wide broad based agro-industrial development project as the primary movers in developing and promoting the 3Cs. The Department of Agriculture (DA), includes the cacao and coffee under the High Value Crops Development Program. The Department of Trade and Industry (DTI) also included the 3Cs as priority products under the industry cluster approach. The Department of Agrarian Reform (DAR) supports the products that the Agrarian Reform Beneficiary Organizations (ARBOs) are engaged in. The Fertilizers and Pesticides Authority (FPA) and the Bureau of Plant Industry (BPI) oversee the certification and accreditation of agri-chemical distributors and nursery operators, respectively. On the other hand, Philippine Coconut Authority (PCA) is responsible for the country’s coconut industry, and is now drumbeating a large scale intercropping program of coconut and cacao. The Mindanao Development Authority (MinDA) is a unique government agency that coordinates and facilitates the

participation of all sectors to effect the socio-economic development of Mindanao. Finally, the Philippine Rural Development Program (PRDP) is six year-project and funded by World Bank, with DA as the coordinating agency and the Local Government Units (LGU) as the implementing partners.

**REASONS FOR PRIORITIZING THE 3Cs.** As mandated, DA, PCA and DAR prioritized the 3Cs as beneficiaries of their technical assistance and funding support. On the other hand, DTI and MinDA are convinced that the commodities have strong market potentials (growing global demand). They also chose the 3Cs because of the relatively large number of smallholder farmers engaged in producing these crops. With present administration having enshrined “inclusive growth” as its development framework, it makes sense to promote industries that can benefit as many people as possible, that can generate mass employment in sustained manner, and that can alleviate poverty particularly at the countryside. Additional considerations for DTI and MinDA are the existing land area devoted to these commodities as well as the potential areas for expansion. In fact, based on the official 2013 record of area planted/harvested, Mindanao contributes 79% of national land area for cacao, 49% for coconut and 67% for coffee (Philippine Statistics Authority).

**ONGOING PROJECTS ON 3Cs.** Cacao production is receiving significant attention from the government agencies and LGUs. There are now four government agencies involved in cacao seedlings dispersal: DA under its HVCDP, DAR under its special projects, Department of Environment and Natural Resources under its National Greening Program (NGP), and PCA under its Kasaganahan sa Niyugan ay Kaunlaran ng Bayan (KAANIB). According to BPI, LGUs coming from as far as Bulacan are procuring cacao seedlings in Davao City.

The DA-XI HVCDP reported a Php 90 million budget for cacao in 2014 and earmarked Php 70 million for 2015 (the previous year was higher because of the livelihood recovery program for Typhoon Pablo-affected areas). They support the establishment of nurseries (27 nurseries at the last count), nursery equipment and machinery, processing facilities, and training for farmers on better cacao production management. For 2015, DA-XI plans to distribute a total of 750,000 seedlings of cacao (and 450,000 seedlings of coffee too) through the LGUs.

DTI-XI is focused more on strengthening the governance of cacao industry, by pushing for the creation National and Regional Cacao Industry Councils, preparation of cacao industry roadmaps at the national and regional levels, organization of national cacao summit, and lobby for the country’s membership to the World Cocoa Foundation. DTI feels that the Davao Region must take the lead in moving cacao forward, since the region is responsible for 78% of the country’s cacao production. Although it pales by comparison to the value of funds, DTI is also providing producer organizations with post-harvest facilities under its Shared Service Facility program (aimed at increasing productivity and quality of micro, small and medium enterprises).

DAR-XI supports cacao, coffee and coconut-producing ARBOs through the regular component called Program Beneficiaries Development (PBD). Under PBD are two sub-components: the Social Infrastructure and Local Capacity Building (SILCAB) and Sustainable Area-Based Rural Enterprise Development (SARED), both designed to increase household income and farm yields. Moreover, it has a project called

“Agrarian Reform Community Connectivity and Economic Support Services” (ARCESS) which provides common service facilities for production and processing, agri-technology and agri-extension services, and business development services, among others. Several ARBOs currently receiving assistance on ARCESS will work with the MinPACT project. DAR-XI is also working with the Land Bank of the Philippines on Agrarian Production Credit Program (APCP). As of December 2014, about Php 17.7 million has been approved for five cooperatives in Davao City and another Php 12.8 million for the four cooperatives in Davao Oriental, which are all engaged in cacao production.

PCA has several projects currently. The Participatory Coconut Planting Project (PCPP) pays the farmers a total of Php 31.40 for every successfully raised, transplanted and stabilized seedling. The Coconut Seedling Dispersal Project (CSDP) is focused on the establishment of communal seedlings in strategic locations. The Coconut Intercropping Project (CIP) promotes the intercropping of short season and high value crops in between coconut trees, while the Salt Fertilization project distributes common salt to farmers to increase productivity and improve coconut’s resistance to pests and diseases. In Zamboanga del Norte – PCA, their estimated budget for the above-mentioned projects is Php 7.7 million for the year while it is nearly Php 12 million for Davao del Sur-PCA.

MinDA has a banner program called Mindanao Nurturing Our Waters (MindanOW), where it adopts river basin and watershed as the key platform for planning. Under this program where the DENR’s NGP is closely aligned, MinDA is promoting cacao as an agroforestry crop and targeting at least 17,000 hectares to be intercropped with cacao (Mindanao Development Authority). MinDA has also included cacao and coconut under the Mindanao Development Corridors Program and the Mindanao Inclusive Agribusiness Program. MinDA plans to do international investment roadshow on cacao in 2015. It is also developing a program with PCA to tap the latter’s unutilized funds for the rapid expansion on coconut/cacao plantations.

PRDP revealed that the 3Cs are in the list of priority products of the LGUs. As most LGUs are still in the preparation stage of their Provincial Investment Commodity Plans, the program has yet to identify the specific infrastructure and enterprise projects to be funded. PRDP revealed that the funding level will vary per province and will likely be based on the design of their respective interventions. Only one province so far has completed their I-REAP proposal (as of March 2015), which is the South Cotabato (their approved Cassava Business Plan amounts to Php 39 million).

**DIRECT CLIENTS.** All of the agencies channel their support to the producer organizations, except for MinDA which works with industry associations more and lobbies with private institutions that have Corporate Social Responsibility projects. DA, FPA, BPI and PRDP tap the LGUs for the identification of producer organizations and investment projects, conduct of training, and other education/information campaigns.

**EFFORTS TO LINK FARMERS AND GROUPS TO OTHER VALUE CHAIN ACTORS.** Except for FPA and BPI, all other agencies create opportunities for the farmers/groups to interact with other actors in the value chain. These opportunities range from organizing trade fairs or selling missions, investment promotion/roadshows, facilitating

summits for partners or stakeholders forum/discussion, and sharing of information on quality standards of markets.

**CHALLENGES FACING THE 3Cs.** There are still challenges that overshadow the favorable signs the markets are showing. From the perspective of DA, DTI and BPI, the most critical is maintaining the varietal quality of the crops. The sudden increase of demand for cacao seedlings, for instance, only emphasizes the severe lack of accredited nurseries producing them. In Davao Region with more than 140 already existing nursery operators, only ten are accredited for producing cacao and one for coffee.

Another issue that confronts the chain is the age of the plants. A good number of the plants – cacao, coconut and coffee – are already old, needing rejuvenation or rehabilitation. Smallholder farms have low yield; like most cacao in the region, the average yield is within the vicinity of 0.6 to a kilogram per tree, when the ideal should be at least 2 kilograms per tree. With low yield, the farm income is understandably lower.

For PCA, the coconut farmers' attitude is a great challenge, i.e. particularly in the adoption of better farm technologies and their tendency to rely on the government support (the "dole-out" mentality). They also see that farmers harbor mistrust against traders. The tendency of local officials to "interfere" with the list of the beneficiaries is also a point to consider. PCA further adds that unwarranted conversion of coconut lands to industrial lands is shrinking the land area for coconut. The agency also admits that they have unreliable data (mostly not updated).

Quality after the harvest is also important, particularly if the farmers are looking at supplying established buyers (following international standards). DA recognizes the need to pour more investment on post-harvest facilities.

DTI considers getting all the different players to move in synchronized or complementary manner as another challenge. For instance, cacao's newfound population has spawned interventions from different agencies, raising concerns on possible duplication of services.

Finally, DAR wants the government to pay equal attention on the market potential (hence, land expansion) and putting safeguards for farmers in place. Cacao is an internationally traded commodity and there are more factors that can alter its price behavior. The farmers should be given more options, with the government taking the lead in exploring other processing activities or linking with other buyers.

**OPENNESS FOR PARTNERSHIP.** All of the agencies are open for partnership, either in areas where they are already operating or in services they are already offering. Partnerships will mean maximization of government resources. What PRDP is wary of when it comes to different organizations converging support to a particular area or producer organization is the tendency of people to compare approaches, procedures/requirements and amount of support, among others.

## 10 Conclusions

**HOUSEHOLD BASELINE RESULTS.** The baseline study finds that the target household beneficiaries of MinPACT project are relatively old, with the mean age of 52. They have spent at most seven years in formal education, which is secondary education in the Philippines. The average family size reflects the national average of five members per household. They live in houses they consider as “average” in condition; they have access to both education and health services, only requiring their family members less than 30 minutes of walk to reach from their houses. The respondents rely on two-wheeled motorcycle for their own transportation. Most of them have mobile phones, radio and television, which are also their main sources of information on current events and related to farming.

When asked about their dominant crops, there are 518 coconut farmers, 223 cacao farmers and 176 coffee farmers (this does not total to 781 because of inter-cropping practice). The average annual income of the respondents across the seven sites and across three crops is Php 99,215 or US\$ 2,213 – a figure that is not even half of the average annual income in the Philippines at Php 235,000 (based on the 2012 Family Income and Expenditure survey). Income from farming activities contributes to 63% of the household income, and the rest comes from the non-farm income like vending/retailing, employment, and other paid manual work. Half of the household expenditures is on food, followed by education (13%) and transportation (11%).

On average, coconut has the highest income per hectare per cropping (which reflects the area planted of this crop). Because the farmers practice inter-cropping, other crops planted in the farm include banana, corn, rice, fruits, vegetables, sugarcane, rubber, and hardwoods. Average productivity of the farms is low, at only 709 kilos for cacao, 217 kilos for coffee and 2,405 nuts for coconut.

Cacao proves to be the crop requiring the highest production capital among the three crops, with Php 10,156 or US\$ 227 per hectare per cropping. Coconut only requires Php 8,271 while coffee requires Php 6,231. To proceed with their planting, farmers borrow a portion of their production capital, ranging from 18% of the total costs for cacao and coconut and 3% of the total cost for coffee.

Among the farm practices, hand-weeding has the highest number of adoptees (88% of cacao farmers, 83% of coffee farmers, and 70% of coconut farmers). Pruning is practiced by 86% of cacao farmers and 60% of coffee farmers. Farmers apply synthetic and organic fertilizers, and the frequency and amount of their application is influenced largely by their neighbors and recommendations of DA and the local government agriculturist/technician.

**HOUSEHOLD BASELINE RESULTS VS. CONTROL GROUP.** This report has not dwelled on comparing the baseline results between the households and the control group (although control group results are shown in the annexes). In general, their conditions are comparable in terms of age, years of formal education, household size, assets, access to basic services, ownership of motorcycles and bicycles, awareness on ongoing development projects, and access to agricultural extension agents.

Their differences between the two groups are: control group is closer to education and health facilities in the barangay; has higher proportion of respondents owning TV, radio, and mobile phones; has fewer respondents who own cow and poultry; lower farm and non-farm income; lower household expenditures; lower income derived from the farming of 3Cs; has

bigger land area devoted to cacao and coffee; has lower productivity across the 3Cs; and lower production costs across the 3Cs. However, more than half of the households in control group say mothers make the decision on household resource allocation (higher than the household respondents).

**VALUE CHAIN ACTORS' CONDITION.** The propagation, selling or distribution of seedlings are undertaken by private nursery operators, local government units and the producer organizations. Based on the interview, there are very few accredited nursery operators. The selling of inputs is also done by the producer organizations, complementing the existence of private distributors. These sellers of fertilizers and chemicals also extend credit to the farmers, and some repayment schemes require that the farmer sell their crops to the sellers during harvest time.

Farmers sell to traders, processors and assemblers. Some farmers complain they are taken advantage of, and the traders say that farmers do not follow what have been agreed on quality/standards.

Because the producer organizations have already been catering to the needs of the farmers (in terms of inputs, seedlings, marketing and technology, all for a fee), there are very few private business development service providers. Some of these providers are paid by the government (specifically the DAR) to support the producer organizations. The farmers also receive technical advice from the local government and DA's extension agents. Farmers go to their producer organizations for their financial/credit needs, while the value chain actors also borrow from the banks.

The government national agencies, the local government units, private companies like Nestle Philippines, and sectoral organizations like CIDAMI are all pushing for farmers to get into cacao, coffee and coconut production. These institutions extend a variety of technical and financial support, depending on their official mandates, level of resources, and business motivation.

Based on the baseline results and the discussions with the value chain actors, the value chain actors all recognize the need to improve farm productivity, which not only necessitates better access to inputs but also requires changes in farmers' behavior and practices. Value chain actors are also pushing for quality, which should start from the plant material (seedlings), then farm management, post-harvest handling and processing. Markets are encouraging farmers to embrace sustainability, which can be attained by following good agricultural practices and judicious utilization of soil, water and energy. The markets (particularly international) are recognizing the efforts of farmers to align with certifications for premium price. Government agencies and sectoral organizations highlight the need to come up with strict quality control or industry-wide assurance as well as traceability so that Mindanao can produce crops and develop value added products that can be branded as coming from Mindanao or specific region within Mindanao. Finally, there are indications of collaboration and convergence of efforts, particularly from the government, in working together on formulation of roadmaps and sectoral plans. However, there is little evidence on the horizontal linkages among producer organizations.

**WOMEN AND YOUTH PARTICIPATION.** Women are the other half of the decision-making team when it comes to farming and crop management. They devote an increasing amount of time farming, with one-third of the households seeing farming as the primary activity women. Women have some access to training, credit and information. They share the ownership of

the land with their husbands, and they are critical in deciding whether the family invests in additional farmland or other on-farm investments.

This baseline results align in part with a separate study conducted by Koirala, Mishra and Mohanty (2015), in which the study identified the factors that influence rural women's ability to improve farm yield, profit, and efficiency. Specifically the study indicated that the factors are "(1) women's legal and cultural status, such as degree of control of productive resources and inputs; (2) property rights and inheritance laws, such as access to land and other natural resources; (3) relationship among economic and ecological factors which includes product market failures, marketing channel, seasonality of rainfall, availability of fuel- wood; (4) the way that agricultural services are staffed, managed, and designed which are skewed towards male farmers".

**ENVIRONMENT.** Interviews with stakeholders showed concern about climate change and how it is affecting farming activities. Producer organizations indicated that they have already spoken against "slash and burn" as a practice. The value chain actors, particularly the coffee shops, are also aware of the effects of increasing temperature, which is why some support tree planting activities. Thus, it is necessary to promote risks mitigation measures, particularly weather-based insurance.

## 12 Recommendations

**IMPROVING PRODUCTIVITY.** MinPACT can capitalize on the commodities' present popularity, as the crops income potential has been established by the government, non-government organizations, and most importantly private sector traders and processors. However, such interest has also created a din in the form of different programs and activities. Therefore, MinPACT's relevance in these value chains will come through identifying where training and technical assistance is highly needed and where other organizations and companies are not active or not providing specific needed trainings or technical assistance to complement existing activities.

Specifically, MinPACT can support increasing the production/availability of high-yielding varieties and adoption of such varieties by the farmers. MinPACT can support expanding farmers' access to financial services, farm equipment, quality inputs, appropriate crop and farm technologies, and post-harvest protocols and facilities. At the industry level, MinPACT can support developing, agreeing and monitoring quality assurance standards that cover the key links of the chains.

**EXPANDING ACCESS TO MARKETS.** MinPACT can assist in improving producer organizations' consolidation/aggregation activities, knowing that some of them are already consolidating. MinPACT can build the capacity of organizations to understand and respond to market requirements and patterns. MinPACT can also help producer organizations and value chain actors maximize traditional and social media in marketing their products and services.

**SUSTAINABILITY SUBSISTS ON STRUCTURES AND NETWORKS.** MinPACT can leverage existing organizations and initiatives. MinPACT has a 4-year timetable, while institutions are there for the long haul. In particular, MinPACT can work with the MinDA for the inter-regional effort, as they are responsible for coordinating the socio-economic development of Mindanao, including investment promotion and policy support. MinDA has also adopted the 3Cs as its priority products. Sectoral organizations such as CIDAMi can be tapped to support the cacao farmers. The Department of Trade and Industry has its industry clusters on coffee, cacao and coconut, an initiative that they have started as early as 2007, composed primarily of the private sector. To induce trade, MinPACT can work with DTI, DA and MinDA in organizing specialized gatherings of 3C buyers/markets, where they can share their requirements, expectations and quality standards to the producers and value chain enablers (a sort of "reverse" trade fair). MinPACT can also work with Department of Science and Technology and industry associations in finding and promoting tested technologies – encompassing production, processing, logistics, and communication/information – that the 3C value chain actors can adopt and utilize. Finally, MinPACT can also look into the horizontal linkages between the producer organizations, as there are few indications of inter-organization activities.

The most critical, however, is the next generation of Filipinos who will continue the tradition of farming. MinPACT can work with the academe to make farming more appealing to the youths. One trajectory is to explore sub-specialization on crops and commodities. In other coffee-producing countries such as Nicaragua, they set-up The Coffee School to professionalize the skills needed by the coffee chain and to provide employment opportunities for the youth.

**GIVING R&D A BOOST.** Coconut is notably way ahead in R&D compared to cacao and coffee. MinPACT can link relevant local institutions with foreign or for-profit companies that can fund R&D on improving productivity and quality. MinPACT can also create spaces and

opportunities for the academe, agricultural sector and business companies to encourage innovation and support technological breakthroughs.

**FINDING WORKABLE BUSINESS MODELS.** Mindanao has local social enterprises and peoples' organizations that are able to compete in international trade. It will be of worthwhile for MinPACT to study these models and find ways for these to be replicated or adopted by target producer organizations.

**DELVING DEEPER ON THE CONTRIBUTION OF WOMEN AND YOUTH IN THE VALUE CHAINS.** Judging the available local studies/researches, there is little formal, extensive, updated information on the true contribution of women and youth in cacao, coffee and coconut value chains. MinPACT can lobby with the relevant government agencies, NGOs and civil society groups to trace, account, and quantify the women's contribution in the chain, so they are recognized. When recognized, appropriate policy may be formulated or programs may be developed to improve their access to resources.

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