

# Coconut-Based Product Diversification to Reduce Poverty in Coconut-Growing Communities



## Project Final report January 2010

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## A: BASIC INFORMATION

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- Department of Trade and Industry (DTI)
- Philippine Carabao Center (PCC)
- Congressional Office of Hon. Proceso Alcala of Dist.2-Quezon Province and Congressional Office of Hon. Erwin Chiongban of Sarangani
- University of the Philippines at Los Baños
- Local Government Units (LGUs)
- Non Governmental Organizations (NGOs)

4. Project Duration: 4 years (January 2005 – December 2009)

5. Project Locations:

- Region II (Brgy. Santor, Sanchez Mira, Cagayan Valley)
- Region IV-A (Brgy. Bulihan, San Antonio, Quezon)
- Region VIII (Brgy. Burabod, Biliran, Biliran)
- Region XII (Brgy. Old Poblacion, Maitum, Sarangani)

6. Project Funding:

- Total Approved Budget : Php 3,000,000.00
- Total Amount Released : Php 3,000,000.00
- Actual Expenses : Php 3,000,000.00

## B. TECHNICAL DESCRIPTION

### Summary Sheet

<b>FULL TITLE of REPORT/PROJECT</b>	Coconut-Based Product Diversification to Reduce Poverty in Coconut-growing Communities
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<b>DATE REPORT SUBMITTED</b>	February 5, 2010
<b>TYPE OF REPORT</b>	Terminal Report
<b>BIOVERSITY LETTER OF AGREEMENT</b>	
<b>BIOVERSITY PROJECT CODE</b>	PHF03002
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<b>ABSTRACT</b>	In 2005, PCA, in collaboration with the COGENT, selected four pilot communities in the Philippines to implement the DA-BAR-funded 'Poverty Reduction in Coconut Growing Communities' project. Subsequently, one community-based organization was identified in each community to undertake the project's component activities. The four selected CBOs were Roxas Estate Multipurpose Cooperative Inc. in San Antonio, Quezon; Santor Livelihood Multipurpose Cooperative in Sanchez Mira, Cagayan; Burabod Agrarian Reform Beneficiaries Multipurpose Cooperative in Biliran, Biliran; and Fleischer Estate Integrated Multipurpose Cooperative in Maitum, Sarangani. The project ended in 2009. This report includes the findings of a socioeconomic impact assessment of the PRCGC project whose aim was to: (1) Establish whether the project objectives have been achieved or are likely to be achieved; (2) Determine the level of technology adoption and examine the effects of selected PRCGC projects; (3) Assess whether the deployment of the four-pronged strategy has improved the quality of life of the target coconut farmers in the four coconut growing communities based on impact indicators; and (4) Substantiate the hypothesis that coconut farmers need not be poor if provided with the appropriate technologies, available capital and commitment of all stakeholders to address the prevailing issue of inequitable income distribution in coconut growing communities.
<b>KEYWORDS</b>	Country/Region: Philippines/Southeast Asia Crop(s): Coconut Subject: Poverty reduction

## **Acknowledgments**

We would like to thank the following persons and agencies who supported the project:

- Dr. Corazon Barba (Consultant on Food Security)
- Dr. Pons Batugal (for the unselfish support even after his retirement from COGENT-BIOVERSITY)
- Department of Agrarian Reform (DAR)
- Department of Trade and Industry (DTI)
- Local Government Units of different project sites (LGUs)
- State Colleges and Universities (SCUs)
- United Nations Development Program (UNDP)

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## 1. Abstract

In 2005, PCA, in collaboration with the COGENT, selected four pilot municipalities in the Philippines to implement the DA-BAR-funded 'Poverty Reduction in Coconut Growing Communities' project. Subsequently, one Community-Based Organization (CBO) was identified in each municipality to undertake the project's component activities. The four selected CBOs were Roxas Estate Multipurpose Cooperative Inc. in San Antonio, Quezon; Santor Livelihood Multipurpose Cooperative in Sanchez Mira, Cagayan; Burabod Agrarian Reform Beneficiaries Multipurpose Cooperative in Biliran, Biliran; and Fleischer Estate Integrated Multipurpose Cooperative in Maitum, Sarangani. The project ended in 2009. This report presents the findings of a socioeconomic assessment of project outcomes, followed by a summary of final project management issues and the financial report.

The research study on socioeconomic assessment of the PRCGC project aimed to: (1) establish whether the project objectives have been achieved or are likely to be achieved; (2) determine the level of technology adoption and examine the effects of selected PRCGC projects; (3) assess whether the deployment of the four-pronged strategy has improved the quality of life of the target coconut farmers in the four coconut growing communities based on impact indicators; and (4) substantiate the hypothesis that coconut farmers need not be poor if provided with the appropriate technologies, available capital and commitment of all stakeholders to address the prevailing issue of inequitable income distribution in coconut growing communities.

There are four major coconut-based farming strategies introduced, tested and implemented in the four project sites. These include nursery establishment, high-value product processing, intercropping and livestock integration. In terms of total farm incomes, all project sites doubled after the project implementation. San Antonio, Quezon had the highest farm income of Php 46,472 before the project implementation followed by Sanchez Mira, Cagayan with Php36,231; Biliran, Biliran with Php29,149; and Maitum, Sarangani with the lowest income of Php20,102. It can be noted that Sanchez Mira exhibits a drastic increase in terms of income to Php142,300 after the project. Farm income of San Antonio and Maitum also doubled. Biliran had the lowest income after the project implementation but still it increased by almost Php10,000.

On the average, the computed Gini ratio increased on three project sites namely: San Antonio, Sanchez Mira and Biliran except Maitum wherein there was a decrease after project implementation. Nevertheless, only Maitum remained to have the most highly equitable income distribution among the project sites. The project had its greatest impact in Biliran in terms of improvement on income inequality. It had a 13-point difference in Gini ratio after the project while San Antonio and Sanchez Mira had a one and two point increase, respectively.

There was a large difference between the poverty incidence before and after the project. Biliran had the highest percentage share (58%) in terms of poverty incidence before the project. In Maitum, only 18% of the coconut farmer-respondents were below poverty threshold. Farmers in San Antonio and Sanchez Mira had 29% and 43% poverty incidence level, respectively. After the project, it was observed that poverty incidence have declined dramatically especially in Biliran, San Antonio and Sanchez Mira which decreased by almost half. Only 2% in Maitum was living below poverty level.

## **2. PROJECT IMPACT ASSESSMENT REPORT**

### **2.1 Introduction**

The coconut industry is considered as the oldest and least stable agricultural industry in the Philippines. It supports the lives of more than 1/3 of the 85 million population of the country and with an estimated 3.4 million farmers directly dependent on the industry. These coconut farmers belong to the marginalized sector of the society, mostly living below the poverty line with an annual income per capita of Php 14,866 equivalent to US \$ 326.15 (NSCB, 2007). Coconuts are traditionally grown in rain-fed areas, including the marginal and erosion-prone uplands and hilly areas and in coastal zones where the poorest of the poor live. Most of the coconut farmers are smallholders tending 1-2 hectares of land with an average household size of four members per family. Although the coconut industry is a major component of the country's economy, many coconut farmers work on land they do not own, are considered resource-poor, and are most often without political clout to influence government or private sector policy. In consideration of the coconut farmers' circumstances, the International Plant Genetic Resources Network (COGENT) of Bioversity International, in collaboration with the Philippine Coconut Authority (PCA), implemented a poverty reduction project in coconut growing areas funded by the Department of Agriculture – Bureau of Agricultural Research (DA-BAR).

From 2005 to 2009, the Poverty Reduction in Coconut Growing Communities (PRCGC) research project was implemented in four strategically selected project sites in the country. The project tested the technical feasibility, financial viability, social acceptability and environmental safety of income-generating technologies. To do this, it adopted COGENT's four-pronged strategy of poverty reduction which has the following components:

- 1) Production and marketing of high-value products from all parts of the coconut (kernel, shell, husks, water, sap, wood and leaves);
- 2) Intercropping with cash and food crops;
- 3) Livestock/fodder production; and
- 4) Establishment of community-managed nurseries to propagate high-quality seedlings for on-farm agro diversity conservation.

### **2.2 Review of Literature**

The socioeconomic impacts of agricultural programs as in the case of PRCGC project can be measured in terms of changes in crop yields, income, food security, income distribution and social values. These impacts refer to the set of changes that occur at the project target groups that can be directly attributed to program activities rather than the external factors (Reily, F. et. al., 1999). Impacts can be further defined as intermediate improvements in the capability of program beneficiaries to influence their own lives such as improved access to resources, or

improved attitudes and perceptions of the beneficiaries which can result from education and training efforts.

One method of measuring the impact is Participatory Impact Assessment (PIA). Jackson (1995) defines the concept of (PIA) as a process of evaluation of the impacts of development interventions that are carried out under the full or joint control of local communities in partnership with professional practitioners. Thus, adoption of participatory approaches promotes effective delivery of poverty interventions in community-based projects. Various activities from planning, monitoring, up to impact evaluation have to be participatory in nature. In PIA, community representatives participate in the definition of impact indicators, the collection data, the analysis of data, the communication of assessment findings, and especially in post-assessment actions designed to improve the impact of development interventions in the locality.

In a setting where researchers working with the farmers do so with due consideration to their concerns and conditions, testing existing technologies or developing new technologies are more likely to be responsive to important social issues such as equity and sustainability. Achieving this goal should be good for the farmers because it enhances their welfare while increasing project efficiency. It is likewise good for society in general because it adds to the food security, household income and encourages protection and conservation of natural resources for future generations (Bellon, 2000).

The impact assessment of poverty-related project requires a good understanding of the significance of the project to the livelihoods of intended project beneficiaries and other local people (Ashley and Hussein, 2000). Therefore, impact assessment is focused on the measurable changes contributory to the livelihoods of the project beneficiaries. This includes analysis of the different effects of interventions at the household and at the community levels. Even technologies that can reduce fluctuations in income or production due to seasonal factors or market changes may be critical (Farrington and Hussein, 2000).

### **2.3 Methodology**

To determine the benefits from the community-level income generating, coconut-based strategies and technologies of the PRCGC project, this research study assessed the site-specific impacts on the socioeconomic status of the selected coconut growing communities. In assessing the socioeconomic impacts of the project under study, the baseline information “before” the project in comparison with the situation or changes “after” the project implementation was considered.

The changes attributed to adoption of technologies by the community based organizations (CBOs) in each project site that are technically feasible, financially viable, socially acceptable and environmentally safe were assessed. These are the component activities of the COGENT’s four-pronged strategy deployed in four coconut growing communities. In this project, the identified five essential forms of capital (i.e. social, financial, physical, natural and human) of the respective CBOs were enhanced to sustain PRCGC project interventions (Batugal, 2005). To augment these forms of capital, the project:

- a) Organized and/or further integrated project participants into CBOs and registered with appropriate government offices (social capital);
- b) Established a no-collateral microcredit system and revolving fund for financing the income generating activities of project participant (financial capital);
- c) Provided efficient and affordable village level equipment and technologies for the implementation of income-generating activities (physical capital);
- d) Assisted project participants in selecting local coconut varieties and introduced high-value varieties which were propagated in community-managed seedling nurseries for on-farm conservation (natural capital);
- e) Provided training to project participants on CBO and microcredit establishment and management, on the testing and use of income-generating technologies and in conducting field days and information dissemination in collaboration with local government units and other stakeholders (human capital);

This research aimed to evaluate the socioeconomic impacts of these PRCGC interventions with the CBOs as partners and direct users of these income-generating technologies.

#### **A. The Four-Pronged Strategy of the PRCGC Project:**

##### **1) Production of high-value coconut products from the shell, meat, husk and water.**

Various technologies for the production of high-value coconut products and by-products from the coconut husk, shell, meat and water were introduced and tested by CBOs to determine the technical feasibility, economic viability and the social acceptability with due respect to environmental safety. The initial technologies in the project sites which were recommended for testing by the PRCGC project were the production of coir fibre (geo-textiles and coco peat), shell handicrafts, “bukayo<sup>1</sup>”, other coconut food products and coconut sap sugar. Project participants from the four project sites were trained on product diversification using all the coconut parts to produce high-value products as the most logical approach in maximizing benefits for the coconut.

##### **2) Crop Diversification**

The second strategy to enhance income of farmers in coconut growing communities was the planting of high-value crops under coconuts. Considering that about 50% palm interspace is normally left unutilized in a coconut plantation, intercropping with banana, corn and vegetables was introduced by the project. Planting of high-value and marketable crops was expected to generate additional income from the coconut farm. Establishment of nurseries for intercrops was also encouraged for commercial growing to sustain the availability of high-quality planting materials for the

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<sup>1</sup> A sweet Filipino dessert, made by simmering strips of young, gelatinous coconut (*buko*) in water and then mixing with white or brown sugar

succeeding cropping season. In the crop-livestock integration, support of the local government units (LGUs), the private sector and the other government programs (i.e. Department of Agrarian Reforms (DAR), Department of Agriculture (DA) and Cargill Inc. were also tapped. Under this partnership and co-sharing arrangement, inputs were provided by these agencies and labour was the counterpart of the CBOs.

### **3) Livestock Integration**

Integrating livestock under the coconut-based farming system as source of additional farm income was also encouraged. To augment source of feeds, planting of fodder crops was also undertaken. The choice of livestock raised was based on the results of market surveys and feasibility studies. In this project, the livestock integration was meant to generate additional income but, it also enhanced nutrition of farmers' households. Animals commonly identified by the CBOs for rearing are goats, cattle, carabao (water buffalo) and the native chicken.

### **4) Identification and characterization of existing populations and introduction of appropriate high-yielding coconut varieties.**

The existing stands of coconut in the community were identified and characterized. Performance of these varieties were assessed by the project participants in each village and facilitated by the PCA coconut breeder through holding 'coconut diversity fairs'. The nuts presented by the members were pre-selected and the facilitators helped the farmers in ranking the desired varieties based on the trait preferences of the CBO members. Participatory matrix ranking was adopted in this activity. The selected variety among those presented was considered as source of planting materials for the community nursery established through the project. This nursery for each community was the source of planting materials to be planted by each CBO member (at least 5 seedlings/member/year) as required by the project for diversity conservation. Likewise, other varieties with high-value traits were introduced from other localities to enhance the coconut diversity in each village.

## **B. Socioeconomic Assessment of the PRCGC Project**

To verify the suitability of the strategies/technologies to the circumstance of the target users, the process of assessing the project performance was based on impacts related to the most important concerns of the target groups. Therefore, this research study was designed to identify contributory variables to technology adoption and to understand changes in the socioeconomic situation "before" and "after" the project implementation. The process involved the appraisal of the community and household situation "before" and "after" the project to be able to compare the changes and the significant effects on the target groups. To achieve this, activity monitoring during the project implementation is essential in improving and making adjustments from the feedbacks and progress of implementation. Impacts and benefits of the projects were also measured using indicators related to the project objectives. Indicators of socioeconomic impacts that were

considered are: technology adoption, poverty incidence in relation to poverty reduction, income distribution and poverty reduction. Similarly, social changes attributed to project interventions were also assessed.

## **1. Socioeconomic Baseline Survey**

The socioeconomic baseline data were collected through focused group discussions (FGD), interviews and surveys with the direct participation of the CBO members as participants and survey respondents. Interviews were conducted one-on-one, while focused group discussions were conducted in small groups. Both methods were conducted with the sufficient representative samples of stakeholders such as household members, farmers and community members (Bouffard and Little, 2004). These data collection focused on the economic and social conditions of the target beneficiaries “before” the PRCGC project interventions. In this survey, systematic collection and analysis of the information was undertaken to establish the situation of the community “before” the project to compare the outcome of the project “after” the project interventions.

The sample respondents were selected through purposive sampling considering only the coconut farmers who participated in the PRCGC project. A total of 320 farmer-respondents were interviewed by the designated Community Coordinators (CCs) of the project. The household survey was aimed at generating information on general household characteristics, farming practices and other technical farm data regarding coconut-based farm production. Data collection was undertaken via farmer interviews using structured farm household survey questionnaires.

## **2. Participatory Monitoring System**

CBO members are considered in this project as partners, not as project beneficiaries. Thus, they were involved in collecting and recording project-related information on a regular basis. In the case of PRCGC with the assistance of the CCs as facilitators, monthly monitoring as part of the normal work routine is undertaken by the CBO officers and members. The participation of the community members promotes a greater sense of ownership and responsibility of the CBO for the project and data gathering. This usually results in the accuracy of the information gathered and as such the project participants may have more confidence in the results.

The purpose of monitoring is not to make any judgment on the process success or failure but to encourage changes and adjustments either during the project life span or on future activities. It is a systematic, regular and timely gathering of feedback about the progress of the project to see that everything goes as expected according to plan and that the resources are properly utilized. The project activities were monitored using the four-page form designed by the project team based on target activities. The monitoring forms were submitted to the PCA technical coordinators for review and processing. The processed data were then submitted to the project leader for final review and

consolidation of information from the four project sites. The consolidated data and technical reports were then submitted to IPGRI.

### **3. Participatory Impact Assessment Process**

Assessing the changes as perceived by the farming households of the project sites as a result of PRCGC technical interventions or practices may be positive or negative and may differ among the households. These changes due to adoption of technologies would usually translate into improved well-being of project participants, but occasionally such is not the case. Therefore, it is important to identify the changes brought about by project interventions and the benefits to the households of target groups.

There are two major approaches in conducting the socioeconomic impact evaluation: 1) the “before and after” project assessment and 2) the comparison of “with” and “without” project interventions (Aragon, 2003; Gittinger, 1982). In this project, the first approach was used in assessing the impacts of the PRCGC project on project clients, the farm households and the CBO. The assessment was undertaken by comparing the baseline data gathered “before” the project interventions and the data collected “after” the project implementation. Other secondary data were sourced from the monitoring reports regularly collected by the CCs from their respective project sites. The participatory tools like Focus Group Discussion (FGD), Key-Informant Interview (KI), resource mapping, ballot boxes and mini surveys were used to validate and collect other relevant information. In identifying the indicators, participants were consulted to determine the appropriateness and effectiveness of methods for tracking the achievement of the project activities and attainment of project activities.

In the analysis of impact assessment of poverty-reduction projects, the study utilized the baseline survey data and the information from the monitoring forms documented for the 3-year period (2006-2009) of project implementation as well as the actual feedbacks from the community as direct users of the strategies. The farmers’ perceptions of the project were obtained during the surveys and monitoring conducted “before” and “after” the project to measure the changes attributed to project interventions comparing variations among households, communities and project sites. Statistical and analytical tools were used to determine relationships and changes attributed to project.

### **4. Statistical and Analytical Tools**

Household and farm data were analyzed using descriptive statistics such as frequency counting, percentages and means with Statistical Program for Social Sciences (SPSS) software. The comparative mean analysis was used to assess the effect of the project on farm incomes. The Gini ratio was used in assessing the effect of the project on farm income inequality distribution (Garcia, 2004), in four project sites. The perceptions and expectations of the farmer-respondents were included in the questionnaires to be able to capture assessment of project impacts. Frequency distribution of the farmer-respondents responses were used to determine the comparative assessment of their perceptions and expectations of the project.

## 2.4 Results and Discussion

### 2.4.1 SAN ANTONIO, QUEZON

#### 1. Socioeconomic Profile

A benchmark socioeconomic survey involving total enumeration of households was undertaken to come up with socioeconomic profile of the community. There were 81 respondents in the baseline survey conducted in 2005 but only 31 of them were considered during the impact assessment survey. Table 1 shows that on the average, the age of the coconut farmers is 48-52 at the start and end of the project. . It is clearly presented that there was an increase in farm size, coconut area, land ownership, number and age of coconut trees and annual yield due to project implementation. In terms of farm income, the average annual income of the farmers was almost doubled from Php46,472 before the project to Php83,175.70 after the project. Based on survey results, it clearly shows that income from livestock had the highest increase among the sources of income from Php889 to Php17,648. Prior to project implementation, the CBO members are already into hog raising and their interest and skills contributed to the significant change in income.

**Table 1: Socioeconomic Characteristics of Roxas Estate Multipurpose Cooperative Inc. (REMPCI), Inc. in Brgy. Bulihan, San Antonio, Quezon at the start and end of the project**

Indicators	REMPCI (San Antonio, Quezon)	
	Before	After
No. of Respondents	81	31
Age	48	52
Gender	50.61% male	58.06% male
Household Size	5	5
Civil Status	77.77% married	90.32% married
Education	47.85% high school	67.74% elementary
Religion	77.27% catholic	83.87% catholic
Skills/Trainings	3 trainings	7 trainings
Farm Size (hectares)	3	5
Coconut Area	1.43	3.56
Land Ownership	61.73% tenant	80.65% land owner
No. of Coconut Trees	109	153
Age of Coconut Trees	29	32
Annual Yield	60	98
Income from Coconut Products	Php1,531.00	Php7,016.67
Income from Intercrops	Php5,222.00	Php18,510.65
Income from Livestock	Php889.00	Php17,648.39
Off-farm Income	Php5,951.00	Php10,000.00
Non-farm Income	Php27,698.00	Php32,000.00
Total Annual Income	Php46,472.00	Php83,175.70



**Plate 1: REMPCI Members in San Antonio, Quezon**

## **2. Adoption of Technology**

There are four major coconut-based farming strategies introduced, tested and implemented in the four PRCGC project sites. As mentioned earlier, these are the establishment of coconut nursery, coconut high-value product processing, coconut intercropping of high-value crops and coconut-livestock integration. The coconut farmers who participated in the project have the options to choose which of these interventions is appropriate to their farm condition and which suits their need and present economic situation.

The coconut nursery establishment is the least adopted technology with only 22.58% or 7 farmers out of 31 respondents (Table 2). This least adoption of the nursery establishment in the project site was due to the needed area to set the nursery and the cooperative decided to have a cluster to manage the coconut nursery to serve as source of the seedlings to be planted by the CBO members. Each member of the CBO is required to plant at least 5 seedlings per year and a total of at least 15 seedlings within the project duration. Adoption of technologies to produce coconut high-value products was also observed to be low with 38.71%. In contrast, the percentage adoption of coconut intercropping was observed to be high with more than 90%. Adoption of livestock integration was also high with 74% of the coconut farmer-respondents in San Antonio, Quezon. The low adoption of the technologies on the production of high value products can be explained with the high capital investment to be incurred and the marketing constraints experienced by the CBO.

**Table 2: Frequency and percentage of adoption of coconut farmers by technology in San Antonio, Quezon**

TYPE OF TECHNOLOGY	San Antonio	
	No.	%
Coconut Nursery		
Adopted	7	22.58
Not Adopted	24	77.42
Total	31	100.00
Coconut High Value Products		
Adopted	12	38.71
Not Adopted	19	61.29
Total	31	100.00
Coconut Intercropping		
Adopted	28	90.32
Not Adopted	3	9.68
Total	31	100.00
Livestock Integration		
Adopted	23	74.19
Not Adopted	8	25.81
Total	31	100.00



**Plate 2: Coconut Intercropping (S. Antonio, Quezon)**



**Plate 3: Coconut High Value Products (S. Antonio)**

### 3. Poverty and Income Inequality

As in most third world countries, poverty and income inequality are the two basic problems that beset these countries. In the study of Garcia (2004), it was revealed that despite past attempts of the government to alleviate poverty in the country, incomes of Filipinos especially among the lower end of the distribution remains to be unjustly low compared to those in the higher income sector. Literature on coconut industry related studies also emphasise that coconut farming households in the Philippines are among the poorest of the agricultural sectors and thus, the existence of poverty and highly inequitable income distribution. In this regard, effective policies and specific development programs are imperative in addressing the issues of poverty and income inequality in this marginalized sector. PRCGC project is one of the development projects for coconut-growing communities that aim to address poverty and income inequality in these communities.

In assessing the effect of PRCGC project on farm income and inequality distribution, comparative mean analysis and Gini ratio analysis were employed in the study. Comparative mean analysis was used to determine if there was a significant increase in farm incomes after the implementation of the project. To isolate the effect of inflation on prices, farm income values after the project were deflated to 2005 values using the adjusted regional Consumer Price Index (CPI). On the other hand, Gini ratio analysis was used to assess if there was an improvement in income inequality distribution "after" project implementation. It should be noted that in this analysis, farm income was used instead of the household income. Farm income would be more appropriate to use in the analysis since it comprised 80-100 percent of the total household income and any improvement on income inequality distribution can be attributed solely to the project.

#### a. Effect on Farm Income

The farm income structure ("before" and "after" the project) is shown in Table 3. Previous to the implementation of the project, the average annual farm income of coconut farmers in San Antonio, Quezon was Php7,642. Intercrop production had the highest percentage share of 68.33% followed by coconut production/processing (20.03%) and livestock production (11.63%). It was also presented in the table that there was an increase of 82% in the total farm income of farmers during the project. Income from intercrops still had the highest share (42.87%) among the income sources but it was followed by livestock integration with 40.88%.

**Table 3: Farm Income Structure "before and after" the project**

SAN ANTONIO, QUEZON	Before the Project		After the Project		
	(in pesos)		(in pesos)		
	Value	%	Nominal Value	Real Value <sup>2</sup>	%
Total Farm Income	Php7,642.00	100.00	Php43,175.71	Php5,201.89	100.00
Coconut production/processing	Php1,531.00	20.03	Php7,016.67	Php845.38	16.25
Intercrop production	Php5,222.00	68.33	Php18,510.65	Php2,230.20	42.87
Livestock production	Php889.00	11.63	Php17,648.39	Php2,126.31	40.88

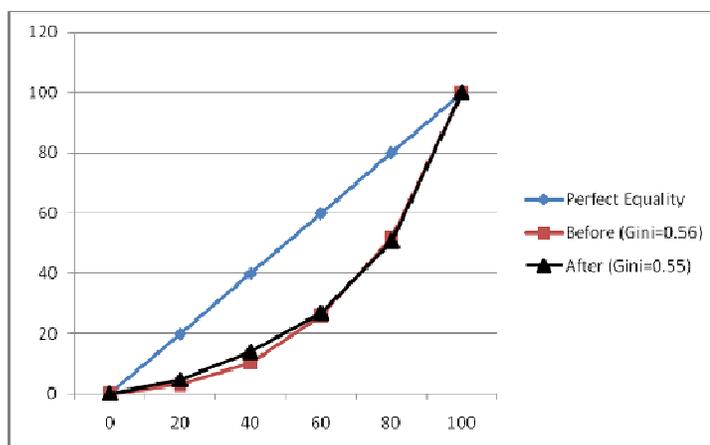
<sup>2</sup> \*adjusted to 2005 values using CPI with 2005 as base year

**b. Effect on Income Inequality**

The income distribution for both periods (“before” and “after”) of San Antonio, Quezon project is shown in Table 4. Results show that “before” project implementation, 51.71% (Php348,740) of the total farm income (Php1,358,330) in the project site were shared by the lower 80% of the farm income groups. Furthermore, the remaining 48.29% (Php655,940) were shared by the upper 20% of the farm income groups indicating high income inequality among the farm households. The lower 80% of the farm income groups decreased from 51.71% before the project was implemented to 50.63% after project implementation. On the other hand, the percent share of total income by the upper 20% now shares 49.37% from 48.29% after the project. These observations indicated an improvement on income distribution among the farm households. COGENT’s four-pronged strategy could therefore be used to reduce inequality of income distribution even among poor coconut farmers.

**Table 4: Income Distribution Analysis “before and after” the project**

Group of Farmers by Income	Basic Data		Data for Lorenz Curve	
	Share of Total Income	Share in Percent	Cumulative Percentage of Income	Cumulative Percentage of Farmers
Before the Project				
Lowest 20%	44,350.00	3.27	3.27	20
Second 20%	94,400.00	6.95	10.21	40
Middle 20%	214,900.00	15.82	26.04	60
Fourth 20%	348,740.00	25.67	51.71	80
Highest 20%	655,940.00	48.29	100.00	100
Total	1,358,330.00	100.00		
After the Project				
Lowest 20%	80,900.00	4.64	4.64	20
Second 20%	161,900.00	9.28	13.92	40
Middle 20%	225,500.00	12.93	26.85	60
Fourth 20%	414,900.00	23.79	50.63	80
Highest 20%	861,160.00	49.37	100.00	100
Total	1,744,360.00	100.00		



**Figure 1: Lorenz Curve of San Antonio, Quezon**

Figure 1 shows the Gini ratios and Lorenz curve before and after the project. As shown in the table, the Gini ratio decreased only by one point from 0.56, which is highly unequal distribution, to 0.55. Although there was a decline by one point difference in the computed Gini ratio after the project, the income distribution of the farmer-respondents in San Antonio, Quezon remained to be relatively inequitable.

#### 4. Poverty Incidence

Another indicator of PRCGC project impact is the poverty incidence status. This is measured by way of comparing the farm household income “before and after” the project with the poverty threshold income. Poverty threshold estimates from the National Statistical Coordination Board (NSCB) were obtained and are shown in Table 5. Poverty threshold estimate in 2005 before the project implementation was Php14,562. Based on this estimate, only 29.03% of the respondents were classified as below poverty threshold while 70.97% were above poverty threshold. With farm incomes significantly increased after the project, the poverty incidence was also observed to have declined dramatically. Eighty-nine percent of them were considered above poverty threshold and only 12% had income below the estimate of Php15,128.

**Table 5: Poverty Incidence “before and after” the project**

SAN ANTONIO, QUEZON	POVERTY THRESHOLD ESTIMATES		BEFORE PROJECT		AFTER PROJECT	
	2005	2007	No.	%	No.	%
Estimates	14,562.00	15,128.00				
Below Poverty Threshold			9	29.03	4	12.90
Above Poverty Threshold			22	70.97	27	87.10
Total			31	100	31	100

\*2007 NSCB regional estimates were used since estimates for 2008 are not available

## 5. Qualitative Assessment

There have been continuing efforts to shift or integrate qualitative research methods to empirical researches of the socioeconomic dimensions. Understanding fully the needs and capability of the technology users or the target project beneficiaries is a must in people-oriented projects like PRCGC. Community consultations through surveys and FGD are methods to check whether the data gathered and the analysis is accurate by verifying it with the sources of information. In PRCGC project, qualitative assessment was also taken from the surveys to objectively document the actual project assessment of individual farmer-respondents without being biased and influenced by others.

In assessing most rural development projects, the usual limitations are the tools to measure the project impacts based on the perceptions of the target beneficiaries as participants in self-assessment mode. An accurate perception of the project impacts requires the survey of CBO members as respondents. Usually, this can be done by asking questions and challenging the community to give their ideas and insights as key players in the project implementation. For the PRCGC project, expectations and perceptions of the farmer-respondents were incorporated in the surveys conducted in the project sites. The results were analyzed through frequency distribution of responses.

The common expectation raised by the respondents with the highest frequency percentage is the increased income expected from the project with 35% as shown in Table 6. Another response said by the farmers is the help and support the coconut farmers with 23%. Eleven percent of them believed that their expectation is livelihood and employment.

**Table 6: Pre-project expectations of farmer-respondents**

Expectations	San Antonio, Quezon	
	Freq	%
Help increase income and production/provide extra income	15	35.71
Provided training to the members and increase knowledge/capability	4	9.52
Reduce poverty/improve living condition in coop & community	4	9.52
Can give livelihood & employment to the coop members	5	11.90
Help and support the coconut farmers	10	23.81
To become successful with the COGENT project	4	9.52
Total	42	100.00

Based on frequency results on whether the expectations were realized on Table 7, positive response was raised by 74% of the respondents. This is a clear indication that the aim of the project in improving the livelihood status of the respondents was achieved.

**Table 7: Responses on whether farmers' expectations of the project were realized**

Answer	San Antonio, Quezon	
	Freq	%
Yes	23	74.19
No	7	22.58
No answer	0	0.00
Undecided	1	3.23
Total	31	100.00

Moreover, results on Table 8 show that most of them (80%) said that increase in income was the common response in terms of the achievement of goals, objectives and activities of the project. Other responses were food security enhancement, food nutrition empowerment and increase biodiversity with 6% each.

**Table 8: Responses of farmer-respondents on goals, objectives and activities of the project**

Objectives	San Antonio, Quezon	
	Freq	%
Increase income	25	80.65
Food security enhancement	2	6.45
Food nutrition empowerment	2	6.45
Increase biodiversity	2	6.45
Total	31	100.00

As presented in Table 9, results show that 61% of the respondents agreed that objectives were realized after the project implementation. This is expected because all project components were implemented in the sites at the household level.

**Table 9: Responses of farmers on whether project objectives were achieved**

Answer	San Antonio, Quezon	
	Freq	%
Yes	19	61.29
No	6	19.35
No answer	5	16.13
Too early to tell/Not yet	0	0.00
Undecided	1	3.23
Total	31	100.00

In terms of farmers' perceptions of the PRCGC's impact on improvement of the economic condition of the community, 90% of the respondents affirmed that there was improvement in their condition after the project was implemented. The results are presented in Table 10.

**Table 10: Farmers' perception of the impact of the project on their own economic conditions**

Answer	San Antonio, Quezon	
	Freq	%
There was improvement	28	90.32
No improvement	2	6.45
No answer	1	3.23
Undecided	0	0.00
Too early to tell/Not yet	0	0.00
Total	31	100.00

Meanwhile, farmers' perception on the ways which the project improved their economic conditions are increase in income with the highest percentage share of 46% and provided additional knowledge with 35%. The remaining 17% was attributed to the help and support to the coconut farmers by the project (Table 11).

**Table 11: Farmers' perception on the ways the project improved their own economic conditions**

Answer	San Antonio, Quezon	
	Freq	%
Increase income and provide extra income	13	46.43
Provided training and additional knowledge	10	35.71
Help and support the coconut farmers	5	17.86
Total	28	100.00

For self-assessment of the cooperative on their capability to sustain the project, 90% of the farmers responded that they can continue to sustain the activities of the project although fund support and technical assistance of the agencies were terminated as depicted in Table 12. Only 9% of them had no answer for that question.

**Table 12: Responses on whether the project could be sustained after the technical assistance and fund support of PCA-COGENT are terminated**

Answer	San Antonio, Quezon	
	Freq	%
Yes	28	90.32
No	0	0.00
Undecided	0	0.00
No answer	3	9.68
Total	31	100.00

## 2.4.2 SANCHEZ MIRA, CAGAYAN

### 1. Socioeconomic Profile

**Table 13: Socioeconomic Characteristics of Santor Livelihood Multipurpose Cooperative in (SLMPC) Brgy. Santor, Sanchez Mira, Cagayan at the start and end of the project**

Indicators	SLMPC (Sanchez Mira, Cagayan)	
	Before	After
No. of Respondents	85	31
Age	48	49
Gender	72.94% male	54.84% male
Household Size	5	5
Civil Status	69.41% married	87.10% married
Education	74.11% elementary	35.48% high school
Religion	75.29% Pentecost	90.32% pentecost
Skills/Trainings	4 trainings	10 trainings
Farm Size (hectares)	2	5
Coconut Area	1.8	3.2
Land Ownership	50.58% land owner	70.97% land owner
No. of Coconut Trees	50	108
Age of Coconut Trees	12	13
Annual Yield	57	93
Income from Coconut Products	Php5,054.00	Php12,842.86
Income from Intercrops	Php13,398.00	Php43,653.68
Income from Livestock	Php3,129.00	Php65,803.80
Off-farm Income	Php1,849.00	Php10,000.00
Non-farm Income	Php12,801.00	Php10,000.00
Total Annual Income	Php36,231.00	Php142,300.35

Based on the data gathered from the socioeconomic survey, there were 85 respondents for the baseline survey and out of these respondents only 31 active participants of the component activities were considered after the implementation of the project. Most of the respondents selected after the project have higher educational attainment as compared with the baseline survey data (Table 13). This means that most of the project takers are those with higher education. Trainings were conducted to improve the skills of the CBO in the implementing the project activities. It was also noted that there was a significant increase of land ownership, coconut areas and the number of coconuts planted in the area after the project. These changes in the physical livelihood capital of the CBO were due to the project requirement that every member of the CBO should have planted at least 5 seedlings per year for a period of three years. In the case of yield increment data, this can be attributed to the cultural management and the intercropping interventions of the PRCGC project that improved the yield of the coconuts.

The average income status of the CBO as presented in Table 15 was also improved with a total annual income increase of (74.54%) and the highest share of income is from livestock. In the case of intercropping data shows that the increase was almost 70% from the baseline.

## 2. Adoption of Technology

TYPE OF TECHNOLOGY	Sanchez Mira	
	No.	%
Coconut Nursery		
Adopted	11	35.48
Not Adopted	20	64.52
Total	31	100.00
Coconut High Value Products		
Adopted	17	54.84
Not Adopted	14	45.16
Total	31	100.00
Coconut Intercropping		
Adopted	20	64.52
Not Adopted	11	35.48
Total	31	100.00
Livestock Integration		
Adopted	13	41.94
Not Adopted	18	58.06
Total	31	100.00

The abovementioned socioeconomic change in farming communities is usually triggered by the degree of technology adoption of CBOs. With the four income-generating activities introduced by the project, the highest technology adoption was on intercropping, about 64.52% of the respondents were engaged in this activity and 45.16% adopted the technologies on processing of coconut high-value products (Table 14). The least number of adopters was on the nursery establishment which is explained by the fact that this activity was a cluster effort handled by few CBO members selected by the cooperative management. The nursery establishment was a CBO-managed activity and the other members were just provided with the seedlings for them to plant in their respective areas. In the case of livestock, it can be speculated that the high capital investment can be the reason for the less adoption of this project intervention.

**Table 14: Frequency and percentage of adoption of coconut farmers by technology in Sanchez Mira, Cagayan.**



**Plate 4: Coconut Intercropping (S. Mira, Cagayan)**



**Plate 5: Coconut Nursery in S. Mira, Cagayan**

### 3. Poverty & Income Equality

#### a. Effect on Farm Income

Before the implementation of the project, coconut farmers from Sanchez Mira, Cagayan had an average farm income of about Php21,581 per year (Table 15). Income from intercrops had the highest share of 62.08% in the amount of Php13,398. On the average, this project site was observed to have a high percent increase in their income by 82.35%. Income from coconut production/processing and intercrops doubled and tripled after the project implementation, respectively. Livestock production had the highest increase of 95.25% and percentage share of 53.81%. The adopters of the swine and native chicken-raising gained a considerable income in addition to the other income-generating activities introduced by the project.

**Table 15: Farm Income Structure “before and after” the project**

Sanchez Mira, Cagayan	Before the Project (in pesos)		After the Project (in pesos)		
	Value	%	Nominal Value	Real Value	%
Total Farm Income	Php21,581.00	100.00	Php122,300.35	Php14,734.98	100.00
Coconut production/processing	Php5,054.00	23.42	Php12,842.86	Php1,547.33	10.50
Intercrop production	Php13,398.00	62.08	Php43,653.68	Php5,259.48	35.69
Livestock production	Php3,129.00	14.50	Php65,803.80	Php7,928.17	53.81

\*adjusted to 2007 values using CPI with 2007 as base year since 2005 data was not able

#### b. Effect on Income Inequality

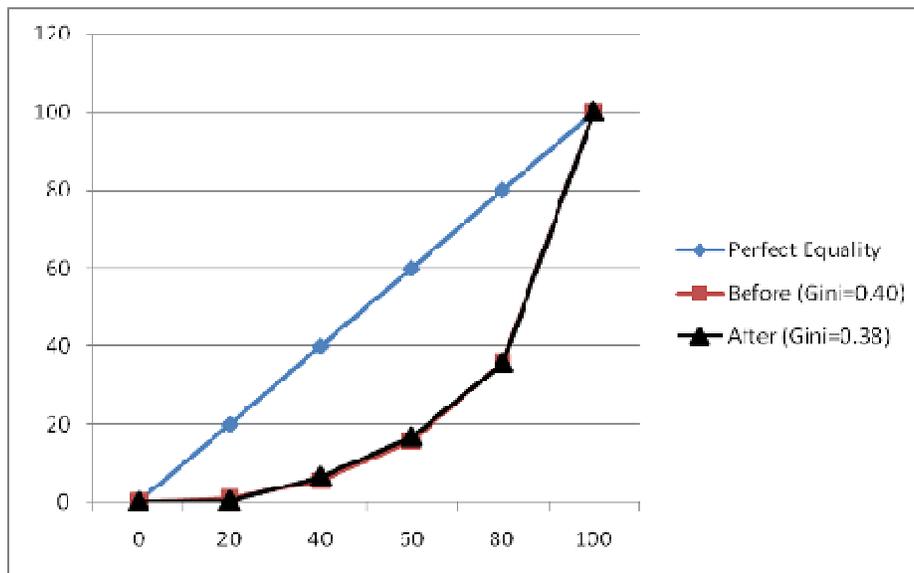
Table 16 shows the income distribution of coconut farmer-respondents in Sanchez Mira, Cagayan. Results revealed that before the project, only 35.56% of the total share of income is shared by the lower 80% income groups. On the other hand, the bulk share of 64.35% was comprised by the highest 20% group. This is a clear indication of highly unequal income distribution among the farm households before the project.

Similarly, farm income of coconut farmer-respondents had considerably increased after the project as a result of adoption of intercropping and livestock integration. Income distribution among farm households also improved with the lower 80% of the farm income groups enjoying 35.97% share of the total income. On the other hand, the percent shares of the upper 20% farm income group decreased from 64.35% to 64.03% after the project indicating a fair improvement on their income distribution.

**Table 16: Income Distribution Analysis “before and after” the project**

Group of Farmers By Income	Basic Data		Data for Lorenz Curve	
	Share of Total Income	Share in Percent	Cumulative Percentage of Income	Cumulative Percentage of Farmers
Lowest 20%	6,000.00	0.24	0.24	20
Second 20%	152,500.00	6.20	6.44	40
Middle 20%	253,125.00	10.28	16.72	60
Fourth 20%	465,950.00	18.93	35.65	80
Highest 20%	1,584,075.00	64.35	100.00	100
Total	2,461,650.00	100.00		
After the Project				
Lowest 20%	18,000.00	0.86	0.86	20
Second 20%	98,050.00	4.66	5.52	40
Middle 20%	214,620.00	10.20	15.72	60
Fourth 20%	425,900.00	20.25	35.97	80
Highest 20%	1,346,550.00	64.03	100.00	100
Total	2,103,120.00	100.00		

Moreover, the computed Gini ratio indicates a modest improvement of the income distribution from 0.40 before the project to 0.38 after the project. Although it improved by two-points, the income distribution is inequitable but very close enough to a relatively equitable distribution (0.37) as suggested by Todaro. Figure 2 clearly illustrates the income distribution of farm household in Sanchez Mira, Cagayan before and after the project implementation.



**Figure 2: Lorenz Curve of Sanchez Mira, Cagayan**

#### 4. Poverty Incidence

As presented in Table 17, there was a large difference between the poverty incidence before and after the project. The poverty threshold estimate in 2005 was Php11,308. Forty-three percent of the coconut farmer-respondents were below poverty threshold and 56% of them enjoyed staying above poverty level. After the project, it was observed that poverty incidence have declined dramatically. Seventy-seven percent of the farmers were above poverty threshold and only 22% did not reach the poverty threshold estimate of Php11,843 in 2007. The main objective of PRCGC in this case can be considered to have been achieved through the interventions introduced to this community. This significant change in the poverty incidence has to be sustained and improving the socioeconomic situation should be a continuous effort by the CBO even after the 3-year period project t implementation.

**Table 17: Poverty Incidence “before and after” the project**

Sanchez Mira, Cagayan	Poverty Threshold Estimates		Before The Project		After The Project	
	2005	2007	No.	%	No.	%
Estimates	11,308.00	11,843.00				
Below Poverty Threshold			37	43.53	7	22.58
Above Poverty Threshold			48	56.47	24	77.42
Total			85	100.00	31	100.00

\*2007 NSCB regional estimates was used since estimates for 2008 is not available

#### 5. Qualitative Assessment

The participatory evaluation through self-assessment of the CBO members was conducted. Table 18 shows the pre-expectations of farmer-respondents about the project. Almost half of them responded that they expected regarding the help and support the coconut farmers. Twenty-two percent of them said that the project could help increase their income and production or somewhat provide income while 14% expected to give livelihood and employment to the members of the cooperative. Other expectations were reduce poverty or improve living condition of the cooperative as well as community (8%) and become successful with the COGENT project.

**Table 18: Pre-project expectations of farmer-respondents**

Expectations	Sanchez Mira, Cagayan	
	Freq	%
Help increase income and production/provide extra income	8	22.86
Provided training to the members and increase knowledge/capability	0	0.00
Reduce poverty/improve living condition in coop & community	3	8.57
Can give livelihood & employment to the coop members	5	14.29
Help and support the coconut farmers	18	51.43
To become successful with the COGENT project	1	2.86
Total	35	100.00

Meanwhile, frequency results on whether these expectations were realized show that 83% of the respondents answered positive response while both 6% was attributed to answers “no” and “no answer”. The remaining 3% was undecided (Table 19). These data prove that the project’s objectives are doable and benefits as expected can be attained by the group.

**Table 19: Responses on whether farmers’ expectations of the project were realized**

Answer	Sanchez Mira, Cagayan	
	Freq	%
Yes	26	83.87
No	2	6.45
No answer	2	6.45
Undecided	1	3.23
Total	31	100.00

The goals, objectives and activities of the project are presented in Table 20 with their corresponding frequencies and percentages. With the various levels of understanding and interests of the respondents, their perceptions of the project objectives were determined (Table 20). As presented, the increase income has the highest percentage of responses at 83% followed by food security enhancement and food nutrition empowerment with both 6%. Lastly, increase biodiversity was answered by 3% of the farmers. These results can be ascribed to the focus of the project to the income-generating activities as the key to reduce poverty in coconut growing communities.

**Table 20: Responses of farmer-respondents on goals, objectives and activities of the project**

Objectives	Sanchez Mira, Cagayan	
	Freq	%
Increase income	26	83.87
Food security enhancement	2	6.45
Food nutrition empowerment	2	6.45
Increase biodiversity	1	3.23
Total	31	100.00

In the case of achieving the objectives the responses were highly significant as shown in Table 21. Only 12% of them had no answer and 9% responded objectives were not achieved. These results mean that there was high percentage of positive responses since achievement of project objectives were obtained according to the coconut farmers. The high percentage of positive responses that the project objectives were achieved is an indicator of the effectiveness of the PRCGC strategies used in reducing the poverty incidence in this community. Increase in income from the four-pronged strategies of the project is parallel to the improved socioeconomic situation of a given community resulting to reduced poverty incidence as a measure of project impact.

**Table 21: Responses of farmers on whether project objectives were achieved**

Answer	Sanchez Mira, Cagayan	
	Freq	%
Yes	24	77.42
No	3	9.68
No answer	4	12.90
Too early to tell/Not yet	0	0.00
Undecided	0	0.00
Total	31	100.00

Farmers' perception of the PRCGC's impact on the improvement of the economic condition of the community was shown in Table 22. Ninety-three percent of the farmers affirmed positive response while 6% said that there was no impact made by the project to their own economic conditions. Considering the incremental changes in income before and after the project implementation, the respondents clearly expressed the improvement in the economic conditions of the farmer-respondents. The high percentage of the positive response on the improvement of the economic condition proved that the project strategies are effective in changing the baseline situation of the community.

**Table 22: Farmers' perception of the impact of the project on their own economic conditions**

Answer	Sanchez Mira, Cagayan	
	Freq	%
There was improvement	29	93.55
No improvement	2	6.45
No answer	0	0.00
Undecided	0	0.00
Too early to tell/Not yet	0	0.00
Total	31	100.00

Moreover, the most common responses on the ways the project improved their economic condition was the increased income and provided extra income with 80% responses (Table 23). The other responses were help and support the coconut farmers (12%) and provided training and additional knowledge (6%). This means that the socioeconomic benefits from the project were highly appreciated by the farmer-respondents as key impact of the project.

**Table 23: Farmers' perception on the ways the project improved their own economic conditions**

Answer	Sanchez Mira, Cagayan	
	Freq	%
Increase income and provide extra income	25	80.65
Provided training and additional knowledge	2	6.45
Help and support the coconut farmers	4	12.90
Total	31	100.00

Based on the results as presented in Table 24, the 87% of the respondents said that they could sustain the project even after the technical assistance and financial support of the agencies are phased out. Only 6% each was attributed to “no” and “no answer”. This will ensure the sustainability of the project activities that will merit improved livelihood of the community.

**Table 24: Responses on whether the project could be sustained after the technical assistance and fund support of PCA-COGENT are terminated**

Answer	Sanchez Mira, Cagayan	
	Freq	%
Yes	27	87.10
No	2	6.45
No answer	2	6.45
Total	31	100.00

### 2.4.3 BILIRAN, BILIRAN

#### 1. Socioeconomic Profile

Table 25: Socioeconomic Characteristics of Burabod Agrarian Reform Beneficiaries Multipurpose Cooperative in Brgy. Burabod, Biliran, Biliran at the start and end of the project

Indicators	BARB-MPC (Biliran, Biliran)	
	Before	After
No. of Respondents	50	15
Age	50	54
Gender	62% male	60% male
Household Size	5	4
Civil Status	80% married	73% married
Education	80% high school	40% high school
Religion	96% catholic	86.67% catholic
Skills/Trainings	2 trainings	3 trainings
Farm Size (hectares)	2	3.74
Coconut Area	1.8	2.61
Land Ownership	58% land owner	60% land owner
No. of Coconut Trees	141.66	424.8
Age of Coconut Trees	58	21.18
Annual Yield	33.33	103.53
Income from Coconut Products	Php5,547.85	Php14,350.00
Income from Intercrops	Php5,737.08	Php4,613.33
Income from Livestock	Php5,882.12	Php4,540.00
Off-farm Income	Php5,904.88	Php1,733.33
Non-farm Income	Php6,077.85	Php14,200.00
Total Annual Income	Php29,149.78	Php39,436.67

Based on the results of the socioeconomic baseline survey, the following were gathered using the baseline survey questionnaires developed by the project team. There were 50 respondents interviewed before the project implementation while only 15 were active during the project as shown in Table 25. Before the project implementation, results show that 62% of the respondents are male. The average household size is 5. Eighty percent of them are married, 80% finished high school level and 96% are catholic. There was a decrease in the figure after the project. As seen in the table, the percentage of the male farmers went down to 60% and the average household members are 4. Moreover, 73% of them are married, 40% finished high school and 86% are catholic. There were additional trainings conducted during the project.

For the farm information, it can also be observed from the table that there was an increase in terms of farm size, coconut area, number of coconut and annual yield. The average farm size and coconut area rose from 2 hectares to 3.74 hectares and 1.8 hectares to 2.61 hectares, respectively. Fifty-eight of the farmers owned the land they tilted before the project and increase to 60% after the project implementation. As depicted, there was a slight decrease in terms of the age of coconut trees from 58 to 21. It was because old coconut trees were cut and replanted with new ones.

As presented in the CBOs profile in Table 25, the coconut farmers' total annual income increased from Php29,149.78 to Php39,436.67 before and after the project, respectively. The increase in annual income was about 26%. As observed, before the project implementation, the

incomes from different sources were almost the same. Some of these income increases while other decrease during the project. The large increase in coconut income and non-farm income was noticed from about Php5,000 to Php14,000. These two sources comprised the largest share in the total income. In contrast, off-farm income went down from Php5,904 to Php1,733 after the project.

## 2. Adoption of Technology

Table 26 shows the frequency and percentage adoption of the technologies. The coconut-based technology adopted by most of the farmers is intercropping with 86% followed by the livestock integration with 46%. Production of coconut high value products was observed to have 40% while establishment of coconut nursery has low percentage of 26%. It can be gleaned from the figures that intercropping and livestock were the common technologies adopted by the farmers. These data also conformed to the significant increase of income generated from intercropping as shown in the preceding table. The adoption of the intercropping by most respondents can be considered to be due to their farming experiences and the limited business opportunities and available technologies in the area.

**Table 26: Frequency and percentage of adoption of coconut farmers by technology in Biliran, Biliran**

TYPE OF TECHNOLOGY	Biliran	
	No.	%
Coconut Nursery		
Adopted	4	26.67
Not Adopted	11	73.33
Total	15	100.00
Coconut High Value Products		
Adopted	6	40.00
Not Adopted	9	60.00
Total	15	100.00
Coconut Intercropping		
Adopted	13	86.67
Not Adopted	2	13.33
Total	15	100.00
Livestock Integration		
Adopted	7	46.67
Not Adopted	8	53.33
Total	15	100.00

**Plate 6: Livestock Integration in Biliran, Biliran**



**Plate 7: Coconut Nursery in Biliran, Biliran**



### 3. Poverty & Income Equality

#### a. Effect on Farm Income

It can be inferred from Table 27 that before the project implementation, coconut farm income was already diversified due to adoption of coconut intercropping and livestock integration. This observation is clearly exhibited by the coconut farmers with percent shares of income from intercrops (33.42%) and livestock (34.26%) while the remaining 32.32% was accounted for coconut high-value products. However, after the project implementation, the percent share of coconut income to total farm income had generally increased to 61.06% although intercrops and livestock had considerably decreased. The decrease of farm income from livestock and intercrops can be speculated to be due to the training on the production of the high-value products from coconut introduced by the project. Shift of farmer-respondents to other income-generating activities resulted to decrease of income generated from intercropping and livestock production.

**Table 27: Farm Income Structure “before and after” the project**

Biliran, Biliran	Before the Project (in pesos)		After the Project (in pesos)		
	Value	%	Nominal Value	Real Value	%
Total Farm Income	Php17,167.05	100.00	Php23,503.33	Php2,831.73	100.00
Coconut production/processing	Php5,547.85	32.32	Php14,350.00	Php1,728.92	61.06
Intercrop production	Php5,737.08	33.42	Php4,613.33	Php555.82	19.63
Livestock production	Php5,882.12	34.26	Php4,540.00	Php546.99	19.32

\*adjusted to 2007 values using CPI with 2007 as base year since 2005 data was not able

**b. Effect on Income Inequality**

Results of the analysis on income distribution of the coconut farmer-respondents in Biliran, Biliran are presented in Table 28. The lower 80% of the farm income groups had almost 50% share (Php175,600) of the total income (Php345,505). Similarly, 49% share of the total income is still enjoyed by the upper 20% farm income group. Farm income groups of the farmer-respondents have also increased significantly after project implementation. Total farm income increased from Php345,505 to Php860,148 after the project implementation. The lower 80% of the farm income group has dropped 45% of the total income while the percent share of the upper 20% has risen to 54%. The income distribution before and after the project has changed slightly in the highest 20% but abruptly in the lowest 20%. A better income distribution is expected only after the CBO is already engaged in all income-generating activities to have more sources of income.

**Table 28: Income Distribution Analysis “before and after” the project**

Group of Farmers by Income	Basic Data		Data for Lorenz Curve	
	Share of Total Income	Share in Percent	Cumulative Percentage of Income	Cumulative Percentage of Farmers
Before the Project				
Lowest 20%	30,400.00	8.80	8.80	20
Second 20%	39,500.00	11.43	20.23	40
Middle 20%	46,200.00	13.37	33.60	60
Fourth 20%	59,500.00	17.22	50.82	80
Highest 20%	169,905.00	49.18	100.00	100
Total	345,505.00	100.00		
After the Project				
Lowest 20%	15,300.00	1.78	1.78	20
Second 20%	76,450.00	8.89	10.67	40
Middle 20%	108,292.50	12.59	23.26	60
Fourth 20%	189,050.00	21.98	45.24	80
Highest 20%	471,056.00	54.76	100.00	100
Total	860,148.50	100.00		

As presented in Figure 3, the income distribution of the farmer-respondents in Biliran, Biliran is relatively unequal before the project implementation. However, the computed Gini ratio after the project decreased by 13-point difference indicating that there was a rise in the overall income equality distribution of the farmer-respondents. This is clearly shown in the Lorenz curve where the curve before the project is more bowed out indicating a highly inequitable distribution. The project has been generally successful in improving the income distribution of coconut farm households.

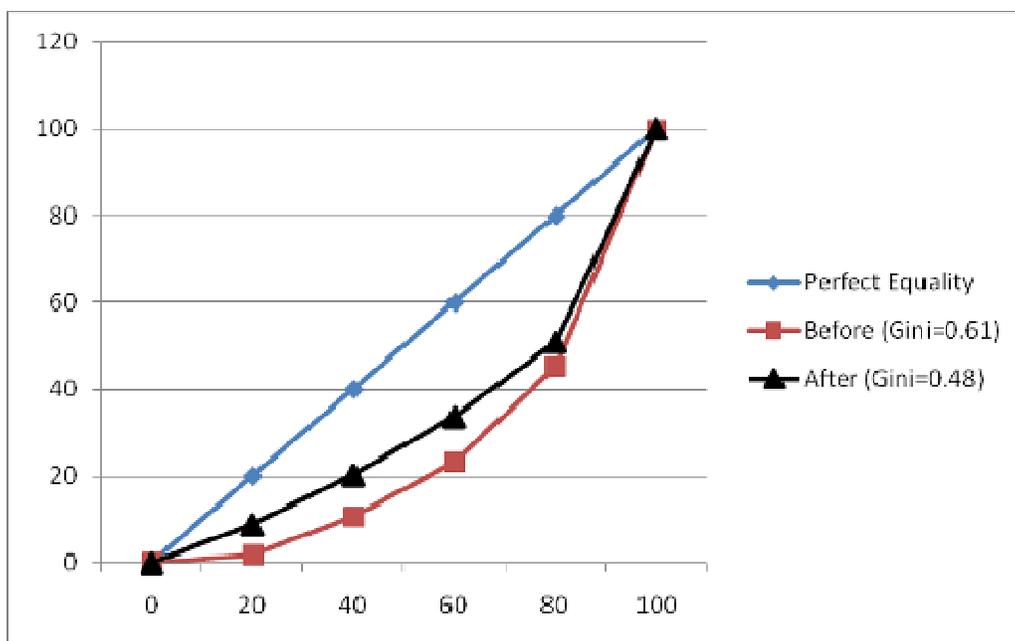


Figure 3: Lorenz Curve of Biliran, Biliran

#### 4. Poverty Incidence

Poverty incidence before and after the project are presented in Table 29. The poverty threshold estimate for 2005 was Php12,346. More than half (58%) of the respondents were below poverty threshold and 42% were above poverty level. After the project implementation, there was a decrease in the incidence of the farmers living below the poverty threshold from 58% it went down to 26%. Seventy-three percent of them were above the poverty level. The result of the percentage increase of the farmer-respondents below poverty is a significant indicator of the change in the socioeconomic situation of the group. The effect of the project in reducing poverty incidence can be measured through the income generated from the various activities with reference to the poverty threshold estimates.

Table 29: Poverty Incidence “before and after” the project

BILIRAN, BILIRAN	POVERTY THRESHOLD ESTIMATES		BEFORE THE PROJECT		AFTER THE PROJECT	
	2005	2007	No.	%	No.	%
Estimates	12,346.00	12,870.00				
Below Poverty Threshold			29	58.00	4	26.67
Above Poverty Threshold			21	42.00	11	73.33
Total			50	100.00	15	100.00

\*2007 NSCB regional estimates was used since estimates for 2008 is not available

## 5. Qualitative Assessment

Frequency distribution of the project expectations of farmer-respondents is presented in Table 30. Most of the respondents (53%) said that they expect that the project will help and support them. Twenty-six percent of them anticipated having livelihood and employment to the members and 13% believed that it will help increase their income. Only 6% said that it will provide training and additional knowledge to them.

**Table 30: Pre-project expectations of farmer-respondents**

Expectations	Biliran, Biliran	
	Freq	%
Help increase income and production/provide extra income	2	13.33
Provided training to the members and increase knowledge/capability	1	6.67
Reduce poverty/improve living condition in coop & community	0	0.00
Can give livelihood & employment to the coop members	4	26.67
Help and support the coconut farmers	8	53.33
To become successful with the COGENT project	0	0.00
Total	15	100.00

Results show in Table 31 that 80% of the respondents agreed that expectations were realized after the project. It is expected because all the project components were implemented in the area. Thirteen percent did not give an answer and only 6% answered negative response.

**Table 31: Responses on whether farmers' expectations of the project were realized**

Answer	Biliran, Biliran	
	Freq	%
Yes	12	80.00
No	1	6.67
No answer	2	13.33
Undecided	0	0.00
Total	15	100.00

The responses of the farmers regarding the goals, objectives and activities of the project are presented in Table 32. Based on the results, increase income ranked the highest percent share of 73% followed by increase biodiversity with 13%. Food security enhancement and food nutrition empowerment were the least with 6% each. Similarly, the increase income got the highest percentage considering that the focus of the PRCGC project is on income-generating activities.

**Table 32: Responses of farmer-respondents on goals, objectives and activities of the project**

Objectives	Biliran, Biliran	
	Freq	%
Increase income	11	73.33
Food security enhancement	1	6.67
Food nutrition empowerment	1	6.67
Increase biodiversity	2	13.33
Total	15	100.00

As presented in Table 33, the 73% of the farmer-respondents gave a positive response while 13% were obtained from “no” and 13% did not give an answer. Within the 3-year period of the project, the affirmative responses of the 73% respondents implied that there was already a significant project impact.

**Table 33: Responses of farmers on whether project objectives were achieved**

Answer	Biliran, Biliran	
	Freq	%
Yes	11	73.33
No	2	13.33
No answer	2	13.33
Too early to tell/Not yet	0	0.00
Undecided	0	0.00
Total	15	100.00

With regards to farmers’ perception of the projects’ impact on the improvement of the economic condition of the community, 86% of the respondents affirmed that there was improvement in their condition after the project. Some of them (6%) said that there was no impact on their economic condition and others (6%) did not give answer (Table 34).

**Table 34: Farmers’ perception of the impact of the project on their own economic conditions**

Answer	Biliran, Biliran	
	Freq	%
There was improvement	13	86.67
No improvement	1	6.67
No answer	1	6.67
Undecided	0	0.00
Too early to tell/Not yet	0	0.00
Total	15	100.00

There were suggested ways on how the project improved the economic conditions of the farmers. Some of these were increase income and provide extra income with the highest percentage of 53% (Table 35). Other ways include provided training and additional knowledge (23%) and help and support the coconut farmers (23%).

**Table 35: Farmers’ perception on the ways the project improved their own economic conditions**

Answer	Biliran, Biliran	
	Freq	%
Increase income and provide extra income	7	53.85
Provided training and additional knowledge	3	23.08
Help and support the coconut farmers	3	23.08
Total	13	100.00

Based on the responses presented in Table 36 regarding the issue of sustainability, affirmative response was 66.67% and no answer was only 13.33%. This data is above average and yet to be proven after five years. Sustainability can only be attested when the income from the four income-generating activities will follow an increasing trend. The result of this survey can only be a basis of projecting the possibility of project efficiency.

Table 36: Responses on whether the project could be sustained after the technical assistance and fund support of PCA-COGENT are terminated

Answer	Biliran, Biliran	
	Freq	%
Yes	10	66.67
No	2	13.33
No answer	3	20.00
Total	15	100.00

## 2.4.4 MAITUM, SARANGANI

### 1. Socioeconomic Profile

Among the four COGENT’s PRCGC project CBOs under the DA-BAR funding, FEIMCO is considered as a well-organized and strong group with available livelihood capital needed to achieve a socioeconomic development in a coconut growing community. This cooperative is a close-type Agrarian Reform Community (ARC) of the Department of Agrarian Reform (DAR). The PCA implemented the PRCGC project in this community in partnership with DAR. In the same manner that United Nations Development Programme (UNDP) provided support to this community through a Biodiversity Conservation Project. Thus, the project focused on conservation and community livelihood in a coconut growing community.

For the socioeconomic profile of the CBO as shown in Table 37, the agricultural land increased but the coconut area planted with coconuts did not increase. The reason for this, the project area of FEIMCO is already fully-planted with coconuts even before project

implementation and, the seedlings raised in the nursery were sold to the adjacent farm areas to comply with the project requirement of planting at least 3 coconut seedlings per member per year. The average income was doubled as compared with the baseline (from Php 20,102 to Php 43,212) after 3 years of project implementation. The most notable change in this CBO was the total assets accumulated from the support of COGENT and UNDP that increased to a total of Php 11,887,049 from the baseline data which is Php 11,055,958.

**Table 37: Socioeconomic Characteristics of Fleischer Estate Integrated Multipurpose Cooperative (FEIMCO) in Brgy. Old Poblacion, Maitum, Sarangani at the start and end of the project**

Indicators	FEIMCO (Maitum, Sarangani)	
	Before	After
Membership	104 members	104 members + 253 associate members
Age Group	46-70 years old	41-60 years old (57%)
Gender (M:F)	80.24	68.21
Household Size	3-6 members	3-6 members
Civil Status	Mostly married	Mostly married (68%)
Education	High school level (41%)	Elementary (54%)
Religion	Catholic	Catholic (74.2%)
Land Size	214.7 ha	300 ha
Coconut Area	175 ha	250 ha
Land Ownership	Collective ARB	Landowner (30.0%)
Ave. Farm Size	1.8 ha	1.8 ha
Ave. Production	51-60 nuts	61-70 nuts
Ave. Income / year	Php20,102	Php43,212.81
Total Assets (Php)	Php11,055,958	Php11,887,049



**Plate 8: FEIMCO members in Maitum, Sarangani**

An inventory of sustainable livelihood capital was also conducted to assess the resource base and to be used as a guide in PRCGC project implementation (Table 38). There was an increase in terms of the skills/trainings conducted before and after the project. Based on the average age level of the respondents, the work capacity ranged from 67%-70% are 60 years old and below. For social capital, the CBO based on the responses gathered, they can acquire loan from UCPB, CIIF and LBP. It can be seen from Table 44 the drastic increase of savings from Php2,451 to Php43,292.25 and gradual increase of assets and capital build-up. It can be speculated that the socioeconomic status of the CBO gained positive results from the project.

**Table 38: Existing Sustainable Livelihood (SL) Capitals in the four selected CBOs “before”the PRCGC project implementation**

Indicators	FEIMCO (Maitum, Sarangani)	
	Before	After
Human Capital		
Skills/Trainings	4 trainings	10 trainings
Education	41% high school level	54% elementary
Work Capacity	67% 60 years old below	70% 60 years old below
Natural Capital		
Land	214.7 ha	300 ha
Production	175 ha 67 nuts/tree	250 ha 67 nuts/tree
Social Capital		
Networks	FIFATIMCO, LGU, ADB-DAR, DTI, SCFO	FIFATIMCO, LGU, ADB-DAR, DTI, SCFO, CARGILL, COGENT
Credit/Loans	UCPB, CIIF, LBP	UCPB, CIIF, LBP
Leadership	Democratic	Democratic
Physical Capital		
Infrastructure	roads, warehouse, solar driers	with some improvements
Water Supply	STW and free flowing SOCOTECO	STW and free flowing SOCOTECO
Power Supply	SOCOTECO	awaiting for the 3-phase electric line
Financial Capital		
Savings	Php2,451	Php43,292.25
Assets	Php11,055,958	Php11,887,049
Capital build-up	Php3,769,795	Php4,414,126

## 2. Adoption of Technology

Table 39 shows the frequency and percentage adoption of the coconut-based technologies: nursery, high value products, intercropping and livestock. The technology adopted by most of the farmers is intercropping. Eighty-eight percent or 79 out of 89 farmer-respondents adopted the technology while 73% or 65 farmers adopted livestock integration. In the case of high-value products, there are only 17 adopters or 19% of the respondents. Nursery management was not considered as household activity; since, this activity was directly managed by the cooperative as a communal nursery and the seedlings were sold to the members and other interested farmers. This activity served as income-generating activity of the cooperative to increase the financial assets of the CBO. This will also ensure quality seedlings distributed to the members and other interested farmers.

**Table 39: Frequency & percentage of adoption of coconut farmers by technology in Maitum, Sarangani**

TYPE OF TECHNOLOGY	Maitum	
	No.	%
Coconut Nursery		
Adopted	0	0.00
Not Adopted	89	100.00
Total	89	100.00
Coconut High Value Products		
Adopted	17	19.10
Not Adopted	72	80.90
Total	89	100.00
Coconut Intercropping		
Adopted	79	88.76
Not Adopted	10	11.24
Total	89	100.00
Livestock Integration		
Adopted	65	73.03
Not Adopted	24	26.97
Total	89	100.00



Plate 9: Coconut Intercropping (Maitum, Sarangani)



Plate 10: Coconut High Value Products

### 3. Poverty & Income Inequality

#### a. Effect on Farm Income

The farm income structure (“before” and “after” the project) is shown in Table 40. Before the implementation of the project, the coconut farmers from Maitum, Sarangani had a high average farm income already of about Php20,578.35 per year. This is because the CBO was already engaged in some agro-trading enterprise such as copra buying and charcoal making. However, based on this study, the farmers remained to have a high average annual farm income of Php43,212.81. It was observed that their farm income was doubled. The increase in the average farm income was highly significant at 1% probability level indicating that the project has a significant effect in increasing farm incomes of the coconut farmers. Results of the study show that prior to project implementation and after the project, the highest share of the total income is from coconut production and processing and an increase of income share from intercropping was recorded. Considering that intercropping is one of the major components of the PRCGC project, the farm households were convinced of the added income that can be generated from this activity. Hence, most of the respondents had significant increase in their farm income and about 34% increase income share was obtained.

**Table 40: Farm Income Structure “before and after” the project**

MAITUM, SARANGANI	Before the Project (In Pesos)		After the Project (In Pesos)		
	Value	%	Nominal Value	Real Value	%
Total Farm Income	20,578.35	100	48,143.39	43,212.81	100
Coconut production/ Processing	18,288.22	89	24,818.31	22,276.56	52
Intercrop production	2,053.66	10	21,364.15	19,176.15	44
Livestock production	236.47	1	1,960.93	1,760.10	4

\*Adjusted to 2002 values using CPI with 2002 as base year

**b. Effect on Income Inequality**

Table 41 shows the results of the income distribution analysis of the farmer-respondents in Maitum, Sarangani. In comparison with the other three project sites, farm incomes of the farmer-respondents in Maitum are equitably distributed among the five groups. Disparity in the percent shares of income groups is relatively minimal. The lowest 20% farm income group had a 9.42% share to total income which is very high compared to the other project sites which only had less than 5% share of the total income. Moreover, the lower 80% of the farm income groups had a share of 68.12% (Php1,191,614.79) of the total income (Php1,749,159.39) while the highest 20% farm income group had a 31.88% share. Relatively, this clearly indicates a highly equitable income distribution in Maitum among the four project sites “before” the project was implemented.

Farm incomes of farmer-respondents in Maitum also had significantly increased “after” project implementation. The bulk increase in income came mainly from intercrop production in which almost all of the farmer-respondents have adopted the technology. Total farm income increased from Php1 749,159.39 to Php 3,673,088.98 “after” the project. However, analysis on the income distribution “after” the project shows that there was a decline in percent shares to total income of the lower 80% of the farm income groups. Its percent share decreased by almost 4 percentage points from 68.12% to 64.59% “after” the project. Percent shares of the different income groups in the lower 80% also decreased. On the other hand, the percent share of the highest 20% income group increased from 31.88% to 35.41% “after” the project contributing to an unequal income distribution among the farmer-respondents. These observations were further validated by the computed Gini ratios and the Lorenz curves “before” and “after” the project.

**Table 41: Income Distribution Analysis “before and after” the project**

Group of Farmers by Income	Basic Data		Data for Lorenz Curve	
	Share of Total Income (P)	Share in Percent	Cumulative Percentage of Income	Cumulative Percentage of Farmers
Before the Project				
Lowest 20%	164,772.83	9.42	9.42	20
Second 20%	268,135.50	15.33	24.75	40
Middle 20%	345,877.05	19.77	44.52	60
Fourth 20%	412,829.41	23.6	68.12	80
Highest 20%	557,544.60	31.88	100	100
Total	1,749,159.39	100		
After the Project				
Lowest 20%	345,226.06	9.4	9.4	20
Second 20%	520,961.13	14.18	23.58	40
Middle 20%	653,539.23	17.8	41.38	60
Fourth 20%	852,539.23	23.21	64.59	80
Highest 20%	1,300,573.53	35.41	100	100
Total	3,673,088.98	100		

Figure 4 shows the Gini ratios and the Lorenz curves of the farmer-respondents in Maitum, Sarangani. As observed earlier, income distribution in Maitum project site were highly equitable as indicated by the Gini ratios of 0.21 and 0.24 before and after the project, respectively. Among the four project sites, it has also the most highly equitable income distribution. Furthermore, the graph also shows the decline in income inequality after the project implementation. It can be observed that the income distributions of the lower 40% of the farm income groups were almost similar before and after the project. It is in the upper 60% of the farm income groups where the decline in income inequality can be observed. The Lorenz curve after the project, as clearly depicted in the graph, bowed out starting from 40% to about 90% of the farm income groups. There was an overall decline of income inequality by 3 point difference based on the computed Gini ratios.

Nevertheless, the Maitum project site remained to have the most highly equitable income distribution among the four project sites after the project implementation. It experienced a decline in income inequality after the project but remained to have a relatively and highly equitable income distribution.

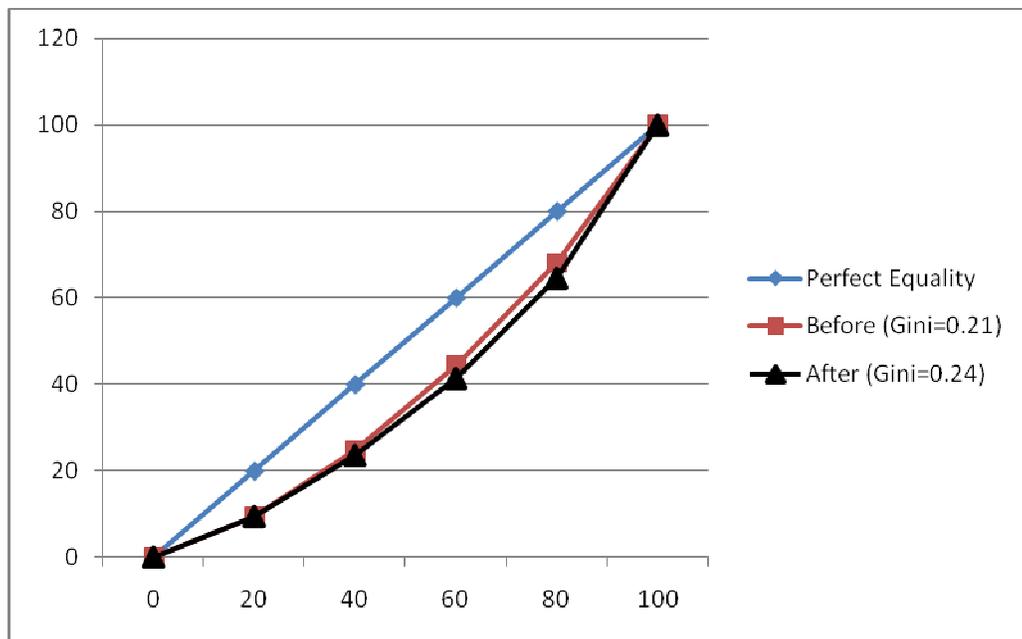


Figure 4: Lorenz Curve of Maitum, Sarangani

#### 4. Poverty Incidence

As shown in Table 42, only 18% of the farm-household-respondents in Maitum, Sarangani had incomes below the poverty threshold of Php11,719 in the year 2002 before the project implementation. It can be noted that the project site was observed to have low poverty incidence of only 2% after the project. Considering that Maitum has an established cooperative

before the start of the project and thus received limited project funding support, the project activities were undertaken using the existing cooperative funds particularly in fiber production. As such, the impact was not as highly significant at household level as compared with the organization or cooperative as a whole. In this case, the cooperative is the key factor in the major economic changes in the livelihood of the CBO. The strong points of FEIMCO as project implementer can be attributed with the well-organized structure and the sustainable capitals already available prior to project implementation.

**Table 42: Poverty Incidence “before and after” the project**

MAITUM, SARANGANI	POVERTY THRESHOLD ESTIMATES		BEFORE THE PROJECT		AFTER THE PROJECT	
	2002	2004	No.	%	No.	%
Estimates	11,719.00	11,276.00				
Below Poverty Threshold			15	18	2	2
Above Poverty Threshold			70	82	83	98
Total			85	100	85	100

## 5. Qualitative Assessment

In Maitum, Sarangani, 23.97% of the respondents raised increased income as the common expectation from the project as presented in Table 43. Similarly, trainings and household employment were also expected of the project with 25.34% and 22.60%, respectively.

**Table 43: Pre-project expectations of farmer-respondents**

Expectations	Maitum, Sarangani	
	Freq	%
Help increase income and production/provide extra income	35	23.97
Provided training to the members and increase knowledge/capability	37	25.34
Reduce poverty/improve living condition in coop & community	18	12.33
Can give livelihood & employment to the coop members	33	22.60
Help and support the coconut farmers	0	0
To become successful with the COGENT project	0	0
Total	123	84.24

As shown in Table 44, whether the expectations were realized, affirmative responses were the highest with 68.54%.

**Table 44: Responses on whether farmers' expectations of the project were realized**

Answer	Maitum, Sarangani	
	Freq	%
Yes	61	68.54
No	17	19.1
No answer	10	11.24
Undecided	1	1.12
Total	89	100

As presented in Table 45, results show that 75.28% of the respondents agreed that objectives were realized after the project implementation although limited activities were initiated at household level since some of the project activities were handled by the CBO.

**Table 45: Responses of farmers on whether project objectives were achieved**

Answer	Maitum, Sarangani	
	Freq	%
Yes	67	75.28
No	13	10.11
No answer	9	10.11
Too early to tell/Not yet	0	0
Undecided	4	4.49
Total	89	100

Regarding farmers' perception of the PRCGC's impact on the improvement of the economic condition of the community, 79.78% of the respondents affirmed that there was improvement in their condition after the project was implemented as presented in Table 46. These results are conformed to the quantitative data presented in terms of poverty reduction income improvement.

**Table 46: Farmers' perception of the impact of the project on their own economic conditions**

Answer	Maitum, Sarangani	
	Freq	%
There was improvement	71	79.78
No improvement	13	14.61
No answer	2	2.25
Undecided	2	2.25
Too early to tell/Not yet	1	1.12
Total	89	100

Based on the self-assessment of the CBOs on their capability to sustain the project, the issue of sustainability after the fund support and technical assistance of the agencies are phased out was posed to the respondents. The results show that 78.65% of the farmers gave positive

responses (Table 47). These results can be attributed to the efficiency in the performance of the CBO as an organization in implementing the project activities.

In summary, the CBO of Maitum has high potential to sustain the PRCGCs vision for the community and sustainability of the project activities established can be ensured if the CBO will stick to the values as social capital and enhance the available assets as physical and financial capitals to achieve socioeconomic development of the CBO members of FEIMCO. The contributions of the project are additional opportunities and what are important are the people in the community as rural cooperative partners in establishing agribusiness venture.

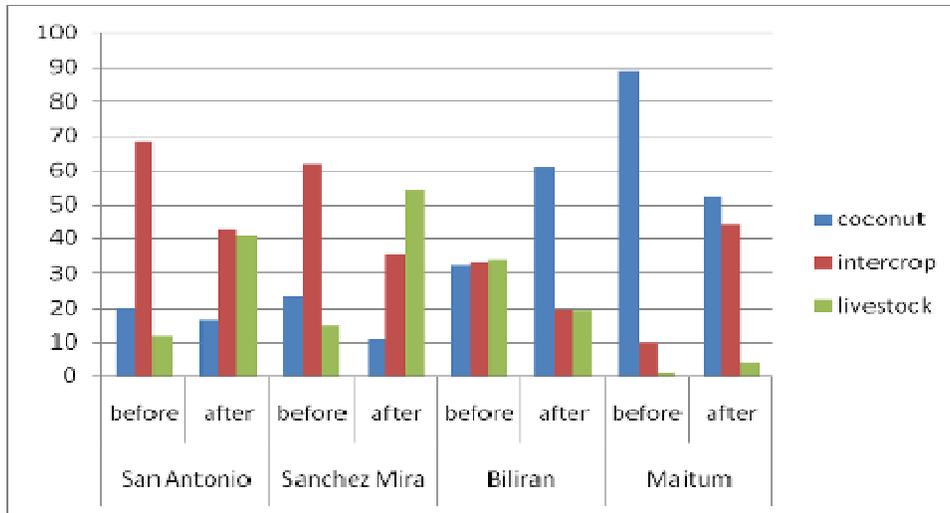
**Table 47: Responses on whether the project could be sustained after the technical assistance and fund support of PCA and IPGRI-COGENT are phased out**

Answer	Maitum, Sarangani	
	Freq	%
Yes	70	78.65
No	12	13.48
No Answer	4	4.49
Undecided	3	3.37
Total	89	100.00

## 2.5 Summary and Conclusion

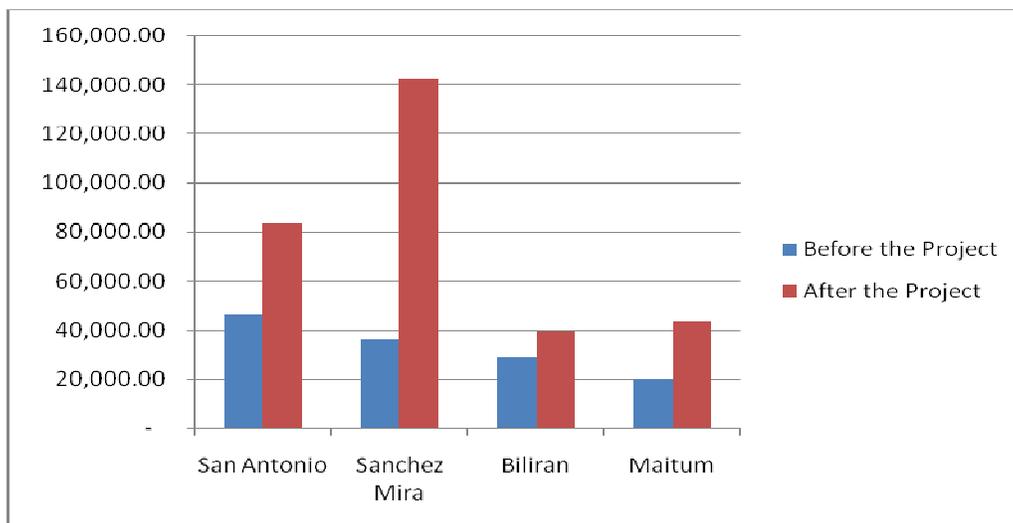
Generally, results show that intercropping and livestock integration are the most commonly adopted among the four project sites (Figure 5). Assumption that can be made is the available expertise of the farmers on the use of this technology and the immediate income from these project interventions.

It should be pointed out that intercropping and livestock integration are individual activities and these have the potential of being participated in by large number of members. On the other hand, nursery management is a group activity and as the number of nurseries was limited to two per community and the number of participants in this income generating cannot be maximized as only a few people are needed to maintain and managed this activity, the number of adopters were therefore constrained. Similarly, for the production of coconut high-value products which is further restricted by the limited number of village-level machineries and equipment for coconut processing.



**Figure 5 : Percent Share of Farm Income by Source and by Project Site**

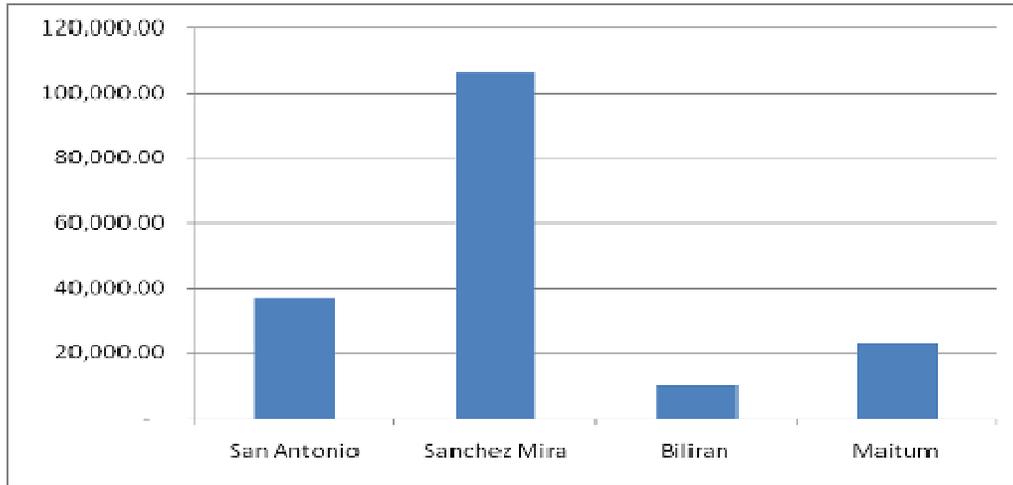
Figure 6 shows the farm income of the four project sites before and after the project. On the average, total farm incomes in all project sites doubled after the project implementation. This illustrates the effectiveness and appropriateness of the PRCGC project in alleviating the poverty situation of the poorest among the poor. San Antonio, Quezon had the highest farm income of Php 46,472 before the project implementation followed by Sanchez Mira, Cagayan with Php36,231, Biliran, Biliran with Php29,149 and Maitum, Sarangani with the lowest income of Php20,102. It can be noted that Sanchez Mira exhibits a drastic increase in terms of income after the project from Php36,231 it goes up to Php142,300. Farm income of San Antonio and Maitum also doubled. Biliran had the lowest income after the project implementation but still it increased by almost Php10,000.



**Figure 6: Farm Income by Project Site Before and After the Project**

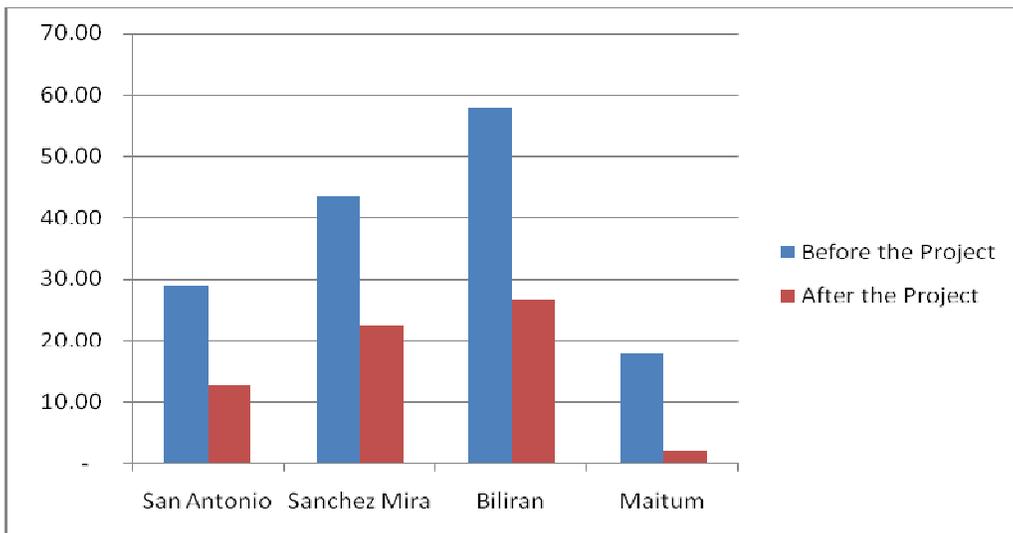
Changes in farm income in all project site is presented in Figure 7. Coconut farmers in Sanchez Mira enjoyed an increase in farm income by more than Php100,000 after the project.

Farmers' income in Biliran increased by only about Php10,000. San Antonio and Maitum also increased by about Php40,000 and Php20,000, respectively.



**Figure 7: Change in Farm Income by Project Site Before and After the Project**

As depicted in Figure 8, there was a large difference between the poverty incidence before and after the project. Biliran had the highest percentage share (58%) in terms of poverty incidence before the project. In Maitum, only 18% of the coconut farmer-respondents were below poverty threshold. Farmers in San Antonio and Sanchez Mira had 29% and 43% poverty incidence level, respectively. After the project, it was observed that poverty incidence have declined dramatically. Only 2% in Maitum was living below poverty level. Poverty incidence in Biliran, San Antonio and Sanchez Mira decreased by almost half.



**Figure 8: Percent Share of Poverty Incidence by Project Site Before and After the Project**

On the average, the computed Gini ratio increased on three project sites namely: San Antonio, Sanchez Mira and Biliran except Maitum wherein there was a decrease after project

implementation. Nevertheless, only Maitum remained to have the most highly equitable income distribution among the project sites (Figure 9). The project had its greatest impact in Biliran in terms of improvement on income inequality. It had a 13-point difference in Gini ratio after the project while San Antonio and Sanchez Mira had a one and two point increase, respectively.

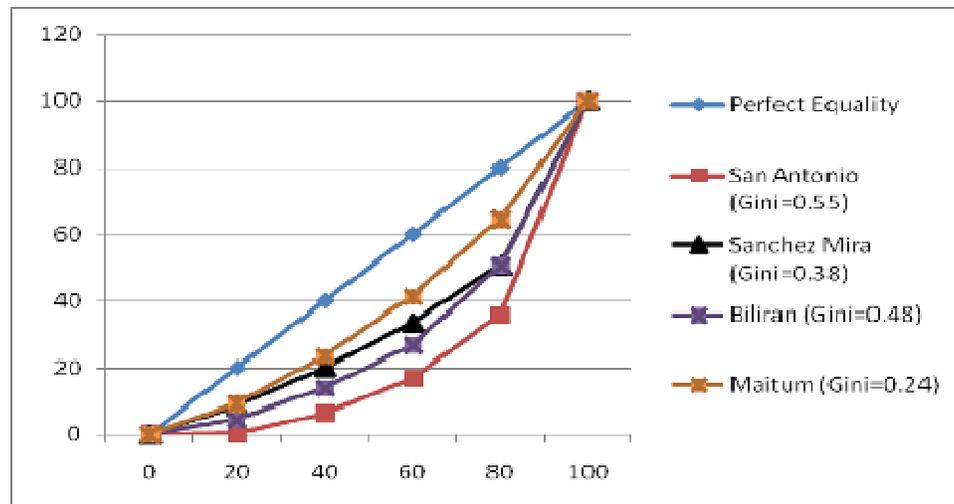


Figure 9: Lorenz Curve of the four project sites after the project

## 2.6 Bibliography

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### 3. PROJECT MANAGEMENT

#### 3.1 Summary of Yearly Comments of Evaluators and Actions Taken by Researcher

Comments	Actions
The project has many accomplishments in line with the project objectives and terms of reference.	Matrix prepared per project site and specific trainings attended.
The report does not contain a summary on the targets side by side with the accomplishments.	Specific work targets for each site included in the Summary of Project Accomplishments and Deficits.
<p>The project objectives as written in the progress report mostly indicate that the project is more of a research project.</p> <p>Regarding specific objective, it is not what indicators will be used by the project to determine the accomplishment of the objective.</p>	<p>Already revised and commented by the evaluators.</p> <p>The profitability analysis of each livelihood project is the key indicator to measure the transformation and the marketing of the products in terms of sales. An impact assessment protocol was already developed by the project leader.</p>
It is not possible that the use of nutritionally adequate meals may have different meaning to the respondents. Thus, the answers of the respondents may not be comparable.	The project has a consultant on this and the matter will be referred to her.
On introducing technologies and equipment, the equipment will be used by the beneficiaries while its ownership will remain to the project. It was not mentioned on the plan that the equipment will be turned over to the beneficiaries after the project or if the beneficiaries should pay for the cost of the equipment.	To be considered.
The linkages developed with the LGUs and donor agencies are one of the outstanding accomplishments of the project. This will help in the sustainability of the activities.	No allotment for this activity.
One of the common problems in the four project areas is the unavailability of breeder to assist the project participants in the characterization.	Will recommend to the management.
Aside from information dissemination and process documentation, there is no plan to develop or recommend a strategy that will encourage replicability and upscaling of the technologies or enterprise found to be viable.	Documentation is a component of the project.

## **3.2 Problems Encountered and Recommendations**

### **3.2.1 Technical**

In the implementation of the project, one of the technical problems encountered was the limited training for the field staff or Community Coordinators (CCs) on the monitoring, marketing and coordination aspect of the project. Most of the training component was geared towards the skills development of the CBOs. The CCs had tough times in implementing these activities and thus, the CCs became too dependent to the Technical Coordinators who did most of the reporting and coordination works. Preparing the CCs in project management and coordination prior to implementation would be more effective considering that they are the ones directly facilitating the project activities at the ground level. Moreover, the facilitation skills of the CCs on a participatory manner should have been enhanced to effectively implement a bottom-up approach socioeconomic research in coconut growing communities.

### **3.2.2 Administrative**

This problem is unavoidable and not within the control of the project management. The usual problems encountered are: a) delays of allotment from the mother unit to the field offices b) procurement processes and other related accounting rules which are not flexible c) movement of personnel which can affect the project implementation, and d) lack of clear policies between the implementing agency and the funding agency in terms of commitment to the project requirements.

## **3.3 Summary of the Project**

There are four major coconut-based farming strategies introduced, tested and implemented in the four project sites. These include nursery establishment, high-value product processing, intercropping and livestock integration. In terms of total farm incomes, all project sites doubled after the project implementation. San Antonio, Quezon had the highest farm income of Php 46,472 before the project implementation followed by Sanchez Mira, Cagayan with Php36,231; Biliran, Biliran with Php29,149; and Maitum, Sarangani with the lowest income of Php20,102. It can be noted that Sanchez Mira exhibits a drastic increase in terms of income to Php142,300 after the project. Farm income of San Antonio and Maitum also doubled. Biliran had the lowest income after the project implementation but still it increased by almost Php10,000.

On the average, the computed Gini ratio increased on three project sites namely: San Antonio, Sanchez Mira and Biliran. In Maitum there was a decrease after project implementation. Nevertheless, only Maitum remained to have the most highly equitable income distribution among the project sites. The project had its greatest impact in Biliran in terms of improvement on income inequality. It had a 13-point difference in Gini ratio after the project while San Antonio and Sanchez Mira had a one and two point increase, respectively.

There was a large difference between the poverty incidence before and after the project. Biliran had the highest percentage share (58%) in terms of poverty incidence before the project. In Maitum, only 18% of the coconut farmer-respondents were below poverty threshold. Farmers in San Antonio and Sanchez Mira had 29% and 43% poverty incidence level, respectively. After the project, it was observed that poverty incidence have declined dramatically especially in Biliran, San Antonio and Sanchez Mira which decreased by almost half. Only 2% in Maitum were living below poverty level. The results of this research study demonstrate that integrating the four income-generating activities and diversifying products and by-products from coconut would be the logical solution in alleviating the marginalized coconut farmers from poverty. Indicators such as income, poverty level and income distribution proved that given the sustainable livelihood capitals and adopting the four-pronged strategies, the coconut farmers need not be poor.

### **3.4 Financial Report**

The Bioversity International certified financial report is attached.