



MIDTERM EVALUATION REPORT

Philippine Cold Chain Project

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LIST OF ACRONYMS

ADN	Agusan del Norte
ADS	Agusan del Sur
BMFI	Balay Mindanaw Foundation, Inc.
CCAP	Cold Chain Association of the Philippines
COT	Community Organizer-Technician
DA	Department of Agriculture
DA-BAS	DA – Bureau of Agricultural Statistics
DI	Dinagat Islands
DTI	Department of Trade and Industry
FAS	Foreign Agricultural Service
FGD	Focus Group Discussion
FICCO	First Community Cooperative

GCCA	Global Cold Chain Alliance
KII	Key Informant Interview
MAO	Municipal Agriculture Office
M&E	Monitoring and Evaluation
OPA	Office of the Provincial Agriculturist
PANC	Pilmico Animal Nutrition Corporation
PCCP	Philippine Cold Chain Project
PFU	Provincial Field Unit
PG	Producer Group
PMO	Project Management Office
PMP	Performance Management Plan
PSA	Philippine Statistics Authority
SDN	Surigao del Norte
SDS	Surigao del Sur
SEAFDEC	Southeast Asian Fisheries Development Center
USDA	United States Department of Agriculture

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1. EXECUTIVE SUMMARY

The objectives and target results of PCCP remain responsive to the needs of target beneficiaries and planned project activities are aligned to these objectives and target results. The project remains as relevant as it was when conceptualized to the regional context, national agriculture and fisheries development thrusts, and USDA in-country objectives.

The core project strategy of capacity building, all along the value chain of the agricultural production unit treated as a firm, remains sound and coherent even if implementation was delayed at the post-harvest handling, processing, and marketing side.

The project strategy of working with producer groups, while based on an assumption that has proven to be not entirely the case (that is, it turned out that many of the producer groups already existing before the project were actually weaker than expected), still remains valid. But it has become more challenging. And it is unlikely that a uniform level of organizational maturity can be achieved.

The strategic partnerships with FICCO, East-West Seeds, Pilmico, and SEAFDEC have significantly contributed to project success. East-West and Pilmico, with their product development and technical expertise and with their network of outlets, have improved the supply chain and productivity of farmers. To a lesser degree SEAFDEC, which had limited presence in Caraga before the project and which is not an agribusiness, has done too for fishers. And FICCO, through credit financing, has helped increase the number of adopters and scale up production.

The guarantee fund with FICCO was an effective way for the project to leverage its resources. Having convinced FICCO to increase its agricultural, aquaculture, and livestock loan products in terms of commodities, borrowers, and loan amount was a major project accomplishment.

The most notable success of the project so far in terms of increasing productivity was in spurring the growth of the lobster industry in Caraga. The project has also contributed to improved food security in its directly-covered barangays, significantly reducing the incidence of hunger from 71.7% to 49.1%.

In terms of specific target results, the following table shows the project's midterm accomplishment:

HIGH PERFORMANCE	MEDIUM PERFORMANCE	LOW PERFORMANCE
Reaching the number of PGs to work with	Strengthening weak PGs	Provision of grants for inputs
Development of sources of improved inputs	Promotion of gender inclusion	Provision of grants for equipment
Training in improved production techniques and technologies	Training on financial services	Distribution of promotional materials in aid of training
Training in short-term productivity or food security	Provision of loans	Training in post-harvest handling or storage
Information campaign on improved market and food safety	Making specific improved inputs available	Training on sanitary and phytosanitary standards

Training in market analysis and productivity	Getting producers to use improved inputs	Installation of additional storage capacity
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HIGH PERFORMANCE	MEDIUM PERFORMANCE	LOW PERFORMANCE
Strengthening of trade associations	Getting producers to adopt improved production techniques and technologies	Promotion of the use of cold chain
International trade missions	Agricultural forums	Reduction of post-harvest losses
	Training on quality and regulatory certification	Training in processing
	Development of sources of improved market information	Formation of public-private partnerships
	Provision of access to current market information or good practices	Generation of investments in public-private partnerships
		Training in marketing
		Creation of improved trade capacity
		Trade association events
		Buyer-seller events
		Production areas under improved techniques or technologies
		Jobs generation

The following indicators have not been sufficiently tracked so the accomplishment cannot be gauged: Increase in revenues from agricultural products at farm-gate, Market value increase of agricultural products sold by assisted associations, agricultural products certified as meeting international standards, and decrease in total harvest lost during post-harvest / transit by farmers.

Project accomplishment can be summarized as strong in the input side and in production but lacking in post-harvest handling, storage, processing, and marketing. The project is strong in trainings but still lack the follow through to increase adoption rates.

The key recommendations are:

- To rationalize organizational capacity building because it is delaying the implementation of technical capacity building for improved productivity, to some extent, and expanded trade, to a large extent.
- To consistently build up capacity all along the value chain as the project cannot afford to let the current situation, where capacities at the input and individual production sides are high but low elsewhere, persist for long.
- To more aggressively pursue targets where it has low performance
- To propose adjustment of certain targets if, despite increased effort or because of changes in assumptions, they are not likely to be achieved. Specifically:
 - Reducing the number of grants for inputs from 200 to 120 and grants for equipment from 250 to 170 because of bigger amounts per grant

- Integrating training on sanitary and phytosanitary standards in other trainings but allocating 30 trainings for suppliers
- Reducing the number of public-private partnerships to be formed from 12 to 2 but recognize as additional targets 24 project-public partnerships and 24 project-private partnerships
- Reviewing how far the beneficiaries-chain extends in the case of persons having access to improved market information and in the case of indirect project beneficiaries
- To give immediate attention to practical marketing needs of producers, such as finding specific buyers, even while addressing market development and trade expansion at a strategic level
- To study how risk-reduction and resilience-building specifically for agricultural livelihood can be addressed in the project
- To review the PMP to sharpen the definition of indicators and improve targeting and monitoring

2. INTRODUCTION

The purpose of the midterm evaluation was to: assess progress in implementation; assess the relevance of the interventions; provide an early signal of the effectiveness of interventions; determine if the project is on track to achieve expected results; document lessons learned; assess sustainability efforts to date; and discuss and recommend mid-course corrections, if necessary.

The midterm evaluation assessed areas of project design, implementation, management, lessons learned and replicability in order to recommend mid-course corrections in project programming, approaches and strategies so that intended outcomes and results would be achievable.

The midterm evaluation objectively reviewed project implementation by different participants, assessed whether targeted beneficiaries were receiving services as expected, assessed whether the project was on track to meeting its stated goals and objectives, and reviewed the results frameworks and assumptions.

It is expected that the midterm evaluation would help Winrock draw lessons that can serve as reference in designing and implementing similar complex value-chain programs in the future.

The scope of the midterm evaluation was determined by the strategic objectives and target results of the Philippine Cold Chain Project (PCCP).

Strategic Objective 1: Increased Agricultural Productivity

Target Results:

- 1.1. Improved capacity of key groups in the agriculture production sector (crops and small shareholder farmers);
- 1.2. Increased use of improved agricultural techniques and technologies;
- 1.3. Increased access to improved market information;
- 1.4. Increased availability of improved inputs;
- 1.5. Increased knowledge by farmers of improved agricultural techniques and technologies.

Strategic Objective 2: Expanded Trade of Agricultural Products

Target Results:

- 2.1. Increased access to improved market information;
- 2.2. Improved capacity of key organizations in the trade sector (processing organizations and trade associations);
- 2.3. Increased value added to post-production agricultural products;
- 2.4. Improved quality of post-production agricultural products;
- 2.5. Increased adoption of established standards by industry;
- 2.6. Increased efficiency of post-production processes;
- 2.7. Increased use of improved post-production processing and handling practices;
- 2.8. Improved post-harvest infrastructure.

[1.1.], [1.3.], [2.1.], and [2.2.] are considered by the project as foundational results. An additional result, common to both objectives, has been included and this is “increased use of financial services”.

The activities to achieve these objectives and results, the management of their implementation and of the entire project (including monetization as fund sourcing), the design of the project, and the assumptions behind the design were included as areas looked into in the midterm evaluation.

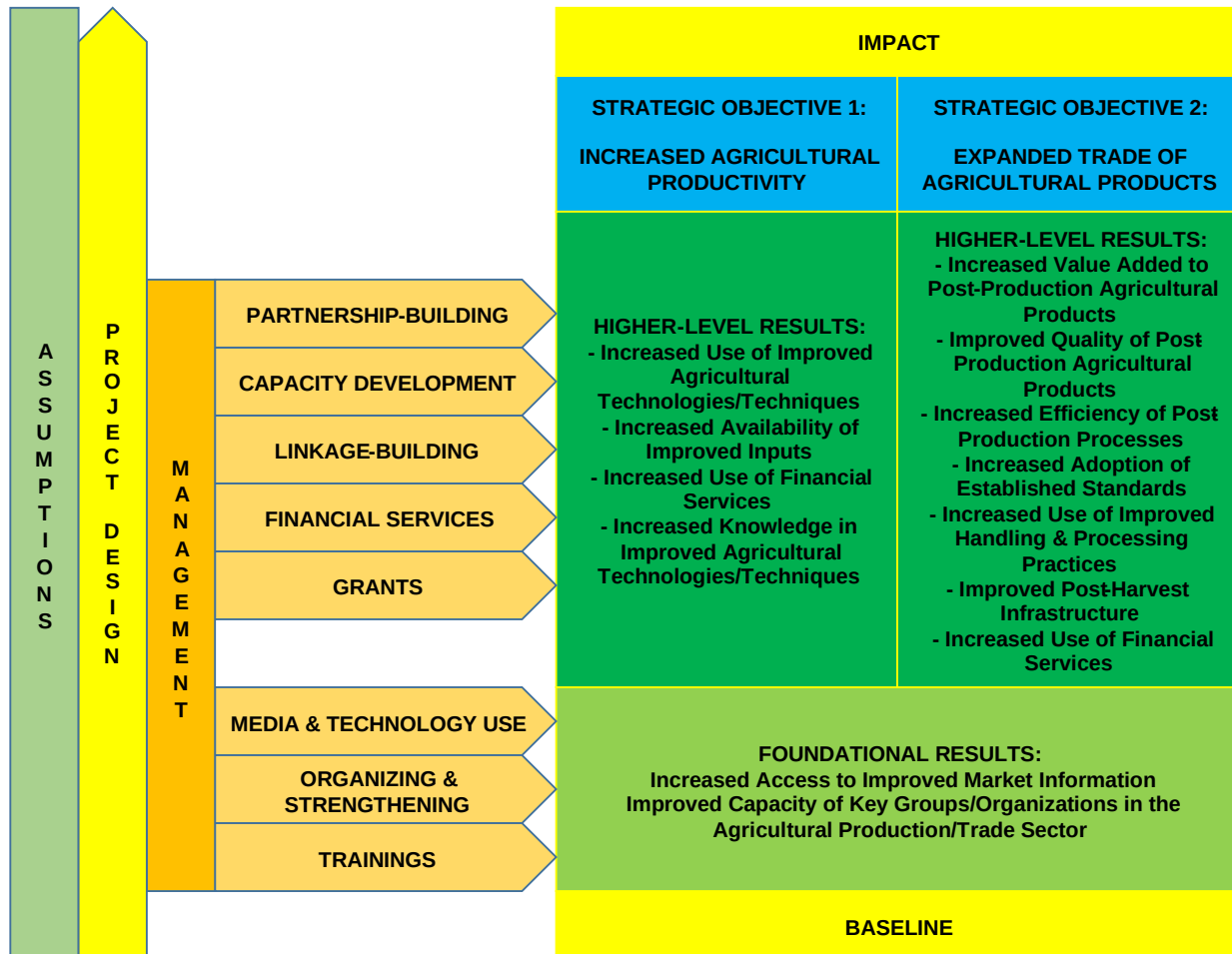


Figure 2-A. Evaluation Areas

The scope of the midterm evaluation was also determined by the following criteria set by the project: relevance, effectiveness, efficiency, sustainability, and impact.

The midterm evaluation identified the initial changes that indicated improvement of the socioeconomic condition of the participating beneficiaries as result of the opportunities created by the presence of the project. It also determined whether a proper exit strategy and sustainability plan were being integrated in the project design.

The period covered by the evaluation was from September 2013 to September 2015.

3. EVALUATION METHODOLOGY

3.1. Data Gathering

The following means were used to gather information in the course of the evaluation:

1. Review of baseline study
2. Focus group discussions
3. Midterm household survey
4. Key informant interviews
5. Research for secondary data
6. Review of provincial profiles & development plans
7. Review of project documents
8. Review of partners' reports and partnership contracts
9. Case studies

3.2. Focus Group Discussions

FGDs were conducted with the following sets of participants (Please see Annex A for the actual list of the groups.):

- Grant recipients
- Producer groups benefiting from improved post-harvest handling and storage
- Producer groups applying new post-production processing and handling techniques or technologies
- Producer groups considered by the project to be the most successful in their product category
- Producer groups considered by the project to be in the most challenging situation in their category
- Farmers acting as multipliers for hog dispersal
- Randomly selected producer groups
- Specialists from the Project Management Office
- Community organizer-technicians from the project's provincial field units

3.3. Midterm Household Survey

The household survey was conducted to: (1) capture the changes in household productivity and well-being brought about by the project; (2) revalidate beneficiary needs to assess the continuing relevance of the project; (3) determine adoption rates; and (4) gauge in a statistical manner how satisfied the target beneficiaries are with the project's activities and services, as well as with their own participation.

3.3.1. Instrument

There were three questionnaires used in the midterm household survey, a different one for each category (horticulture, livestock, and fishery), compared to two in the baseline survey (one for farmers and another for fishers). But the midterm survey used the data sets of the baseline survey, with a few additions.

The first part of all three questionnaires, consisting of 138 questions, were identical. The data sets were on basic needs and how they were being met, non-agricultural sources of income, household expenses, and civic participation. There were also data sets on satisfaction with the project and factors affecting adoption.

The second part had different phrasing or formulation of questions for each category but the data sets were actually similar. These were on: productive assets, inputs and sourcing (supply chain), production technology, production timing (seasonality), production data, post-harvest handling, cold-chain, processing, market chain, income and expense, and risks.

The questionnaires are being submitted as part of the evaluation report but in a separate volume entitled “Midterm Household Survey Questionnaires and Data Tables”.

3.3.2. Sample Size and Sampling

The midterm household survey had a confidence level of 95% and confidence interval of 5% for each of the three categories of project beneficiaries: those engaged in horticulture, those engaged in livestock, and those engaged in fishery. The consolidated results for all types of beneficiaries however had a confidence interval of 3%, same as in the baseline survey.

TABLE 3-1: Sample Size per Product Category

	Population	Sample Size
Horticulture	957	274
Livestock	2,035	323
Fishery	1,903	320
TOTAL	4,895	937

The sample for each category was proportionately apportioned per province based on the number of producers. In each province, producers’ groups were randomly selected. The provincial sample was then proportionately apportioned based on group size. The names of the barangays, as well as the sample sizes, are in Annex B.

TABLE 3-2: Randomly Selected Sites for Midterm Household Survey

	Horticulture	Livestock	Fishery	TOTAL
Agusan del Norte	7	5	1	13
Agusan del Sur	6	3	1	10
Dinagat Islands	0	0	7	7
Surigao del Norte	0	3	5	8
Surigao del Sur	1	7	5	13

TOTAL	14	18	19	51
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3.3.3. Methodology

The survey was conducted per selected producers' group in a group setting. Some respondents filled out their questionnaire as each question was read out and explained. Other respondents who had difficulty writing or computing were assisted by enumerators. To lessen the number of respondents needing assistance, choices for answers (based largely on the baseline survey) were given for most questions so all the respondent needed to do was to mark his/her choices; the need for computation was also minimized.

3.3.4. Processing

The survey results were first processed per category (horticulture, livestock, and fishery) before a consolidation was made.

The tabulated survey results are being submitted as part of the evaluation report in the form of four (4) Microsoft Excel electronic files.

3.4. Key Informant Interviews

The evaluation team interviewed (in person or via e mail) key stakeholders and informants knowledgeable about PCCP program operations. There were four sets of interviewees: (1) representatives of project partners; (2) members of the Project Management Office; (3) accredited suppliers of feeds, piglets, fingerlings, fry, or fishing supplies; and (4) grant applicants. The list of interviewees is in Annex C.

3.5. Case Studies

To highlight interesting challenges and successes in project implementation ten case studies were done. The case studies are being submitted as part of the evaluation report but in a separate volume entitled "Midterm Evaluation Case Studies".

3.6. Data Analysis

The following steps were undertaken to analyze data gathered through interviews, focus group discussions, document research, and household survey:

- a. Studying the project environment, the situation of the farming and fishing sectors, and the nature of the poverty of target farmers and fishers in order to assess the relevance of the project to the actual needs of target beneficiaries;

- b. Looking at the value chain of the different project indicator products to determine where project intervention was directed and assess how effective the project was in contributing to creating or adding value along the chain;
- c. Matching reported progress against targets to assess how far the project result indicators were being achieved, vis-à-vis midterm targets, and to project how far the final targets will be achieved if the trend continues; d. Identifying key success factors;
- e. Identifying key constraints and seeking explanation for the variance between performance and target;
- f. Studying changes in the procurement, production, and post-production handling practices, as well as the well-being, of assisted farming and fishing households to assess the direct impact of the project;
- g. Studying changes in the farming and fishing sectors to assess both the direct and indirect impact of the project;
- h. Looking into the performance of project sub-grantees to assess the effectiveness and efficiency of working through partners and to assess how far project resources were leveraged;
- i. Looking into the reasons why beneficiaries adopt practices and follow systems introduced by the project to assess their sustainability after the project; and
- j. Studying the benefits and costs of partnerships to assess the sustainability of partner services to farmers and fishers even after the project.

The following framework served as reference for organizing the analysis, as well as for organizing the project result and activity indicators in this report:

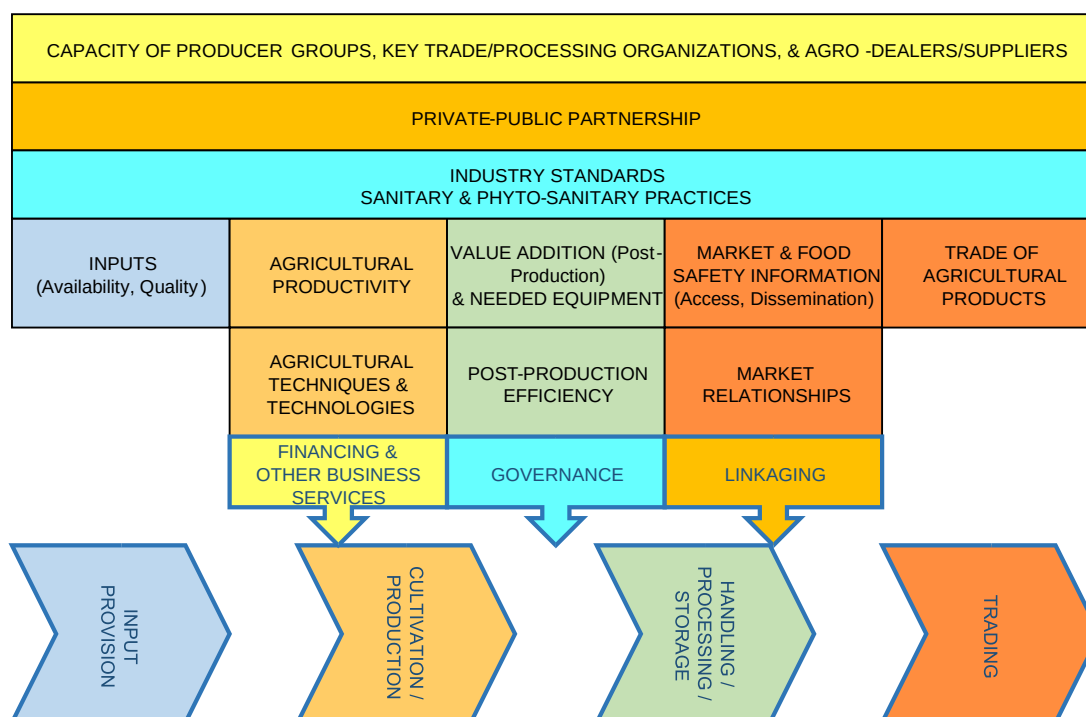


Figure 3-A. Project Result Indicators and the Value Chain

4. FINDINGS: ACHIEVEMENT OF TARGET RESULTS VERSUS MIDTERM TARGET

PROJECT ACTIVITY / INPUT	DELIVERED		INVOLVED / BENEFITING				USING / APPLYING	
			Producer Groups	Other Groups or Firms	Producer Group Members	Other Persons	Producer Group Members	Other Persons
Strengthening of producer groups	Actual		124					
	Target		125					
Promotion of gender inclusion	Actual		71					
	Target		125					
Training on financial services	Actual	145			n.a.		742	
	Target	250			1,875		1,875	
Provision of loans	Actual	\$1,042,731					742	0
	Target	\$2,250,000					1,875	3,000
Development of sources of improved inputs	Actual	202					1,956	8,840
	Target	100					3,410	16,590
Making specific improved inputs available	Actual	12						
	Target	25						
Provision of grants for inputs (Number)	Actual	2	2					
	Target	90	90					

Provision of grants for inputs (Value)	Actual	\$5,938	2					
	Target	\$182,000	90					
Provision of grants for equipment (Number)	Actual	1	1					
	Target	125	125					

PROJECT ACTIVITY / INPUT	DELIVERED		INVOLVED / BENEFITING				USING / APPLYING	
			Producer Groups	Other Groups or Firms	Producer Group Members	Other Persons	Producer Group Members	Other Persons
Provision of grants for equipment (Value)	Actual	\$4,424	1					
	Target	\$400,000	125					
Training in improved production techniques and technologies	Actual	300	124	258	6,744		771	
	Target	375	125	625	3,750		3,750	
Training in short-term productivity or food security	Actual	n.a.	n.a.		7,223			
	Target	n.a.	125		3,750			
Distribution of promotional materials in aid of training	Actual	7,962						
	Target	50,000						
Agricultural forums	Actual	275						
	Target	405						
	Actual	n.a.	n.a.		829		n.a.	n.a.

Training in post-harvest handling or storage	Target	125	125		3,425		3,425	3,425
Training on sanitary and phytosanitary standards	Actual	0	0	0	0	0	0	0
	Target	187	125	62	3,750	1,240	2,500	100
Training on quality and regulatory certification (international standards)	Actual	3	13	0	502		n.a.	
	Target	30	15	15	3,460		830	
Information campaigns on improved market and food safety	Actual	11						
	Target	10						
Installation of additional storage capacity (in cu.m.)	Actual	0	0					
	Target	10,000	125					

PROJECT ACTIVITY / INPUT	DELIVERED	INVOLVED / BENEFITING				USING / APPLYING	
		Producer Groups	Other Groups or Firms	Producer Group Members	Other Persons	Producer Group Members	Other Persons
Promotion of the use of cold-chain	Actual		0				
	Target		25				
Reduction of post-harvest losses	Actual					n.a.	
	Target					3,750	
Training in processing	Actual	25	25		834	834	
	Target	125	125		3,425	2,390	

Formation of public-private partnerships	Actual	0		0				
	Target	3		3				
Generation of investment in publicprivate partnerships	Actual	0						
	Target	\$50,000						
Development of sources of improved market information	Actual	45	10	35			3,925	429
	Target	250	125	125			3,750	3,750
Provision of access to current market information or good practices	Actual		51		3,925	149,026		
	Target		125		3,750	363,750		
Training in market analysis and productivity	Actual	n.a.		10		n.a.		
	Target	n.a.		12		n.a.		
Training in marketing	Actual	n.a.	3		n.a.			
	Target	n.a.	12		n.a.			
Strengthening of trade associations	Actual			3				
	Target			2				
PROJECT ACTIVITY / INPUT	DELIVERED	INVOLVED / BENEFITING				USING / APPLYING		
		Producer Groups	Other Groups or Firms	Producer Group Members	Other Persons	Producer Group Members	Other Persons	
Creation of improved trade capacity	Actual			0		0		
	Target			6		4,800		

Trade association events	Actual	4						
	Target	16						
Buyer-seller events	Actual	21			135			
	Target	250			3,750			
International trade missions	Actual	2						
	Target	2						

OTHER RESULT INDICATORS	PERFORMANCE	
Production area under improved techniques or technologies (in Ha)	Actual	36.6
	Target	250.0
Increase in revenues from agricultural products at farm gate	Actual	n.a.
	Target	10%
Market value increase of agricultural products sold by assisted associations	Actual	n.a.
	Target	5%
Agricultural products certified as meeting international standards (in MT)	Actual	n.a.
	Target	20

OTHER RESULT INDICATORS	PERFORMANCE	
Decrease in total harvest lost during post-harvest / transit by farmers	Actual	n.a.
	Target	10%
Jobs attributed to USDA assistance	Actual	0
	Target	5,000
Individuals benefiting directly from USDA-funded interventions	Actual	8,648
	Target	68,750
Individuals benefiting indirectly from USDA-funded interventions	Actual	243,551
	Target	1,050,000

The project was particularly strong in the development of sources of improved inputs, with a system for accreditation of suppliers, and the training of producers in improved production techniques and technologies and in food security. However, with regards to most of the other target results the project's performance was below midterm target.

The project officially started in September 2013 with the mobilization of the Chief of Party and key personnel. But proceeds from the monetization of soybean meal were received by Winrock only in April and May 2014, constituting a delay of almost eight months. (The subsequent monetization of dehydrated potato flakes was also delayed considerably but did not have as strong an impact on project implementation as the first delay.) The first community organizer technicians (COTs) were hired only in April 2014. In many respects therefore the effective implementation period covered by this midterm evaluation was only 16 months. Thus the midterm targets should have been 2/3 of what they were. This has to be considered when looking at project performance.

4.1. Producer Groups

Nominally the project was but one short of achieving the target number of producer groups (PGs) strengthened for a 99.2% accomplishment. But this needs a second look not because there is doubt that the PGs are indeed stronger than before but because they are not as strong as they are supposed to be, having started at a lower level of maturity than originally assumed.

After years of organization-building work by government agencies and community organizing by a large foreign-assisted project, as well as by NGOs, the natural assumption was that the surviving organizations would be mature or even advanced, the weaker ones having folded up. This assumption was in fact the basis of one of PCCP's criteria in the selection of barangays – the presence of a viable people's organization. While the selection process might be faulted for having relied too much on recommendations of offices and local government units with an interest to see that their covered barangays receive new assistance, the reality was that the criterion of having a viable PO would have been quite restrictive if it was strictly followed.

Most of the people's organizations in the Caraga region, to start with, were weaker than expected.

Their readiness for quality and regulatory certification (QRC) and their capacity to manage common service facilities, programmed production, bulk procurement of inputs, and consolidated marketing were limited. So instead of starting at a certain level, the project encountered the same learning curve as it would if it started from scratch. (There were relatively stronger POs, of course, but these were mostly in areas with other ongoing projects.)

One repercussion of having weak PGs to start with was the project had to make an adjustment and invest more time and resources in organizational capacity building (OCB). A series of basic OCB trainings was designed: (1) Basic organizational development & management and leadership; (2) Producer group planning; (3)

Savings mobilization; (4) Financial literacy and bookkeeping; and (5) Agribusiness planning. (Unfortunately, this training series was misinterpreted by many PGs and even some COTs as just an additional loan requirement rather than seen as a necessary step to bring the PGs to a higher level of organizational maturity.) These OCB trainings were not part of the project plan. The sixty trainings originally targeted were advanced trainings to prepare the PGs for certification and not the basic ones that the project eventually had to introduce.

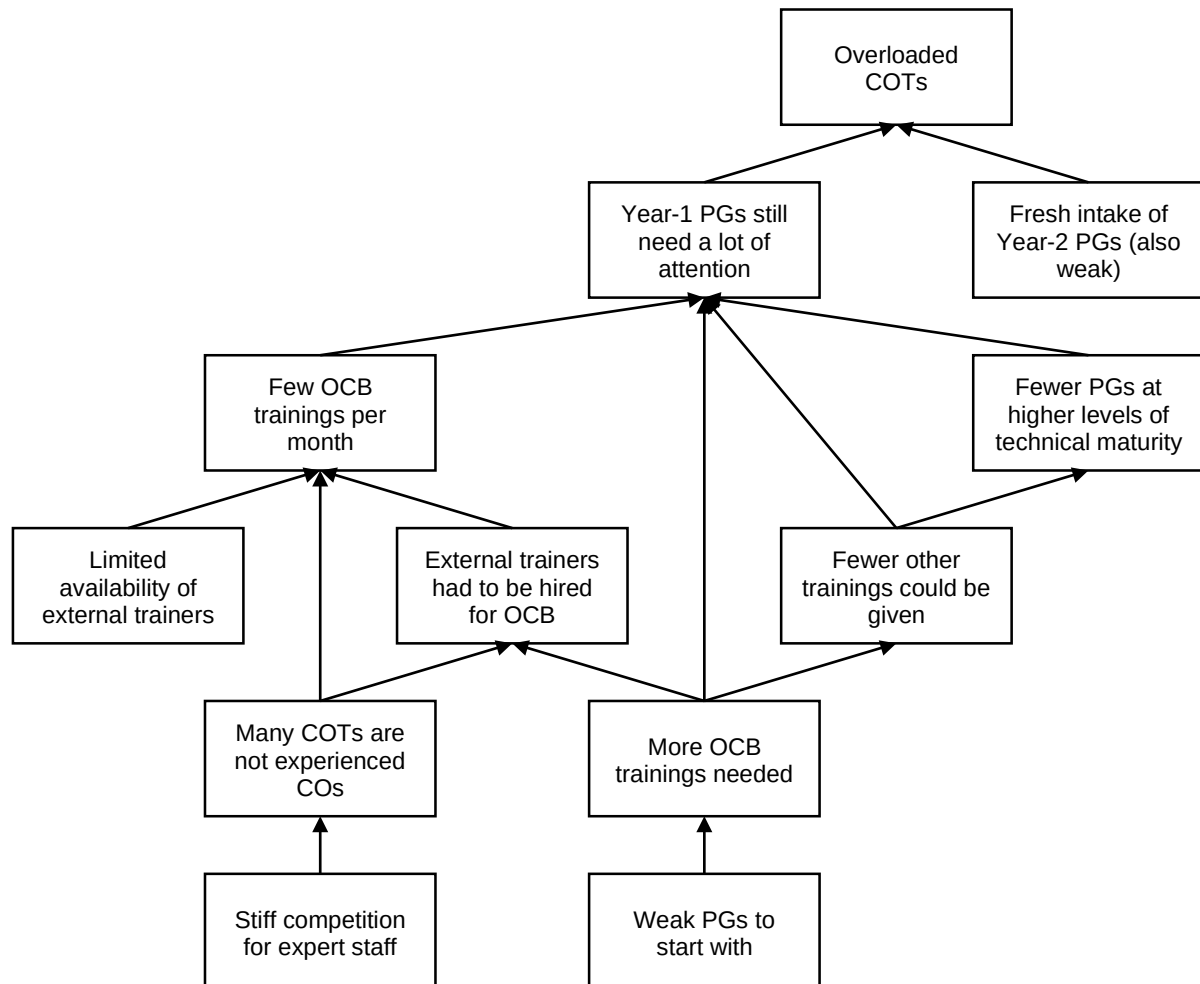


Figure 4-A. Repercussions of Having Weak PGs to Start with

The COTs were a mix of community organizers (about 20% to 25%)¹ and people with agriculture, fisheries, or marketing backgrounds. Because more OCB trainings were needed and there were only a few experienced COTs to deliver them, the project decided to hire external experts. But these experts usually had other commitments already and could work just part-time for the project so only a limited number of PGs could be trained per month. (OCB trainings usually involve the whole organization, unlike QRC and other technical trainings where there can be representative participants coming from more than one PG.) Only around 6 trainings were being conducted per province per month, where 50 to 125 trainings might be required in one year.

¹ From interview with DCoP and FGDs in 2 provincial field units

The COTs found that they could not reduce their intervention in the first batch of PGs even after one year and instead devote more time to a new set of POs during the second year. The plan that the COT could gradually phase out while the PG leadership assume more and more responsibilities, thereby easing the COT's load, did not work out in most cases. This is not saying that the OCB trainings are not having the desired effect. In fact, better management is the top-ranked benefit from the project, cited by 31.8% of PG members. The problem is with the slow pace of trainings.

While the OCB trainings were being conducted, many of the other kinds of training had to wait, not because the OCB trainings were pre-requisite but because the producers could be taken away from their work for only a limited number of days per month. For example, only 3 QRC trainings had been given, involving 13 PGs. It is not surprising that only 7.5% of PG members were aware of quality standards.² While it is true that the project was performing well in trainings in improved production techniques/technologies and in short-term productivity, many of the other planned trainings in post-harvest handling and storage, processing, and marketing could not be conducted as scheduled.

The strengthening of PGs can have a ripple effect and contribute to the adoption of improved management practices in other organizations, including private enterprises, in the community and along the value chain. This is a reasonable expectation given that PG members are also involved in other community-based organizations and there are, on the average, between 2 and 3 such organizations per barangay (the numerical average being 2.4). Forty-four percent (44%) of PG members are also members of cooperatives, 13.5% are members of irrigators' or water user associations, and 54.9% are members of women's groups.³

To capture accomplishment in this regard, the project's performance management plan (PMP) calls for a list of management practices that indicate a strong organization. Application of these practices is supposed to be monitored via annual surveys and regular observation. But these have not been systematically done.

Per plan there will be 126 more PGs to be strengthened in the next two years, bringing the total number of PGs to 250. The implication is more OCB trainings will be required, on top of the trainings still needed for Year-1 and Year-2 PGs. This will require a serious effort to program OCB trainings. The number and level of engagement of external experts, as they are now, will even be more inadequate.

The total target of 250 PGs strengthened by the end of the project is attainable even if it means frontloading the remaining 126 PGs to Year-3. That will entail having one OCB training per PG per month for 12 to 13 PGs per province, more than double the current rate. The key, of course, is getting more trainers and improving the efficiency of the present pool.

But the more fundamental issue is – Does the project have to work with and through producer groups? For what?

² From midterm household survey

³ Op. cit.

Almost all of production is on individual basis. And this has been reinforced among producers who have availed of individual loans. But the PG can still play an important role in, among others: (1) bulk procurement of inputs or becoming an accredited supplier itself; (2) managing common service facilities or equipment, especially since there is a grant component for equipment under the project; (3) dissemination of promotional materials and management of agricultural forums and information campaigns; (4) product certification; (5) reservation and management of space in storage facilities; (6) being a conduit or source of market information; and (7) linking with buyers and trade associations.

Few PGs are expected to be able to perform all of these roles. What will likely happen is that there will be relative specialization among the PGs. Some will be more concerned about inputs. Some will work towards becoming recipients of grants for equipment. Some will pursue certification. And some will focus on the problem of marketing. Relative specialization will not affect much the basic OCB trainings; but it will have to be considered in re-planning the types and number of technical training sessions needed.

4.2. Gender Inclusion

The project defines gender inclusion as correcting gender imbalance in leadership, management, and technical positions. Gender imbalance stems from stereotyping (e.g., a woman is good only as secretary of the association) and marginalization from livelihood (e.g., a woman should only take care of the home and the children). The project itself does not set a threshold for the proportion of either gender in key positions but it has a process in mind whereby cooperating groups would be able to establish their baseline and define specific targets in this regard. In the meantime nominal increases in participation leading towards more gender balance are being counted as accomplishment. Such increases have been observed and thus claimed in 71 PGs and firms.

If the above-mentioned process is fully operationalized and gender-sensitivity and related sessions are integrated in OCB trainings then the remaining target of gender inclusion in 179 PGs will be attainable.

There was gender balance among the beneficiaries of or participants in most of the project activities implemented. This was easily tracked because the project maintained genderdisaggregated data.

In technical trainings, 49.9% of the participants were women. The baseline figure was 49.4% so there was a very slight and statistically not significant increase. In the case of OCB trainings, 55.0% of the participants were women, again a very slight increase when compared to the baseline figure of 54.5%.

In financial services, 44.9% of FICCO borrowers were women, getting 46.7% of the total loan amount, while among Pilmico borrowers it was 26.2%, getting 23.0% of the total. (The Pilmico figures are interesting because they are contrary to the stereotype of backyard hog raisers being mostly women. It would seem that beyond a certain level of financing the decision to borrow becomes a family decision and the head of family, typically male, becomes involved.)

In the four trade association events held, 36.4% of the delegates were women. Among the project staff, 40.3% were women.

4.3. Input Side

In the first two years of implementation PCCP improved the supply chain for producers and thus ensured the availability of quality inputs. By providing financing via FICCO and Pilmico, PCCP helped producers avail of those quality inputs, thereby spurring increased adoption of production techniques and technologies introduced by the project and expansion of production areas.

Access to credit was the 3rd most common reason why producers adopted improved production techniques and technologies introduced by the project, cited by 30.3% of adopters, and access to improved inputs was a very close 4th, cited by 30.2% of adopters.⁴

Winrock deposited \$1,700,000 in FICCO (First Community Cooperative) as a guarantee fund for FICCO loans to PCCP-assisted producers, producer groups, and other firms (such as suppliers and buyers). FICCO was allowed to deposit the guarantee fund in an interest-bearing account while it used its own funds for lending. The interest earned from the deposit was used by FICCO for operational expenses, accumulating a reserve fund for bad debts, and subsidizing loan processing and other administrative fees.

The guarantee fund with FICCO was an effective way for the project to leverage its resources.

FICCO has assets of more than \$200 Million and is the biggest cooperative in the country. Its loan releases per year exceed \$110 Million. FICCO has 2 branches each in Agusan del Norte, Agusan del Sur, Surigao del Norte, and Surigao del Sur. (Because of the project FICCO opened a business center in Dinagat, the only province in Caraga where it did not have a branch.) It is a major stockholder in the Consolidated Coop Bank which also operates in the region. FICCO was not new to 16.3% of PG members as they were already members of this cooperative before the project.

FICCO's regular agricultural loan products were mostly for rice, corn, sugarcane, and cassava although FICCO was open to extend credit also for vegetables and mango. Its regular aquaculture loans were for prawn culture and fish culture. FICCO had a regular livestock loan for hog raising by select members.

Under its partnership with the project, FICCO opened a special agricultural loan window with specific loan products for the following: (1) bangus, crab, lobster, prawn, vannamei shrimp, tilapia, and five other species; (2) ampalaya, bellpepper, and two other vegetables; (3) cardava or saba banana; (4) mango; and (5) marketable hog. The loan ceilings ranged from \$333 for vegetables to \$6,733 for lobster. (The highest loan ceiling currently is \$11,659 for vannamei shrimp.) Loan terms ranged from 35

⁴ From midterm household survey

days to 10 months (later raised to 15 months). Loans, as well as savings, were insured against the death of the borrower.

FICCO also offered loans of up to \$5,555 for hatcheries, fingerling nurseries, and agricultural and veterinary suppliers.

Having convinced FICCO to increase its agricultural, aquaculture, and livestock loan products in terms of commodities, borrowers, and loan amount was a major project accomplishment.

These types of loans were generally viewed as relatively more risky than other FICCO loan products. (This was why, for example, loans for hog raising were given to select FICCO members only.) The partnership with the project was an opportunity for FICCO to test the validity of this view, with lesser risk because of the guarantee fund. The impact of this “experiment”, that is from FICCO’s point of view, will be significant because FICCO has the enviable problem of having a large cash surplus and thus is constantly looking for opportunities to expand its exposure and invest.

Over-all, 14.2% of loan amounts were overdue, involving 13.9% of borrowers. While this still falls under the 15% benchmark for agricultural loans is not very encouraging at first glance. But a closer look reveals that a number of loan products were in fact performing well. Loans for crab and tilapia had 100% repayment. Nearly 99% of those who borrowed for lobster production were able to pay their loan on time; only \$9,357 out of \$492,709 remained unpaid. In the case of bangus, only 9.1% of borrowers had overdue loan amounting to just \$6,116.

On the other hand, there were also problematic loan products. Loans for marketable hog accounted for 60.7% of the overdue loan amounts and 54.2% of the delinquent borrowers. Thirty percent (30%) of hog-raisers with loans were not able to pay on due date. Other problematic loans were for vegetables where 45.5% of borrowers failed to pay on time, mango (40.0%) and vannamei shrimp (38.5%). They accounted for 2.0%, 10.3%, and 9.9% of the overdue loan amount, respectively.

Lack of market and higher-than-planned production expenses were mentioned as causes of failure to pay on time. In the case of vegetables, the loan term of just around a month was just too short.

The first loan was released in August 2014. This was late if reckoned from the official start of the project which was September 2013. But if one considered that the first COTs were hired only in April 2014 and that the agreement between Winrock and FICCO was signed only in July 2014, the loan release was quite fast. In 14 months total loans released amounted to \$1,042,731. This was 46.3% of the midterm target and 61.3% of the guarantee fund. Less than 2% of borrowers are in their second-cycle loan, with the reloans amounting only to 2.4% of total loan releases.

A total of 742 producers availed of loans. This was 39.6% of midterm target. The reasons cited for the low performance included: (1) Reluctance on the part of many producers to be indebted, especially since the loans being offered were big; (2) Wait-and-see attitude among many producers; and (3) Difficulty in meeting loan requirements, the tougher ones being⁵ – having existing facilities as counterpart (like

⁵ From midterm household survey

piggens in hog raising), a business plan or project proposal, and two guarantors or co-makers for the loan.

FICCO's experience so far will not likely dissuade it from continuing its expanded services to agricultural producers in Caraga, even beyond the project. But FICCO might be more selective. For example, unless there is significant improvement in the next two years, it might go back to its regular policy of extending loans for hog-raising to select members only.

To meet the target of \$4,000,000 total loans disbursed by the end of the project there should be around 2,450 borrowers, assuming an average loan size of \$1,405. This is around 1/3 of PG membership and thus should be attainable.

Commodity loans by Pilmico in the form of gilts for fattening are discussed in Chapter 8 of this report. Technically they are part of the \$4,000,000 loan target but FICCO alone can meet the target.

With regards to the development of suppliers of improved inputs, the project has greatly exceeded the midterm target and is already at 91.8% of the total target.

The process of accrediting suppliers was straightforward. But after accreditation there was little project initiative anymore to continually strengthen ties between suppliers and PGs and to motivate the suppliers to improve operations, particularly procurement, handling, and storage

Patronage by PG members is either at 54.7% per project report or at 52.7% per the midterm household survey. This is still low, considering that around 20% of the PG members is a captive market already because their loan requires them to get their inputs from accredited suppliers only. But the target of 100% patronage by PG members may be too high unless all PGs would have a system for bulk procurement of inputs for their members.

The over-all target of 44,000 producers patronizing 220 accredited suppliers is attainable if each accredited supplier will have a market share of around 14% in its service area (25-kilometer radius per project plan).

Only two PGs received grants for inputs and only one received a grant for equipment. These grants were dependent on the capacity of the PG to manage them. With weak PGs to start with and thus a longer process of organizational capacity-building, delay in the award of grants was expected.

As there are loans available for inputs (and even for suppliers), the need for grants for the same can be questioned. Grants can be justified under the following circumstances: (1) there are no accredited suppliers within 25 kilometers, as in the case of fishponds in Surigao del Sur that had to buy fingerlings from Agusan del Norte; (2) the purpose is to enable the PG to become an accredited input supplier, a risky new venture that could use a grant; and (3) the grant is for a project of the PG itself and not for distribution or relending to PG members.

Some possibilities come to mind: fingerling nurseries, inputs for mango production where the PG got a lease on the trees, animal-feed formulation using mostly local ingredients, and seed propagation. Many of the grants might be bigger than the

current average allocation of \$1,820. (The average for the two grants already given was \$2,969.) This will mean adjusting the target number of grants for inputs.

The same can be said about the target number of grants for equipment. The average value of grants given and in the pipeline is already \$3,836. This is higher than the average allocation of \$3,200. There might be a need therefore to adjust the number of grants for equipment also.

4.4. Production

The project was able to train more than the target PG members in improved production techniques and technologies and in short-term agricultural productivity or food security. However, the number of adopters (or those who apply what they learned in the training) was only 20.6% of midterm target.

Per midterm household survey, 58.8% of PG members engaged in horticulture professed adoption of technology introduced by the project. In fisheries it was 45.8% and in livestock 37.4%. Extrapolating, the number of adopters would be: horticulture – 562, fisheries – 932, livestock – 712, for a total of 2,206 or 58.8% of midterm target.

These numbers are far from that reported by the project. It is possible that accomplishment in terms of adoption had been under-reported. The project uses a more stringent standard where only producers who have been trained and who have been actually observed to be applying improved practices are counted. This calls for a field survey by project staff and the PGs. In fact the project's Performance Management Plan (PMP) calls for a census. Which apparently has not been done yet, although the tools are ready. The improved practices are also very specific and they include: Use of plastic mulch in vegetable production, Use of pig feeder and drinker to ensure efficiency in feeding, Use of artificial insemination in pig breeding, Use of drip irrigation in vegetable production, and Use of intensive feeding method in prawn culture.

The midterm household survey, on the other hand, had a menu of practices that was broader. In livestock, for example, a producer adopting any one of these practices was already counted: Intensive feeding at phased interval, Artificial insemination, Nipple drinker, Water reservoir, Immunization, Indigenous micro-organism, Daily cleaning of pen, All-night lighting.

Adoption is difficult to monitor. One has to go back even to defining what adoption means with respect to each of the different practices, techniques, and technologies being promoted by the project and set the threshold when one can conclude that there was adoption indeed. Then the means of data collection has to be planned at different levels (individual producer, producer group, and project).

The project assumed 100% adoption in production-related trainings, as well as in post-harvest handling and storage. But adoption depends not just on the efficacy of the training but also on a number of factors such as the following (ranked in order of importance by respondents in the midterm household survey): (1) demo results observed; (2) promise of increased yield; (3) option to avail of credit; (4) provision of

inputs; (5) market prospects; (6) access to cold-chain facilities; and (7) provision of equipment.

For example, the farmers' field school conducted by East-West was effective because it demonstrated results that farmers could directly observe. But adoption of improved vegetable production techniques and technology would still depend, for many, on availability of inputs or credit and/or on the assurance of having a buyer for their produce.

Assuming 100% adoption is being quite optimistic.

To reinforce trainings, the project conducted agricultural forums and distributed learning or promotional materials. These should have been easy targets but they were treated as services that would be provided only upon demand or when the situation called for them. There is some justification in treating them that way.

At any rate, despite the low midterm performance, the total targets by the end of the project as to the number of forums and learning materials are attainable.

Total production-related training targets in terms of number of sessions and number of trainees are also attainable.

4.5. Post-Harvest Handling, Storage, and Processing

Three types of training and an information campaign had been planned to promote better postharvest handling and storage. Trainings on sanitary and phytosanitary standards had not been given at all but the standards were integrated in trainings on quality and regulatory certification (QRC) of which 3 were conducted, involving 13 PGs and 502 PG members. Trainings in postharvest handling or storage were conducted for 829 participants. And 11 information campaigns on improved market and food safety were undertaken.

Except for the information campaigns where accomplishment was at 110%, project performance with regards to handling and storage was low.

It is reflective of this low performance that 15.2% of farmers engaged in horticulture and 41.1% of fishers still report product damage or spoilage exceeding 10%.

As already mentioned in [4.1.], the need for more organizational capacity building trainings delayed the implementation of other trainings, including the ones mentioned above.

But trainings are among the easier project interventions to implement so, despite the low performance at midterm, the total targets by the end of the project, in so far as training sessions and participants are concerned, are still attainable.

There are more than four thousand training sessions planned under the project all in all and the sheer number might be intimidating; but those translate into something like 18 trainings per PG over a period of 4 years or 1 to 2 trainings per quarter only.

Of course, good programming is still needed, especially with regards to the resource speakers or trainers.

The same comment about adoption made in the previous section can also be made here, especially about the 100% adoption with regards to trainings in post-harvest handling or storage. A more reasonable 2/3 adoption rate by individual producers is targeted in the case of sanitary and phytosanitary standards while it is 24% in the case of QRC trainings. (The latter is understandably low as QRC trainings target the whole PG primarily and individual PG members only secondarily.)

Agricultural dry storage facilities in Caraga region are for rice, corn, and copra, none of which are indicator products of the project. The cold storage facilities are privately owned and used exclusively by the owners. Convincing owners, including government, to retrofit their dry storage facilities or open their cold storage facilities to the public has proven to be challenging and has taken a long time. The cold storage facilities in particular have their own projection of their storage needs where they themselves are likely to absorb any additional capacity.

There are 3 projects in the pipeline (a regional marketing center, a mango processing center, and a warehouse) that will involve installation of additional storage capacity. There are also 3 other prospects (all cold storage facilities for slaughterhouses) so, if the gestation period will not be longer than 1 year, the target 50,000 cubic meters of additional storage capacity can still be attained.

The witty question – Where is the cold chain in the Philippine Cold Chain Project? – has been heard more than once in the course of this evaluation. Apparently project plans and efforts with regards to the cold chain have not been adequately communicated and re-communicated to many project stakeholders. How the cold chain can be of use to specific products have not been adequately explained either. Many vegetable farmers and mango growers still do not have a good understanding of field heat, for example. Some lobster growers and hog raisers still ask, “Of what use is the cold chain to us because we sell our lobster/hog live?” (In the case of lobster growers, some of them have actually been trained to use ice to induce lobster to sleep prior to packing and transport.)

While the project has succeeded in forming partnerships with the private sector (6 private firms and 4 cooperatives), on one hand, and with the public sector (10 local government units), on the other hand, it has not yet succeeded in bringing the two together to form public-private partnerships. The reluctance is more in the private sector side; they are willing to go into a joint undertaking with the project but not with government.

Just to give an idea how difficult it is to form public-private partnerships, at the national level, despite the creation of a PPP Center in 2013, only two PPP projects are for implementation more than two years later.

While the envisioned partnerships under the project are not as big or as complex as those at the national level, it is unlikely that the project will meet its target of 12 public-private partnerships.

Eight hundred thirty four (834) producers from 25 PGs have been trained in processing for a 24.4% accomplishment. But the reported adopters, who number 834

also, are actually not involved in processing but are applying improved post-handling practices. (There is some confusion here because of the way the indicator is stated: Increased use of improved postproduction processing and handling practices. There are two or three other indicators like this.)

4.6. Marketing Side

Accomplishment with regards to the development of sources of improved market information was low at 18%. But 4,354 producers who are members of PGs and other groups/firms used information from these outlets for a 58.1% accomplishment. There was a broader audience of 149,026 who had access to the information, which was 41% of target.

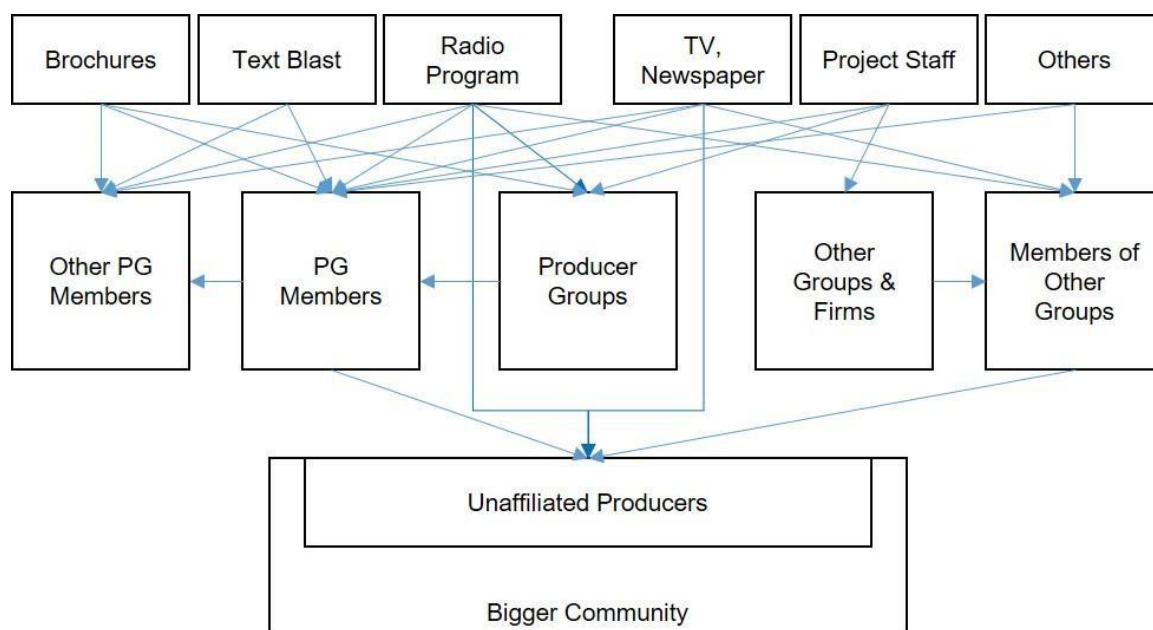


Figure 4-B. Project Market Information Channels

PGs were supposed to serve as market-information hub for their members. But because most PGS are still being strengthened only 10.2% of PG members rely directly on the PG for market information. Nearly 47% of PG members get secondhand market information from their fellow members.

The project has various means of reaching the PG members. But these means are utilized to deliver various contents too. So when it comes to market information, only 2.9% of PG members rely on project brochures or promotional materials, 5.3% on text blast, 6.8% on the project's radio program (even though 25.3% of PG members are regular listeners), and 5.6% on other project means.

The following total targets are attainable within the remaining term of the project: 500 sources of improved market information (half of which will be PGs), 15 trainings in market analysis and productivity, 250 trainings in marketing, strengthening of 5 trade associations, creation for improved trade capacity for 12 business owners, 500 buyer-seller events, 5 international trade missions.

Producers have the immediate practical need of finding buyers for their products. The project design gives the impression of a more strategic approach and assumes that good market information, conformity with standards, trade associations, buyer-seller events, and trade missions will eventually lead to a dynamic market for the producers. That may be so; but in the short-term, specific buyers linked to the producers, where the producers are not disadvantaged, would have been a more appreciated result.

Related to this, two result indicators are of particular importance because they have direct impact, firstly, on the motivation of producers to participate in the project and, secondly, on the improvement of the well-being of target households, which ultimately is the purpose of the project. These are: (1) Increase in revenue from agricultural products at farm-gate; and (2) Market value increase of agricultural products sold by assisted groups. Unfortunately there are no reported results for them because the relevant project monitoring methodologies have not been systematically implemented yet.

But, if it is any indication, the following comparison can be made for vegetables:

TABLE 4-1. Increase in Vegetable Sales per Hectare

PRODUCT	BASELINE		MIDTERM		Increase in Revenue
	Volume	Selling Price	Volume	Selling Price	
Ampalaya	5,441	41.56	7,700	38.21	30.1%
Eggplant	6,733	28.13	7,885	22.43	-6.6%
Okra	4,091	23.32	5,494	20.56	18.4%
Squash	15,995	11.70	15,919	14.67	24.8%
Stringbeans ⁶	5,987	21.30	19,826	21.00	226.5%
Tomato	3,630	21.50	9,000	29.69	242.4%

Except for eggplant, revenue increased by more than 10% and the increase was driven by increase in yield (which can be more easily attributed to the project than increase in price). Yields are now approaching national averages, with okra even exceeding it by 3.7%.

The target of 700,000 persons with access to improved market information is high, considering there are around 307,000 farming and fishing households in the region and assuming that the information should have potential usefulness to the person with access for that person to be counted.

The target of 32 trade association events, of which there is still a balance of 28, is also high. Assuming 5 trade associations take co-responsibility with the project, each association has to host 5 to 6 events in the remaining term of the project. These events require serious preparation and one has to remember that 2 of the 5 associations will be new to the task.

4.7. Other Result Indicators

⁶ The midterm average yields per hectare for stringbeans and tomato are still below their respective national averages despite being more than 2 times bigger than the baseline yields.

The reported area under improved production techniques or technologies is 36.6 hectares or 14.6% of midterm target. The total target is 500 Ha. Given the present mix of products, it is difficult to see how this can be achieved. Potentially the accomplishment can come from the following: Vegetables – 70 Ha, Mango – 130 Ha, and Fisheries – 100 Ha, for a total of just 300 Ha. A possible elbow room is in mango as the total production area is around 500 Ha; but that would mean influencing big industry players who have leased many of the mango trees in the area and who have their own production technologies and economics. Otherwise the project can start promoting improved production in cardava or saba banana for the balance of 200 Ha.

The other targets are attainable: 40 tons of agricultural products meeting international standards, 10% reduction in post-harvest losses, 10000 jobs attributed to USDA assistance, and 137500 persons benefiting directly from USDA-funded intervention.

The project targets half of the entire population of Caraga region as indirect beneficiaries. But it is not clear how far the project's beneficiaries-chain should extend. A slaughterhouse financed by the project can be a good illustration. If the project extends the beneficiaries-chain as shown below then indeed it is possible to claim a larger population as indirect beneficiaries.

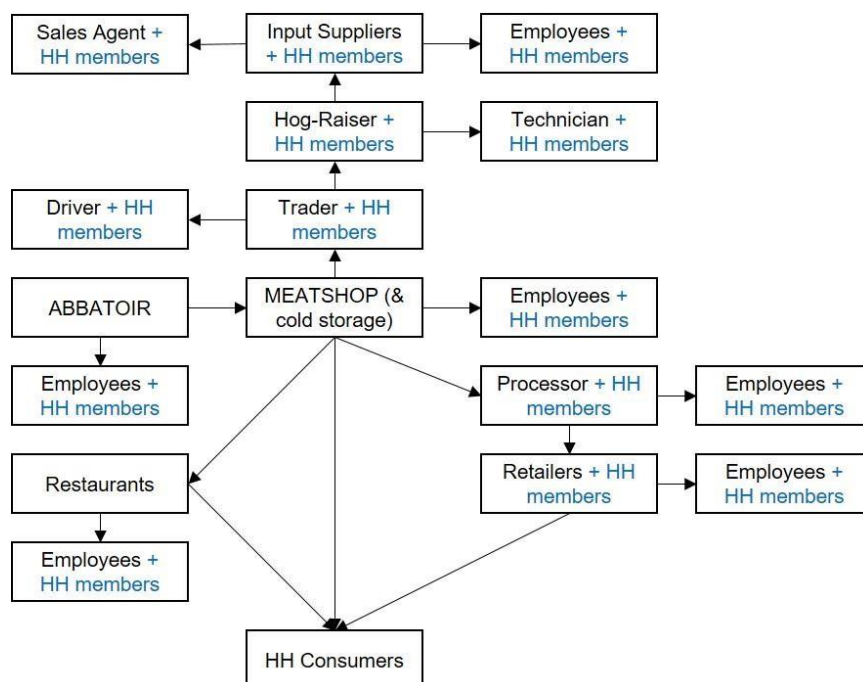


Figure 4-C. Sample Beneficiaries-Chain of a Slaughterhouse Project

It is even possible to extend the beneficiaries-chain to beneficiaries of member-associations of the Cold Chain Association of the Philippines as PCCP has made available a level of expertise on cold chain and slaughterhouse management that is being picked up by CCAP.

5. OTHER GENERAL FINDINGS

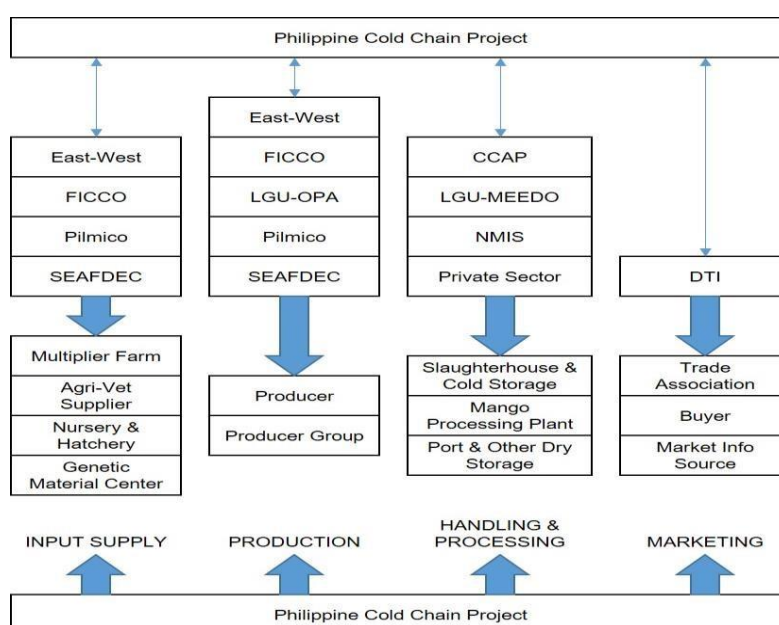
- a. The objectives and target results of PCCP remain responsive to the needs of target beneficiaries and planned project activities are aligned to these objectives and target results. The project remains as relevant as it was when conceptualized to the regional context, national agriculture and fisheries development thrusts, and USDA in-country objectives.

The project is in line with national government priorities in agriculture and fisheries, particularly with the following programs: High value crops development, Animal health and genetic improvement, Establishment of post-harvest facilities, Alternative animal nutrition, Fisheries production support, and Fisheries market development.

At the regional (Caraga) level, PCCP falls under the investment priority area of Competitive and Sustainable Agriculture and Fisheries Sector. There are also other investment priorities to which the project is aligned and these include: Strengthening of food processing sector; Food safety assurance; Support to product development, packaging, and labeling in the food industry; Conduct of trade fairs; Value mapping, analysis, and industry cluster plan development; and Consumer education.

PCCP supports USDA Strategic Goal 3 and FAS Pillar #3 by enhancing food security and building trade capacity. Better cold chain systems in the Philippines keep U.S. agricultural products safe and help protect the brand. The United States exports around \$250 Million in beef, pork, and poultry to the Philippines annually.

- b. The core project strategy of capacity building, all along the value chain of the agricultural production unit treated as a firm, remains sound and coherent even if implementation was delayed at the post-harvest handling, processing, and marketing side.



At the input side, capacity building aims to enable firms to become reliable suppliers of improved inputs. At the production side, the strategy is three-pronged – improving individual knowledge and skills to produce more and better goods, providing them the means (inputs, capital, and equipment) to apply their knowledge and skills, and enhancing the capacity of producer groups to manage collective efforts efficiently. The next stage involves providing the means to preserve or improve product quality and add value. Then at the marketing side the capacity to trade for equitable profit is developed, harnessing the entire chain to deliver value to customers.

Coherence is key to this strategy so the project has to consistently build up capacity all along the value chain. The project cannot afford to let the current situation, where capacities at the input and individual production sides are high but low elsewhere, persist for long.

- c. The project strategy of working with producer groups, while based on an assumption that has proven to be not entirely the case (that is, it turned out that many of the producer groups already existing before the project were actually weaker than expected), still remains valid. But it has become more challenging. And it is unlikely that a uniform level of organizational maturity can be achieved.

Organizational development has lagged behind productivity development where the approach is on individual basis, especially among those who have availed of loans. Given the inculcated individual approach, the traditional roles of organizations in bulk procurement, production programming, product consolidation, and marketing have become more difficult to introduce, especially in PGs that still have to undergo a lot of organizational capacity building in the remaining term of the project. Because of this difficulty and the different starting points, some PGs will be less able to perform those roles.

- d. The flexibility allowed by USDA in the case of project adjustments needed to address the problem of having weak PGs to start with was very helpful.

At the minimum, 250 organizational capacity building trainings were required to make the weak PGs sufficiently functional. The worst case scenario required up to 625 trainings. Fortunately the project was allowed to adjust its implementation plan and budget to provide for these trainings.

- e. The strategic partnerships with FICCO, East-West Seeds, Pilmico, and SEAFDEC have significantly contributed to project success.

East-West and Pilmico, with their product development and technical expertise and with their network of outlets, have improved the supply chain and productivity of farmers. To a lesser degree SEAFDEC which had limited presence in Caraga before the project and which is not an agribusiness has done too for fishers. And FICCO, through credit financing, has helped increase the number of adopters and scale up production.

FICCO, East-West, and Pilmico were already in the area before the project so therefore in all likelihood they will continue to provide the services they are now offering. Pilmico and EastWest have a viable template that they can easily

replicate. FICCO however faces the challenge of justifying continuing the favored status of PGs. Already its board has raised the requirement for capital build-up to P3,000 before a reloan, bringing the requirement more in line with their regular loan products.

- f. The project can take credit for spurring the growth of the lobster industry in Caraga.

Nearly half a million dollars in loans have been provided to 278 fishers for lobster production. Expected total production after all of them would have harvested would be around 26 tons with a market value of more than \$1.3 Million. The annual production in 2013 for Caraga was just 8.5 tons.

- g. Import substitution (that is, at the regional level), as in the case of selected vegetables and pork, is a strategy fraught with challenges as it requires a concerted effort at market positioning and dealing with established social-economic relationships.

Continued importation of pork and live hog from Region 10 (Northern Mindanao) and Region 11 (Davao) depresses local prices and makes it difficult for project-assisted producers to find buyers. The same is true in the case of vegetables. The traders operating in the local bagsakan centers or trading posts have long-standing arrangements with other traders in Davao City and Cagayan de Oro. Reliable supply, consistent quality, and room for higher margin are at the core of these arrangements but there is a strong culture-driven social dimension also.

- h. While the project adopts a strategic approach to market development and trade expansion, it must respond also to the immediate, practical need of producers for buyers.

The lack of assured buyers have forced some PGs or even individual producers to take the initiative. Sometimes this led to disadvantageous or unsustainable arrangements, causing further frustration. For example, a PG on its own managed to have a supply arrangement with a mining company but could not sustain delivery of the volume required. There was no assistance linking them with other producers who could have provided additional supply of hogs. Eventually the mining company stopped the arrangement, leaving the PG scrambling again to find other buyers. In another case, some hog-raisers were referred to a buyer who had not been sufficiently vetted. Up to now the buyer still owes them money; because of this they were not able to pay their loan with FICCO.

- i. The project has contributed to improved food security in its directly-covered barangays⁷, significantly reducing the incidence of hunger from 71.7% to 49.1%. Malnutrition among children below 6 years old, however, remains a problem as there was only a slight reduction from 14.9% to 14.6%.

⁷ Villages

- j. Typhoons and El Nino have been cited as reasons for poor production performance and consequently for inability to repay loans. There are so far no tools to mitigate or offset these risks. FICCO has death insurance and loan default insurance but not product insurance.

Disaster risk-reduction, resilience-building, and response-management (DRRM) is not part of the project design nor is it expected to be. But there is a narrower field of DRRM that is specifically for livelihood. (BMFI, for example, has an ongoing project on this in another part of the country.)

- k. High staff turnover caused discontinuities in project implementation because of lack of systematic handing over of responsibilities to replacements and because of poor transmission of institutional memory through, for example, a manual of operations and thorough briefing.

So far, 5 technical specialists with the Project Management Office, of which there are 8 positions, have resigned. So have 3 from the administration and finance unit where there are 9 positions. At the field level, 2 out of 5 provincial coordinators, 10 out of 31 COTs, and 2 out 5 administrative assistants have left.

They left for a variety of reasons, some for better-paying jobs, some for jobs nearer their home, some for jobs with lighter work load, and some for further studies. At any rate, the issue is not with the turnover itself but with the disruption it causes and how the project is managing the disruption.

6. FINDINGS: HORTICULTURE

The two main purposes of PCCP are to increase productivity and increase the volume of trade of agricultural products in Caraga Region. One the three sectors in agriculture that have been identified by PCCP as top priority for intervention is horticulture.

Horticulture is defined in the strict sense as the science that employs special techniques and methods to cultivate plants, including methods used to properly condition the soil for seed planting or planting tubers. In PCCP, the art and science of this discipline mainly focused on producing vegetables and fruits, mango in particular. Although the project also tries to capture the region's banana industry, to date, PCCP has yet to implement an intentional intervention to develop the industry.

Caraga has a mix of mountainous, rolling, and flat areas, with most of the lowlands located along the eastern seaboard facing the Pacific Ocean. The Agusan River basin is believed to be most productive area favorable to crop production.

The agro-climatic conditions in Caraga is observed as suited for growing crops. The Modified Corona's Classification of Climate (MCCC) defines the region's climate as Type II, with no pronounced wet and dry season, although it has been observed that during the months of November to February heavy rains are usually experienced in the region.

While both the region's land and agro-climatic condition are suited to crop production Caraga has been more known as the prime wood producer in the south of the country since the 1950's, as well as being one of the top exporters of processed wood. Tree farming continues to be the source of income of majority of the households in Caraga. However, most farmers and laborers involved in the logging industry live in abject poverty. In 2014, DSWD estimated nearly 1 million people in Caraga were still among the poorest of the poor in the country.

Most logged over areas are utilized by marginal farmers in growing crops for food such as vegetables, rootcrops and maize. Some settlers are also slowly converting land areas from tree farming into farming of long-term crops such as fruits and coconut. Oil palm and corporate banana plantations are also expanding in the region. (But, while logging is in a decline, another ecological challenge is on the rise in the form of industrial and small scale mining.)

6.1. Vegetables

6.1.1. The Caraga Vegetable Sector

Caraga vegetable production went up by 8.5% between 2013 and 2014. This was largely due to the 10.5% increase in pinakbet vegetables⁸ that are being promoted

⁸ Ampalaya (bitter gourd), Bell pepper, Eggplant, Okra, Squash, Stringbeans, and Tomato. Because they are ingredients of "pinakbet", a traditional Filipino dish, they are commonly called pinakbet vegetables.

by PCCP. (The production of pinakbet vegetables increased by 7.0% between 2012 and 2013.)

Table 6-1 shows the comparative volume of production of selected fruit and leafy types of vegetables in Caraga for 2013 and 2014. The data shows there has been an observed aggregate increase in production volume by over one metric ton. This is mainly attributed to the significant increase of “pinakbet” types, especially eggplant and squash. Leafy types slightly decreased, perhaps due to extreme weather conditions during the year.

TABLE 6-1. Comparative Volume of Production of Selected Vegetables in Caraga, 2013-2014 (in Metric Tons)

Vegetables	2013	2014	Increase/Decrease
Ampalaya	851.33	865.99	14.66
Cabbage	11.24	3.76	-7.48
Eggplant	3,473.96	3,945.63	471.67
Gourd	904.69	945.04	40.35
Kangkong	1,390.18	1,381.86	-8.32
Okra	503.52	577.70	74.18
Pechay Native	705.53	763.53	58.00
Squash Fruit	2,910.09	3,233.22	323.13
Stringbeans	806.29	826.19	19.90
Tomato	234.05	248.24	14.19
Total	11,790.88	12,791.16	1,000.28

Source: Philippine Statistics Authority

Part of the increase may be attributed to the High Value Crops Development Program (HVCDP) of the Department of Agriculture (DA), although it was only in August 2014 that 23,731 pouches of various vegetable seeds amounting to P1.4 million were distributed to farmers via provincial and city/municipal agriculture offices. The contribution therefore of PCCP through its assistance to producers groups in increasing their production of “pinakbet” vegetables, cannot be discounted.

6.1.2. Value Chain

The 2013 PCCP baseline described both the generic value chain for vegetables and locationspecific value chains. The value chains have changed significantly with the participation of PCCPpartner institutional suppliers, East-West Seeds for inputs and technology and First Community Cooperative (FICCO) for credit financing, and with the accreditation of retail suppliers. The role of producers groups (PGs) organized under PCCP is still not pronounced in the value chain but individual PG members have become more aggressive in marketing.

In 2013, PCCP commissioned a baseline survey. A bigger picture of the industry was defined through value chain maps drawn to see the relationships among industry players, according to geographic location, from suppliers to end markets. In general, the value chains were simple as they were linear, except in the case of Butuan City

(which is Caraga’s regional center) where traders from other regions came in with their respective networks of wholesalers and retailers.

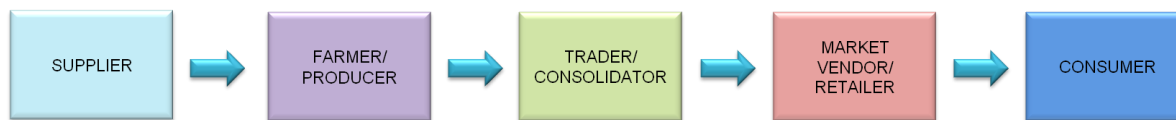


Figure 6-A. 2013 Vegetable Value Chain

The vegetable value chain in 2013 has changed with the participation of specific input suppliers: East-West Seeds which provides technology through farmers’ field schools, along with the necessary inputs, and which supplies seeds through accredited retailers; and FICCO which provides credit financing but also works with accredited supplies to convert the cash loan into commodity loan.

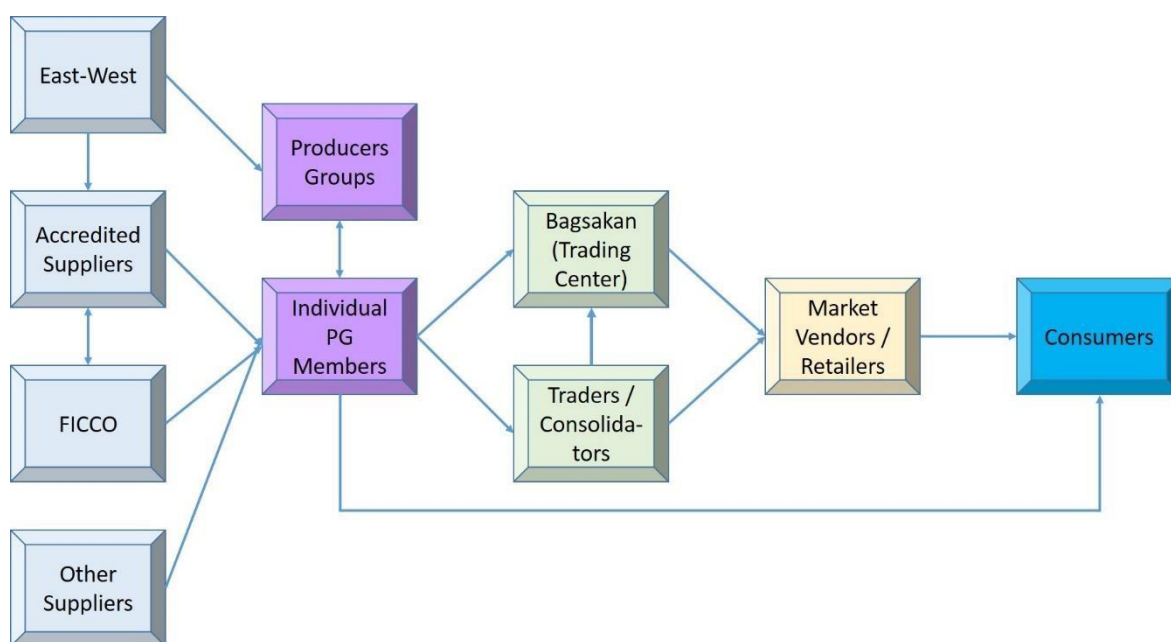


Figure 6-B. 2015 Vegetable Value Chain

As of the moment the producers group does not yet play a role in the bulk procurement of inputs nor in the marketing of its members’ products. But 67.3% of the members buy their seeds from East-West and other PCCP-accredited suppliers, as do 59.7% their fertilizer and 46.9% their pesticides.⁹ In focus group discussions, some PG members said they are now selling in the bagsakan or trading center, bypassing the traders. This was quantified in the midterm household survey which showed that 10.3% of PG members are selling directly to wholesalers. Some FGD participants also said that they have taken to selling directly to consumers in the public market, replacing the traditional vendor. The survey showed that 9.4% of PG members sell directly to consumers off-farm, presumably in the public market

6.1.3. Relevance

⁹ Midterm household survey

Farmers appreciate the horticultural practices introduced by PCCP through the farmers' field schools and technical assistance extended by East-West Seeds. These answered their needs, particularly those related to proper soil enrichment and land preparation, higher germination and survival rates, better cultivation, and proper harvesting and post-harvest handling.

FGD participants said that PCCP interventions were highly relevant to their group. Most compared their practices in vegetable farming before and after PCCP interventions. They said that one of the important contributions of PCCP, through the East West Seed Company, was increased knowledge and skills in growing vegetables.

Horticulture, as defined earlier in this chapter, has been aptly demonstrated by East West in its series of farmers' field schools (FFS) on vegetable production. Producer groups like in Tandag and Crossing Beawan appreciated the step-by-step protocols from seed growing until harvesting.

- a. Soil Analysis – Farmers appreciated the importance of conducting soil tests before farming the field. By determining soil nutrient deficiency, they could correctly choose which fertilizer or soil ameliorants they needed for optimum crop performance.
- b. Seeds and Seeding – The use of high quality and treated seeds resulted into high germination and survival rates. The use of seed-trays and heat treatment of soil media were new to farmers but they soon learned the relevance of these techniques to achieve efficiency and high level of seedling survival. The farmers were able to articulate the term “dumping-off”, a technical term for high mortality rate of seedlings caused by soil-borne pathogens. This is significant knowledge on the part of farmers, appreciating the importance of treated soil media in germinating seeds.
- c. Land Preparation – Farmers used to plant their seedlings directly in the field. In water-logged areas like in Beawan, Magsaysay and Tandag, only a few farmers used to have garden plots where land was raised from the ground level to mitigate the effects of water logging. With the project, all participating members have applied the technology of establishing plots and they learned the significance of the use of plastic mulch. Plastic mulching conserves soil moisture, controls the growth of weeds and prevents insect pests as light reflects from the glossy surface of the mulch into the underside of the leaf-sheets of the plants. This technique is wellappreciated by the farmers.
- d. Planting, Fertilization, and Maintenance - PG members learned the right planting distance, depth of holes and application of organic-based basal fertilization such as vermi-compost. Farmers also established trellis and ties to support the plants, most especially vine-type crops like ampalaya, gourds and tropical snap beans. For vines, farmers now know the importance of pruning unlike before with their practices of letting excessive branching which resulted to low crop yield. For maintenance fertilization, most of the farmers said that they used commercial synthetic fertilizers which they have known before but with the additional important input of calcium nitrate, which they now know as an important plant food.

- e. **Harvesting** – PG members who have undergone the FFS and series of technology trainings, expressed the changes in their practices in harvesting crops. They said that before the project they picked fruit-type vegetables such as tomatoes, sweet pepper, eggplants, cucumber and gourd through pulling by hand thereby causing plant trauma and tissue damage that became the entry point of diseases. Through training, beneficiaries learned improved harvesting techniques, such as the use of shears, which would guarantee good product condition for the market and would protect the standing crops from mechanical damage.
- f. **Post-Harvest Handling** – Farmers were trained in post-harvest handling techniques to maintain good quality of their harvest when channeled to the market. The use of plastic crates to promote less damage was demonstrated during actual harvests.

Two issues however have to be brought in at this point that, if addressed could further improve relevance. The first is crop selection in consideration of the fact that some project areas, in parts of Anticala and Bayugan for example, are in highlands with altitudes more than 500 meters above sea level. The introduction of highland species in addition to or in lieu of pinakbet vegetables has not really been considered.

The second issue is the promotion of improved practices farther along the value chain. For example, in the case of Beawan, farmers follow the proper post-harvest protocols. But when the products reach the traders and consolidators, the crops are just laid on the ground for sorting and classifying. Then they are placed in sacks.

These issues notwithstanding, at the midterm of project implementation, PCCP has demonstrated high relevance by providing the smallholder farmers improved technology to achieve increased productivity. The strong partnership between Winrock-PCCP and East-West Seeds Company provided the vehicle for enhancing farmers' learning.

6.1.4. Effectiveness

Winrock-PCCP's strategy of engaging partners such as technology and input provider East-West Seeds Philippines, conduit financing institution FICCO, and a number of accredited agricultural suppliers has proven to be effective in increasing the number of vegetable producers and expanding the total area for vegetable production.

TABLE 6-4. Increase in Vegetable Producers

	FARMING HOUSEHOLDS PRODUCING	
	Baseline	Midterm
Ampalaya	8.1%	14.2%
Bell Pepper	n.a.	15.6%
Eggplant	14.1%	22.1%
Okra	12.2%	7.6%
Squash	8.2%	8.3%
Stringbeans	13.1%	12.8%
Tomato	3.6%	16.3%

Sources: Baseline Household Survey and Midterm Household Survey

East-West Seeds has introduced better ways of vegetable farming through a series of trainings and learning-by-doing farmers' field schools. Strategically-located suppliers have provided the farmers the right quantity and quality of inputs like seeds, seed-trays, fertilizers, and pesticides. The direct link between East-West Seeds and local accredited suppliers has helped ensure the availability of good seeds. FICCO, on the other hand, has opened a loan window for farmers to enable them to make a quantum leap in their production of vegetables, bringing them beyond the backyard-garden scale. The link between FICCO and accredited suppliers has helped ensure that loans were utilized properly for the purchase of appropriate inputs and thus were not diverted to some other purpose.

In the first two years of implementation PCCP effectively addressed the supply chain or input side, spurring increased adoption, expansion, and increased production. But other concerns, especially marketing, received less attention.

The most common complaint among farmers during the FGDs was that farm-gate prices were far below market retail prices. They felt this was unfair to them because they were the ones who spent months growing the crops but traders and retailers get most of the profit. The first complaint is certainly true, as shown in the table below.

TABLE 6-5. Farm-Gate Price versus Market Price

	Ave. Farm-Gate Price (P/kg)	Ave. Public Market Price (P/kg)	Difference
Ampalaya	29.11	38.21	31%
Bell Pepper	38.45	57.45	49%
Eggplant	15.07	22.43	49%
Okra	12.08	20.56	70%
Squash	9.40	14.67	56%
Stringbeans	14.86	21.00	41%
Tomato	20.07	29.69	48%

Source: Midterm Household Survey

The second complaint bears some analysis. For example, in the case of ampalaya, the producer has a net profit of P8.68 per kilogram while the retailer, if there is no other trader in between, gets P6.79 per kilogram (P9.10 gross margin less P2.31 unit transport cost). For eggplant, it is P4.77 versus P5.05. For stringbeans, the farmer gets a lion's share of P14.09 per kg while the retailer gets only P3.83 per kg. It is only for tomato where the retailer gets more at P7.31 versus P2.66 for the farmer. But whether the retailer indeed got more or not, the essential point of the farmers' complaint was that they should be getting more profit.

Farmers tried selling their harvest within the community at a price a bit higher than what the traders offer, but the local market could only absorb so much. They were still left with a lot of products that they were forced to sell to the traders at low prices rather than letting them spoil.

Related to the issue of marketing is the question raised by many farmers and even some of PCCP's own community organizing technicians (COTs) about the role of the cold chain in the marketing of many of the project indicator products. This question has been raised with regards to pinakbet vegetables. It appears that those who raised the question are still not familiar with the practice of getting rid of or bringing down the inherent "field heat" of the vegetables, thereby raising their quality and prolonging their shelf-life.

Effectiveness could have been higher at the midterm if more farmers were participating in the project. However, some farmers felt reluctant to participate in the financing scheme upon knowing that it was a loan to be obtained from FICCO. The message that the project did not favor a dole out system had not been adequately conveyed to many producers and thus it was difficult to build from that message to increase their motivation for self-help and sustainability. This could have been a function of community organizing and organizational development.

Many members of the Magsasay Masipag Farmers Organization in Jabonga, said they were not interested to avail of loans from FICCO because the required paid-up capital or capital build-up (CBU). They also did not want to take the risk of being in debt for vegetable production. They said they might as well use their money to buy seeds instead of placing it in FICCO as CBU. The terms and conditions of the loan were not clear to the members.

On the other hand, while the project has strengthened collective spirit among producers through group activities like the farmers field school and through organizational development trainings, those who did opt to get personal loans from FICCO began showing the tendency to be individualistic. In fact this tendency was noticed not only in horticulture but also in fisheries and livestock. This was probably unintended. But this was also something that could not be avoided given the scheme and scope of financing. In fact this correlates with the observation that the individualistic tendency was stronger in fisheries and livestock where the loan ceilings were higher than in horticulture, particularly in vegetable farming where the loans were small. (Usually it would take several loan cycles of proving credit discipline and gaining business confidence before a typical borrower would be able to reach the loan ceilings now immediately available to first-time borrowers in the project.) This issue will be discussed longer in Chapter 6 but it does give a hint of a dichotomy in an approach involving both increased production, which relies more on individual capacities, and organizational development, which relies more on the collective spirit.

6.1.5. Efficiency

At its midterm, PCCP is under heavy pressure to deliver quality services at the right time and at the right budget.

Project efficiency could be gauged qualitatively on how beneficiaries, partners, and project personnel expressed satisfaction about the project. Members of Anticala Farmers Association said they were not satisfied with the performance and implementation of the project because there was no cold chain facility yet to increase the quality of their products and there was no marketing assistance to increase farmers' profitability.

Members of CROBEV said that PCCP did not fully answer their needs because it had not implemented the cold chain facilities yet. They were hoping to have been assisted at least in postharvest handling and market linkage. Their vegetable farms were flooded in December 2014 but despite that the farmers had managed to harvest their tomatoes. They said they had to make their own wooden crates because they were provided only 15 plastic crates by PCCP out of 200 units targeted. The tomatoes were sold at a very low price of P200 per crate because of poor quality.

At Grace Estate, participants said that the project was still new to them. They felt no tangible benefits yet except for knowledge on improved technology on vegetable production. They said they need to have an improved marketing system for their products.

COTs said implementation of project activities were delayed due to untimely approval or release of activity funds. Some of their field travels that were deemed necessary to expedite implementation were cut or disapproved by management. Staff turn-over at the PMO and PFU levels may have also delayed project implementation resulting to low project performance.

Efficiency could also be seen in how the support of partner agencies was mobilized. Two provincial offices said that Winrock had been very active in coordinating with them only during the conception of the project. During the implementation phase, there was less coordination. If given the opportunity these offices could have assisted in field activities and they could have provided technical assistance to producers targeted by PCCP.

The Department of Trade and Industry in Caraga said that in order to achieve efficiency PCCP has to expedite its interventions. “PCCP intended to have mobile reefer vans going around the provinces and linked to a cold storage facility that will be established by the project in Butuan City. But as of this time the project is delayed,” a key informant from the DTI said. This statement was quite revealing because it meant a major partner agency was not being updated about changes in the project plan.

Lastly, efficiency calls for an assessment of the need for focus on which commodities to prioritize across a wide range of geographic locations of PGs, commodity mix, and production, post-harvest handling, packaging, cooling, and marketing needs, without necessarily going to the extreme of following the “one town, one product” government strategy. Such discussion has not been started yet.

6.1.6. Sustainability

Adoption of improved vegetable production technology would likely continue even after the project.

This has a strong indication as farmers expressed they have benefitted from the technical trainings and farmers’ field schools on vegetable production. Farmers are also already linked to input suppliers and FICCO so there will be opportunity to scale-up production.

There are of course challenges to sustaining project gains, not only in horticulture but in all other components of the project. These include:

- a. The tendency of farmers to go back to their old practices because they have not felt significant increase in income when participating in PCCP. This was shown, for example, in one area where members who used plastic mulching in their first cycle plowed the field, including the plastic mulch, during the second cycle and planted the field the old way. In another area farmers stopped using the plastic seed-trays given by the project for the germination of seeds.
- b. A break in the loan cycle because of delayed loan repayment. Because of marketing problems and lower than expected income, some borrowers have not been able to repay their first loan on time. So they cannot get a second loan. In such case the motivation to remain an active project participant might be weakened.
- c. Lack of established market. Farmers are hesitant to get a loan because they are uncertain if they will be able pay back FICCO due to marketing issues. Even for those without a loan, this problem has an impact on their sales.
- d. Tapering involvement of government partners. These partners have the impression that Winrock is implementing PCCP on its own as they observed less coordination than before. When these government agencies will be asked later on to absorb the responsibility of continuing what was started by Winrock, they might take a cynical view.
- e. Lagging organizational development. The project used technology as a spearhead to change the practices and skills of participants. It resulted to high technical skills but had a downside of relatively lower organizational and human development.
- f. Not enough attention on disaster risk reduction and climate change adaptation.
- g. Continuing reliance on pesticides for weed and pest management. The long term environmental impact of intensive vegetable farming that promotes excessive use of chemicals is a challenge to sustainability. This is coupled with the accumulated residual effects of pesticides that pose risks to farmers and public health.

6.1.7. Impact

Impact is high in terms of farmers acquiring technical skills and knowledge on vegetable production. But when it comes to applying these skills and knowledge, impact is not as high because adoption did not depend only on the manifested efficacy of the technology but was tied to a loan package. Some farmers were reluctant to acquire debt. Others lost interest when they did not get a loan despite, in their view, fulfilling the requirements.

Impact on the vegetable sector in the region is medium as there was real increase in production area and production, part of which could be attributed to PCCP. The supply side in the value chain has also been given attention. But the other parts of the value chain still need to be addressed.

6.2. Mango

6.2.1. The Mango Sector

Mango is the third most important fruit crop of the country based on export volume and value, next to banana and pineapple. It has established domestic market and has bright opportunities for the international market (fresh or processed form). The country's export variety, the 'Carabao' is one of the best varieties in the world. About 73% of the total area planted is owned by small farmers. About 70% of production is consumed locally. The mango industry supports about 2.5 million farmers. (Source: <http://hvcc.da.gov.ph/mango.htm>).

The Table below shows the regional production of mango in the Philippines for two consecutive years. It can be noted that Caraga's contribution to the total mango production had increased by 137.71 metric tons.

TABLE 6-6. Regional Mango Production (in metric tons)

Regions	2013	2014	Increase/ Decrease
CAR	3,421.81	3,609.76	187.95
ILOCOS REGION	260,524.22	271,090.51	10,566.29
CAGAYAN VALLEY	47,961.62	53,690.73	5,729.11
CENTRAL LUZON	70,500.44	68,966.25	-1,534.19
CALABARZON	54,291.28	59,473.50	5,182.22
BICOL REGION	1,532.35	1,591.97	59.62
WESTERN VISAYAS	47,948.54	44,507.34	-3,441.20
EASTERN VISAYAS	847.52	517.6	-329.92
ZAMBOANGA PENINSULA	92,445.04	109,533.78	17,088.74
NORTHERN MINDANAO	44,694.58	45,224.34	529.76
DAVAO REGION	32,171.54	53,667.97	21,496.43
SOCCSKSARGEN	55,051.89	59,712.44	4,660.55
CARAGA	15,562.10	15,699.81	137.71
ARMM	7,680.20	10,859.77	3,179.57
Total	734,633.13	798,145.77	63,512.64

It can also be noted that Eastern and Western Visayas registered decrease in production caused by Typhoon Haiyan. Central Luzon was also hit by a strong typhoon.

TABLE 6-7. Comparative Volume of Mango Production in Caraga by Province, 2013-2014 (in Metric Tons)

Provinces	2013	2014	Increase/ Decrease
Agusan del Norte	14,497.86	14,740.42	242.56
Agusan del Sur	270.66	223.42	-47.24
Dinagat Islands	30.33	19.2	-11.13
Surigao del Norte	182.24	155.77	-26.47
Surigao del Sur	581.01	561	-20.01
Total	15,562.10	15,699.81	137.71

Source: Philippine Statistics Authority, Accessed 2016.

Mango production in Caraga increased by 137.71 metric tons in 2014 compared to the previous year. This was solely due to the increase in Agusan del Norte where PCCP has interventions.

6.2.2. Value Chain

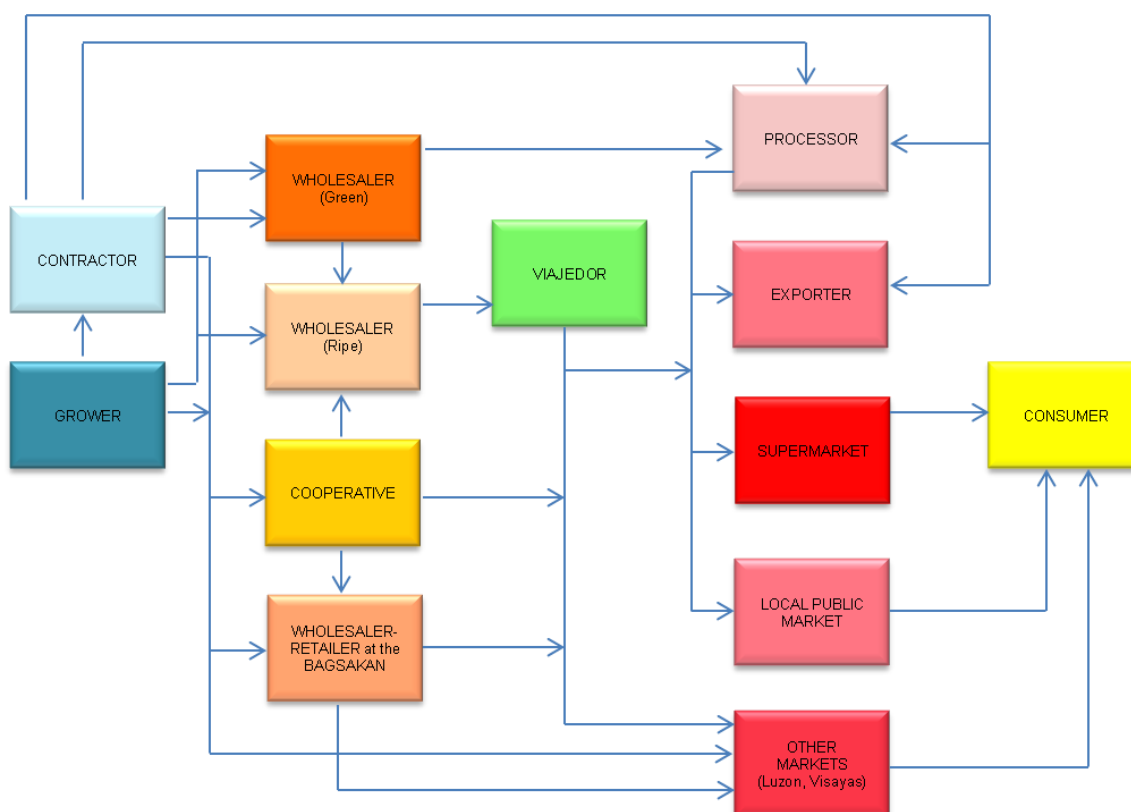


Figure 6-C. Mango Value Chain

The general value chain map for mango in Caraga as shown in the Baseline Study of 2013 has not significantly changed.

During the FGDs in Gosoon and Tagcatong, mango growers said they are still dependent for their market on the traders and viajedors who came during harvest. Some contractors who sprayed the farmers' mango trees are also their immediate buyers. There is a processing plant for dried mango and juices operated by the LGU of Carmen but it could not accommodate all locally produced mango. In Carmen alone, there are around 60,000 mango trees.

6.2.3. Relevance

PCCP is addressing the need for improved technical skills and knowledge among farmers. It is also in the process of addressing further the processing and packaging needs of the sector by improving an existing processing plant.

PCCP has increased the technical skills of mango growers in Caraga. During the conduct of FGDs for this evaluation, farmers said that their knowledge and skills have increased because of the technical trainings provided by PCCP. According to farmers they received training packages on production, post-harvest handling and storage. Improved technologies on flower induction, fertilization, pruning, bagging and post-harvest handling were highly relevant to farmers.

PCCP and the local government unit of Carmen, Agusan del Norte through the latter's Economic and Enterprise Development Office have identified the Mango Processing and Packaging Center as one of the sector's prime movers for increased production and income through value addition. The relevance of this intervention is high as it will provide long term solution to the underlying issues of market and low prices that give mango growers low returns compared to other players in the value chain.

The existing processing plant that was funded by the Spanish Government through AECID has a depulper, a cooking parch, a dryer, and a peeling machine. The improvement of the existing processing plant and the establishment of a packaging center has an allocation of about 8 million pesos. The new facilities will be able to provide food washing, vapor treatment, and cold storage.

6.2.4. Effectiveness

The increase in production of mangoes in 2014 in Agusan del Norte compared to the previous year as shown in Table 7 may be attributed to a large degree to the technical trainings and inputs provided by PCCP to mango producer groups. There is no other intervention of a scale similar to PCCP that can claim attribution.

The benefits of the increase however are not fully realized by the farmers because of disadvantageous cultivation arrangements with contractors (involving 18.6% of the trees) and harvesting arrangements with traders. The independent growers, on the other hand, suffered from high production cost and losses due to pests and diseases. In particular, many of these farmers said that thrips, a pest, infested their mangoes from flowering to fruiting stage, affecting the quality and consequently the price of the fruit.

6.2.5. Efficiency

Delays in improvement of facilities and lack of alternatives to current cultivation and marketing arrangements caused the project to miss the opportunity to get better results for the same effort and resources.

Delays in implementation of major PCCP components for the mango industry in Caraga were a challenge to efficiency. There was a huge volume of mangoes harvested in 2014, however farmers felt they did not benefit from the harvest because they still relied on the traditional marketing chain where traders, contract sprayers, and other buyers got most of the profits.

The improvement of the mango processing center and the operationalization of new facilities that would ensure good quality products would have been a great opportunity for the farmers if it was provided at the right time.

6.2.6. Sustainability

Adoption of improved technology in mango production will likely continue even after the project as farmers are appreciative of their new knowledge and skills. On the other hand, it is difficult to assess the sustainability of the mango processing plant and cold storage although a preinvestment study was made by the project.

The low percentage of farmers availing of loans is a cause for concern, especially since the farmers themselves have said that the key to achieving high yield is financial resources. The other sustainability issues are: arbitrary and excessive use of chemicals, marketing difficulties that are exploited by cultivation contractors and traders, and loosening ties with government agencies expected to continue what the project has started.

6.2.7. Impact

Impact is high on production technology and post-harvest handling. This could have contributed to the large increase in volume of mangoes produced in Agusan del Norte in 2014.

7. FINDINGS: FISHERIES

7.1. Lobster

7.1.1. The Lobster Value Chain

Lobster is the new emerging product of Caraga Region, specifically in Dinagat Islands, Siargao Islands and Surigao City. Nearly 37% of fishers engaged in aquaculture are into lobster growing.

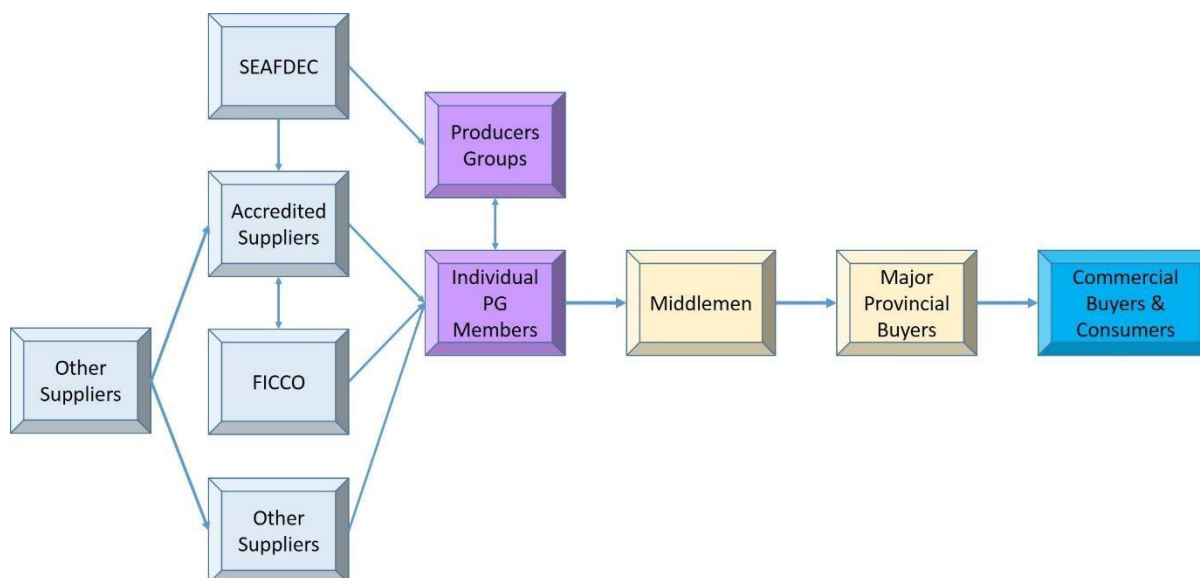


Figure 7-A. Lobster Value Chain

Local fishers in the area collect embryos in the wild and sell them to suppliers who then grow them into fry or fingerling. The lobster fingerling costs P500 while the fry costs P150. Sometimes the fingerlings can come from as far as Hinatuan, Surigao Sur.

PCCP has accredited 3 fingerling/fry suppliers (Nelson V. Vergara, Ma. Marites Mancile, and BioPacifica Marine Trading). They have been in the business for almost 10 years.

The supplier provides lobster fingerlings to the producer. Then FICCO pays the supplier from the loan proceeds of the producer. The same arrangement is followed in the case of materials for lobster cages (nets, wires, etc.).

The product (live lobsters) are brought to province-based buyers in Dinagat Island and Surigao del Norte. The buying price is P3,000 per kg. Some producers once thought of selling their lobster in Manila but the price difference was just P200 per kg, not enough to compensate for the trouble and cost, given the small volume involved. But apparently it is profitable for major provincial buyers who are able to consolidate a much bigger volume.

7.1.2. Relevance

PCCP meets the most important need of lobster growers – financing. Lobster growers have the biggest loans among FICCO's borrowers under PCCP, nearly P80,000 on the average, because of the price of baby lobsters. PCCP's accreditation of suppliers also helped ensure that growers get quality fingerlings or fry that would grow faster and would have low mortality rate. PCCP's partnership with SEAFDEC made better technology available to both suppliers and growers.

PCCP provided a financial support system to lobster growers wherein they were linked with FICCO. Members of the producer group can loan at FICCO for fry or fingerlings and for cages and fishing equipment. PCCP also provided technical and marketing trainings, although training on value added production and disease detection have not yet been offered.

7.1.3. Effectiveness

The effectiveness of PCCP's intervention may be gauged by the fact that only 1.4% of lobster growers who borrowed from FICCO have overdue loans. This indicates that the trainings have been effective and the accreditation of suppliers works in ensuring quality inputs.

Trainings under PCCP entirely changed their perspective on lobster growing and allowed the producers group to change their old ineffective habits of lobster production.

7.1.4. Efficiency

Input costs are high but loan amounts are used efficiently.

While the loan ceiling for lobster is set at P303,000, this was not maximized as lobster growers borrowed just enough for their needs.

It must be mentioned that assistance to lobster growers was delayed and first cycle loans were released late. Arrangements with suppliers were made only in May 2014 and the first loans were released only in November of that year. But despite the late start 278 lobster growers have been assisted to date.

7.1.5. Sustainability

A major sustainability issue is the supply of trash fish (fishery by-catch), sea-urchins, and snails which serve as feeds for the lobster. Where before the fishers could get trash fish and sea urchins just near the lobster cages, now they have to go farther out to get the feeds.

This may be a limiting factor in the growth of the lobster industry in Caraga. But those currently engaged in lobster growing under PCCP are like to continue even after the project because of the high returns they are getting.

7.1.6. Impact

PCCP has drawn attention to the opportunity afforded by lobsters to fishers who were having problems with dwindling fish catch in municipal waters. It can be said that PCCP boosted lobster growing to become a major industry in Dinagat Islands and Surigao del Norte.

7.2. Other Cultured Fishery Products

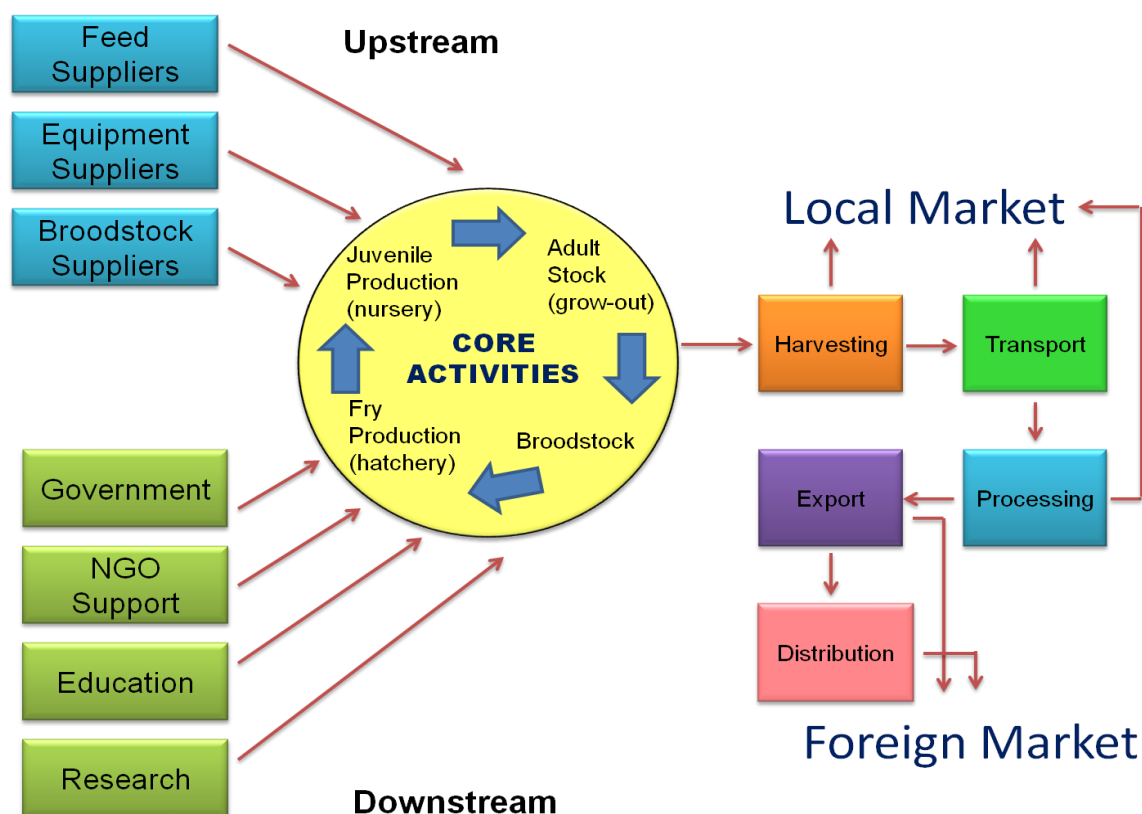


Figure 7-B. Generic Value Chain for Other Cultured Fishery Products

The percentage of aqua-culturists growing specific products are as follows:

Bangus -	36.9%	Dinagat Islands, Surigao del Sur, Agusan del Norte
{Lobster -	36.4%	Surigao del Norte & Sur, Dinagat Islands} ¹⁰
Crab -	25.5%	Surigao del Norte & Sur
Tilapia -	15.4%	Agusan del Norte & Sur, Surigao del Norte & Sur
Shrimp ¹¹ -	13.8%	Surigao del Sur, Agusan del Norte
Others -	25.1%	various provinces in Caraga

(The total is actually more than 100% but it simply indicates that many of the fishers are either into polyculture or are raising more than one product separately.)

Producers have the option of gathering or buying wild fry then raise them in ponds until the fry¹² become fingerlings which can then be used to stock their ponds, cages, or pens. The other option is buying fingerlings from hatcheries or nurseries. Most growers would prefer to use fingerlings from a hatchery because they can get

¹⁰ Already covered in the previous section

¹¹ Tiger shrimp, commonly called prawn, and white-leg shrimp called vannamei

¹² Used as a generic term. Lobster fry are actually called crickets and crab fry are called crablets.

disease-free fingerlings of the same age in volume and thus can program their harvest. They also do not want to go through the trouble of raising fry to fingerlings themselves¹³.

The project has accredited 10 fingerling suppliers so far.

TABLE 7-1. Accredited Sources of Fingerlings

LOCATION OF GROWER	SOURCE OF FINGERLINGS				
	Agusan Norte (1)	Agusan Sur (none)	Dinagat (4)	Surigao Norte (1)	Surigao Sur (4)
Agusan Norte	Prawn, Vannamei		Bangus		Bangus, Tilapia
Agusan Sur					Tilapia
Dinagat			Bangus, {Lobster}		
Surigao Norte				{Lobster}	Crab, Tilapia
Surigao Sur	Vannamei			{Lobster}	Bangus, Crab, Prawn, Tilapia

There is an advantage in dealing with accredited suppliers because producers can get a loan from FICCO which then orders the fry from the accredited supplier. But this has led to situations like producers from Surigao del Norte getting their vannamei fingerlings from a hatchery in Agusan del Norte which is more than 200 km away. (And the producers have to get the fingerlings themselves and shoulder the transport costs because the hatchery will deliver to nearby areas only.)

Processing time was an issue, with 57.2% of fisher-borrowers complaining about delays. The delays were especially felt in Dinagat where FICCO did not have a branch. Lately, at the behest of the project, FICCO opened a business center in Dinagat for its special agricultural loans under the project. But, on the whole, fishers appreciated the availability of credit.

The situation with regards to vannamei is an example of current gaps where there is a concentration of producers of a particular species but no accredited supplier. Agusan del Norte lacks a supplier of bangus fingerlings. (Tilapia is not a problem because government occasionally distributes tilapia fingerlings.) For Surigao del Norte, it is crab. And for Surigao del Sur – lobster and vannamei.

Incidentally the owner of the hatchery in Agusan del Norte expressed interest in going into bangus fry and fingerling production. It would seem he was not aware he could get a loan from FICCO, at least for the fingerling nursery component. Around 30% of crab producers get their crablets from the accredited supplier. In the case of other fingerlings, it is 36.8%.¹⁴

The project can be credited for establishing the supplier accreditation system and linking the producers with suppliers. The project can be credited further for

¹³ In the case of tilapia, some of the old stock in the grow-out pond are retained to produce fry. But eventually this practice leads to deterioration of genetic quality.

¹⁴ From midterm household survey

strengthening the producersupplier relationship through credit for, among others, fry or fingerlings.

The first cycle of bangus fry production was successful but the second cycle is encountering difficulties because of El Niño. But one PG leader claimed that high mortality was also due to poor quality of fry and fingerlings.

The first cycle of crab production has not been completed yet at the cut-off date of September 30, 2015. It was delayed because of the need to reorganize and strengthen first the 2 PGs involved.

The first cycle of vannamei production had mixed results as 38.5% of the producers will have not paid their loan. Tiger shrimp or prawn had a more successful fist cycle.

The first cycle of tilapia production was successful.

Technical trainings conducted by the project played a key role in the successful first cycle of production. Sixty percent (60%) of trainees adopted and practiced what they learned.

There is no lack of buyers but price is an issue because buyers dictate the price without an objective basis that producers can understand. Price difference based on size is clear to producers. Quality is a bit fuzzy but producers also understand the basic principles behind it. But when a crab of the same size and appearance as yesterday fetch a lower price today then 51.9% of producers can only accept it because they rely on the buyer for market information.

Two islands will be getting an ice-plant with cold storage each mainly for fishery products.

8. Findings: Livestock (Swine)

8.1. Brief Description of the Swine Industry

Swine as meat animal play an integral part of the Philippines Cold Chain Project (PCCP). Its inclusion in the project is aimed at increasing its production volume and efficiency on one hand, while delivering a high quality and safe product to the consumers without neglect of the environment on the other.

A two-pronged approach has been adapted by the project to maximize impact on the targeted beneficiaries. The Winrock-led slaughter hog production and the PANC-led Swine Repopulation Program which is basically production of gilt lines and boar services to ultimately support/supply piglets for slaughter hogs production.

Slaughter hog production is implemented by PGs. Piglets of varying weights, depending on availability of stocks, are provided to the PGs after said group attended the mandatory trainings/seminars conducted by Pilmico, PCCP, and FICCO. FICCO is the identified loan conduit to finance the grow-out activity of the PGs. Individual

farmer-member of PGs are required to attend FICCO's pre-membership educational seminar (PMES) and also pay the required capital build up and membership fee. However, a special window for PG members was opened so that the required capital buildup of the cooperative is paid in installments by deducting a certain amount from the proceeds of the grow-out activity every harvest. Loanable amount of qualified farmers is set at P 92,000.00 to cover expenses of piglets and feeds, excluding medicines, vitamins and other supplements.

Farmers or PG members are also required to build a suitable pig pen as their counterpart. The functionality of the pig pen is assessed jointly by the COT and the Pilmico technician in the area. They make the recommendation if the farmer is ready and qualified to receive the required number of piglets which is 12 head per cycle per recipient.

Ideally, piglets for slaughter hog production should be coming from the multiplier farms (MF's). However, because of the generation interval, location of MF's, volume and homogeneity of piglets needed, piglets are sourced out from the nearest supplier with the most competitive price and nearest possible location to the farmer recipients. These factors are mostly considered to minimize their impact on the loanable amount of the farmer as well as to the health and well-being of the stocks.

The production of marketable hogs started even before the multiplier farms became operational.

Repopulation program is the production of breeding gilts - as grandparent stock and as parent stock. At these different levels, a corresponding boar is also prepared to produce the desired quality of gilts. First generation gilts (grandparent) of breeding age are dispersed to qualified farmers to produce gilts of breeding quality (parent stock) on the second generation

Generally therefore, production activity whether parent stock or slaughter hogs, is directed towards processing before reaching the end consumers. However, before the cold chain component of the project is realized, production should be first established.

8.2. Value Chain

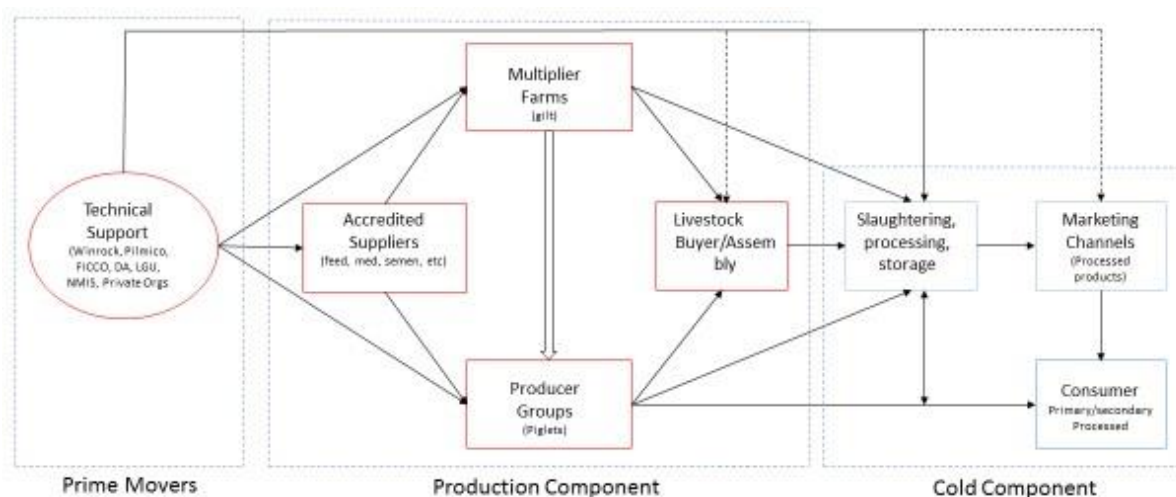


Figure 8-A. Swine Value Chain

The value chain is composed of three major links or components, (a) prime movers, (b) production component and (c) cold component.

The prime movers basically sets the direction and pacing of the project, providing inputs and facilities where needed, and building the capacity of PGs, PG members, and other industry stakeholders.

The production component involves multiplier farms, other suppliers, producer groups, livestock buyers.

The influence of prime movers on producers can be seen, in particular, in the way feed supply and technical support are delivered by Pilmico and its technicians. Pilmico feeds with different formulations and rations corresponding to the age of the pigs are prescribed, weight gain targets are defined, and the length of production cycle for maximum profit is set.

In Agusan del Sur especially in Bayugan City and Sta Josefa, Pilmico has less influence because Sinubong/VPO and Pigrolac supply the feed and technical support, respectively. In the case of Sinubong/VPO, a package is offered - piglets, feeds, technical support and market of the slaughter hogs. Pigrolac supplies feeds and technical support but piglets can be sourced in the vicinity.

The third link is the cold chain component. However, without improved productivity and better live hog quality, this component will not be fully utilized. In collaboration with National Meat Inspection Services (NMIS), Winrock was able to upgrade slaughtering facilities and improve current procedures at both operations and management levels. Storage forms part of this structure because it absorbs the surplus of production and/or the slowdown in processing.

Marketing at different levels (livestock or processed) has not been actually seen in field as of evaluation time. However, considering that there are many stakeholders in the project, perhaps others can help in this regard.

8.3. Findings

TABLE 8-1. Repopulation Program

Deliverables	Target	Accomplished	Percentage Accomplishment
Parent Stock Gilt	450	400	88.9
No. of Recipient	77	152	197.4
2nd liner Gilt	1,440	133	9.2
No. of Recipient	77	83	107.8
Total No. of Recipient	77	235	300.2
No. of GP Boar	4	4	100.0
No. of Terminal boar	6	2	33.3

No. of boar operator	6	1	16.7
Total No. of Active sow	3,000	533	17.8
No. of piglets to distribute ¹	20,000	n.a.	n.a.
No. of trained farmers on breeding mgt ²	151	68	45.0
Establish breeding record	77	235 ³	300.2
No. of trained Pilmico suppliers	on going	on going	on going

¹ no accomplishment data available

² some lacking data

³ assumed from the total no. of recipients

Table 8-1 and Figure 8-A show the comparative figures between the target number and the accomplished figure as of currently available data.

Parent stock gilt is already 88.9 percent (400/450) complete while the second liner gilt offspring of the 1st liner) is low at 9.2 percent (133/1440). The low delivery of second liner gilts can be attributed to several factors. One is the source of grandparent stock. Because of the volume it is not easy for the supplier to deliver at once and gilts have to be grown to ideal age prior to disposal. Second is the generation interval between grandparent stock and the production of parents stock at breeding age. It basically requires about 1.5 years to produce the second generation. Third is they either culled or died. Of the total 499 delivered gilt, only 400 currently in the farms. 99 were either bought (10 heads), culled (68 heads) or died (21 heads).

Second liner gilts (parent stock) also experience a downfall. Out of the total 184 weaners released, only 133 gilts passed selection at 5 months of age. The 51 differential either got culled, died or did not pass selection.

Despite the drawback in the total number of gilts delivered both grandparent and parent stocks, the total number of recipient went high to 300.2 per cent (235/77). This can be attributed to the reduction in the number of gilts per recipient because of either farmers' choice or the capacity of the farm facility.

However, combining the grandparent and parent stock to arrive at the targeted total number of active sow for the entire region, it is still way below at 17.8 per cent accomplishment (533/3000). This figure is attributed to the factors mentioned above and the repayment scheme of 2 piglets per farrowing for 2 parities (or a total of 4 piglets). It was also pointed out during the KII of some MF's that repopulation program through Pilmico is only interested in the repayment gilts. This actually resulted to some GP and PS gilts being sold as slaughter hogs which a waste of precious genetic materials.

Moreover, delivery of grandparent and terminal boar is at 100 and 33.3 percent respectively. The former supplies semen for the grandparent gilts (first liner) while the latter to breed the second liner gilts for the production of piglets for slaughter hogs which is set to reach 20,000 piglets before the project ends.

Training of farmers and farm workers is achieved at 45 per cent (68/151), while the training for Pilmico suppliers is ongoing.

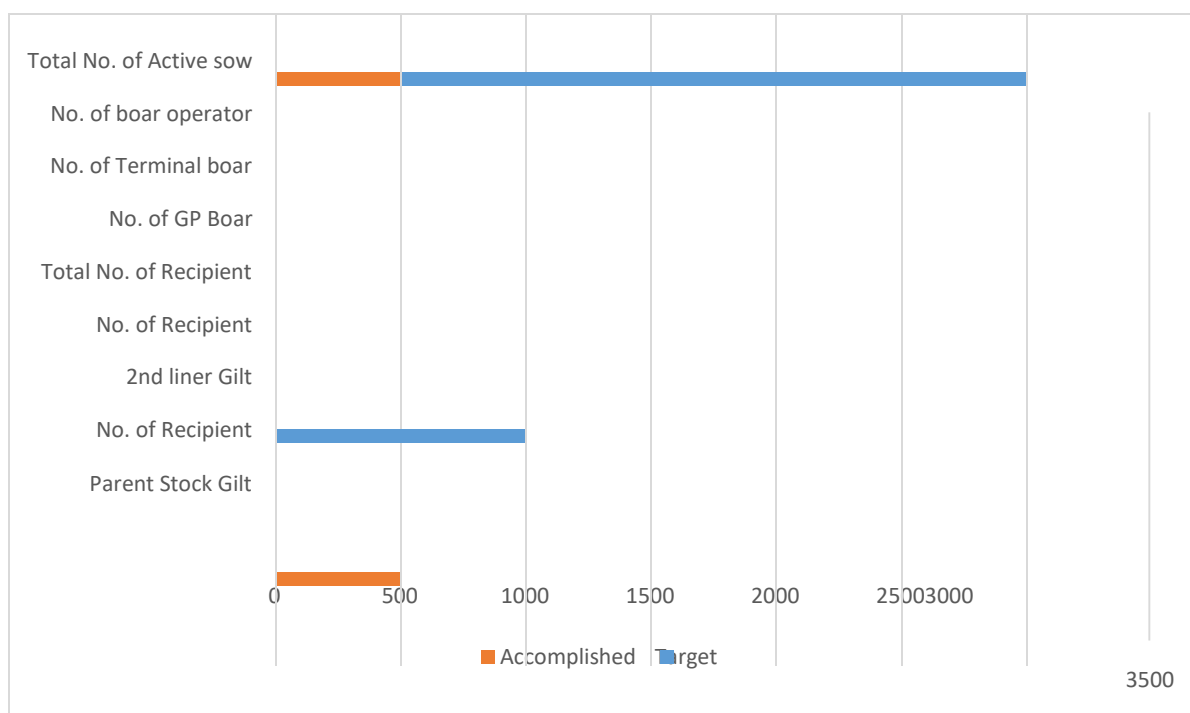


Figure 8-B. Repopulation Program Accomplishment

TABLE 8-2. Slaughter Hog Production

Deliverables	Target	Accomplished	Percentage Accomplishment
No. of piglets to distribute	20,000	1,287 ¹	6.44
Total No. of Recipients		468	
Total No. of Paid Loan	468	18	3.8
Total Amount of Loan released		P9,872,667	
Usual Amount of loan, 12 piglets		P92,025	

¹ assumed, P9,872,667.65/P92025 x 12 piglets

Slaughter hog or marketable hog production is having a very low accomplishment at 6.44 per cent distribution rate (1287/20000) at shown in TABLE 8-2.

Ideally, as stipulated in the agreement between PCCP and Pilmico Animal Nutrition Corporation (attachment A, item 4), piglets for distribution will be coming from the terminal breed lines of the multiplier farms. However, because of some setbacks in the delivery of breeding gilts COTs and/or Pilmico technicians resorted to sourcing out the piglets from the most qualified supplier in nearest location. This initiative somehow ignited the slaughter hog production even before the terminal breeds of the multiplier farms kick into production.

TABLE 2 also shows the total number of piglet recipients as of evaluation, 468 PG members. However, as per FGD/KII not all of these recipients actually received 12

piglets each for some reasons like availability of piglet and the capacity of the pig pen.

8.3.1. Relevance

With the ever increasing population coupled by the booming economies of the region of CARAGA, hog production is a subsector that will support food requirement of the people. In the last 5 years (as reported in the baseline survey) hog production in the region is increasing. However the increase met an almost inversely proportional reduction in the volume of animals slaughtered.

In the second quarter of 2014, farm gate price of slaughter hogs reach a high of Php110/kg. This figure indicates the limited supply in the region. The limited supply and the low slaughter rates also indicates that pork supply in the market comes from other sources like Davao City, Cagayan de Oro and Bukidnon. Considering that there are only few commercial hog farms in the region, most of the supply therefore is coming from the backyard production.

With the low productivity issues in the region because of the lack of technology, low quality genetics, absence of loan conduits, PCCP (repopulation program and piglet distribution) is aptly located in the area to answer these issues and problems. This project will not only boost production but also promote proper meat handling and food safety.

8.3.2. Effectiveness

Small farmers are mostly vulnerable to inconsistent production rates and unstable market situations. The presence of the project with all its support system (e.g. training, financing) will surely effect change in the region. However, with current targets at hand and the rate the project is moving now, significant effective change may be unfelt especially with the remaining project life. The coverage area of the project in relation to the number of COT's in the field may also hold up effectiveness of the project.

When targets are set too high and accomplishment is rather low then effectiveness can also be low. To distribute 20,000 piglets from a 450 sow level grandparent stock may not be achievable in a 5-year project is one of the examples. Another one is the number of active sows (3000 heads) as a target for entire project duration is rather high especially when it is based in the 450 grandparent sow level and a repayment scheme of 2 piglets for 2 parities (or a total of 4 piglets). Other factors related to this should also be considered – volume of supply, capacity of the supplier, farrowing index, generation interval, mortality, culling and the like.

Farmer factor should also be considered on the other hand. Farmer may not attend to seminar/training that easy because they too have their priorities. It should be considered that some farmers are either laggards or late adapters. It came out in the FGD's that some farmers are actually on a "wait-and-see" status before they finally commit to the project.

Marketing of slaughter hogs is the missing link in the project. This missing link brought most farmers to the point discerning whether or not to continue to the next cycle. The first cycle of the slaughter hog production was crucial as some other farmers' decision depend on it. As mentioned above, some farmers are either laggards or late adapter so that the experience of the first cycle affected mostly their decision.

Most farmers incurred a tremendous debt from FICCO even after harvest. One farmer in Charito waited for the right price to come and delayed the harvest for some time. However, the hogs got over weight which resulted to lower market price. The loan intended for feed is actually fixed until harvest time or about 4 months grow out period only, therefore the excess will be shouldered by the farmer.

With the pressure on marketing, some COT's in the field took the initiative of linking PGs to the market. This gesture either helped the farmer or even put them in debt even more. A case in Agusan del sure where COT transferred the PG to Sinubong/VPO to assure of a market at harvest time. This could be a positive instance that will result to a positive marketing. However, the case of Barangay Trinidad Hog Raisers Association resulted quite differently. The link to which the COT brought the farmers did not actually pay the farmers on time. Roughly around P1.4 million worth of hogs were sold but no payment as of FGD time. This delay also resulted to farmers accruing a loan payable of about P100, 000.00 (as per FICCO collection letter as narrated by farmers during FGD)

8.3.3. Efficiency

Table 8-1 also reflects efficiency of the project. Among the top three delivered items for the repopulation program are GP boar (100%), number of recipients for both GP and PS gilt (300.2%), GP gilt (88.9%). The bottom three includes number of terminal boar (33.3%), total number of active sow (17.8%) and number of boar operator (16.7%)

Table 8-2 shows a quite low efficiency in terms of total number of piglets distributed (6.44%) and total number of loan repayment (3.8%). Total amount of loan release is about P 9,872,667.65 to some 468 farmer-recipients. Average loan amount for the standardized 12-piglet module is set at P 92,025.00.

The efficiency of the repopulation program is directly attributed to the availability of grandparent gilts, the quality of gilt which resulted to 99 heads either bought, culled or died. Breeding services also contribute significantly to the slowing rates. Among these is the location and number of Genetic Material Processing Center (GMPC) and Genetic Material Distribution Center (GMDC) which are actually private partners of the project.

As of FGD/KII time, only one GMPC/GMDC is established in Butuan City. It cannot therefore serve effectively and efficiently the far-flung areas where multiplier farms are located. There are also concerns on the availability of technicians (both COT and Pilmico technician) when needed by multiplier farms either for monitoring or AI services. The unavailability of technicians actually resulted to repeat breeding or low conception rates of PGs and PS.

Piglet distribution for slaughter hogs production is a slow-paced activity. The setback in the multiplier farms actually led to a domino-effect towards this activity. As mentioned earlier, to fast track the distribution, COT's resorted to other sources. However these alternative sources supplied piglets of either too small, oversized or a combination of both. The issue on piglet homogeneity had a bearing on the feed allocation and loan amount (oversized piglet) or on the overall performance of the herd – slow growth, uneven growth or even death.

8.3.4. Sustainability

Project sustainability is normally dependent on funding. However when other stakeholders are involved, the idea and activity should remain in the area even after the project ended.

Some farmers actually committed to continue the activity of raising pig (either for PS or slaughter hog) even without intervention from PCCP. This commitment came about after learning the technology and also after investing in the activity. However, most of these farmers are either already experienced (even before PCCP) or those who experienced positive gain from the enterprise. While those who had unpleasant experience are either doubtful or are considering other animal commodity.

Other farmers who understood the essence of having a savings, diligently build up their capital with FICCO. They said that with their coop membership, they can still avail of loans even when PCCP ends.

There are also cases of farmers pooling their resources together to have an edge on management and/or marketing. The case of New Esperanza Swine Raisers Association (NEZRA) is an example where farmer made clusters and grow their piglets together. They either hire a caretaker or take turns in the farm chores.

While there are also a number of PGs that planned to processed their hogs and ultimately market it as pork. These groups actually understood the idea of cold chain and they want to connect the link of their production activity to it. However more support is asked – technical, organization and financial.

There is also a considerable number of PGs that suggested alternative feeds and/or feeding. This is their reaction to the high cost of feeds coupled by the distance of the supplier. These ideas are either to mix their own feed, to buy from a near feed miller or to go organic.

8.3.5. Impact

The current status of PCCP is barely 50% of the production component (see value chain) and still on the initial stage of the cold component.

GMPC and GMDC will sure upgrade the genetic status of swine breeding in the region not only on the side of the PCCP-PANC repopulation program, but also on the immediate neighboring populations. This will create diffusion effect especially when more GMPC and/or GMDC will be strategically dispersed all throughout the region.

However the expected impact can be disrupted when other components of the project are not in unison with each other. With only one GMPC/GMDC currently established (at Butuan City), it can barely serve the semen needs of the region. The lack of GP semen in distant places will result to indiscriminate breeding and will impact on the quality of parent stock for slaughter hogs production. Low quality piglets on the other hand will have a bearing on the productivity of the enterprise. The efficiency of reproduction can also be affected by unavailability of semen and/or technicians.

The other component of the project should also be strengthen to maximize the effect of the overall chain. The cold component of the project is rather on the icy stage with only 6 grants considered for slaughter house equipment. Out the 6 grants considered, only 4 proposals have been submitted to Winrock for review and approval, while the other 2 proposals are still on the development process. For most if not all of these proposals, the corresponding LGU counterpart is already in place.

There is no proposal for poultry from the PGs.
Only one intervention for eggs – grading and sorting

9. RECOMMENDATIONS

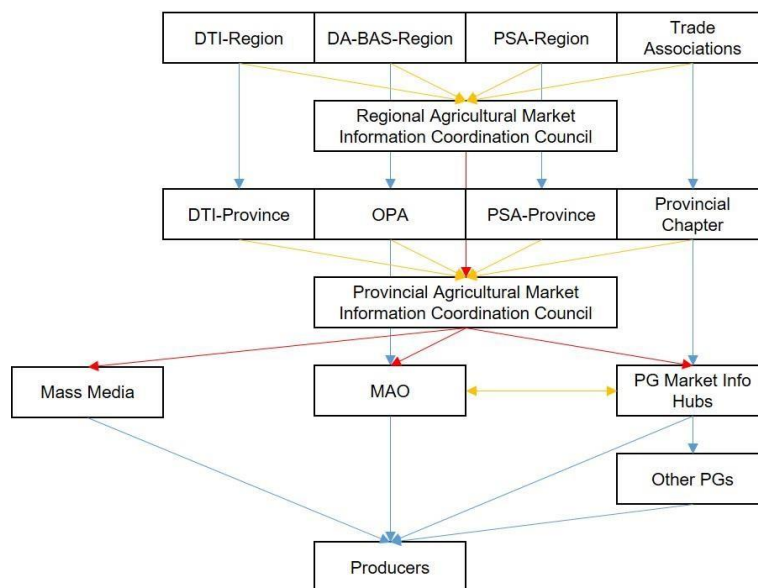
- a. PCCP should categorize the producer groups according to the responsibilities they should be having and the tasks they should be performing and accordingly plan the kind of capacitybuilding needed.

While the project needs to be more careful in selecting the additional 126 barangays, and hence the PGs, to be assisted in the last 2 years of the project, it is likely that many of the PGs will still be weak for lack of better choice. The project cannot afford anymore to spend more time and resources for organizational capacity building to the detriment of other targets, especially in post-harvest handling, processing, and marketing. It has to be selective. This requires that the potential relative specialization of each PG be identified and only the necessary trainings and other interventions be given towards developing that specialization, instead of having 630 OCB trainings (even if we did say that trainings are easy to deliver).

The following categories can be used:

- Service co-delivery – The PG is mainly for the purpose of ensuring that project services reach producers in the area. Its main tasks are: (1) recruiting and screening training participants, borrowers, and grant recipients; (2) mobilizing participants for service delivery; and (3) monitoring service delivery – mainly attendance and participation – and its results – mainly adoption or application. The core set of interventions for this group consists of orientations on specific screening guidelines (like those of FICCO), coaching and tactic sessions on mobilizing participation, orientation on indicators of adoption or application, and training and coaching on monitoring of participation and adoption. This core set of interventions can be handled by the COTs, except for the orientation on guidelines which will be given by the concerned sub-grantee.

- Market information hub – The PG will be part of a network of market information sources which might look something like this:



A couple of PGs per product per municipality acting as market info hubs will suffice. The main task of the PG is disseminate market information to other PGs in the municipality and, in certain cases (like information campaigns), to producers directly. But an equally important task is to manage market information by deciding which are important and thus need to be generated and actively looking for the sources that can generate them. A third task is to feed back information about local production and market situation to others in the network. The additional trainings required will be on simple market research and marketing. These trainings can be given by DTI and/or a contracted service provider. But what would be more important would be a system of meetings and communication among the members of the information network, as well as a system where other PGs contribute towards the participation and dissemination expenses of the PG market info hubs. The target of 250 PGs becoming sources of market information still applies but only in the sense that the PGs will be conduits of information.

- Consolidator – The PG will be tasked with the consolidation of products for transport, storage, exhibition, and/or marketing. Some units of transport like a truck or a container van may be too large for a single PG but if there is product consolidation then there will be more efficiency. The same goes for renting dry or cold storage space and renting a display booth in a trade exhibition. Marketing contracts will also require product consolidation to meet volume requirements and delivery schedules. The need for better-placed PGs to act as consolidators has been raised more than once in the course of this evaluation. One consolidator per product per municipality might be needed. The additional trainings needed are in simple value chain analysis and logistics management. These can be given by a contracted service provider. The designation of PG consolidators will complement the formation and strengthening of trade associations and contribute directly towards the target of groups and persons benefiting from improved trade capacity.

- Processor – This PG is either into processing or many of its members are. The additional trainings needed would be specific to the processed product but would also include marketing and packaging. These can be farmed out to different experts with actual experience in processing. Learning visits to processing firms can also be included.
- b. Whether the first recommendation above is accepted or not, there is still a need to rationalize the series of organizational capacity building trainings currently being conducted. In the end the target result is in terms of PGs with members who have increased productivity and who are earning more from expanded trade. Six hundred thirty (30) OCB trainings for the new batch of 126 PGs, not counting the backlog for the old batch of 124 PGs, is a lot. Especially since these trainings have not been part of the project plan originally and given the slow pace of implementation which was less than 30 trainings per month.

The following questions should be answered in the planning of the OCB trainings:
(1) What is the role of the PG? (2) What capability does it need to fulfill its role?
(3) How will this capability be developed?

Offhand, only 2 of the 5 basic trainings in the current OCB series might actually be needed, with slight modification: (1) producer group planning and monitoring; and (2) agribusiness management. Savings mobilization can be part of the financial services training or premembership education seminar (PMES) given by FICCO. Bookkeeping is better approached through coaching of the PG treasurer and bookkeeper (if there is one) by roving bookkeepers (to be hired by the project) who will set up the books of account of the PG and maintain them initially until the treasurer (or bookkeeper) can take over.

If there will still be PGs really needing basic organizational management trainings then the experienced COs among the COTs can give them. (There are at least two of team per province.)

- c. The project should sharpen its indicators for gender inclusion in PGs and in livelihood activities.
- d. The project should promote better handling and product quality standards not only among PGs and slaughterhouses but also among others in the value chain – suppliers, transport operators, drivers and trucking crew, storage crew, buyers/traders, processors, and retailers. Accreditation of suppliers should be reviewed at least once during the remaining term of the project to check if they continue to meet handling and product quality standards. This is particularly important in the case of hatcheries and nurseries. And also in the case of multiplier farms when they start selling stock for slaughter hog fattening.
- e. Grants for inputs and equipment should be more aggressively promoted by the project field units. The grants can be complementary, meaning a PG or firm can receive both for the same undertaking as in most cases both inputs and equipment are needed. Some possible undertakings have already been suggested: fingerling nurseries, inputs for mango production where the PG got a lease on the trees, animal-feed formulation using mostly local ingredients, and seed propagation. Other possibilities can be: transport services for consolidator

PGs, internet access for PG market information hubs, and small intermediate or halfway cold chain facilities. The strengthening of the involved PGs or firms should be focused on their capacity to manage the undertaking.

- f. Winrock should review and consider proposing the adjustment of some targets. What immediately comes to mind are the adoption rates. Targets of 100% adoption should be adjusted downwards; the current trend seems to be around 60% so an 80% trainee to adopter conversion rate instead of 100% should be reasonable. (There is no need for adjustment where the target adoption rate is already below 100%)

The target number of grants for inputs and equipment should also be reduced as the trend seems to be going towards bigger grant amounts. For inputs, the target should be reduced from 200 to 120. For equipment, the target should be reduced from 250 to 200.

No training in sanitary and phytosanitary standards have been given because it had no specific budget. But it was integrated into trainings on quality and regulatory certification. It can also be integrated into trainings in post-harvest handling or storage and trainings in processing. There are no trainings, however, for suppliers where it can be integrated. The project should recommend reducing the target drastically because of the integration and because of budget concerns but it should retain a target of at least 30 trainings specifically for suppliers.

As it is unlikely that the project will meet its target of 12 public-private partnerships, it is recommended that the target for public-private partnership be reduced to two (2) but that new targets be set for project-private partnerships – 24 – and project-public partnerships – also

24. The budget can be taken from grants for equipment, in which case the target for number of grants for equipment may be further reduced to 150.

The target of 700,000 persons with access to improved market information is high, considering there are only around 307,000 farming and fishing households in the region and not all of them will be reached by the information network under the project. Even the count will include those from non-agricultural households who casually hear one day what the current price of tomato is, reaching 700,000 will still be difficult. The project should clarify how far the beneficiaries-chain extends in this case. This is also needed in the determination of the project's indirect beneficiaries.

- g. The project needs to give attention to marketing, at both the strategic level of market development and trade expansion, on one hand, and the practical level of finding specific buyers for specific groups of producers on the other hand. With regards to the latter, the scheme for accrediting suppliers can be adapted to have a rating system for buyers. This will mean gathering information about them as to their marketing chain, volume of demand, how their buying price compare with others, what are the conditions of sale and payment, and their reliability. Of course, the project, working with the PGs and other partners, has to find them first.

- h. The project should study other risk reduction and mitigation measures, aside from FICCO's loan default insurance and borrower's death insurance. The project should also study resilience-building in livelihood.
- i. The project should prepare a manual of operations to minimize issues between the Provincial Field Units and the Project Management Office with regards, for example, to targeting and scheduling, budgeting, claiming and liquidating cash advances. It will also serve as ready reference for replacement staff.
- j. The Project Management Plan should be reviewed to sharpen further the definition of indicators and specify better what will be monitored and how. The attribution of accomplishments to project interventions should also be made clearer. The statement of target results should also be refined to avoid vagueness or confusion.
- k. An appreciation of the value chain, where the cold chain is an important component, should be instilled among the different stakeholders of the project. Where needed, value chain analysis should be conducted and the results should be shared. This is also useful in stimulating interest in other products among the PGs, like cardava or saba banana, for example.

ANNEX A. FOCUS GROUP DISCUSSIONS

NAME OF ORGANIZATION

LOCATION

AGUSAN DEL NORTE

Agusan del Norte COTs	Butuan
Anticala Farmers Association (as grant recipient)	Butuan
Anticala Farmers Association (as most successful)	Butuan
FICCO agricultural loan staff	Butuan
Happy Enterprise and Resources	Butuan
Pilmico Animal Nutrition Corporation	Butuan
Pilmico multiplier farms	Butuan
PMO specialists	Butuan
Gosoon Mango Producers Association	Carmen
Rojales Mango Producers Association	Carmen
Tagcatong Diversified Organic Farmers Association	Carmen
Magsaysay Masipag Farmers Organization	Jabonga

AGUSAN DEL SUR

Charito Hog Raisers Association as PG	Bayugan
Charito Hog Raisers Association (as Most Challenging)	Bayugan
Grace Estate Vegetable Growers Association	Bayugan
Crossing Luna-Beawan Vegetable Producers MPC (as grant recipient)	Esperanza
Crossing Luna-Beawan Vegetable Producers MPC (for processing/handling)	Esperanza

New Esperanza Swine Raisers Association (as PG)	Esperanza
New Esperanza Swine Raisers Association (as Most Successful)	Esperanza
Agusan del Sur COTs	Prosperidad
Awao Swine Raisers Association	Sta. Josefa

DINAGAT ISLANDS

Ta-abaca Fisherfolk Association	Basilisa
Cagdianao Lobster Growers Association	Cagdianao
Ruben Ecleo Multi-Purpose Cooperative	Cagdianao
Cabunga-an Lobster Growers Organization (2 FGDs – for handling/storage & as most successful)	Cagdianao
A&M Multi-Purpose Cooperative	San Jose

SURIGAO DEL NORTE

Bagakay Hog Raisers Association	Claver
San Antonio Fisherfolks Association	Gigaquit
Magsaysay Farmers and Fisherfolks Association	Magsaysay
FICCO agricultural loan staff	Surigao
Surigao del Norte COTs	Surigao
Lisondra Lobster Producers Association	Surigao
Barangay Trinidad Hog Raisers Association	Surigao
Livestock and Poultry Raisers Association	Tubod

SURIGAO DEL SUR

PDC - Act for Peace	Bislig
Cantilan Public Market Vendors Association	Cantilan
Bitoon Farmers Association	Hinatuan
Barangay Amontay Nagkahiusa Alang sa Kadagatan	Marihatag
Animal Raiser Organization of Marihatag	Marihatag
Tidman Farmers Association	Hinatuan
Maglambing Vegetable Growers Association	Tagbina
Surigao del Sur COTs	Tandag

ANNEX B. MIDTERM HOUSEHOLD SURVEY SITES

NAME OF PRODUCER GROUP	TOWN	ACTUAL SAMPLE
SURIGAO DEL NORTE		
Bagacay Hog Raisers Association	Claver	7
San Antonio Fisherfolks Association	Gigaquit	16
Centro, Punta, Asinan, Pilaring Fisherfolks Association Inc.	Pilar	26
Barangay Day-asán Lobster Culture Association	Surigao City	20
Barangay San Isidro Lobster Culture Association	Surigao City	9
Ladgaron, Panatao, Tayaga Hog Raisers Association	Claver	15
Livestock and Poultry Raisers Association	Tubod	11
Magsaysay Farmers and Fisherfolks Association	San Benito	20
Sub-total		124
SURIGAO DEL SUR		
Vegetable Growers Association	Tandag	18
Tago Aquamarine Culture Association	Tago	23
Kinabigtasan Tilapia Fishcage Association	Tago	13
Purísima Fisherfolks Association	Tago	2
Tago Swine Raisers Association	Tago	8
Animal Raiser Organization of Marihatag	Marihatag	11
Barangay Amontay Nagkahiusa Alang sa Kadagatan	Marihatag	19
Bitoon Farmers Association	Hinatuan	11
Tidman Farmers Association	Hinatuan	16
People's Dev. Community-Act for Peace Econ.Enterprise Asso.	Bislig	8
Hinatuan Fishpond and Farmers Operators	Hinatuan	20
Sub-total		149
DINAGAT ISLAND		
Doña Glenda Chapter Fisherfolk Association	Basilisa	49
Taga Abaca Fisherfolks Association	Basilisa	14
Samahan ng Maliliit na Mangingisda	Basilisa	20
Tigbao Fisherfolks Association	Cagdianao	20
Sto Niño Lobsteran and Fisherfolks Association	Cagdianao	20

Cagdianao Lobster Grower Organization	Cagdianao	37
Cabungaan Lobster Grower Association	Cagdianao	65
Ruben Ecleo Multipurpose Cooperative	Cagdianao	38
Sub-total		263

AGUSAN DEL NORTE

Gosoon Mango Producers Association	Carmen	9
Bugta Farmers Association	Buenavista	14
San Agustin Mango Producers Association, Inc.	Carmen	11
Jabonga Small Fisherfolk Association Incorporated	Jabonga	30
Punta Grasya Farmers Association	Jabonga	22
United Farmers of Cuyago Incorporated	Jabonga	23
Lumbocan Fish Cage Owner & Caretaker Association	Butuan City	12
Green Valley Development Association	Butuan City	21
Km 7 Farmers Producers Cooperative	Butuan City	11
Balang balang Farmers Association	RTR	15
Simbalan Rubber Farmers Association	Buenavista	14
Putposan Small Farmers Association	Magallanes	21
Kahugpungan sa Kababaihan sa Lungsod sa RTR	RTR	13
Sub-total		216

AGUSAN DEL SUR

Grace Estate Vegetable Growers Association		
Magkiangkang Vegetable Growers Association		14
Mt. Carmel Natural Farming & Vegetable Growers Association		31
Mt. Olive Vegetable Growers Association		14
Salvacion Vegetable Growers Association		10
Crossing Luna Beawan Vegetable Producers - Multi Purpose Cooperative		20
Mabuhay Swine Raisers Association	Bayugan City	32
Sibagat Swine Raisers Association		10
Awao Swine Raisers Association		23
Sitio Lilo Fish Cage Organization		10
Sub-total		164

TOTAL		916
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ANNEX C. KEY INFORMANTS INTERVIEWED

[list can be made available to USDA upon request to Winrock International]



