

Angola ProRenda Mid-Term Evaluation

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Executive summary

This report presents the results of the Mid-Term Evaluation of the ProRenda Project in the Planalto of Huambo, in Angola. This evaluation focused heavily on the perceptions of the farmers in the primary and secondary villages, as well as an examination of the Monitoring and Evaluation (M&E) system and a visit to one control village. Rather than a costly, detailed repeat survey, the mid-term relied on Focus Group Interviews (FGIs) with farmers in the primary, secondary and control villages, as well as a brief review of the M&E system.

Key conclusions of the study show that ProRenda has had positive results, with progress on track for many of the objectives. ProRenda project is assisting farmers in the primary villages to achieve higher productivity and higher production, especially for potatoes. Farmers indicated that production area in high value crops has increased. The project has worked for farmers to obtain a combination of improved seeds, fertilizer, insecticides, fungicides, and agricultural practices that successfully increase production. In addition they have trained farmers on crop management practices that also increase productivity, especially with seeding (i.e. planting depth, row width, and seeds per row). However, farmers expressed a need for soil test. Overall, farmers (male and female) indicated increased farm income from the targeted crops.

With marketing, ProRenda has been successful in the primary villages in transferring what the farmers call “processing”. Farmers learned to sort their potatoes by grade and to improve quality in storage. There remains some confusion in the pricing and a sense among farmers that they still do not have the negotiating power to get the higher market prices even when they are aware of them. The price bulletin and radio program are important in raising awareness of the pricing issues. Farmers appreciate efforts to reduce bag size and work with new bags, but they believe that more work is needed with the buyers as well.

The literacy program is very well-received in the villages. The women were pleased to demonstrate what they had learned already. The inclusion of numeracy was cited by various groups (men and women) as important for marketing. The only wrinkle is that the men complain that there are too few slots available for them and have requested that there be an expansion of the literacy program. The secondary villages have heard about the literacy program and also have requested access to the program.

All households expressed the need for improved inputs (fertilizers and seeds). Farmers were clear in a statement of need for animal traction, and this was true even among the female-headed households, who indicated that their sons and brothers would be able to manage the animals. For all of these production inputs, the farmers and their spouses requested that the project assist with identifying and accessing lines of credit for those investments. Women farmers, in particular, indicated frustration with limited access. Without credit, most farmers felt that they would continue to have limited production horizons.

One key area of the project is related to the Farmer to Farmer (F2F) extension. The limited effects of the project on the secondary villages to date relates directly to the project emphasis on primary villages in the previous periods. Getting the primary village farmers to advocate for practices requires that farmers experience to practices themselves first. Now the project is in a phase where F2F can be facilitated with skilled farmers. The project urgently needs to focus on the F2F system for gains to be made in secondary villages, quickly learning and applying the lessons from the early efforts. A project extension would enable the project to take greater advantage of the experiences of the farmers in the F2F extension method.

The M&E system has collected substantial amounts of information on each of the primary village associations, but the burden on the supervisors and extension agents is high. World Vision should consider Lot Quality Assurance Sampling or other sampling methods to collect reliable information without undercutting the field work of the staff.

As a result of the Midterm evaluation, there are the following recommendations 1) continue to enhance farmer organizations to ensure longer term access to credit and inputs, including animal traction; 2) increase efforts to ensure that women farmers benefit from credit and input programs; 3) focus on F2F efforts, based on incentives for the lead farmers and coordination with secondary villages; 4) in marketing program, continue radio programs and use information systems to ensure that farmers can obtain prices that reflect quality; 5) evaluate potential to expand literacy programs to reach both men and women and include more content on nutrition; and 6) develop systems to reduce burden of M&E systems.

Table of Contents

Acknowledgements.....	ii
Executive summary.....	iii
Table of Contents.....	v
1. Introduction.....	1
2. Objectives of the Mid-Term Evaluation.....	1
2.1. Specific objectives of the evaluation.....	1
3. Methodological Approach.....	2
3.1. Sampling design and project area.....	2
3.2. Selection of villages: typical case sampling.....	3
3.3. Selection of participants.....	3
3.4. Implementation of focus groups interviews.....	4
3.5. Data aspects.....	5
4. Results from FGIs with farmer leaders in primary villages concerning overall project activities.....	6
4.1. Activities with ProRenda.....	6
4.2. Change brought by ProRenda.....	7
4.3. Good things of the project and things to be improved.....	8
5. Results from FGIs with farmer leaders in secondary villages concerning project activities.....	9
5.1. Project activities: Innovators from primary villages.....	9
5.2. New marketing practices and perceived changes.....	10
5.3. Future plans with innovators from primary villages.....	11
6. Results on Vision of Success from FGIs with men and women.....	11
6.1. Primary Villages.....	11
6.2. Secondary Villages.....	13
7. Results on ProRenda Objective 1 from FGIs with men and women.....	14
7.1. Primary villages.....	14
7.2. Secondary villages.....	16
8. Results on ProRenda Objective 2 from FGIs with men and women.....	17

8.1. Primary villages.....	17
8.2. Secondary villages.....	18
9. Results for ProRenda Objective 3 from FGIs with men and women.....	18
9.1. Primary Villages.....	19
9.2. Secondary Villages.....	19
10. Control village observations and results of focus group interviews.....	20
10.1.General observations.....	20
10.2.Basic Services and overall economic development in Palestina.....	20
10.3.Agricultural production and marketing.....	21
10.4.Problems with Palestina as a control.....	21
11. Recommendations and implications for the impact evaluation: primary villages.....	21
12. Recommendations and implications for the impact evaluation: secondary villages.....	24
13. Monitoring and Evaluation Systems.....	24
13.1.Information being collected.....	25
13.2.Data systems.....	25
14. Conclusions.....	26
References.....	28

Annexes:

Annex 1: Design of the Mid-term Evaluation for ProRenda.....	A-1
Annex 2: Notas de Treinamento em Entrevistas em Grupos Focais, Projecto Prorenda.....	A-4
Annex 3: Guião para Entrevistas em Grupos Focais – Projecto Prorenda: Participantes Primários.....	A-12
Annex 4: Guião para Entrevistas em Grupos Focais – Projecto Prorenda: Participantes Secundários.....	A-20

1. Introduction

World Vision has been implementing the ProRenda project in the Planalto region of Angola since late 2009. Under Bill and Melinda Gates Foundation funding, the overall project seeks to improve smallholder incomes and wellbeing over the project period. The baseline survey for the project was carried out in early 2010 by Michigan State University, with collaboration from World Vision staff members in Huambo. That survey was conducted in 41 villages with 656 farm households and served to establish the baseline of selected indicators before the project would have any effects. These baseline indicators would then be compared to the results for the same households at the end of the project and after the project is finished. Under project design, in addition to the baseline, there are mid-term evaluations and two further household surveys to evaluate the indicators at the end of the project and one year after the end of the project. This document will present the results from the mid-term evaluation.

While the baseline survey used household and community surveys with representative sampling to establish baseline for indicators, the mid-term evaluation was designed to be more useful for project implementation, with two main objectives, as indicated in the mid-term evaluation design document (Annex 1). The rest of this report will review the objectives and methodological approaches; present the implementation of the focus group approach; detail the data from the focus group discussions

2. Objectives of the Mid-Term Evaluation

As stated in the design document in Annex 1, the first objective of the evaluation is to determine whether the baseline survey work will be valid at the end of the project, given project implementation and external factors that would threaten validity. The second objective is to highlight areas where participants see room for improvement, thus providing additional information to the World Vision team on the project activities and participant perception of performance. To achieve these objectives, more qualitative methods will be used, compared to the baseline and final project evaluations.

2.1. Specific objectives of the evaluation

To understand whether the baseline will serve to measure impact accurately (Objective 1), we need to determine if the baseline sampling will be effective in measuring impact and whether the baseline information that was captured will be useful given project implementation. To accomplish this, we will:

- a. Evaluate project implementation villages (primary and secondary) compared to original planning
 - i. Check control villages to evaluate their use as control
 - ii. Review project implementation
 - iii. Identify other projects, programs in the villages that might affect outcomes in both control and project villages

- iv. Evaluate the participation rates in the three type of villages, men and women
- b. Assess baseline information captured and its usefulness given project implementation and any modifications
 - i. Were the right questions asked?
 - ii. Are there any unanticipated aspects, activities, impacts in evidence?
 - iii. Are the targeted crop/project outputs still relevant?

For Objective 2, talking to farmers, community leaders and others will contribute to identifying what might improve the efficiency, effectiveness and impact of the current project. This entails several aspects

- c. Review of existing monitoring and evaluation information
- d. Identification of key activities reaching participants and participant satisfaction
- e. Identification of key potential threats to current project impact
- f. Obtain farmer and local leader perspective on project implementation

3. Methodological Approach

To achieve the first objective, researchers talked to project staff (leadership and extension officers) and others working in agricultural sector in the zone. We also reviewed project monitoring and evaluation (M&E) documents and included questions in the farmer focus groups on other projects. On the control villages, we conducted farmer focus group in one control community to understand dynamics of that village during this period, roughly based on key sections of the interview guide for primary villages, excluding questions that were specifically related to ProRenda activities.

The second general objective of the mid-term evaluation was to highlight areas where participants see the need for improvement, thus providing additional information to the World Vision team on the project activities and participants' perception of performance. Focus groups interviews (FGIs) were used to obtain the perceptions of participants (beneficiaries) on project activities and performance. A focus group interview is a qualitative method of data collection, on a specific topic, using a semi-structured interview guide. FGIs uncover information on human perceptions, attitudes, feelings, opinions and thoughts (see Annex 2).

3.1. Sampling design and project area

Regions, villages, and participants for the focus groups were selected by the MSU team purposively, to ensure coverage of the regions and two types of villages of operations of the project. The selection of the focus group participants is described below.

Covering the Province of Huambo with additional parts of Bie and Benguela, the project area has been divided into three operational regions: Western, Northern and Eastern. Within each region, communities have been allocated as "primary" and "secondary" villages. In the project document, primary villages are defined as those receiving intensive level of service,

which includes capacity building support with literacy classes and training in value chains – from improved crop inputs and extension of applied research, organization of producers, access to credit, processing leadership development storage and access to market. About 22,000 smallholders farming families are targeted by the project in the primary villages.

Secondary villages are villages that receive support through knowledge transfer mechanisms, such as farmer to farmer (F2F), more mass-market approaches such as linkages with private sector input/output markets through radio programs, and outreach of public extension officers. About 78,000 smallholders farming families are located in the secondary villages.

3.2. Selection of villages: typical case sampling

Two villages, a primary and a secondary, were selected within each of the three operational regions. MSU identified villages in a preliminary sampling, but worked with ProRenda staff to replace villages that had become inaccessible due to heavy rains and fallen bridges, and to ensure good geographical dispersion across the three regions. For the FGIs, a sample size of six villages, three primary and three secondary villages, was selected. The primary villages were Chiquendula in the Eastern region, Kassuvile in the Northern region, and Kuatissamama in the Western region. The secondary villages were Canjamba in the Eastern region, Vila Verde in the Northern region, and Cossito in the Western region.

3.3. Selection of participants

The population of interest was all farmers organized in farmers' associations located in primary and secondary villages, in the project site. In each village, the ProRenda extension agent had advised the village leaders of the team's arrival and groups of 30-50 farmers were present initially. After a brief introduction, thanking all for coming and explaining the reason for the visit, farmers were subdivided into three groups (strata), leaders, male, and female groups, limiting each group to twelve participants as a general maximum. The three separate groups ensured optimal participation of leaders, male, and female beneficiaries. This method also enables us to compare perceptions between types of groups. Each group was composed by four to twelve participants. The following was the composition of the three groups:

Leader group. This group was composed by male and female participants who were leaders of the village. The community identified the leaders.

Men's group. Male farmers, who were member of farmers' association, composed this group. The evaluation team selected the participants.

Women's group. This group was composed by female farmers (married and household heads) who were members of farmers' association. The evaluation team selected the participants.

To assure validity of data, the following criteria were considered during the selection of participants of focus groups (i) homogeneity within each group such that all participants were either primary or secondary beneficiaries, living in similar socio-economic environment; (ii) different age categories with groups comprising younger (less or equal 30 years of age) and

older participants; and (iii) women who were household heads as well as women who are spouses.

3.4. Implementation of focus groups interviews

A focus groups guide was used to conduct the focus groups interviews (Annex 3). The questions in the guide focused on ProRenda activities, vision of success, and objectives of ProRenda regarding production and marketing of high value crops. Questions on project activities were only addressed to the leaders, because as key informants, they were in a position of providing general perceptions on performance and effects of ProRenda in their communities. Questions on vision of success and objectives of ProRenda were addressed to male and female farmers.

Table 1 summarizes the implementation of focus groups interviews in the primary and secondary villages. A total of eighteen focus groups were conducted, and 144 participants were interviewed. Each group interview was conducted by a moderator, an assistant who took notes, and a translator of Umbundo (local language) to Portuguese (official language). The translators were ProRenda extension workers, but not from the same area, to avoid bias. The FGIs lasted about one hour each. All interviews were tape recorded and transcribed.

Table 1. Implementation of focus groups interviews in primary and secondary villages

Primary Villages			Secondary Villages			
Village	Type of group/strata	Number of participants	Village	Type of group/strata	Number of participants	Region
Chiquendula	Leaders	12	Canjamba	Leaders	5	East
	Male	12		Male	10	
	Female	11		Female	9	
Vila Verde	Leaders	5	Kassuvele	Leaders	4	North
	Male	6		Male	5	
	Female	6		Female	8	
Kuatissamama	Leaders	11	Cossito	Leaders	8	West
	Male	8		Male	6	
	Female	12		Female	6	
3	9	83	3	9	61	Total

In the control village, Palestina, only two focus group interviews were conducted, one with men and leaders, and another strictly with women. The village had a preponderance of women, especially widows, and there were not sufficient numbers of men present to conduct a separate group solely of men, in addition to the leaders groups.

Table 2. Implementation of focus groups interviews in the control village

Primary Villages		
Village	Type of group/strata	Number of participants
Palestina	Leaders/Male	12
	Male	--
	Female	8
1	2	20

3.5. Data aspects

Raw data for qualitative analysis were provided in two forms, interview transcriptions and notes taken during the interviews. These materials were submitted to content analysis and cross-case analysis by the researchers involved. The focus group interviews in the Control Village were not recorded, but detailed notes were taken.

Content analysis

Content analysis of interview transcriptions and notes was conducted to identify and categorize the primary patterns in the data, according to the topics in the interview guide, namely farmers perceptions' on project activities, vision of success, increase incomes, flow of marketing information and relationship among value chain actors, and adoption of crop technologies (varieties, inputs, production practices).

Cross-case analysis

Cross-case analysis was conducted for each question in the focus groups interview guide. Answers from different focuses groups were grouped by topics addressed in the focus groups, namely project activities, vision of success, increase incomes, flow of marketing information and relationship among value chain actors, and adoption of crop technologies (varieties, inputs, production practices).

Results on primary and secondary villages are presented and compared, according to each of the following topics: (1) project activities; (2) vision of success; (3) increased access to urban markets by improving information flows and knowledge of effective processing practices and marketing strategies; (4) capacity of farmers, farmer organizations, and value chain

enterprises to develop business relationships; and (5) adoption of crop technologies varieties, inputs, production practices. The interview guide was used as analytical framework to structure the presentation of the results.

4. Results from FGI with farmer leaders in primary villages concerning overall project activities

The objective of a focus group with leaders was to collect their experiences and perspectives about the implementation of ProRenda in their communities. The basic themes addressed in leaders' focus groups were: (1) activities with project; (2) changes brought by the project; and (3) things to be improved during project implementation.

4.1. Activities with ProRenda

Community leaders identified the following activities with project: (i) training in agricultural technologies and marketing of high value crops, potato, carrots, bulb onion and beans; (ii) provision of improved seeds of high value crops; and (iii) literacy programs.

(i) Training in agricultural technologies and marketing of high value crops- potato, carrots, bulb onion and beans

Leaders explained that back in 2008 farmers planted potato 20 cm between plants. Now the lines are spaced 70 cm apart, with 30 cm between plants. Farmers are getting large tubers and high yields with the new plant density.

With respect to marketing, the level of use of price bulletin is low. Some farmers are using the price bulletin, which has been helpful for negotiation of price with buyers. One of the effects of price bulletin on farmers is that they think they are less dependent of prices set by buyers, and are not limited to the local (village) market, but involved in a much larger market of Luanda, Benguela, and Wambo. Farmers think now they are selling with prices practiced in Luanda, Benguela, and Wambo, as opposed to before the project when the buyers set the price. Another aspect of marketing is the innovative practice of quality improvement. Leaders described how ProRenda enhanced smallholder's knowledge of quality improvement practices:

“(…) the project taught us about product selection (called processing “*processamento*” by the farmers), storage...in the past we did not know about product selection, but today we know what product selection is about...when we harvest we select the big potatoes, (type A)... for the market and potato Type B is for storage and seed.
(Leaders, Chiquendula, 2001)

(ii) Provision of improved seeds of high value crops

Very little was said by leaders regarding provision of improved seeds of potato (Romana), bulb onion (Red Creole and Texas Grano), carrots and beans. Leaders expressed their contentment with the fact that the ProRenda had provided farmers with improved seed, and they expect this practice to continue, seeing the value in the improved seed.

(iii) Literacy programs

Smallholder farmers are enthusiastic in participating in literacy programs. It was mentioned in the FGIs that many female and male farmers had no possibility of attending school due to the civil war. Now all want to attend literacy programs. They believe, especially male leaders, that the literacy programs help learn basic mathematics skills, useful for performing basic computations relevant for marketing crops, estimation of plant density and planting depth, as well as helping with other tasks requiring measurement as is the case of builders (*pedreiros*).

For female leaders, literacy programs are having a much more basic impact than learning computations. For women, literacy programs taught them how to write their name and husband's name. They do not need to use a thumbprint on documents anymore. Now they want to learn more, and be able to write the name of all family members.

Leaders also expressed their concern with limited spaces (classrooms) for the large number of students. For example, in Caala, leaders mentioned about 80 students in a small room and only one teacher for the entire village. Moreover, male leaders felt excluded from literacy programs.

4.2. Change brought by ProRenda

Community leaders identified the following changes brought by activities with project: (i) increased access to improved seed, increased sales and improved crop quality; (ii) increased availability of food; and (iii) increased awareness of long-term storage facilities.

(i) increased access to improved seed, increased sales and improved crop quality

Farmers are experiencing an increase in access to improved seed. Leaders in Western Region Caala, stated,

“Since ProRenda started, something has changed because we now get more seed; we received seed of potato crop” (Leaders, Kuatissama, 2011).

Farmers also think they are selling more potatoes, but price and bagging are not appropriate, therefore there is no benefit of selling more potato. Product selection is perceived as improving product quality and buyer's satisfaction, thus making it easy to sell potatoes. Leaders in Chiquendula stated that,

“We see advantages of the practice of product selection and storage, because those who come to buy are moved by the quality (size of the tubers)... they discuss a lot when potatoes are small, with big potatoes they realize these potatoes will provide them with a good market (Leaders, Chiquendula, 2011).

(ii) increased availability of food

Increased availability of food was also mentioned as one of the changes brought by ProRenda. Leaders in Chiquendula shared a statement by one participant, who expressed his satisfaction regarding food availability by saying,

“I am now providing food for my family and to my neighbors, so that they can also... have food” (Leader, Chiquendula, 2011).

(iii) increased awareness of long -term storage facilities

Farmers are becoming more aware of the need of long -term storage facilities. Some of the profit from selling potatoes was used to build small storage facilities. However, long term storage facilities are needed to capture high prices, and/or increase negotiation power of smallholder farmers. Several times smallholder referred being highly dependent on the price set by the buyer, either because they need money to satisfy immediate needs (buy cooking oil, cloths for children) or feared that the produce would rot and be lost.

4.3. Good things of the project and things to be improved

Community leaders identified the following good things of ProRenda: (i) transfer of agricultural technologies of high value crops; and (ii) establishment of farmers’ associations. Improved seed and crop recommendations are providing farmers with high yields. For the case of potatoes, farmers are harvesting larger tubers then before the project. Some farmers, for example those in Chiquendula are in the late stages of legalizing farmers’ association, and soon will make plans for access to credit, including fertilizer.

The following aspects were identified for improvement: (i) marketing of high value crops; (ii) provision of inputs and irrigation infrastructure; (iii) relationships in the value chain (iv) literacy programs; and (v) training.

(i) marketing of high value crops

With respect to marketing, farmers do not like the larger bags and would like to have the smaller bags available to them, including the 10 and 50 kgs bags for potatoes. According to farmers, the current price of potatoes is not based on kgs, but is set per bag. A bag of 50 kgs of potatoes sells for about 6000 Kz . The problem is that buyers want to buy larger bags of about 150 kgs and still pay the same price of 6000 Kz. They are also asking for road maintenance and long-term storage facilities. Road maintenance, particularly during rainy season, would improve access of buyers to the fields where the produce is accumulated. The farmers noted that long term storage facilities are needed to capture high prices.

(ii) provision of inputs and irrigation infrastructure

Smallholders feel they have gained the knowledge (awareness and how to knowledge) of agricultural and some marketing practices, but lack conditions for its implementation. Such conditions include seeds, fertilizers, animal traction and irrigation infrastructure. These conditions are needed for increasing productivity (crop yield/ha) of potatoes, beans, onions, and carrots. Farmers think their productivity is low, and there is high variability of quantity produced, among smallholders’ farmers. Therefore, is difficult to assemble large quantities of produce that would compensate the costs of transportation of produce to distant markets. For potatoes farmers explained,

“We do not have money for transport. Some of us harvest 5 bags of potatoes (between 50-150 Kgs each bag). The problem is that not all are able to harvest 10 or 20 bags, a minimal quantity one can pay for transport to Luanda, so that is the problem, 2 or 5 bags are not sufficient to pay for transport to Luanda”.

(iii) value chain relationships

Smallholder farmers think they have a good “dependency” relationship with buyers, because buyers buy their product and provide them with money. Nevertheless, the relationship with buyers would be better if farmers had a guaranteed location such as a fixed wholesaler, where they accumulate their produce to be transported to distant markets. Smallholder farmers expressed dissatisfaction with respect to relationship with input providers. Farmers believe that they are buying underweight bags of fertilizers, i.e. instead of 50 Kgs the bags weight between 35 and 38 Kgs. Smallholder farmers would like project intervention in provision of inputs.

(iv) literacy program

For farmers literacy programs are very important for better performance of activities related to marketing crops. Therefore, there is a consensus that programs should be extended to include more male farmers. To do this, they indicate that the projects should contract more teachers and build more classrooms.

(v) Training

Farmers were very satisfied with training provided on crop recommendations. Nevertheless, they expressed the need to learn more about soil analysis and crop adaptability.

5. Results from FGIs with farmer leaders in secondary villages concerning project activities

5.1. Project activities: Innovators from primary villages

Generally, the farmer to farmer (F2F) extension model has only recently begun to be fully implemented. For farmers to relate technologies to other farmers, they need time to understand and use the technology themselves. Some secondary villages (Canjamba) appeared to have been more exposed to the F2F method than other villages (Kassuvile and Cossito). However, even Canjamba did not yet receive a visit by the innovator, but the leaders of Canjamba have visited Chiquendula (a primary village). Chiquendula and Canjamba are close to each other (about 10 min drive). Farmers in Kassuvile received some visits by the extensionist, but they did not know about F2F extension model. Farmers in Cossito also were not aware of F2F extension.

There are some innovations being used in the secondary villages, such as new varieties of potato, onion, and carrots. The probability is high that the diffusion of these innovations might have occurred with no intervention of innovators from primary village, since none of the three villages visited mentioned visits by adopters from the primary villages. Canjamba’s leaders did visit Chiquendula informally and saw some of technology innovations, but it

appeared to be an unorganized trip simply among neighbors, spontaneous technology diffusion of the type that F2F systems are designed to encourage.

The problem is that, innovations adopted without supervision of extension services (primary farmers in this case) may be incorrectly applied, because farmers lack the all package of crop recommendations for the innovation to work properly. For example, in Canjamba farmers claimed that the new varieties are very susceptible to insects and potato harvest perished quickly. This may be happening because farmers do not apply correctly pesticides and store properly the harvest of the new crop varieties. This may lead to discontinuance of adoption.

In some cases, as is the case of the village of Kassuvile in Bailundo, farmers had not yet started working with the innovator from primary village, but the extension agent had made some visits (not on regular basis) to the farmers in Kassuvile. In one of these visits, the extensionist provided onion seeds to farmers. All indicates that this occurred at the beginning of project implementation, when onion seeds were distributed for the producers to grow onions in demonstration fields. As the project moves forward, a direct role for extension agents in secondary villages may divert scarce time and resources from the primary villages in support of the secondary villages.

5.2. New marketing practices and perceived changes

Secondary leaders expressed similar opinions to primary leaders, with respect to practices and changes in production, prices, potato packaging, storage facilities, family income, potato processing and area under cultivation. However, secondary leaders did indicate that there continued to be problems with respect to food quantity and quality (i.e. nutrition) when comparing 2008 to current situation. According to secondary leaders food quantity increased a little, but is still difficult to source sufficient food. There also very little food diversification in consumption.

Secondary leaders believe that they are producing more, but the price of sales is not attractive because it is set by bag, not by kilograms. They expressed the need for scales to improve their revenues. Increase in production is attributed mainly to the decrease of price of fertilizer compared two years ago. Improved roads also contributed for the increase in production. Lack of (improved) storage facilities was suggested as a key constraint to profit. Potato and carrots are processed through selection of big and small tubers. Nevertheless, carrot processing is considered different and farmers consider it disadvantageous compared to that of potato, since only big carrots are sold and small carrots can't be used for seed and are lost.

The following was stated by leaders in secondary village of Western region,

“Processing carrots is not like potato. The *candongueiro* arrives and he selects big carrots and the small are just left in the field and rot there” (Cossito, 2011).

Secondary leaders listen to radio programs on prices, but think the program is not useful for setting price because the information is not consistent with current prices. Moreover, they think only “some farmers are allowed” to sell using prices broadcasted on radio, and that they

are excluded from that group. The following statements on radio program on prices were shared in the leader's group in Cossito:

“ (...) sometimes I listen to radio program. There is a big difference between the price broadcasted and current price. Their current prices are not even 40% of the broadcasted prices (...)” (Cossito, 2011).

“The second thing is the price in the radio program is for some farmers, we are not allowed to use those prices” (Cossito, 2011).

However, as in primary villages, despite inconsistencies in prices, leaders use the information for negotiating prices. In addition to prices, they would like to get contact information for a fixed wholesaler that can buy their produce with attractive (per kg) prices.

Farmers expressed their concern with the current packaging (and pricing) of potato, by sharing the following statement from a participant in the focus group,

“In the past...farmers used a scale. We knew that a bag weighed 50Kgs of potato, and it had a fixed price. Now, we have no scale. The scale is a big bag, a bag that even two people cannot carry/hold it” (Cossito, 2011).

As in primary villages, farmers in secondary villages are also expanding the area under cultivation. The expansion is attributed to having more money and using fertilizer. Farmers would like to produce more but they indicated that they are constrained by insufficient fertilizer and lack of access to animal traction.

5.3. Future plans with innovators from primary villages

For the near future, farmers in the secondary villages think they would like to work with innovators from primary villages on the following areas: crop recommendation (crop spacing), field demonstrations, and provision of inputs (fertilizers).

6. Results on Vision of Success from FGIs with men and women

The following household income and well-being indicators are used by the project to measure the vision of success: (i) gross receipts from crop sales; (ii) assets and family income; (iii) nutrition; (v) education; and (vi) health care.

Below are the perceptions of male and female smallholder farmer, members of farmers' associations.

6.1. Primary Villages

(i) Gross receipts from crop sales

Generally, male and female farmers shared the opinion that gross receipts from crop sales increased with project. The increase is attributed to some improvement in prices, which increase their revenues. Male and female farmers had different perceptions with respect to production costs. Men think there was no change in production costs. Fertilizers are still expensive.

However, some women in the western region village of Caala think costs have increased due to increase of price of fertilizer. In 2008 a 50Kgs bag of NPK sold by 3000-4000 Kz and is now around 6000 Kz. Some female farmers think the costs of production had decreased a little, spending less on inputs. The difference in opinion regarding costs may be related to the intensity with which farmers undertake production activities. For example in Caala, where farmers are more market oriented, fertilizers may be required to intensify their production, therefore they use more fertilizer than farmers in other regions with relatively less orientation towards the market.

(ii) Assets, family income and stability of crop sales (income sources)

In general, male and female farmers think family assets (cooking pans, books, cloths, motorcycles, chairs and iron sheets for the roof for the house) have increased. Male and female farmers also had similar perceptions regarding the use the money from crop sales; both tended to use the money to buy fertilizers, to increase productivity. The following is an explanation from male focus group, when asked if they bought more goods/assets with money gained selling crops:

“The system here is, when one sells crops, the money is saved to produce and sell more, to accumulate some money; after that, some money is used to buy cloths and schools supplies”(Chiquendula, 2011)

Thus, acquisition of assets seems not to be the highest priority, when comes to the use of the money from crop sales. Nevertheless, farmers also bought assets. Women tended to buy cooking pans and cloths, while men bought motorcycles, iron sheets for the roof of the house, chairs and fertilizers. This acquisition, according to farmers, contributed to increase in the assets of the family.

However, it is important to note that married smallholders (who were the majority in most of the focus groups) made little differentiation with respect to whether it is the husband or the wife who bought goods/assets. They explained that they go through a process that results in a joint decision (between men and women) about how the money should be spent. Only after this agreement will the goods are acquired by husband or the wife accordingly.

With respect to family income, men and women were similar, indicating that their family incomes have increased since 2008. However, they provided different explanations of what contributed to family income. From the male perspective, the increase in family income is seen as being related to a democratic system which offers opportunities and freedom for people to work and make some profit. Nevertheless, they did not exclude the contribution of production on potatoes, carrots, beans, and onions, in family incomes. Male farmers do believe that crop production activities promoted by ProRenda contributed to increase family income. Additionally, production activities are considered more secure than before, because now are being implemented on basis of systematic knowledge of production techniques, provided by ProRenda.

Contrary to male farmers who attributed increased family income to a larger democratic system, female farmers think income increases are direct result of selling crops. This difference may be related to less mobility and less exposure to new opportunities and price information by female, as compared to male farmers.

Regarding stability of crop sales, male and female farmers think production activities are secure as far as diversification is concerned, and they will continue to be able to sell various crops. However, female household heads in particular felt threatened by limited capacity to acquire fertilizer and seed. The following was stated in female focus groups:

“ We are more secure now. We sell more produce. But we have no possibilities to buy more fertilizer. (Chikendula, 2011).

“I have no husband, I am by myself ... for me things are not going well ...I need seed and fertilizer” (Kuatissamama, 2011)

“We are secure producing potato and carrots if the conditions are improved, for example fertilizer and improved seed (Kuatissamama,2011).

(iii) Nutrition

Male and female smallholder farmers think now their families have more food and consume a more diversified diet (maize porridge (known as *funge*), fish, meat, potatoes, rice).

(v) Education

Male and female farmers think that access to education has improved. Children (girls and boys) go to school. The main reason for sending children to school is to learn to read and write, and about the country. Sending children to school is perceived as an investment for a better future. Smallholder farmers think that it is easier now to send children to school because is free (no charges) and there are more schools than two years ago. The government built the schools and provided teachers in many of communities.

(vi) Health care

Regarding access to health services, farmers observe that the access has improved. When their children get very sick they go the health post, although other mothers go to traditional doctor. They reported use of mosquito nets and cleaned environment to prevent against malaria, and boiled water to prevent against diarrhea. Those who use boreholes do not use boiled water.

6.2. Secondary Villages

(ii) Assets

Male farmers think their housing has improved and they have more chairs. Similarly to farmers in the primary villages, married male, explained that the money is managed by wife and husband. However, after decision on how to use the money, men usually buy housing materials.

(iii) Nutrition

In general, farmers think food quantity and diversification did not increase much. They rely on maize porridge, sometimes eat potatoes, beans and rice. In fact in the secondary villages, the evaluation team witnessed some signs of child malnutrition.

(iii) Education

In general, children in secondary villages do not go to school. Only in one secondary village out of three visited, farmers sent children to school. The main reason to do so is for children to be smart and become leaders. In the other two villages (Kassuvile and Cossito) children do not go to school, because there are neither schools nor teachers. Currently, farmers in Cossito send their children to local Catholic Church.

(vi) Health care

When children get sick, farmers send them to health post if available. Others take their children to traditional doctors, and/or buy medicine in the local market for children. Similarly to primary farmers, secondary farmers also know how to prevent against malaria using mosquito nets. They also know that they have to boil water to prevent diarrhea.

7. Results on ProRenda Objective 1 from FGIs with men and women

Under Objective 1, ProRenda seeks to enable actors (e.g., producers, processors, assemblers) in the selected value chains to increase incomes through increased access to urban markets by improving information flows and knowledge of effective processing practices and marketing strategies. To collect farmers' perspectives on the implementation of activities under Objective 1, the following themes were addressed in the male and female focus groups: (i) changes in crop sales; (ii) new marketing practices; (iii) relationships in the value chain; (iv) price setting and (v) information of prices.

7.1. Primary villages

(i) Changes in crop sales

Male and female smallholder farmers believe that they are now are selling greater quantities of potato, carrots, onions and other crops, compared to two years ago (2008). With respect to the way they sell, there are some differences between men and women. Men sell by bag, usually a 150Kgs bag of potatoes, while most sales by women farmers take a form of small-scale direct trade along the main roads at the fields or/and at the local market. There is one exception: women in Western Region Caala who sell 150Kgs potato bags to *candongueiros*. Potatoes are sold in small basins (*bacias*) or stacks (*montes*). Beans are sold in tin cans (*canecas*) for 150 Kz each.

Generally male smallholder farmers sell their produce in the informal market. They sell to middlemen (*candongueiros*), at the field (for example, in Kuatissamama), at the storage of the association (for example, in Chiquendula), and at the local market (for example, in Vila Verde). The most common marketing practice is that of the *candongueiro* coming to the village to buy the produce. The *candongueiro* arrives at the village and ask for people who

sell potato, carrots, and onion. Once a seller is identified, he/she together with *candongueiro* set a price. They never plan future transactions. One reason a farmer mentioned is that they fear not meeting demand, since *candongueiros* buy large quantities that cannot be supplied by one farmer. This means that planning future demands is not applicable at the individual smallholder farmer, but at the level of association, where the produce of individual smallholder farmers is accumulated. Thus the farmers see the need for the establishment/legalization of association for planning future supply and production under contract.

So far, no contracts have been signed between farmers and buyers. A new experience of production under contract is being planned in Western Region with Caala. Farmers' associations will supply Shoprite with potato, carrots and onions. For farmers, this is a partnership between Shoprite and ProRenda aimed to collect farmers produce, before it gets rotten while standing in the fields waiting for buyers.

(ii) New marketing practices

Male and female farmers had different perspectives regarding new marketing practices. The following are the new marketing practices indicated by male smallholder farmers: use of crop price bulletin and selection of produce of potato (tubers). The bulletin has been helpful to farmers with high productivity. The price information is used to plan and make decisions to transport potatoes to distant markets (Luanda), rather than waiting for the *candongueiro*. One farmer in Chiquendula did this and was satisfied with the price that he obtained in Luanda at the market. Prices in Luanda can be twice as high as prices in Huambo. For example during focus group in Chiquendula, it was stated that one of the advantage of a farmer transporting his own produce is that in Luanda a bag of potatoes can sell by 10000Kz and a buyer in Huambo would want a bag by 5000Kz. With respect to selection of produce, farmers think this practice helps keep potato seed, and gives them power to negotiate for a good price for potatoes.

Female farmers shared the opinion that product selection is a new practice and contributes for better quality and price of potatoes, but did not mention the use of crop price bulletin. Female farmers feared some oversupply of potato. Women in Western Region Caala think that currently there are more farmers producing potato. Therefore, they have to sell potato as soon as the crop is ready for harvest. When asked whether their marketing practices have changed, they shared the following answer:

“Things have changed, because before there were not many producers ...but now there are more producers. One prefers to sell today rather than leaving the potato in the field.” (Kuatissamama,2011)

(iii) Relationships in the value chain

Generally, male and female farmers were not able to answer properly questions of relationship in value chain. They either confined themselves to the relationship with buyers or to prices of inputs, and not to coordinated activities of all value chain actors. Indeed, they

pointed to the need of improvement of their knowledge on value chain principles, through workshops and training sessions.

Male farmers felt they have an interdependent relationship with buyers. Farmers have the produce to sell and the buyers come for the produce. Generally, the farmers expressed frustration that the buyers always want to give low price for the produce, therefore farmers use price information from radio to keep them updated. Farmers think the relationship with input providers is good, prices of inputs are better now; the challenge is to have good market for the produce.

Female farmers feel they have good relationships with buyers, transporters and input providers. They feel there is always a room for negotiation with buyers, transporters and input providers. In their opinion the project did not help strengthen these relationships. The project helped them to produce more potatoes, onions, and carrots, which contribute to increase income.

(iv) Price setting

With respect to price setting, male and female farmers report that the price is set based on the market. Male farmers indicated that the price is set based on quality of the product and on the overall quantities available in the market, i.e. when supply is high, prices are low, and vice versa. The project's main influence on price setting was thought to be through the practice of selection of produce, which improved the quality and price of products. Another basis for setting prices is the cost of production. Farmers accept a price that covers, to a certain extent, the costs of production. They believe there are always buyers who accept to pay a fair price.

Women's perspective is that, when the produce is sold in big bags, most of the time the buyers set the price. For small containers such as the basins (*bacias*), female farmers set the price, based on information from other sellers in the local market.

(v) Information on prices

Female and male farmers obtain information of prices from other farmers/neighbors and buyers. The radio program on prices is known among a few smallholder farmers. Some female farmers in the Northern region have been listening to interviews on prices of various products selling at the local market. According to female farmers this information has made them aware of daily prices. Male farmers would like to have a radio program which informs about all products grown in the region, prices of products locally and in other provinces or districts, and type or standard of bags for marketing. Some male farmers prefer a morning program; others prefer a program in the afternoon after coming from the fields. Female farmers would like a radio program on prices, access to credit and new markets, on Saturday and Sunday morning and afternoon, or Tuesday at 4 PM.

7.2. Secondary villages

(i) Changes in crop sales

As with male farmers in the primary villages, farmers in secondary villages produce and sell more beans and potatoes than two years ago, but the trend was stronger for beans than for potatoes. The produce was sold at the local market. Female farmers sold more carrots and onions than two years ago, but think beans production did not increase this year, due to excessive rain which decreased bean production. Beans are sold at the local market by cans (*caneca*, usually from infant formula or other products) at a price of 150Kz common beans (*feijão manteiga*) and 80 Kz khaki beans (*feijão cebo*). Female farmers think that they are not making more money from beans now compared to two years ago, because the prices are low.

(iv) Price setting

Male and female farmers shared the opinion that the price of produce is set by buyers and the market. When the price is set by farmers, they use a cost-oriented pricing strategy, and the main cost considered is that of fertilizer.

(v) Price Information

As in primary villages, in secondary villages farmers obtain information on prices from friends (word-of-mouth between producers). There are some farmers, particularly women, who do not know about radio program on prices. Some have listen to the radio program on price for beans, but they do not use this information for setting price, because they found it unreliable. Moreover, they think buyers do not accept the prices broadcasted through radio program. Farmers think there should be some regulations to enforce the use of prices from radio program, so extension work on markets and prices may be needed.

8. Results on ProRenda Objective 2 from FGIs with men and women

ProRenda's Objective 2 aims to strengthen the capacity of farmers, farmer organizations, and value chain enterprises to develop business relationships that ensure access to credit, inputs, and output markets during and after the project.

To collect farmers' perspectives on the implementation of activities under objective 2, the following themes were addressed in the male and female focus groups: (i) benefits of reading, writing, and numeracy skills; (ii) training sessions and (iii) work plan and access to credit.

8.1. Primary villages

(i) Benefits of reading, writing, and numeracy skills

For male and female farmers literacy programs are important because one learns to write, read and perform basic computations. Once educated, farmers believe, they will become protected from being misled by others. In addition, female farmers explained that literacy programs are important because women can now read notes from their husbands. Several times farmers stated that "an educated farmer produces, sells, and performs computations (*contas*) with no problem".

With respect to the number of families aware of the importance of literacy program, male and female farmers had different perspectives. Male farmers think there are not many families

who are aware of the importance of literacy programs. Female farmers, however, think the number of families aware of the importance of adult literacy is increasing. This perception may be explained by the fact that literacy programs are mainly aimed at targeting women, therefore they might be in a better position to evaluate from the number of participants in the literacy program.

(ii) Training sessions

The majority of male and female farmers received training on crop recommendations for potato, beans, carrots and bulb onion, product selection and storage. Training on seed multiplication, was provided to some farmers. Male and female farmers were also provided with training on farmers' organizations. They learned principles of group formation, for marketing. During training sessions farmers were exposed to changing context of agricultural market, where informal markets will be gradually replaced by supermarkets, hence the importance of farmers' organizations to be part of the new market context.

Overall, farmers think the content provided during training sessions were relevant for their work. They specifically mentioned that what they have learned is useful for reducing in the fields and post-harvest losses. Farmers did not suggest any improvement for training sessions, instead they asked for seeds, fertilizer, and animal traction.

(iii) Work plan and access to credit

Farmers (male and female) are aware of development and implementation of a work plan to access credit. Some farmers have already received fertilizer through these work plans. However, in general farmers of both sexes indicated that their access to credit (seeds, fertilizer) did not increase.

8.2. Secondary villages

(i) Benefits of reading, writing, and numeracy skills

Farmers think literacy programs are important to learn read and write and do some computations to run the business. There are few farmers who can read and write.

9. Results for ProRenda Objective 3 from FGIs with men and women

Under Objective 3, ProRenda seeks to increase the quantity of marketed smallholder production by enhancing the capacity of smallholders to identify and adopt crop technologies (varieties, inputs, production practices) that meet market demand specifications (particularly quality and timing) and take into account environmental issues.

To collect farmers' perspectives on the implementation of activities under objective 3, the following themes were addressed in the male and female focus groups: (i) increase in the area under cultivation with high value crops (ii) increased use of improved varieties of high value crops, use of pesticides and fertilizer (iii) use of new agricultural techniques and (iv) production constraints.

9.1. Primary Villages

(i) Increase in the area under cultivation with high value crops

Male and female farmers agreed that they are expanding the area under cultivation with high value crops. The expansion is occurring in upper lands (*vongungu*) and slopes (*ombanda*, generally with gravity fed irrigation) lands. The main factor for expanding cultivated area is the increased seed availability. Increased use of fertilizer and availability of animal traction, were also reported as factors of expansion by female farmers.

(ii) Increased use of improved varieties of high value crops, use of pesticides and fertilizer

Male and female farmers agreed that currently they are using more seed, and new improved varieties of potato, onion, beans and carrots. Smallholder farmers are also experiencing increased use of seed, pesticides and fertilizer. Farmers believe that after the project, they will be able to use improved varieties, pesticides and fertilizer, as long as these technologies are available in the market.

(iii) New agricultural techniques

Farmers are now using new crop spacing and fewer tubers per hole. Before the project they use a crop spacing of (20*40cm) and three tubers per hole. Currently farmers are using crop spacing of (30*70cm), and one tuber per hole. Farmers think the new crop recommendations provide high productivity; therefore they will use them after the project.

(iv) Production constraints

For farmers, fertilizer is the main constraint to increased productivity, even before the project started. According to farmers, the project improved the situation, i.e. with project farmers are selling high value crops, and can acquire and use more fertilizer than before the project, but fertilizer continues to be the main production constraint. Animal traction was also mentioned as the second main production constraint. Market was never mentioned as a possible constraint to increase productivity. To lessen production constraints, farmers ask for provision of fertilizer (and animal traction) by the project through credit schemes.

9.2. Secondary Villages

(i) Increase in the area under cultivation with high value crops

Male and female farmers reported that the area under cultivation is expanding. They are cultivating more land than two years ago. Similarly to primary villages, farmers in secondary villages are also expanding areas in the in upper lands (*vongungu*) and slopes (*ombanda*, generally with gravity fed irrigation) lands. Land expansion is attributed to an increasing use of seed. Women specified that they buy (improved) seed, but also use seed from previous harvest.

(ii) Production constraints

Male and female farmers, expressed interest to increase production of high value crops, but are constrained by fertilizer, animal traction and irrigation infrastructure.

10. Control village observations and results of focus group interviews

10.1. General observations

In discussions with ProRenda and others in Huambo, there were no signs of major interventions by other projects in the ProRenda areas that would invalidate the impact evaluation, although government service provision will need to be taken into account. The government is investing heavily in schools and health care facilities in many communities in the region. If these investments coincide with ProRenda primary villages or with both primary and secondary villages, and not with control villages, there will be problems with bias in the results. At this time, there are no indications of a problem, although as seen below, one control village is not receiving such services, but with two years still to go, we will need to evaluate this aspect.

The control village of Palestina was selected by MSU to visit and understand if it was a good candidate for a control, for its characteristics appeared to be quite different from the primary and secondary villages. Upon arrival, there were very few men, mostly women and children. There were obvious signs of malnutrition and other indicators of poverty in the area. The community meeting area was not in use because roof had fallen down and needed re-thatching. While only about 20 kilometers from the paved road, the last 1.5-2 kilometers of dirt road are inaccessible except by four wheel drive vehicle or tractors due to deep ruts and erosion.

The focus group interviews focused on the agricultural production and marketing as well as basic services for health and education. The responses between the two FGIs were quite similar and so the results will be detailed as general, and only specific differences highlighted here.

10.2. Basic Services and overall economic development in Palestina

There are basically no services available in Palestina (school, health post, etc.) but inhabitants can go to Mbave, about 2 kms away along the bad road. The nearest primary school is in Mbave and the students walk there each day. The villagers prioritize having a local school and have requested roofing materials, volunteering the construction of the schools with local bricks, but there has been no response. The health post in Mbave is the nearest but only has a single bed, although some medicines are available there. No bed nets are in use, although villagers know that malaria is present. There is no village or farmers association active in the village at this time, and the villagers do not see any benefits in forming an association. As one farmer indicated “Due to the lack of means of production, we do not see the benefit in group associations”.

Participants in both FGIs conducted in this village indicated that there have been no positive changes in the community since 2008. They did benefit from an earlier World Vision emergency program for seeds and implements. If anything, the economy is worsening in Palestina. There have been no schools built or other public services made available and they receive limited services in Mbave, the nearby community. A key problem cited in both

groups was the lack of possibility to use the lowlands (*nacas*) for cultivation which will be detailed below. Main sources of cash income were cited as alcoholic beverages from wild roots and manual labor at the nearby *fazenda*.

10.3. Agricultural production and marketing

Agricultural production has suffered in the past couple of years for two key reasons: 1) periods of dry spells, and 2) lack of access to *nacas*. As explained to us in both FGIs, they had previously depended on the *nacas* for subsistence and marketing production of selected crops. Now, the presence of livestock from a local *fazenda* makes it impossible to cultivate in the *nacas*, as the livestock, including goats and cattle, eat or trample anything that is planted. The *fazenda* is operated by someone with political power and negotiations with leaders have been unsuccessful in getting a fence installed.

Currently they indicate no sales of agricultural commodities because the current production is insufficient for consumption needs. Agricultural extension has not been in Palestina. Access to agricultural inputs is very limited. The *fazenda* is a main source of labor income for the families in this village. The women and the leaders all indicated that to buy seeds, they will work on the *fazenda* to get money for the purchase. They indicated the need for quality seeds and for fertilizer to improve

10.4. Problems with Palestina as a control

Palestina has several fundamental problems to be a control village. We found that residents from Mbave appeared for the baseline survey and not all the respondents in the baseline survey were from Palestina, such that the sample was not drawn from a single village and included people who anticipated benefit from participating in the survey. Secondly, the issues of the lowlands and inaccessibility of the lowlands for farming deprives the inhabitants of key agricultural land and thus lowers their potential to participate in markets. Both their food security and their incomes are lowered by the situation. This village has no agricultural marketing, and thus is not comparable to the ProRenda communities and the other control villages, where there is at least some marketing prior to the project.

Including this village as a control will exaggerate the difference between project impact and non-impact due to the presence of extraordinary production constraints. When combined with the high prevalence of widows and other women as heads of households, we recommend removing Palestina from the list of control villages. It lowers our sample, but we do not see the validity in retaining it for control purposes.

11. Recommendations and implications for the impact evaluation: primary villages

In this section, we bring together the results from the FGIs in the primary villages to identify the components which are seen to be effective by participants and where there are opportunities to enhance the project impact over the longer run.

Regarding the general wellbeing aspects, farmers' experiences indicated that ProRenda is progressing towards the vision of success. Given current government policies which are

supportive to development of social infrastructures, schools and health posts, there is high probability of success in achieving social indicators.

The concept of value chain and the activity of dissemination of market information are key aspects of a market oriented approach which seeks to increase smallholders' income through production and marketing of high value crops. Farmers have clearly seen the benefits of processing potatoes (separating grades of potatoes) and having access to quality seed for the various crops, and they indicated that they would continue using these into the future. They also have changed production technology, most frequently citing higher yields due to changing the spacing between plants when planting. They note higher incomes, especially in the communities with the greatest impact on marketing, and higher consumption.

They have taken more initiative in negotiating prices, with one farmer renting a truck to take to Luanda to sell a large volume of potatoes successfully. The price bulletin provides information, especially to those with access to radios, but farmers are not always clear on the use of those prices, because the traders arrive and refuse to give those prices to them, dictating other prices. One of the key areas of contention and an area for further work by the ProRenda team concerns the unit of sales and use of large versus small bags in the marketing. ProRenda has successfully helped the farmers to understand that they lose money when they sell in the larger bags, but the farmers are faced by buyers who want to reduce transport costs and thus only want to buy the big bags. With the new marketing specialist at ProRenda, the project can have a clear impact by continuing to work to change those dynamics and create demand for the smaller, higher quality bags of commodities. Farmers see a need for this.

Overall, farmers' experiences indicate some weaknesses with respect to relationships in value chain, and use of the price bulletin. Farmers have a weak understanding of the value chain perspective, although they do understand more of the process of marketing their commodities.. They seek better storage facilities to be able to bring together larger quantities and sell when the prices are higher. As yet, in addition to knowledge and information provision, they expect the project to provide or facilitate production inputs/factors, long term storage facilities, road improvement, and transport.

Farmers have yet to grasp the mutually beneficial partnerships among value chain actors, and the need to establish relationships among different actors in the value chain and take informed marketing decisions. Additional workshops for revision/re-explanation of the role of each actor and expected synergies in the value chain may be valuable. As foreseen in project document, all value chain actors should participate in the workshops. The workshops can emphasize sharing of experiences of successful agricultural companies/business, in developing common plans and contracts.

The farmers are interested in the price information through the bulletin and the radio. This will require improvement in the logistics of collecting price information to expand markets and ensure timely dissemination with more frequent data collection. Currently the price bulletin does not provide farmers with updated information. In the short run, improving dissemination of price information will help farmers make realistic price estimation, while

the issue of “standard bag/packaging” is not resolved. Providing farmers with basic measuring tools, such as scale to weight the produce may also foster a better relationship between farmer and buyer.

Women’s experiences revealed some vulnerability of this group to changes in availability of inputs. Therefore, there is a need to evaluate alternative schemes (credit or subsidies) to improve women’s access to production inputs, particularly female household heads.

Farmers’ perspectives indicate inability of individual smallholder farmers to supply sufficient quantities to meet the demand of traders for high value crops, thus the need for farmers to work together to market, and possibly develop warehousing. The results also suggest a low level of use of formal source of information of price for decision making.

The establishment/legalization of farmers’ association should continue to be a priority because contracts require handling large quantities of produce that cannot be supplied by individual smallholder farmers. Due to logistic implications to register a large number of associations, ProRenda is taking a gradual approach to establish some farmers association, mainly based on performance and level of organization of current groups, valuable to ensure that the associations are strong enough to survive the departure of ProRenda. Rushing to get all associations formalized without the needed training and human resource base would not provide long term success. Credit access is also seen to be related to association development.

The project will need to continue to improve the flow of marketing information, through increased awareness of formal information sources, including radio and price bulletin. This would mean improvement of access to radio (device/instrument); use of local language for radio programs broadcast; inclusion in the current radio programs of information of products grown in the region, information of prices at local and distant market prices; increase frequency of radio program broadcast, i.e. morning and afternoon, and Saturday and Sundays.

Women farmers indicated that a large number of families were aware of the importance of the adult literacy program; however, men generally said that there were few families who recognized the importance of such programs. Yet, both men and women indicated that there was unmet demand for the programs. The lack of teachers and space, as mentioned in previous section, are constraints.

Farmers’ experiences indicate that as far as training is concerned, emphasis has been on crop recommendations and produce selection, and has been valuable for farmers. However, training on farmers’ organization was not well articulated by smallholder farmers. Given the importance of farmers’ organization for marketing high value crops and acquiring credit, ProRenda may need to organize more detailed training sessions on farmers’ organizations. This may include focus on common objectives of the association, definition of priorities, and development of plan of work. In addition training can reinforce the link between demand for inputs and the use of credit through the associations.

Farmers are adopting the new technologies. They are convinced of the advantages of the technologies, namely increased yield and profitability. They are also convinced of sustainability of the technology, as long as there is a market (and credit) for the inputs. In other words they are saying that sustainability will depend on theirs as well as other actors capacities to manage the relationship in the value chain.

12. Recommendations and implications for the impact evaluation: secondary villages

As yet, the impact on the secondary villages can be said to be limited. As indicated by ProRenda staff, the early project period has been heavily concentrated on ensuring impact in the primary villages, and less on effort has been placed on the secondary villages. There is a logic here since farmers make better extension agents when they have their own experience to reinforce the technology recommendations, so the initial investments in the primary villages will have greater payoff now.

Regarding the information dissemination, farmers in this village would like the radio program expanded, to weekends and mornings and afternoons, although having more local prices would be valuable for them. Women expressed interest in the programs; although they have problems to have access to radios, as in the primary villages.

The farmers in most of the secondary villages have heard about the adult literacy programs in other villages and are very interested in having the training. They expressed the need for nutrition education as well as literacy.

Farmers in the secondary villages echoed the concern of the primary villages in terms of access to improved seed and fertilizers, as well as credit to obtain them. Women are especially limited for credit opportunities. Labor was seen as a constraint to expansion, and animal traction or mechanization as a need into the future.

Returning to the issue of F2F and technology diffusion, the secondary village leaders expressed interest in having extension agents also involved in this work. This, of course, is not the idea behind the F2F approach. However, there may be opportunities to use field days organized by the agents to reinforce direct farmer to farmer interaction, between early adopters of primary villages and farmers of secondary villages, although travel costs would need to be covered by the project. Selecting lead farmers with family and friendship relations in the secondary village can also be an advantage, if not already doing this. In other environments, agricultural fairs have been useful to encourage both farmer to farmer interaction, as well as contact between farmers and input suppliers. Another option is establishing Farmer Field Schools in the secondary villages. Some of these villages have knowledgeable farmers (for example Leaders in Kassuville/Bailundo) who have worked for many years in private agricultural companies and people with good entrepreneurial skills (for example Leaders of Cossico in Caala) who can work as contact farmers and trainers in FFS.

13. Monitoring and Evaluation Systems

World Vision invested in an M&E system based on MS Access, as recommended during the MSU baseline work. That has proved to be valuable for the information systems, although there have been problems in using the database to extract the reports wanted by project leadership. MS Access is a relatively new program for the M&E team and thus they are still learning how to use it to get the information that they need. Additional training may be needed.

For the Impact Evaluation, one of the baseline survey secondary villages (Kuatissa Tiama also known as Kuatissmama) was re-classified into a primary village for the project implementation. This will affect the final numbers of primary and secondary villages, changing the distribution and it remains to be seen how that will affect the reliability of the estimates for the impact evaluation.

13.1. Information being collected

ProRenda staff has invested in the M&E system, including very detailed information on production and marketing of the key crops, as well as on participation in adult literacy and other components. These systems are able to inform on many of the indicators identified in the project documents.

With the monthly activity data sheets, a modification will be needed in order to know the total number of men and women participating, since the current forms ask for “men, women, young people” attending meetings. The classification of “young people” is separate from the gender classification, and it is unknown what percentage of the young are male and female. According to World Vision staff member Deodato Guilherme, the sum of men, women, and youth is the total attending any given session. For a true count of men and women, ProRenda needs to identify young women and young men separately.

13.2. Data systems

Current systems include monthly data collections across all the primary communities for all farmers in the association. This intensive effort on the production and marketing side appears to be taking time away from extension agents and their supervisors, time that could be spent in developing the F2F systems and other extension activities.

We recommend that World Vision look into a system developed in health sector for Lot Quality Assurance Sampling, to reduce the need for information on every community and every farmer in the association. Using this method and implementing according to the guides available would be able to reduce the high time and cost associated with the data collection at the farmer/association level. Selection of farmers or associations for this work should be done carefully to include all three regions of operation. This method has been recommended for use in mid-term evaluations to reduce the costs, but we did not use it here (Vanhoorickx, 2007).

On the literacy and other community education efforts, the systems are adequate and appear to cause no major problems for the project. The literacy program is conducted through

ALFALIT and they maintain the records for those activities. We did not have a chance to review those documents during this work.

14. Conclusions

According to the farmers in the primary villages, ProRenda has been able to make substantial improvements in production and marketing of selected crops, especially potatoes, in the primary villages. The literacy training is highly valued in the primary communities, although men have complained about the bias towards women in the selection of participants for literacy training, and requested that additional teachers be available to handle to high demand for the training. The inclusion of numeracy in that training has been valuable, as seen by the participants, both for production and for marketing activities. In addition the messages on how to deal appropriately with garbage have been transferred, and some have requested additional work on nutrition and cooking. Some farmers, particularly women, requested more books.

The impact in the secondary villages is as yet limited. Placing greater emphasis on the F2F development needs and on use of radio as a communication tool will improve the impact of the project in these zones. Farmers in the secondary villages are interested in the production technologies and already asking their neighbors about the spacing and other issues, so there is interest in the secondary villages to have access to technology. The key will be developing more the incentives and logistics, as well as training, that facilitate the active participation of lead farmers in the F2F system. A project extension would provide more time to take advantage of the lead farmers and their experience.

Farmers in all villages expressed dissatisfaction with the strategy of buyers to require very large bags of produce. They believe that they are not getting a good price for the larger bags and would like assistance in trying to get buyers oriented and using the smaller 10 to 50 kg bags. This would mean continued ProRenda work with bagging issues in the markets. The farmers also stressed the need for some type of warehousing or contact with a wholesaler such that they can bulk up their produce to get better prices.

The radio programs on prices are seen positively when available, but more training on how to use the price information is needed. That training might be a specialized radio program giving examples, but also would include more training of extensionists and farmers on the use of the price information. One key problem, especially in secondary villages, is the limited access of women to the radios. The men appear to be more likely to have the radios and listen. Scheduling programs when the men are less likely to be in the fields or elsewhere might assist in women having greater access to the radio.

There were two key aspects highlighted in all groups: the continued and increased need for fertilizer and for improved seeds. In some cases, access to credit to obtain these inputs was mentioned. In other cases, it was the desire for greater contact with private sector vendors of the goods. Others simply stated that they need the inputs from the project.

In addition, in every FGI, we asked about animal traction and there is clear interest in facilitating greater access to animal traction. In one women's group, the women were very vocal in their support to increased animal traction, even though they acknowledge that it is unlikely to be the women who are using the animal traction directly. As they said, "We have sons and brothers who can use them on our land" (Chiquendula). Generally, seed and fertilizers were highest priorities and animal traction or mechanization was seen as the next need.

The farmer organizations still appear to need training on how to work as a group, how to get registered and how to access and manage credit. Farmers see the association as a way to accomplish marketing and credit access, but the associations seem to be still in development stage and need much more work, particularly to ensure that all the members see the association as theirs.

The control villages are reduced to seven, due to the exclusion of Palestina. The effects of that on the impact evaluation remain to be seen and we remain conservative on the use of the control villages, due to selection issues and the challenges resulting from the lack of any Angolan census information on which to have based the control villages. This issue was raised in the baseline report and continues.

The high costs in personnel time and transport in the monthly data collection on all associations and all farmers in the associations in the primary villages for the production and marketing of key crops mean that a modification would be appropriate. We recommend that the project consider using Lot Quality Assurance measures with selected farmers and associations, rather than the full population. If using 19 associations per region, the work is reduced by about 50%. The question would be how to ensure information for the secondary villages, which are currently not included.

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