Food and Agriculture Organization of the United Nations

INVESTMENT ANALYSIS FOR INSTITUTIONAL PROCUREMENT

PURCHASE FOR PROGRESS

COUNTRY CASE STUDY:

EL SALVADOR

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FOREWORD

Purchase for Progress (P4P), a World Food Programme (WFP) pilot launched in 2008, aims to leverage smallholder agricultural growth in some of the world's poorest countries through supply chain reforms. P4P links WFP's demand for staple foods with the expertise of partners working to strengthen the capacity of smallholder farmers to produce more and higher-quality food, reduce post-harvest losses, access markets and fetch a fair price for their surplus crops. P4P tests and institutionalizes different food procurement models and related programmatic approaches that sustainably promote smallholder agricultural and market development.

At WFP's request, the FAO Investment Centre conducted an investment analysis of the P4P initiative in four countries: Malawi, Mali, Tanzania and El Salvador. The FAO team, which included Alexander Jones, a former senior programme development officer, and economists Lisa Paglietti, Roble Sabrie, Luis DiasPereira and Wadzi Katsande, combined desk reviews with field visits and consultations with the P4P Coordination Unit in Rome and stakeholders at country level.

ACKNOWLEDGEMENTS

FAO Investment Centre economists Luis DiasPereira, Wadzi Katsande, Lisa Paglietti and Roble Sabrie were the main authors of the study, with Lisa Paglietti coordinating the study team.

The team is grateful to the P4P Coordination Unit, which led the preparation of the concept, scope and funding for the study, and WFP staff at country level for participating in meetings and sharing documentation.

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ACRONYMS AND ABBREVIATIONS

ACAAS de R.L.	*Asociación Cooperativa de Aprovisionamiento Agropecuario, Ahorro, Crédito y Consumo de San Sebastián de Responsabilidad Limitada*
ACALESE de R.L	*Asociación Cooperativa de Aprovisionamiento Agropecuario La Esperanza de Responsabilidad Limitada*
ACAPACSE El Torogoz de R.L	*Asociación Cooperativa de Comercialización, Aprovisionamiento, Ahorro, y Crédito de Productores Agropecuarios de Santa Elena de Responsabilidad Limitada*
ACD-NSNV de R.L.	*Asociación Agropecuaria Campesina para el desarrollo del Norte de San Vicente de Responsabilidad Limitada*
ACOCACPAL de R.L.	*Asociación Cooperativa de Comercialización, Aprovisionamiento, Ahorro y Crédito de Productores Agropecuarios del Municipio de Lislique de Responsabilidad Limitada*
ACOPANOC de R.L.	*Asociación Cooperativa de Comercialización, Aprovisionamiento, Ahorro y Crédito de Productores Agropecuarios del Noroccidente del Cacahuatique de Responsabilidad Limitada*
ACOPASAN de R.L.	*Asociación Cooperativa de Producción Agropecuaria San Marcos, Las Pozas de Responsabilidad Limitada*
ACOPROERICK de R.L.	*Asociación Cooperativa de Comercialización y Producción Agrícola "Compañero Erik" de Responsabilidad Limitada*
ADESCO AGRISAL	*Asociación de Desarrollo Comunal de Agricultores de San Lorenzo*
AGROCADENAS	Selected Agrichains Strengthening with an Entrepreneurial Approach
AGROTROPICAL de El Salvador de R.L. de C.V.	*Sociedad Cooperativa Agroindustrial y Exportadora de Occidente de Responsabilidad Limitada y Capital Variable*
AMAÑECER RURAL	Rural Territorial Competitiveness Programme
ASAESCLA de R.L.	*Asociación Agropecuaria El Éxito de Santa Clara de Responsabilidad Limitada*
ASID de R.L.	*Asociación Salvadoreña para la Integración y el Desarrollo de Responsabilidad Limitada*
CAS	Logistics and services centre
CENTA	National Centre for Agriculture and Forestry Technology
CNS	Business and services centre
COLIBRI de R.L.	*Asociación Cooperativa de Producción Agropecuaria y Servicios Múltiples Colibri de Responsabilidad Limitada*
COMUS	*Asociación Coordinadora de Comunidades Unidas de Usulután*
EL COROZO de R.L.	*Asociación Agropecuaria El Corozo de Responsabilidad Limitada*
EL GARUCHO de R.L.	*Asociación Agropecuaria "El GARUCHO" de Responsabilidad Limitada*
EL PESOTE de R.L.	*Asociación Cooperativa de Producción Agropecuaria El Pesote de Responsabilidad Limitada*
FAO	Food and Agriculture Organization of the United Nations
FO	Farmer organization

FUNDAPAES	*Fundación para el Desarrollo Sostenible*
IICA	Inter-American Institute for Cooperation on Agriculture
IFAD	International Fund for Agricultural Development
IZALCALU de R.L.	*Asociación Agropecuaria IZALCALU de Responsabilidad Limitada*
LOS TABUDOS de R.L.	*Asociación de Productores Agropecuarios Los Tabudos de Responsabilidad Limitada*
MAG	Ministry of Agriculture and Livestock
M&E	Monitoring and evaluation
MINED	Ministry of Education
P4P	Purchase for Progress
PAF	Family Farming Plan
PREMODER	Project for Reconstruction and Rural Modernization
PRODEMOR	Rural Development and Modernization Project for the Central and Paracentral Regions
PRODEMORO	Rural Development and Modernization Project for the Eastern Region
PROGRANOS	*Productores de Granos Básicos de Occidente*
SDP	Suppliers Development Programme
SLP	Standard local purchase
A.A.T. de R.L.	*Asociación Agropecuaria de Turín de Responsabilidad Limitada*
UNDP	United Nations Development Programme
WFP	World Food Programme

INTRODUCTION

The investment analysis presented here for El Salvador is exploratory, providing, as far as the existing data and resources for the study permit, preliminary results on the Purchase for Progress (P4P) initiative's costs and benefits.

The investment analysis adopted a two-fold methodological approach. The first part, which looks at costs generated by P4P activities, uses World Food Programme's (WFP) existing quantitative data and other secondary sources of information to assess: (i) if P4P brought significant additional costs to WFP's procurement of maize and beans[1] in El Salvador; and (ii) the investment made by P4P in value chain development in El Salvador. The second part provides a qualitative analysis of the benefits brought by the P4P investments, identifying the main changes produced at farm and farmer organization (FO) level as a result. Illustrative financial models of on-farm and off-farm enterprises supported by the initiative complement the analysis.

The benefits explored in the second part are divided into direct and indirect. Direct benefits include:

- Increased sales price due to improved output quality and negotiation capacity;
- Increased land productivity due to improved farm inputs use and general agronomic practices;
- Increased areas sown as a result of stronger demand for farm output and more attractive prices;
- Reduced post-harvest losses at farm and warehouse level; and
- Increased food availability.

The study also looked for typical indirect benefits,[2] such as improved access to credit, increased access to non-P4P market outlets, improved negotiation/bargaining skills and management and accounting skills of FO representatives.

As previously mentioned, the analysis was based on existing secondary information such as monitoring and evaluation (M&E) data, complemented by primary information and data gathered during fieldwork[3] through consultations with key informants in El Salvador. Both primary and secondary information were analysed in the country, as much as time permitted, and the preliminary findings were shared and discussed with the P4P country team in El Salvador. Key informant interviews and focus group discussions were conducted as described below:

- Key informant interviews with development partners, staple food buyers and capacity development service providers were conducted in the form of semi-structured interviews that aimed to explore the informants' opinions about the expected benefits described above. A set of leading questions were developed and tailored to each key informant category. When deemed relevant, interviewees were encouraged to consider the P4P beyond the set questions. At the end of the interviews, the information was summarized to serve as reference for the analysis made in this report (Annex 1).
- Focus group discussions with FO representatives and two members of the P4P country team were organized with 5 of the 20 FOs supported by the P4P – two in the western region of the country, two in the centre and one in the eastern region. The focus group discussions also followed prepared leading questions,

1 These are the two commodities supported by P4P in El Salvador.

2 Indirect benefits are understood as either intermediate outcomes that might ultimately but not directly influence the net value of production, and thus stakeholders' income, or benefits that may contribute to improving other livelihood dimensions not analysed in detail in this report.

3 Luis DiasPereira, an economist with FAO's Investment Centre Division, undertook a mission in January 2014 that worked closely with the P4P country team. Specific tasks included a review of M&E and other P4P relevant documents at the WFP office in El Salvador and interviews with key informants, i.e. participants, service providers, WFP staff, implementation partners and large staple grain buyers in El Salvador (public and private).

although the conversation with FO representatives was allowed to flow in a semi-structured order based on their recollection and knowledge of the facts. The main findings from the focus group discussions with FO representatives were summarized in a table (Annex 2).

The approach and methodology were limited by the following:

- The available quantitative data were not always consistent, as different sources often provided different figures, nor sufficiently encompassing for a complete quantitative analysis of the examined costs and benefits.
- The impact assessment surveys – baseline and mid-term – were not representative, and data on key indicators, such as changes in yields or sown areas, were not statistically significant. Additionally, the impact assessment was mostly designed for an intervention that would foster changes at production/farm level, while the P4P intervention in El Salvador focused on improving farmers' marketing capacities.
- The combination of quantitative and qualitative information may provide a foundation for a discussion on the P4P's contribution to changes in FO members' volume and value of production; however, because the programme did not operate in isolation, it is difficult to measure the scale of its impact and benefits. Although the benefits described in this study were verified in the field and crosschecked against secondary data, it was not possible to determine the number of producers who effectively benefited from the P4P intervention.
- Some of the investments made by P4P in El Salvador, such as infrastructure, equipment and the creation of bean brands, were recent – although investment started in 2010, some key interventions were finalized towards the end of 2012 – and cannot yet be subject to a post-factum analysis.

Despite its limitations, this study considers direct benefits as well as externalities not analysed in the mid-term review or in other studies. Regarding the many existing studies on the P4P initiative in El Salvador, this is the first that analyses its results after investments in infrastructure and equipment at FO level were completed.

This paper includes five main chapters:

- Chapter 1 provides background information on El Salvador and WFP country programme operations, as well as a short summary of WFP's approach in carrying out the P4P in the country. It aims at contextualizing the analysis made in the subsequent chapters. For a more detailed analysis of El Salvador's P4P programme and how it has contributed to smallholder market integration, see footnote below (FAO 2014).[4]
- Chapter 2 analyses the available information on WFP procurement in El Salvador and assesses the extent by which P4P might have increased WFP's food procurement costs in the country. A second subsection looks at the investment costs incurred by P4P in strengthening the participating FOs' capacity to supply markets with the same characteristics as WFP's.
- Chapter 3 provides a qualitative assessment of the benefits generated by the P4P intervention at farm and FO level. It also presents a short discussion on the sustainability of these achievements.
- Chapter 4 provides an analysis of FOs' financial sustainability and some considerations on the possible impact of P4P on farm production based on financial crop models. None of the models used in this analysis were representative or accurately depicted the reality of a particular FO or farmer; they aimed instead to provide additional discussion material to complement the findings from previous chapters.
- Chapter 5 summarizes key findings and provides some recommendations.

4 The study, *Análisis de la Vinculación de Compradores Domésticos de Granos Básicos con Pequeños Productores: El caso de El Salvador,* was produced by FAO's Rural Infrastructure and Agro-Industries Division.

Chapter 1

COUNTRY HIGHLIGHTS

El Salvador is a densely populated (295 habitants/k^2) middle-income country in Central America, a region that is reasonably well integrated economically. The country also boasts a high concentration of staple food producers with the highest maize and bean yields in Central America (FAOSTAT, 2014),[5] is served by a good road network and functional harbours[6] and borders three countries in Central America. Despite these favourable conditions, El Salvador is highly vulnerable to natural disasters and depends on imports and remittances, which account for 17 percent of the country's gross domestic product (WFP, 2014).[7] These characteristics contribute to the shaping of WFP's interventions, particularly P4P, in the country.

WFP El Salvador does not operate a large regular food assistance programme.[8] Its largest operations are set up for emergency situations in the aftermath of natural disasters or during severe economic crises. Although WFP was responsible for the procurement of beans for the Government's school feeding programme, this programme was completely internalized by the Ministry of Education (MINED) at the beginning of 2013, further reducing WFP's demand for staple food. Hence, FOs in El Salvador cannot count on WFP as a stable and large enough market outlet for their production. On the other hand, the country's characteristics indicate the strong potential for market development, including for P4P-supported commodities.

This led P4P El Salvador to focus from the onset on forming a network of FOs equipped with grain processing centres whose main aim would be to sell maize and beans to markets beyond WFP. The initial sales to WFP would still be the first vehicle for their qualification to reach demanding markets in terms of quality, quantity and delivery times. Hence, P4P targeted FOs that were strategically close to main roads and in highly productive parts of the country, with larger surpluses and the greatest potential to successfully manage processing centres.[9] The targeted FOs mostly constituted small farmers (88 percent) who sow less than 2.5 hectares of land, according to the definition used in El Salvador (P4P baseline report, 2012).

The P4P country team started implementation in 2009, following preparatory studies and a consultation process to select participants with development partners, namely project staff of the Food and Agriculture Organization of the United Nations (FAO) and the National Centre for Agriculture and Forestry Technology (CENTA). Thirteen FOs were selected to receive support from the pilot initiative in the first phase and another seven FOs for the second phase, which started in early 2012. In total, the 20 FOs were expected to market the production of 9 036 producers in El Salvador.

Ten of the 13 FOs that participated from the onset in the P4P initiative in El Salvador received farm inputs during the first year to form farm input-based revolving funds. These, in turn, would constitute their first source of working capital. All FOs also received technical assistance from service providers hired by P4P in post-harvest management, grain processing, sales management, accounting and credit and financial management. With regard to technical assistance in management and business administration-related issues, P4P partnered with the Suppliers Development Programme (SDP) of the United Nations Development Programme (UNDP), which developed trainers' capacity

5 http://faostat.fao.org/site/567/default.aspx#ancor

6 The cost of shipping a container in El Salvador in 2012 was USD 980 against USD 1 242 from Honduras and USD 1 127 from Guatemala (Doing business 2012 in FAO forthcoming).

7 http://www.wfp.org/countries/el-salvador/overview

8 Even in years when WFP buys maize, its market share in El Salvador is roughly 1 percent (FAO, forthcoming).

9 P4P was assisted by development partners in the field, such as FAO, in the choice of FOs with stronger organizational capacity and growth potential. However, small producers from these FOs had limited, if any, experience in marketing their produce collectively.

and subsequently hired and supervised them in their work with the FOs. For production and on-farm post-harvest management technical assistance, P4P partnered with CENTA, which already had extension staff supporting the selected FOs. CENTA benefited from P4P training and equipment, from ongoing FAO projects and from the Inter-American Institute for Cooperation on Agriculture (IICA), which acted as the main implementer of Component 2 of the country's Family Farming Plan (*Plan de Agricultura Familiar* or PAF) until 2012.

This capacity development effort comprised the participatory formulation of business plans for each FO, according to their existing productive and organizational capacities, assets[10] and level of insertion in the market and in the network of existing FOs. As a result of this exercise, all the FOs received different types of support from P4P in terms of infrastructure, technical assistance and equipment. However, the first sales to WFP were made when the FOs did not yet own sufficient processing equipment or have definite warehouses or experience in post-harvest management, which compromised their timely delivery capacity.

In 2011, the Government of El Salvador introduced a development policy that requires all development actors in the country to align with the PAF. The PAF, developed with the participation of the country's development partners, is divided into four main areas of intervention: (i) food security; (ii) value chains; (iii) agro-industry; and (iv) innovation (IICA, 2011).[11] The value chains component (Component 2) envisages the development of large-scale business and services centres (CNS - *Centro de Negocios y Servicios*) and smaller-scale logistics and services centres (CAS - *Centro de Acopio y Servicios*) working in a network in which the CASs would either directly market the processed grain or market their production through the CNSs. WFP contributed to the formulation of the value chains component strategy. It aligned its P4P intervention with it, focusing its activities on the development of processing and marketing centres rather than on primary production of maize or beans.

As such, the seven FOs that started receiving support from P4P in 2011/12 were assisted in designing their business plans according to those two main models: the CNS and the CAS[12] (Figure 1 depicts the main differences in the participating FOs). The P4P initiative supported the setting up of three clusters of FOs with CAS characteristics (west, centre and east), each headed by a CNS.

The P4P and other intervening development partners jointly supported the investments foreseen in the FOs' business plans. Each processing centre (CAS or CNS) was owned, managed and operated by a different FO, but P4P staff and capacity development service providers encouraged the FOs in each region to supply each other with grain when necessary to fulfil existing contracts. Other major changes in the P4P strategy adopted from 2011/12 were the elimination of farm input-based revolving funds; P4P facilitation of FOs' access to credit from credit institutions; and an earlier start in developing capacity on planning and management prior to investment in physical assets. During the entire P4P implementation period, P4P staff facilitated the establishment of contracts between the FOs and agro-industrial companies.

From 2012, P4P El Salvador supported investments in the construction of three – one per region – CNSs, with large storage and grain processing capacity,[13] all strategically placed on El Salvador's main roads, as well as five new CASs.

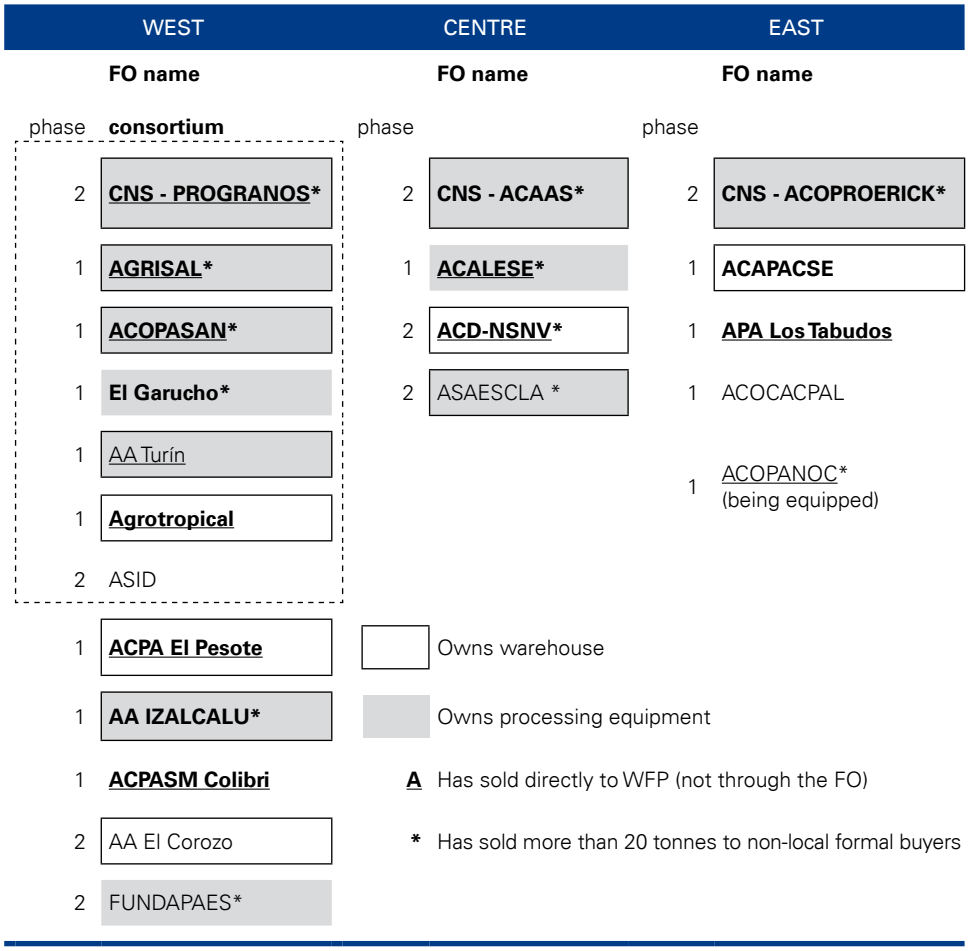
10 In some cases the FOs had received or were qualified to receive Government support in the form of equipment, infrastructure and technical assistance from IFAD-funded projects or the municipalities. During the preparation of business plans and the programming of P4P co-financing strategies, these synergies were taken into consideration.

11 http://www.iica.int/Esp/regiones/central/salvador/proyectos/Paginas/paf.aspx

12 Although all logistical centres of the FOs supported by P4P are classified by WFP either as CAS or CNS, not all the FOs are officially registered as such. Nevertheless, all participating FOs have been formally established and registered in the Ministry of Agriculture and Livestock (MAG), *Ministerio de Hacienda* (*MH) or el Instituto Salvadoreño de Fomento Cooperativo (INSAFOCOOP).* In this report, the designations CAS and CNS are used to facilitate the description of the processing centres owned by each FO.

13 The CASs for which there are data on investment in infrastructure and equipment cost between USD 84 000 and USD 120 000, depending on the size and existing infrastructure. The infrastructure and equipment investment for the CNS for which there are data costs around USD 230 000. Investment costs include development partners' contributions other than P4P's. According to P4P estimates, FOs have processing capacity of 18 tonnes per day, whereas CNSs can process up to 32 tonnes per day (considering an eight-hour shift).

Figure 1: Distribution of FOs in the country, showing the phase (before or from 2012) in which they started receiving support from P4P and differences in infrastructure, equipment and sales



Source: P4P El Salvador data compiled by the author.

This was in response both to the PAF's strategy and to the lessons learned during implementation on the need for adequate infrastructure and equipment to comply with market demands. The CNSs started functioning during the 2013/14 maize season.

Given the different development stages and characteristics of the participating FOs, the CNSs were supported to function according to different ownership models; a consortium of six FOs owns one CNS, while the other two are owned and managed by the FO in the region that has shown the interest and capacity to invest in such a structure. The objectives of the three CNSs are similar, regardless of the ownership model, as they all aim to provide each region with the capacity to supply large quantities of high-quality staples in a short period from their region's small-scale producers.

It has been noted that P4P-supported FOs have different characteristics and capacity levels in production, post-harvest management, organization, business management and commercialization. As a result, some FOs won contracts with WFP and formal non-local buyers, while a number of FOs have not yet directly sold to WFP or to formal market outlets. Annex 3 provides detailed data on each FO's sales to different market outlets.

Chapter 2

P4P COSTS ANALYSIS

The overall cost of P4P (excluding procurement of commodities) during the period under analysis is USD 3.6 million, which P4P El Salvador classified in five main categories: technical assistance and services; equipment; infrastructure; farm inputs (revolving fund set-up cost); and project coordination. Details of the cost breakdown are in Annex 4. For the purpose of its own costs record and analysis, WFP aggregates P4P costs as follows:

- Start-up costs
- Procurement costs
- Recurrent costs

Start-up costs normally include the costs incurred in the first year to launch a project. However, the available P4P budget for the last five years does not provide a breakdown between the initial start-up costs and the remaining costs of the initiative. Some start-up costs include coordination and assessment of the overall programme by regional offices and headquarters and are difficult to attribute to each country. These costs therefore could not be analysed.

Procurement costs are those directly related to the purchase of commodities by WFP. They exist independently from P4P implementation and are supported through a different budget. However, procurement efficiency might be affected by P4P, owing to the fact that WFP allowed the FOs supported by P4P to bid for contracts through special procurement modalities, which facilitated their selling to WFP. As P4P might have generated additional costs to WFP's procurement of maize and beans – the two crops supported by P4P – an in-depth analysis of procurement costs was undertaken and is illustrated in this chapter.

Recurrent costs usually include staff, travel and office supplies. As previously explained, P4P in El Salvador was implemented with the approach and objectives of a value chain strengthening/ development investment project. From the onset, all FOs were assisted in selling their produce to markets beyond WFP and not all of them sold to this institution. Hence, the costs incurred through the P4P budget, including P4P staff, travel and office supplies, aimed at strengthening FOs to be able to reach new market outlets in the medium and long term, do not constitute continuously incurring costs once P4P activities are completed. For this analysis, the author classified all P4P costs as investment costs in the development of the maize and bean value chains in El Salvador.

Given the initiative's characteristics, a cost analysis of P4P requires exploring two main cost categories and the following corresponding subcategories: (i) those indirectly incurred through possible losses in efficiency in WFP procurement procedures; and (ii) those directly incurred by the pilot initiative through the investment made in increasing the FOs' ability to sell according to quality standards of WFP and Salvadoran private buyers.

Procurement costs

WFP purchases in El Salvador are made according to three procurement modalities:

- Regular tendering – The standard and most common purchase modality used by P4P in which prospective sellers bid for a contract offered and defined by WFP.
- Soft tendering – Farmer cooperatives bid for a P4P tender. As in regular tendering, those bidding with the most competitive prices are awarded the contract. However, until 2013, P4P FOs were exempted from surety bonds and not penalized for delays in delivery as happens with regular tendering.
- Direct contracting – A non-competitive procurement process wherein WFP negotiates directly with a single supplier to determine a purchase price and other contract terms. It is used occasionally by WFP, such as when there is a need to procure on short notice.

Other countries where P4P has been implemented have also purchased through forward contracting, a non-competitive procurement modality, which WFP is

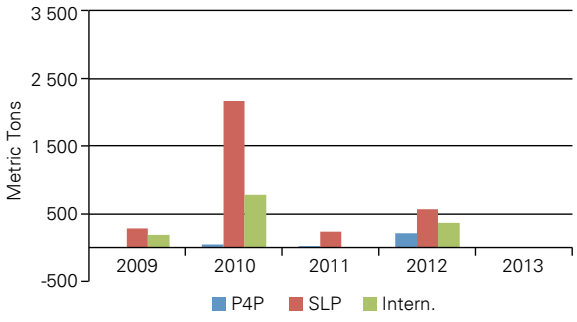
Table 1: Summary of P4P and standard local purchases (SLP) for the period of P4P implementation

	P4P				SLP				Total local purchases		
Year	Quantity (MT)	% of Total MT Purchase	Price (USD/ MT)	Total Purchase (USD)	Quantity (MT)	% of Total MT Purchase	Price (USD/ MT)	Total Purchase (USD)	Quantity (MT)	Price (USD/ MT)	Total Purchase (USD)
Beans	285	8	1,360	388 015	3 242	92	1 194	3 871 266	3 527	1 207	4 259 281
2009	-	-	-	-	281	100	903	253 761	281	903	253 761
2010	49	2	992	48 711	2 166	98	1 161	2 515 080	2 215	1 157	2 563 791
2011	25	10	2 402	60 444	232	90	1 852	429 664	257	1 906	490 108
2012	211	27	1 322	278 860	563	73	1 195	672 761	774	1 230	951 621
2013	-	-	-	-	-	-	-	-	-	-	-
Maize	6 265	86	423	2 651 568	1 042	14	519	540 862	7 307	437	3 192 430
2009	555	100	366	203 512	-	-	-	-	556	366	203 512
2010	3 147	93	388	1 222 039	219	7	428	93 719	3 366	391	1 315 758
2011	668	72	587	392 049	266	28	659	175 414	934	608	567 463
2012	1 041	65	457	475 906	557	35	488	271 729	1 598	468	747 635
2013	854	100	419	358 060	-	-	-	-	854	419	358 060
Total Value		41		3 039 583		59		4 412 128			7 451 711

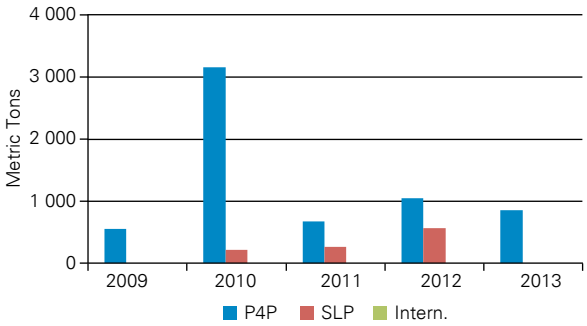
Source: Author's compilation from official purchasing data.

Figure 2: P4P quantities of beans and maize purchased from P4P FOs through SLP and international purchases

Bean purchases



Maize purchases

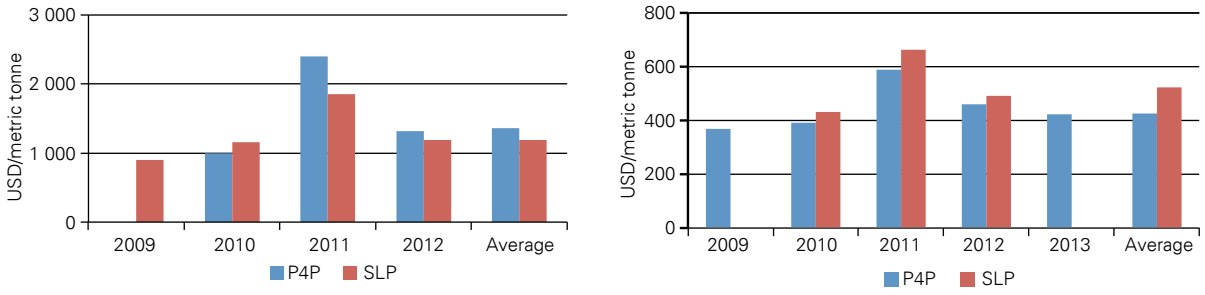


Source: Author's compilation from official purchasing data.

testing for the first time through P4P. Forward contracting is similar to direct contracting except it includes a guaranteed minimum price and a clause for price adjustment against market prices at the time of delivery. If market prices increase by the time of delivery, WFP will pay a re-negotiated price. This procurement option was never used in El Salvador.

With regard to delivery, all WFP suppliers, P4P and non-P4P, were requested by contract to deliver their produce to WFP warehouses at their own cost. The following are additional considerations for correctly interpreting the data provided by the country office analysed in Table 1: (i) although beans were also bought for emergency operations, they were mostly aimed at the school feeding programme, entirely operated by the Government of El Salvador since 2013; and (ii) maize purchases are used in P4P emergency operations and are subject to high variations in demand from one year to another and little programming from WFP,

Figure 3: Price of beans (left) and maize (right) purchased from P4P FOs and other local suppliers (SLP)



Source: Author's compilation from official purchasing data.

which explains the high yearly variations in purchased quantities and lack of futures contracts in El Salvador. WFP El Salvador's purchases of maize and beans during the period in which the P4P was implemented (2009-2013) are summarized in Table 1 and Figure 2.

A first analysis of the data shows that P4P suppliers were the largest supplier of maize in each of the five years of analysis, whereas they did not supply large quantities of beans. All WFP purchases in El Salvador were subject to competitive bidding and, although P4P FOs benefited from soft tenders, these were made in parallel with regular tenders. The contracts were always given to the suppliers offering the lowest price. This means that P4P FOs were more price competitive in most of the tenders for maize from the beginning of the initiative.[14] With regard to beans, however, the interview with the procurement officer revealed that P4P FOs were not competitive in price – or quantity – with other suppliers and could not be awarded the contracts. At the onset of the P4P initiative, the FOs did not own grain/pulse selection/grading or bean packaging equipment; that work was done manually. The high market price for maize at the time allowed this endeavour to be competitive; however, the longer selection time required per unit of beans rendered the FOs uncompetitive[15] for this crop, even during times of high commodity prices. Chapter 4 provides further considerations on FO competitiveness in bean production and processing.

Figure 3 emphasizes an important aspect. In general, non-P4P suppliers were only awarded contracts for maize when they fetched a higher price than those offered by P4P FOs for other purchases in the same year. This might indicate greater price competitiveness from FOs with regard to non-P4P suppliers. This assumption cannot, however, be solidly supported by the available data, and the analysis of FOs' financial sustainability in Chapter 4 flags some contradictory findings on FOs' long-term maize competitiveness.

Table 2 explores another aspect of procurement efficiency, whether P4P FOs can supply the same quantities as non-P4P suppliers. With regard to beans, both averages per contract and per tender were smaller for P4P producers than for regular suppliers. The interview with the WFP country office procurement officer in El Salvador revealed that P4P FOs had difficulty in supplying the quantities required by larger contracts. For maize, P4P suppliers delivered higher quantities both per tender and per contract than regular suppliers – although in most cases (13 out of 20 purchasing orders), the P4P FOs were not able to individually supply the entire quantity demanded, which led to several contracts per tender. It is not clear whether non-P4P suppliers would have been able to deliver larger quantities, reducing the number of required contracts; however, the WFP procurement officer

14 P4P FOs were able to compete with other suppliers even before the processing centres, co-funded by P4P, had been set up. Additionally, it wasn't only the farmers who received inputs from the revolving fund set up by P4P who sold grain to P4P, which leads one to believe that with the price levels of 2009-2013, P4P FOs were generally competitive even without any subsidies. Field findings suggest that the technical assistance provided to FOs was the main factor contributing to the FOs' ability to sell to WFP.

15 Some FOs were equipped with selection, grading and bean packaging machinery during the current season, which is expected to increase competitiveness.

Table 2: Average quantities (tonne) per contract and per tender for P4P and non-P4P suppliers

Commodities		P4P MT	SLP MT
Maize	Average per contract	149	130
	Average per tender	313	130
Beans	Average per contract	57	171
	Average per tender	285	3 242

Source: Author's compilation from official purchasing data.

highlighted that time spent per contract was not significant and that the additional contracts did not cause an increase in staff costs for the procurement unit. Furthermore, the superintendence service was charged by tonne – USD 3 per tonne – rather than by contract, thus its cost was not sensitive to changes in contract numbers. This means that choosing the supplier offering the lowest price was the most efficient strategy, even if that generated a larger number of contracts.

Delays in delivery are where P4P could cause a greater onus on WFP operations. Costs caused by delivery delays either occur in the form of lost benefits from food aid not distributed on time or of higher prices due to the need to procure in a short period from alternative sources, possibly through direct contracting. El Salvador is a particular case, as the WFP regular programme does not purchase maize or beans, while the emergency programme only requires relatively small amounts of grain throughout long periods of time. According to WFP staff in El Salvador, the delays in grain delivery by FOs did not cause any significant additional costs to WFP's operations, even if there were long delays at the beginning of the initiative (see Figure 4). In countries with greater and more immediate needs, delays in supply can cause important disruptions to the programme as identified in other country analyses.[16]

The experience in El Salvador also seems to indicate that the delays in delivery when purchasing from P4P FOs were more a start-up rather than a systemic issue. Interviews with WFP staff and FO representatives led to the conclusion that the delays verified in the first two years of the P4P initiative were mostly due to the lack of mechanization in the selection/grading process to achieve the quality standards set by WFP, and refusals at WFP warehouses due to lack of compliance with those quality standards. Since 2011, the FOs have been equipped and continuously assisted in improving management and quality control. As a result, the delivery time decreased, as demonstrated in Figure 4. Given this improvement in FO capacity, WFP El Salvador has not issued soft tenders since 2014, and all suppliers are to compete under the same conditions through regular tenders.

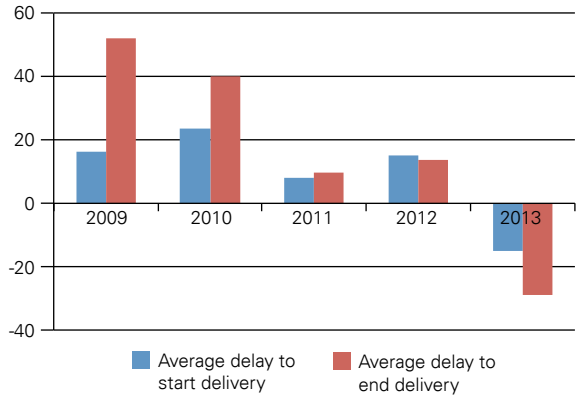
A final investigation with regard to procurement efficiency included exploring the purchase contract modalities applied to P4P FOs as presented in Table 3. This tables shows that at the onset of the initiative, WFP undertook direct contracts with FOs on four occasions. Although purchase prices obtained through direct contracts are potentially greater than those through a regular competitive tender, the interviews with WFP El Salvador procurement staff revealed that direct contracting after the first competitive bids resulted in collusion between the FOs. The initial competitive tenders were thus cancelled and the FOs were authorized to engage in sales with WFP through direct contract, maintaining the prices offered for the tender, which were more competitive than those offered by regular providers.

The FOs sold only a share of farmers' surplus to WFP in El Salvador,[17] having been supported by P4P in finding alternative market outlets. Additionally, the P4P intervention in El Salvador aimed to improve FOs' marketing capacities in the long term rather than solely during the P4P implementation period. Hence, investment costs in capacity development, infrastructure, equipment or P4P staff cannot be assessed as operational costs attributed to WFP procurement

16 The other three country investment analyses provide a description of the consequences of delays.

17 See Annex 3 for details on sales volumes per FO per market outlet.

Figure 4: Average delays in P4P FOs (total) deliveries to WFP



	Average delay to start delivery	Average delay to end delivery	Standard deviation (start)	Standard deviation (end)
2009	16	52	2	63
2010	24	40	18	35
2011	8	10	6	8
2012	15	14	11	15
2013	-15	-29	21	
Total Average	15	23	15	32

Source: Author's compilation from official purchasing data.

Table 3: Number of purchase contracts and quantities procured from P4P FOs per type of contract modalities

	Competitive tender			Direct contract		
	Number	Quantity (MT)	Quantity %	Number	Quantity (MT)	Quantity %
2009	0	0	0	2	556	100
2010	6	879	33	2	1 745	67
2011	5	884	100	0	0	0
2012	7	1 488	100	0	0	0
2013	2	854	100	0	0	0
Total	20	4 105	64	4	2 301	36

Source: Author's compilation from official purchasing data.

operations, but as part of a value chain strengthening/development initiative. The paragraphs below present an analysis on P4P investment costs.

In summary, WFP El Salvador procurement costs did not significantly increase with the introduction of P4P. The cost of additional staff time spent on preparing a possibly higher number of contracts appears to be negligible and delays in delivery allegedly caused little disruption in the programme – owing much to the particular characteristics of WFP's programme in El Salvador – even though P4P represents a large share of local purchases. The most significant incremental costs to WFP might have been in terms of extra superintendence every time a delivery was refused. However, this seems to be more of a start-up cost than a systemic one, as, according to the WFP El Salvador team, FOs are increasingly able to supply to WFP respecting contract standards. Incremental costs incurred by farmers and FOs are analysed in Chapter 4.

Overview of investment costs in value chain development/ strengthening

The investment costs incurred from 2009 to 2013 are summarized in Table 4. As mentioned in Chapter 1 and at the beginning of this chapter, P4P invested its resources in strengthening FOs; 49 percent of these costs were directly spent on capacity building and physical assets delivered to FOs, whereas 51 percent were on coordination, operation monitoring, evaluation and communication of P4P activities.

The cost distribution in Table 4 corroborates the assertions made in Chapter 1 about the focus of P4P's investment on strengthening the processing and marketing capacities of FOs rather than on improving individual farmers' production capacities. Only around USD 22 000 were invested in CENTA's capacity development, P4P's partner

Table 4: Summary of El Salvador P4P investment costs from January 2009 until December 2013

	USD 000
DIRECT INVESTMENT IN FOs	**1 760**
Technical assistance and services	547
FO level	534
Farm level	22
FO equipment	522
FO infrastructure	334
Revolving fund set-up (farm inputs)	358
PROJECT COORDINATION and M&E	**1 852**
Staff costs	1 265
Travel	126
IT equipment	64
IT platform	8
Capacity building activities	15
M&E surveys	13
Learning and sharing	51
Other	310

Source: Author's compilation from P4P El Salvador data.

for on-farm technical assistance,[18] while the remaining USD 1.74 million of direct investment in FOs were geared to off-farm investments at the processing centre (CAS or CNS) level.

The WFP's P4P initiative is not the only intervention in value chain development in El Salvador. Other related interventions in the country include the: FAO-coordinated Selected Agrichains Strengthening with an Entrepreneurial Approach (AGROCADENAS)[19]; and IFAD-funded projects (PRODEMOR, PRODEMORO, PREMODER)[20], including most recently, and with national coverage, the Rural Territorial Competitiveness Programme *(Amanecer Rural)*. All projects invest in value chain development at farm and processing unit levels according to pre-established feasibility studies and business plans.

Table 5 presents an overview of the investment costs in value chain development and targets in terms of the P4P initiative's participant population, AGROCADENAS and *Amanecer Rural*. It is important to note that the total envisaged budget for P4P El Salvador is USD 5 million, but the table only reports costs incurred until December 2013. This means that by the end of the pilot initiative, the total investment per FO was expected to be USD 0.25 million or USD 553 per participating producer. Most of the final costs were expected to be for technical assistance, hired services and staff wages for project coordination and M&E, as there would be no further significant investment in equipment or infrastructure. The data for AGROCADENAS and *Amanecer Rural* are extracted from the project documents and do not reflect actual implementation. Costs for P4P were compiled from monitoring data (January 2014).

18 The effort on farmers' capacity development was supported by CENTA's regular budget for technical assistance and extension services to farmers, thus keeping the national institution with installed capacity on on-farm production in charge of these activities, rather than replacing it by hired consultants. The USD 358 000 spent on setting up revolving funds for the FOs had the double purpose of providing complete "technological packages" to farmers and serving as a source of working capital for their CAS to operate.

19 Project reference number GTFS/RLA/176/ITA.

20 PREMODER: Project for Reconstruction and Rural Modernization. PRODEMOR: Rural Development and Modernization Project for the Central and Paracentral Regions. PRODEMORO: Rural Development and Modernization Project for the Eastern Region.

Table 5: Investment costs and targets per number of participants of value chain development projects in El Salvador

	Amanecer Rural			AGROCADENAS			P4P		
Number of years of implementation	7			4			5		
Number of participating FOs	127			3			20		
Number of participating producers	14 000			600			8 650		
	Total Invest. (000 USD)	**% Total Project**	**Invest. / FO (000 USD)**	**Total Invest. (000 USD)**	**% Total Project**	**Invest. / FO (000 USD)**	**Total Invest. (000 USD)**	**% Total Project**	**Invest. / FO (000 USD)**
Total direct investment in FO	14 603	90	115.0	485	58	161.8	1 760	49	88.0
Technical assistance and services	3 894	24	30.7	304	37	101.3	547	15	27.3
Infrastructure and equipment	10 709	66	84.3	45	5	15.0	856	24	42.8
Farm / industrial inputs	0	0	0	136	16	45.4	358	10	17.9
Total project coordination and M&E*	1 623	10	12.8	347	42	115.5	1 852	51	92.6
Staff wages and other benefits	1 136	7	8.9	292	35	97.2	1 265	35	63.2
Operational costs	324	2	2.6	35	4	11.7	205	6	10.3
Learning events and products	0	0	0.0	20	2	6.7	71.4	2	3.6
Other	162	1	1.3	0	0	0.0	310	9	15.5
Total investment	16 226	100	127.8	832	100	277.3	3 612	100	180.6
Investment per producer[21]	1 159			1 386			418		

Source: Author's compilation from P4P El Salvador data.

Note: Cost categories in the different analysed documents did not match. The categories above are those the author assumed were possible to estimate, but they constitute neither official nor accurate assignations found in project literature. However, total costs are those stated in official documents of the different initiatives.

In the case of the IFAD-funded *Amanecer Rural* project, the costs depicted in the table relate only to the component that directly supported rural businesses and to a share of programme management, although the project had other components that might indirectly help enhance its results on value chains. AGROCADENAS is a regional project, and only specific costs for the activities for El Salvador were accounted for. These costs (Table 5) do not include formulation or international coordination, support and supervision as these are more related to the modus operandi of each institution than to the characteristics of each project/initiative. Participants' contributions were also not considered.

Although the total investment cost per FO, highlighted in Table 5, is considerably greater for P4P than for the IFAD-funded *Amanecer Rural*, the adopted strategies are also different. IFAD-funded projects are subject to a ceiling on equipment and infrastructure investment costs and make investments of similar amounts in each FO, while P4P has heavily invested in infrastructure in the three CNSs it

21 This numbers should be interpreted with a degree of caution. Some of these projects make the bulk of their investments at the processing unit level rather than at farm level, which means that not necessarily all the potential beneficiaries actually benefit directly from these investments.

supported (USD 0.23 million of direct investment in the CNS for which data is available). The remaining 18 FOs might have received more or less support in equipment and infrastructure depending on their pre-existing conditions. Some FOs were only supported with technical assistance, as they had already benefited from infrastructure and equipment from previous projects or alliances with local players (e.g. municipality, IFAD-funded projects).

It is also important to note the influence that the overhead – mostly staff costs – of UN agencies implementing projects plays in the overall costs. Looking solely at direct investments in FOs, P4P investment in infrastructure and equipment is USD 42 800, whereas *Amanecer Rural* investment is estimated to be around USD 84 000. With regard to technical assistance, P4P averaged USD 27 000 to date, whereas *Amanecer Rural's* was estimated to be about USD 30 000. The share of overhead also tends to be smaller in larger investments, such as *Amanecer Rural*, as coordination costs are not directly proportional to the total investment costs.

It is difficult to assess at this stage and with the available data what would be the most effective strategy, even more so given that the different existing projects have coordinated efforts and in many cases invested in the same FOs. As with other UN agency-implemented projects, overheads tend to be high; however, P4P direct investment costs per FO are not above the norm in El Salvador and the initiative leaves the country with an articulated network of staple grain FOs and associated infrastructure. The next chapter on P4P benefits describes the initiative's impact on FOs and participating farmers.

Chapter 3

BENEFITS ANALYSIS

Table 6: Summary of direct and indirect benefits

Direct Benefits	Indirect Benefits
Increased sales prices	Increased organizational and management capacity
Fair weighing at sales point	Increased FO access to credit
Increased production	Increased associate access to credit
Reduced post-harvest losses	Increased trust of FOs from buyers
Increased food availability	Participation of women in FO management
	Creation of in-country regional networks of FOs

This chapter describes the main benefits that were observed or reported during field visits, key informant interviews and focus group discussions. It discusses the main P4P direct benefits and the indirect benefits and externalities that were reported during the country visit or from findings from the secondary data analysis. Finally, there is a short discussion on the sustainability of the reported benefits.[22]

Direct benefits

This analysis aims to explore whether a number of expected direct benefits were realized through the P4P initiative, including: (i) increased sales prices due to improved output quality and bargaining power with private buyers; (ii) increased yields due to improved use of farm inputs and general agronomic practices; (iii) increased areas sown as a result of stronger demand for farm output and more attractive prices; (iv) reduced post-harvest losses at farm and warehouse level; (v) and improved food availability. The description below refers to the investments in the maize value chain, as the quantities of beans traded through the FOs were too small to have an impact on farmers.

- **Increased sales value.** The first and main expected benefit for producers engaged with P4P El Salvador was an increase in their sales value. Part of the increase would occur through better prices fetched by FOs delivering higher quality grain as a group. This price premium would be the incentive for the farmers to associate and sell through the organization. Although the baseline and mid-term surveys do not provide data on price premiums, interviews with farmers reported current (January 2014) differences between the local market price (intermediaries) and that offered by the FOs of 5 to 30 percent – an increase ranging from USD 11 to USD 54 per tonne of maize.[23] According to anecdotal testimonies from field visits, these price differences were larger in years when agricultural output fetched a higher price. Field observations indicate they were still sufficiently large in years when market prices were lower, such as in 2013/14, as to provide an incentive to a share of producers to sell through the cooperative.[24]

22 As previously mentioned, P4P is not the only actor assisting in the development of FOs and improvement of farm level production in El Salvador. Hence, the benefits described in this chapter are not fully attributable to P4P.

23 Prices paid to producers in 2014, as reported by visited FOs, range between USD 230 and USD 280 per tonne. FAOSTAT calculates an average maize yield in El Salvador in 2012 of 3.258 kg/hectare. The baseline and mid-term P4P El Salvador impact assessment surveys indicate an average of 1.3 hectares of maize per farmer and yields of around 5.15 tonnes/hectare.

24 Chapter 4 elaborates on the capacity of FOs to offer better prices to producers than the alternative market intermediaries.

- **Fair weighing at sales point.** Another reported benefit was the fair weighing of produce at the sales point. According to statements from two field visits, each bag sold to the intermediaries can weigh 4 to 10 percent more than the weight for which the producer is paid by the intermediary. However, it is not possible to verify whether this is a common practice or just performed by some intermediaries. Nevertheless, the FO representatives mentioned that this also contributed to increased confidence of the FOs among associated producers.
- **Increased production.** Increased production should also contribute to the expected rise in sales value. Although P4P did not focus its direct investments on on-farm production, it worked substantially with development partners and capacity building, input and credit providers to identify and enable – through knowledge and credit access – the adoption of technological solutions best suited for increased productivity at farm level. However, increases in productivity proved difficult to verify. The results from the baseline and mid-term surveys found that the causal effect of P4P participation with regard to the increased areas sown and maize yields was not statistically significant. Some field visits witnessed reports by farmers of increased sown areas. For example, 20 young associated producers belonging to one of the FOs in the western region started producing maize and beans after the P4P intervention, as they saw the FO as a reliable buyer and an input provider on credit. It is, however, not possible with the current data to appreciate the scale in which this might have happened; thus this finding remains anecdotal.

  In terms of land productivity, in general, FO representatives mentioned that improved access to credit – and farm inputs – generated an increase in some farmers' yields. However, the FO representatives also consistently noted that farmers had already received technical support for farm production before the P4P intervention and some would have probably increased their yields regardless of the P4P intervention. Finally, in one of the visited FOs, one farmer said that effective adoption of new production technologies differed from farmer to farmer and increases in yields were not realized at the same time and scale for all farmers. In fact, when questioned about important changes at farm level attributable to P4P, most FO representatives mentioned increased farmer awareness on the need for good quality output, rather than increased yields, including more attention to pesticide application or maize cob selection. These improvements at farm level seem to have had a greater impact on the sales price – e.g. grain not deteriorated by insects or fungi – than on production, as analysed in more detail in the next chapter.
- **Reduced post-harvest losses (quantity and quality) at farm level.** Data on reduced post-harvest losses are also inconclusive. During field visits, this was not an area in which the FOs identified great benefits. The consulting company C&D (2012)[25] corroborated these findings by reporting little change in harvest and post-harvest practices among P4P farmers. However, the same report mentioned that the producers supplying to the P4P-supported FOs received 23 000 silos from development partners other than P4P,[26] which increased their storage capacity by 19 000 tonnes, an average of 950 tonnes/FO (approximately the quantity processed by the FO with the largest sales in 2013). Similarly, according to findings from field visits, producers store on-farm as much as their silos allow in reasonably good condition and sell the surplus during the harvest period. An increase in on-farm storage capacity may improve the capacity of producers to fetch better prices. However, field observations indicated that FOs still market large quantities of grains during harvest, and C&D (2012) reports that the debt cycle to which producers are tied forces them to sell large quantities at harvest even when they have large storage capacity.
- **Increased food availability.** As previously explained and analysed in more detail in Chapter 4, the participants targeted by P4P were small farmers with a surplus in production. As such, P4P farmers did not report staple food shortages for years of normal weather conditions. An evaluation of the changes in the participating farmers' food security would therefore require an investigation of the effect of P4P on two other dimensions of food security: utilization,

25 C&D is the consulting company, *Comunicación para el Desarrollo*.

26 It is not clear the influence P4P might have had in obtaining this support and thus how much can be attributed to P4P efforts.

and stability of access and availability. Changes in food utilization were not considered in the impact evaluation design and, being a complex issue to assess, could not be a subject of this analysis. Stability of food access and availability – an important issue given the country's vulnerability to natural disasters - requires a longer period of analysis.

In summary, it appears that the clearer and most immediate direct benefit from the P4P intervention was the increased sales prices owing to the greater capacity of small farmers to supply to buyers who demand and pay a premium for higher-quality grains; although it is not clear how many farmers are benefiting from this.[27] Benefits in terms of increased yields and area sown and improved post-harvest management are more difficult to generalize and attribute to P4P and might take longer to achieve.

Indirect benefits

Interviews with key informants and focus group discussions with FOs indicate that the P4P intervention generated a number of intermediate outcomes that might not be clearly translated, in the short term, into direct and quantifiable benefits, such as increased food availability or sales value. Some of these indirect benefits from the P4P intervention are the following:

- **Increased organizational and management capacity.** The technical assistance provided to FOs strengthened the management committees of the logistics and processing centres, which are currently able to: (i) keep financial records; (ii) calculate unit costs for different levels of processing and grading and negotiate prices with potential clients accordingly; (iii) procure the demanded volumes from the associates and pay according to the quality of the product delivered; (iv) handle processing equipment; (v) correctly store agricultural produce to avoid losses and manage pests; (vi) and analyse the quality of agricultural produce at warehouse entry and before delivery to the buyer. Interviewees from the MINED, CENTA and private sector actors confirmed that, as a result, only P4P-supported FOs were able to sell to institutional buyers and grain industries and importers,[28] supposedly fetching higher prices than those from previous sales to intermediaries.[29]
- **Increased FO access to credit.** Thanks to technical assistance in formulating commercialization and business plans, and P4P's mediation between FOs and credit agents, some FOs (CASs and CNSs) increased their creditworthiness (capacity to obtain loans from credit institutions) for both long-term credit (e.g. to acquire the land on which their warehouse was built) and short-term credit (e.g. the working capital to buy produce from farmers). FOs' access to short-term credit – reported in three visited processing centres as ranging from USD 30 000 to USD 50 000 per season – is paramount for their growth in sales volumes, as buyers' payback periods can be as long as 60 days, while producers often require payment at delivery.
- **Increased associate access to credit.** FOs adopted different models to improve their associates' (farmers) access to credit. FOs that started receiving support from P4P in 2009 set up a revolving fund where farm inputs, financed by P4P or other development partners, allow an in-kind credit to producers at the start of the season; the inputs value is returned either in-kind or in cash[30] at the end of the season. Five of the six FOs visited, whose legal status allow, were able to establish partnerships with credit institutions and/or input suppliers that provide credit directly to associate producers. That the producers sell through the FO generates trust from credit agents on the FO's creditworthiness – this, in fact, constitutes an informal warehouse

27 Some FO facilities are still working with a limited number of producers, functioning at full capacity for three or four months – and not being able to attend to all producers in the region during that period – then spending a good part of the year processing small quantities of farm output (case of ASAESCLA and ACOPASAN). Recently opened CNSs aim to eliminate this bottleneck, at least partially.

28 These achievements cannot be attributed solely to P4P as some of the supported FOs already had a higher level of capacity development than their peers before the P4P intervention.

29 As previously mentioned, the interviewed FO representatives confirmed this price difference.

30 This has been important to FOs that struggle with access to working capital. First deliveries of maize or beans that are received by the FO do not need to be paid for as they serve to repay the standing producers' loans. Once the FO has received payment for the delivery of the processed grain/pulses, it has available cash to buy more produce. The shortcoming is that these revolving funds have proved to be too small for the potential FO turnover and consequently some FOs have not been able to pay for all the produce on delivery.

receipts scheme. Regrettably, P4P does not keep records of the loans obtained by the FOs or their farmers, and it is not possible to assess the scale of these practices. This could be an interesting area of research.

- **Increased trust from buyers on FO capacity.** The first P4P FO sales to WFP demonstrated to other maize and bean buyers in El Salvador that the FOs were reliable and competitive suppliers. Interviews with private buyers (Annex 1) revealed that an initial lack of trust from both sides (FOs and companies) was one of the major barriers to establishing commercial linkages between the two parties. According to the interviewees, the facilitation provided by P4P was instrumental in changing the mind-sets on both sides of the negotiation table, enabling the establishment of commercial relations. As previously mentioned, the only FOs able to sell directly to the interviewed industrial and institutional (MINED) buyers were those supported by P4P.
- **Participation of women in FO management.** Three of the six processing centres visited had women in charge of the commercialization and negotiation activities. Two of these centres were large-scale processing units (CNSs) and the other one was the FO that had sold the larger volumes to WFP and other buyers (see Annex 3 for a summary of FO sales from 2010 to 2013). Traditionally, men are responsible for commercial activities, transporting the agricultural produce to the market and negotiating with the intermediaries. The position of sales manager provided these women with the opportunity to receive training on off-farm activity, as well as access to formal employment and income. Additionally, it introduced a change in a culture in which women are usually given little opportunity to actively participate in FO decision-making.
- **Creation of in-country FO networks.** Some FOs bid for contracts to supply larger quantities of maize or beans than those the FO itself could supply and then source the produce from neighbouring FOs with production surplus. This network fostered by P4P has enabled FOs to reach markets that were previously deemed unfeasible for small producers. The clearest case of working in a network is that of five FOs in the western region of the country, which formalized a consortium to own and manage a CNS. The CNS enables these FOs to bid for large contracts for which the FOs individually would not have enough processing capacity.

Externalities from P4P

In addition to the specific benefits for the FOs and their members, P4P activities contributed to the following changes:

- The P4P team contributed to the definition and later implementation of the PAF, described in Chapter 1.[31] The participation of P4P and other development partners, such as CENTA, FAO and IFAD-funded projects, created a momentum in the development of value chains in El Salvador, although not all of the plan's initially proposed objectives materialized – e.g. implementation of a crop insurance scheme. In the case of staple food value chains, P4P consolidated the backbone of infrastructure and capacities with the potential to attract a much larger number of producers and even FOs to commercialize through the supported processing centres (CASs and CNSs). Should the current policy be maintained and sustainably supported, and the network of FOs managing CASs and CNSs continuously assisted in the implementation of viable business plans, P4P will have contributed to the country's small producers' capacity to respond to domestic and even international demand.
- P4P partnered with the SDP from UNDP[32] to train and select a number of capable consultants on organizational and management capacities. The consultants, after having provided capacity development services to P4P FOs, are now part of the body of service providers in the country and are assisting other value chain development projects such as the FAO-implemented AGROCADENAS.
- The supported FOs have taken market share from existing market intermediaries by offering more favourable marketing conditions to producers. It is not clear the scale of the market share loss or the consequences this had or may have for these agents. But it is possible they adjust their practices – and profit margins – to stay in the market as producers gain more

31 See FAO (forthcoming) – *Análisis de la Vinculación de Compradores Domésticos de Granos Básicos con Pequeños Productores: El caso de El Salvador* – for a more detailed description of the PAF.

32 P4P invested USD 51 500 in contracting the UNDP's SDP services.

access to market information and their FOs offer alternative outlets for their production. These agents may find new roles – e.g. as brokers between FOs and the industry – or become clients of the CNSs' grain processing services. None of this has been verified, but what happens to the intermediaries' livelihoods and the impact on FOs' sustainability and farmgate prices deserve further investigation. Chapter 4 elaborates on this analysis.

- The P4P initiative leaves the country with an articulated network of staple grain FOs and associated infrastructure.

Threats to the sustainability of P4P benefits

Despite the P4P's important achievements, some of the outcomes previously described have yet to reach a stable number of producers – sales volumes vary from one year to another – and result in a clear impact on production. Additionally, the financial sustainability of the newly created CNSs and recently strengthened CASs, and institutional support for the FO network until it reaches a mature stage, are not guaranteed. The following could threaten the sustainability of P4P outcomes and achievement of intended impacts:

- **Access to credit.** Although access to credit for FOs and their members has improved, the FO representatives visited systematically highlighted the shortage of working capital as one of the major hindrances to growth. FAO (forthcoming) also notes that at the time of the analysis only 2 of the 13 FOs were able to increase the working capital provided by the revolving funds, and yet those two FOs still faced shortages in available working capital. According to the interviewees, market opportunities and producers' supply of maize, sorghum (which some FOs are now commercializing) and beans have not been a constraint to growth.[33]
- **Lack of FO management experience.** Despite the negotiation and accounting skills the FO representatives acquired during the P4P intervention, they are still less experienced and have less access to market information than other traders in the Salvadoran market – intermediaries or industry. Additionally, no stable market relationship was established between any of the FOs and the industrial buyers (see Annex 3 for annual sales volumes per FO). This means there is no certainty whether, in the medium term, the FOs will be able to continuously sell to buyers who offer them better prices than intermediaries in local markets, or whether they will be able to sell to a sufficiently large number of them and in sufficiently large quantities.
- **Heterogeneous legal status.** The FOs do not share the same legal status. For example, only some pay taxes on profit, have access to credit from commercial banks or can sell to institutional buyers. This means that the FOs do not follow the same business model and some would require support in selecting the new legal status that is best suited to their business model. The P4P team, through ad hoc technical support, has already supported some, like ACOPROERIK, in this.
- **Lack of transparency and accountability.** Although the FOs visited clearly gained producers' confidence – of those who switched their market outlet from intermediaries to the FOs, even when selling to FOs implied selling on credit – this trust has been based on the culture of transparency and accountability fostered by the development partners working with the FOs. The growth in the number of producers selling through the FOs will depend greatly on the maintenance of management committees, which ensure transparency and good accountability practices, thus maintaining producers' trust in the organization.
- **Changes in market dynamics.** El Salvador's domestic market is undergoing a period of change, which adds to the volatility of international staple food prices. The following elements can dictate the sustainability of the FOs' processing centres (CAS and CNS) in the short and medium term: (i) the institutional school feeding market is still maturing and the characteristics of its demand are still not clear; (ii) large agribusinesses are in the process of adapting their purchasing patterns to new suppliers, such as FOs, to new national import policies, such as the

33 P4P was carried out during a period of high food prices. The OECD-FAO outlook expects food prices to plunge in 2014. The next chapter assesses possible new constraints to FOs' growth and sustainability in a context of low staple food prices.

"Agreement",[34] and to alternative market mechanisms, such as the Salvadoran Products and Services Exchange (BOLPROS[35]); (iii) market intermediaries may be adapting their strategies to compete with the FOs and CNSs; and (iv) large subsidized companies, such as *Alba Alimentos*, have been influencing market prices through large food purchases and sales. This can, in the short term, be either an opportunity or a threat to a sector that operates with thin margins. The next chapter develops the analysis on the market threats and potential opportunities for P4P FOs.

The FO management committees are still undergoing a learning process and the processing centres are working considerably below their processing capacity. The sustainability and growth of the processing centres and of the services they provide to farmers depend both on the existence of mature management committees, operating with transparency, and continuous monitoring and ad hoc support from strategic partners, such as the municipalities, CENTA and El Salvador's development partners.

34 El Salvador adopted a policy that requires white maize importers to buy a percentage of the produce they commercialize in the domestic market. The policy is enforced by the Agreement on the Production and Marketing of White Maize (*Convenio para la siembra y comercialización de maíz blanco*).

35 http://www.bolpros.com

Chapter 4

ILLUSTRATIVE MODELS

This chapter presents some financial models developed for on-farm activities (crop models) and a processing centre (ten-year cash flow), and aims to provide further insights into P4P benefits and their sustainability, complementing those presented in the previous chapter.

Crop models

As previously mentioned, P4P partnered with CENTA and development projects to provide technical assistance in farm production and on-farm post-harvest management. According to P4P M&E data, the total P4P investment in on-farm production was USD 22 000 for CENTA's capacity development (around USD 310 000 for activities developed by the National Cooperative Business Association – NCBA CLUSA International – according to the P4P local team). As CENTA was already on the ground providing technical assistance to farmers, this amount was applied to strengthening CENTA's capacities. In addition, P4P partnered with FAO projects, which, at P4P's request, provided ad hoc training to CENTA's staff. This was done within the already existing budget of FAO projects. Given the nature of the partnerships, it is difficult to estimate how much P4P's investment in CENTA's capacity and the reallocation of CENTA and FAO human resources to support P4P farmers contributed to additional changes in the practices of P4P farmers.

Given the low investment in on-farm improvements and P4P's targeting of farmers, it comes as no surprise that, although the results are not statistically significant, the mid-term impact assessment report of P4P El Salvador does not indicate clear improvements in yields or sown areas for P4P farmers. In addition, there are no statistically significant data on production costs for P4P farmers. Hence, the crop models presented in Annex 5 do not aim to represent changes in production attributable to P4P; they consist of country averages compiled by the Ministry of Agriculture and Livestock (MAG) statistics services and of technical proposals for maize and beans that resulted from a study financed by P4P at the onset of the initiative. These models provide a benchmark against which to compare P4P farmers. The crop models are as follows:

Maize:

- Traditional: National average of producers adopting a low level of technology and yielding an average of 3.5 tonnes/hectare (source: MAG, 2012);
- Improved: National average of producers adopting improved technology and yielding an average of 4.6 tonnes/hectare (source: MAG, 2012);[36] and
- P4P: P4P technical proposal for participating farmers with an expected average yield based on field trials of 5.6 tonnes/hectare (source: WFP adjusted for MAG's 2012 prices).

Beans:

- Traditional: National average corresponding to a yield of 1.15 tonnes/hectare (source: MAG, 2012)[37]; and
- P4P: P4P technical proposal for participating farmers with an expected average yield based on field trials of 1.64 tonnes/hectare (source: WFP adjusted for MAG, 2012 prices).

The crop models provide average costs and yields; however, output price levels have shown strong variations from one year to another and within the year and cannot be obtained from MAG's average for 2012 or P4P's expected prices in the technical proposal.

36 Both yields are above the national average estimated by FAOSTAT for 2012 at 3.3 tonnes/hectare.

37 National average estimated by FAOSTAT for 2012 is 924 kg/hectare.

Table 7: Results for a hectare of maize for three crop models and different price levels

Sales price		Gross margin/ha			Net margin/ha			Input-cost/benefit ratio			Return to labour (USD/pd)		
USD/qq*	USD/MT	Traditional	Improved	P4P	Traditional	Improved	P4P	Traditional	Improved	P4P	Traditional	Improved	P4P
8	174	-202	-102	-166	-514	-449	-512	80%	67%	99%	-3	-2	-2
9	196	-51	-3	-45	-438	-350	-390	71%	60%	88%	-1	0	-1
10	217	25	97	77	-363	-251	-269	64%	54%	79%	0	2	1
11	239	101	196	198	-287	-152	-148	58%	49%	72%	1	3	3
12	261	176	295	320	-212	-53	-26	53%	45%	66%	2	5	5
13	283	252	394	441	-136	46	95	49%	41%	61%	3	6	6
14	304	327	493	562	-60	145	217	46%	38%	56%	4	8	8
15	326	403	592	684	15	245	338	43%	36%	53%	5	9	10
16	348	478	691	805	91	344	460	40%	34%	49%	6	11	12

** 1 qq (quintal) = 46 kg*

Source: Author's compilation from MAG statistical data (2012) and P4P technical proposal.

Table 8: Results for a hectare of beans for two crop models and different price levels

Sales price		Gross margin/ha		Net margin/ha		Input cost/benefit ratio		Return to labour (USD/pd)	
USD/quintal	USD/MT	Traditional	WFP	Traditional	WFP	Traditional	WFP	Traditional	WFP
35	761	313	501	-221	52	55%	58%	3.3	7.4
45	978	563	858	29	409	43%	45%	5.9	12.6
55	1 196	813	1 215	279	767	35%	37%	8.5	17.9
65	1 413	1 063	1 572	529	1 124	30%	31%	11.1	23.1
75	1 630	1 313	1 929	779	1 481	26%	27%	13.7	28.4
85	1 848	1 563	2 286	1 029	1 838	23%	24%	16.3	33.6
95	2 065	1 813	2 644	1 279	2 195	20%	21%	18.9	38.9

Source: Author's compilation from MAG statistical data (2012) and P4P technical proposal.

Table 7 and Table 8 summarize the results of the crop models for different farmgate price levels,[38] assuming constant costs.[39]

Maize. According to the baseline (2009) and mid-term (2012) impact assessment survey results, the yields of P4P participating maize producers averaged above 5 tonnes/hectare.[40] Fertilizer use by P4P farmers in 2012 averaged approximately 600 kg/hectare, while the P4P technological proposal is for 680 kg/hectare. The impact assessment survey data were not representative of all P4P FOs, though they provide an indication that P4P selected farmers were already among the most productive farmers in El Salvador.

The results of Table 7 also show that the adoption of P4P's technical proposal would only produce significant improvements if farmgate grain prices remained above USD 280/tonnes. Even assuming that production costs would lower with output prices, the former tend to decrease less sharply than the latter, and the break-even price for the P4P proposal should still be quite high, possibly not altering the relative competitiveness of the different production models by much.

38 Transport costs to the market or to FO processing centres were estimated (by FO members during discussions) between USD 0.25 and 0.5 per quintal (USD5.5 – 11 per tonne).

39 Although costs should also lower with output prices, only 43 percent of total costs (in the case of CENTA models) and 64 percent (in the case of the WFP proposal) are input costs; the remaining are labour, machinery and land rental costs, which are usually less strongly correlated to output prices than input costs.

40 This could not be confirmed through field visits, of which anecdotal results seem to point to lower average yields (see Annex 3).

The available data seem to indicate that the initiative neither targeted the least productive maize farmers nor had as its main goal an increase in farm productivity.[41] This can be justified by P4P's selection of FOs in highly productive parts of the country with larger surpluses. The adoption of this approach fits well with the national policy, according to which less productive/subsistence farmers would be supported in on-farm production through PAF's Component 1, whereas more productive/commercial farmers would be assisted in increasing their access to and participation in strengthened value chains through PAF's Component 2.

Beans. The baseline and mid-term impact assessment surveys did not collect specific information on bean yields and the observations made for maize are not valid for this crop. The results presented in Table 8 seem to show the intent that farmers, by adopting the technology proposed by P4P, should they not already use similar technologies, can reap significant benefits without significantly increasing the risk associated with crop failure. Table 8 also indicates that the lack of competitiveness of Salvadoran small farmers with regard to beans observed in Chapter 2 is not at production level.[42] Conversely, the challenges of competitiveness for FOs are at the processing level and access to market information. Given that the FOs, through the CNSs, have only recently been systematically supported in bean processing and marketing, there is little evidence on bean processing competitiveness.[43]

Financial sustainability of farmer organization processing centres

The P4P monitoring activities do not comprise periodic collection of financial data from FOs. Although some FOs hired an accountant, existing profit and loss accounts and balance sheets were not readily available for the period of the P4P intervention (2009-2013). When available, they were not sufficiently detailed. For example, they lacked data on processed quantities, did not provide a breakdown of operating or administrative costs or identify labour costs. They did not break down financial costs (credit) into short- and long-term. There was no disaggregation by enterprise. In one case, the results of long existing agricultural input shops were aggregated with those of a new processing centre.

Given the available information, the FO CAS cash-flow model in Annex 5 was developed to assess its financial sustainability. The model was developed for three scenarios:

- In the first scenario (base case), it was assumed that the processing centre would maintain the level of processing activity attained in 2013 – 19 percent of installed processing capacity or 2.2 months per year working at full capacity – and constant maize purchase and selling prices of USD 239 and USD 283 per tonne[44], respectively.
- For the second scenario, the processing centre gradually increases its processing capacity (from 2013) by 5 percentage points reaching 50 percent of installed capacity in year ten;[45] it also assumes the same difference between the price paid to the producers and the selling price as in the previous scenario.
- The last scenario depicts a cash-flow projection present in a business plan developed in 2011 for an FO to be supported by P4P. Although this business plan was not prepared for the FO analysed in the previous scenarios, it characterizes an FO in the same region and with the same type of infrastructure and equipment. The business plan assumed that the processing centre would start operating at 30 percent of its installed capacity and stabilize at 34 percent in year five – corresponding to four months per year, eight hours per day and 1 700 tonnes of processed grain. Prices would remain at 2011 levels – USD 315 per tonne paid to producers and an average sale price of USD 370 per tonne.

Figure 5 summarizes the results. The cash flows for ten years are presented in Annex 5 and should be interpreted with some caution, as it was estimated for the FO showing the best financial records.

41 There might be gains in farmgate prices due to increased grain quality and storage capacity, but, as previously stated, these were not possible to identify or quantify.

42 Not only are the net margins for beans higher than for maize, but red silk beans face limited competition from substitutes as they are preferred by Salvadorans both in-country and abroad.

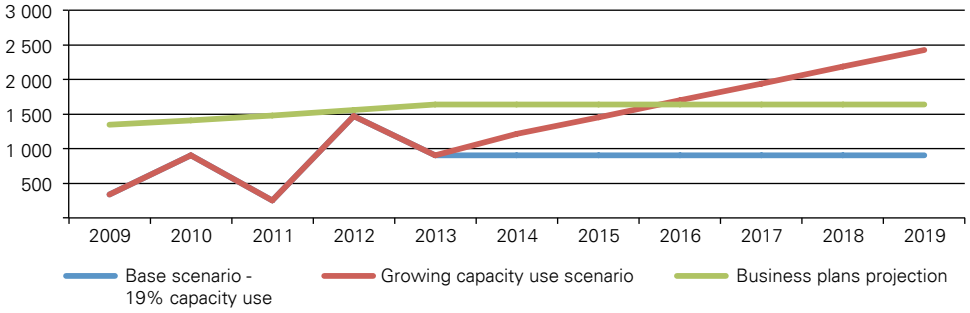
43 Next chapter on FOs' processing centres' financial sustainability expands on this issue.

44 These are the prices for 2013, which are optimistic, considering the forecast in the OECD-FAO Agricultural Outlook 2013-2022. This price level is below farm production break-even figures according to the crop models.

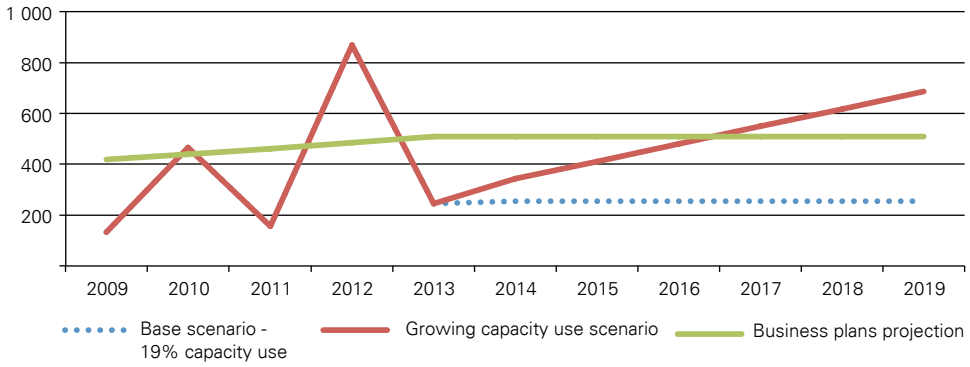
45 These increases in use are arbitrary and aim solely to illustrate different possible scenarios, as there is no record of growth patterns for processing centres operated by FOs. These would, in any case, differ much from one FO to the other.

Figure 5: Quantities of Grain, Total Sales Value and Net Margins of an FO for Three Scenarios of Cost and Use

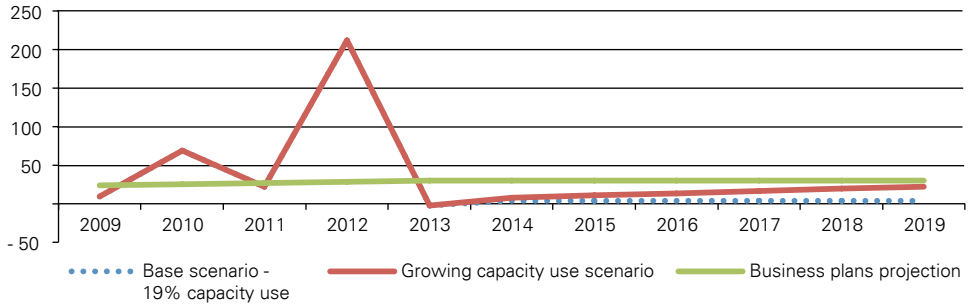
Total Processed Grain (metric tonnes)



Total Sales Value (USD thousand)



Net margin (USD thousand)



Source: Author's compilation from FO financial records and business plan.

Despite the limitations of the available data, it is possible to make a few observations from the results:

- The business plan is optimistic with regard to the quantities processed, as most FOs' sales performance until 2013 (Annex 3) did not sustain the level of processing activity projected in the business plan. However, its major shortcoming was in failing to identify the risk of a fall in agricultural commodity prices as verified in 2013, or of extreme weather events such as the floods in 2011.
- Figure 5 shows that, although in 2013 the sales volume was not lower than in previous years, with the exception of 2012, the FOs' net margin for that year was estimated to be near zero. Similarly, the different assumptions on commodity prices in the second scenario and the business plan resulted in the FOs' net margins remaining lower in the first two scenarios (low prices) than those projected in the business plan (high prices), even though the second scenario was more optimistic than the business plan with regard to the quantities processed by the FOs in the long run. This is an important finding as prices are expected to remain low in the medium term and might not be able to remain financially sustainable.

Table 9: Prices (USD/MT) reported by FO representatives in January 2014

	Intermediary / local market	FO purchase price	FO sale price[1]
AGRISAL	**n/a**	**239**	**n/a**
ACOPASAN	174	228	235-239
ACAAS	n/a	272-283	n/a
ASAESCLA[2]	n/a	283	315-326
ACOPROERIK[2]	207	217	272

[1] According to FOs, there are 5 percent weight losses during storage and processing (from the purchase from farmers to the sale to external buyers).

[2] Sell to private companies under "The Agreement".

Source: Author's compilation from focus group discussion findings.

- During field visits, some FO representatives were aware of the estimated (ex-ante) break-even points and processing unit costs. Nevertheless, in a context of changing (decreasing) grain prices, it is important that FO leaders are assisted in updating their knowledge and strategies.
- Further decreases in maize prices – together with the persistent difficulty in accessing short-term credit – might mean the FOs will not be able to offer prices much higher than those offered by the intermediaries if their processing centres are to remain financially sustainable (Table 9 summarizes the prices reported by FOs during visits in January 2014). The particular FO under analysis reported during a field visit that without sufficient working capital, it was paying a premium of USD 22 per tonne to the producers, who accepted varying payment periods, between 8 and 60 days. This represents a much higher interest rate for the FO than that obtained from credit institutions that charge 4 to 10 percent annually, and benefits only those farmers who are able to sell their production on credit.
- If FOs are unable to pay a price premium, producers may return to previous buyers, as well established market intermediaries often provide services such as short-term credit and payment on delivery. Additionally, a plunge in international maize prices may reduce the national maize surplus in El Salvador, and consequently the supply to the FOs' processing centres. Assuming the margins obtained from the crop models are a good approximation of real crop production costs and yields, and that recent Government interventions (the "Agreement") and other market distortions (*Alba Alimentos*) are not enough to keep the prices above 2012/13 levels, there is a risk of supply constraints to the FOs' processing centres.[46]
- Beans may offer a good hedge against the apparent risk in maize; producers seem to be able to sustain positive net margins for considerable output price decreases. National bean prices should be less strongly correlated to the international market than maize, as Salvadoran consumers prefer the organoleptic characteristics of the national varieties (FAO, forthcoming). However, the business model to be supported for beans needs to be further analysed and defined. It appears that FOs are currently managing CNSs rather than owning the equipment to better harness this opportunity. It is not clear how the FOs managing CASs could participate more directly and efficiently in the bean value chain as to benefit all the producers from the different FOs.
- The financial model under analysis was built for the FO's CAS with the largest sales to WFP and other buyers. There is little information on how the remaining FOs might be performing and what their prospects are. During the field visits, it was observed that all six processing centres visited were operating, which might indicate a growing capacity of FOs to access markets and adjust their business models to lower price levels. However, visits were undertaken during harvest, the period of greatest marketing activity in the sector, and in the first year of low prices, so the observations were not representative of their level of operation throughout the year or in the medium term.

46 This is just a possible scenario to be considered in a more detailed analysis, which would have to evaluate the correlation and causality between the food prices year *n-1* and the production of year *n* in El Salvador.

Chapter 5

MAIN FINDINGS AND RECOMMENDATIONS

Main findings

The findings and recommendations presented here, apart from those on M&E, should be taken as tentative and exploratory and not as assertions supported by solid data. Nevertheless, they aim to identify priority areas for further research and possible improvement of the initiative's design and implementation.

Impact of P4P on WFP programme and P4P costs:

According to WFP procurement data, 92 percent of WFP maize purchases in El Salvador in the last five years were made to P4P FOs. This is a remarkable achievement, especially considering that P4P does not seem to have caused significant disruptions or large additional costs to WFP procurement. It also seems that any additional costs at procurement level are negligible when compared with the investment made in strengthening FOs and in value chain development.

As with other UN-implemented projects aimed at introducing new strategies and approaches in a country and with the need to be supported by solid technical teams, P4P seems to have high overhead compared with Government-implemented projects. It is difficult to assess whether these higher costs are offset by greater effectiveness and efficiency of investments. Nevertheless, these might have been partly start-up costs as staff costs have reduced in the last two years from their peak in 2012 (see Annex 4).

Coordination with other initiatives in the country and with national policies:

The WFP P4P initiative fits with Component 2 of the PAF dedicated to value chain development. It also provides support in an area where there was a void of international organizations working at national level after IICA ended its collaboration with the Government. P4P staff coordinated efforts with other initiatives, such as IFAD-financed projects at processing level or FAO-implemented projects and CENTA at farm level, for PAF implementation.

The insertion of P4P in the PAF's Component 2 reinforces the strategy of focusing on farmers with the best potential to develop their commercial activities rather than focusing activities on the poorest/subsistence farmers. Improving the livelihoods of subsistence farmers is left for institutions such as FAO or CENTA that are supporting the implementation of the PAF's Component 1, which is dedicated to food production and income generation at family level.

Main benefits from P4P in El Salvador:

Despite the absence of a counterfactual for the value of production, field visits and focus group interviews indicated that the FOs supported by P4P were able to pay a price premium to producers when compared with the intermediaries.[47] There is evidence to support this as the FOs were able to attract producers to commercialize through them. However, it's not possible to measure how many farmers were reached each year or to estimate the overall increase in the value of their production.

The FOs increased both their physical and intangible assets, including: their ability to respond to different client demands in terms of quantity and quality; confidence from buyers on delivery capacity and from suppliers on debt repayment; management and marketing capacities; and access to credit. These assets are paramount in enabling the FOs' future development.

The investments made in infrastructure, equipment and capacity building by P4P and its partners, leave the country with a network of processing and marketing

47 All interviewed FO representatives said they would accept the production of all farmers – regardless of quality – but adjust the price to the quality of the produce delivered by each farmer. Those who choose to sell through the CAS and CNS are then supposed to receive a price premium (for the same quality of grain) when compared with the intermediaries.

centres with the potential to serve a large number of farmers.

So far, P4P's main direct benefits were produced through the maize value chain. However, P4P, the Government of El Salvador and the participating FOs have been investing in equipment and the creation of brands for beans in the last two years to render processing and marketing of this product by FOs more competitive. There are still no visible benefits at this level and there is some FO inexperience with this product. However, there is potential for an impact on the producers of a crop that seems to be competitive at production level and has already been subject to development assistance efforts from successful projects such as Seeds for Development (coordinated by FAO and implemented by CENTA).

Bottlenecks to FO development and threats to sustainability:

Field visits indicated that FOs' processing centres operate during harvest, in some cases performing more than one shift per day, but have low levels of activity during the rest of the year. It is not clear if this is a result of stronger market demand at harvest, farmers' need for cash at the end of the season (mostly to pay debts), lack of on-farm storage capacity or a combination of the three. It is also not clear whether the FOs already have the capacity to maintain commercial relations with private buyers who enable them to process and sell produce throughout the year.

The FO analysed in Chapter 4 reported that lack of credit forced it to pay a higher price to the producers delivering on credit than it would if it could pay on delivery. Other FOs reported they could not attract a sufficient number of producers demanding payment on delivery, compromising their scale of operation. Lack of adequate credit access – in some cases due to the FOs' legal status – is a crucial bottleneck for the financial sustainability of the FOs' processing centres (including CNSs) in a context of decreasing food prices and possible increased competitiveness from other market intermediaries.

The knowledge acquired through P4P capacity development activities seems to still be in the hands of a few FO board members. Although P4P assisted in setting up management committees, comprising four people, for each management or operation field, the knowledge and decision-making capacity still remain with only one of the members of each committee.

According to the available data, the financial sustainability of the processing and marketing activities undertaken by FOs seems to rely on two factors: (i) high grain prices, which allow a difference of over USD 45 per tonne between the price paid to the farmers and the price fetched through sales; and (ii) intermediaries offering prices to producers below those offered by the FOs. It is not clear if, in an environment of low grain prices in which the intermediaries adjust their prices to compete with the FOs, the FOs will still be able to offer a price premium to their associates along short-term credit and payment on delivery. Thus far, P4P FOs have always been able to supply maize at a better price to WFP, which might mean that they can be more competitive than other players; however, there is a risk that this is not an absolute and sustainable truth and thus requires monitoring.

The initiative focused on reducing the information and power gaps between producers and intermediaries. This means that producers are now competing for a share in a market that used to be exclusively occupied by these intermediaries. While the positioning of FOs as marketing agents has demonstrated potential for benefiting producers through a redistribution of sales margins along the value chain, intermediaries still own important knowledge and capacities that should not be ignored. Those assisting FOs in their development should pay attention to these agents as several possibilities may unfold: intermediaries are driven out of the market;[48] they become more competitive and hinder FO sustainability; and/or they become FO partners (e.g. as brokers with the industry or clients of the CNSs).

Most bottlenecks to FO development and growth related to infrastructure and equipment seem to have been resolved during P4P's pilot period, which left the country with a network of logistics and service centres – CASs and CNSs. Additional infrastructure investments can be dealt with by the FOs in partnership with credit institutions and other partners (e.g. municipalities) – with the facilitation

48 This would be a negative externality as there would be fewer and less diversified market agents and these agents would lose an important source of income.

of P4P when necessary – as demonstrated already by two of the visited FOs. However, capacity development interventions will take longer to leave the country with empowered producers who are capable of establishing sustainable commercial relations with large buyers and reaping higher benefits from the sales of their production, consequently causing large-scale durable impacts on the livelihoods of these stakeholders.

M&E of P4P:

P4P's M&E system was not designed for a cost-benefit analysis of a value chains development investment. The most comprehensive existing related data is on sales volumes and values, although this is not produced systematically and consistently, as different sources produce different figures. In order to allow for more complete investment analyses, data on direct investment in FOs should also be improved, as currently it is difficult to trace the specific investments made in each of the 20 supported FOs. Though in some cases, P4P traced the investments made by partners (CENTA and IFAD-funded projects).

The existing impact assessment methodology is mostly designed for an initiative aimed at producing results at farm level, but there is no instrument to explore the results at the level where P4P has invested the most – processing facilities and business development – or the impact of such results on the participating families' livelihoods. However, this has also proven to be difficult to measure through experimental or quasi-experimental designs in other value chain development initiatives due to the unique characteristics of each supported business. In fact, being an initiative that supports different levels of investment and approaches in each FO, it is difficult to ascertain counterfactuals and to perform a cost-benefit analysis, even with an improved M&E system. However, P4P should strive for a better analysis of the financial sustainability of each processing centre and an improved understanding of how and in what scale these processing and business centres are transferring financial benefits to producers.

Recommendations

Impact of P4P on WFP programme and P4P costs:

The regular programme of WFP costs does not seem to have been sufficiently affected by P4P. The M&E data is, in this regard, generally reliable. Future M&E improvements and analysis should focus on the analysis of the costs and benefits of P4P investment in value chain development.

P4P overhead, and in particular staff costs, might deserve a better analysis in the future to look for possible efficiency gains. Nevertheless, decisions in this respect should be taken with caution, as some initially less costly projects in other countries have had to increase their implementation team in order to give the FOs the support they need to make the project effective.

Bottlenecks to FOs' development and threats to sustainability:

It is important to fully understand the reasons why the FOs' processing facilities do not operate throughout the year, focusing the analysis on FO/CNS management (e.g. short-term credit, planning, negotiation capacity), producers (e.g. surplus availability, storage capacity, debt management) and buyers (e.g. demand per season, price evolution prospects, price variation within the year, changes in bargaining power). The identification and solution of bottlenecks at these three levels would contribute to increasing both the sustainability of the FOs and the benefits for Salvadoran producers.

Limited access to short-tem credit was the most easily identified hindrance to FO/CNS operations during field visits. Continuing facilitation of FOs and CNSs with financing agents and technical support in credit access and debt and risk management seem to be crucial areas for future interventions. Nevertheless, continuing specific technical support in other areas of management and operation is paramount to the sustainability of the recently created FOs and CNSs.

The improvement of their financial and operations records can provide useful information to assist FOs in sustaining the FOs and CNSs. Future interventions should provide further technical assistance on accounting and results communication.

The FOs need to formulate stronger participatory business plans that make realistic assumptions on commodity processes and a more in-depth analysis of the supply capacity from producers, management capacity of FOs, working capital needs and access and demand from buyers throughout the year. They also need to be specific with regard to the investment being made – e.g. an investment in a grain dryer cannot be analysed as the same enterprise as an investment in a bean packaging machine and brand creation. The pilot phase of P4P showed the implementing team's capacity to learn lessons and correct strategies,[49] but there is a need to keep working to improve investment planning and risk identification at FO/CNS level and assist FOs in the development of solid and interlinked annual production, supply and commercialization plans. In particular, the strategy for bean commercialization, which shows some potential, would benefit from further study on marketing strategies and processing competitiveness.

Another important area for future investment is market intelligence. It is important that FOs have access to a service that helps them understand price formation in the short term and price prospects in the long run, and plan accordingly. It is also important to understand the mechanisms for better price negotiations with other buyers and price transmission mechanisms to producers. Market intelligence activities should be institutionalized from the onset and accompanied by communications and technical assistance efforts for use by the FOs. Equally important is understanding the dynamics of other market players, in particular other intermediaries, to see how these can collaborate with the FOs in an inclusive value chain development model.

Existing FO partnerships with other organizations and the search for new partnerships should continue being supported. At the farm level it is important that Salvadoran producers partner with agencies that support them in becoming more resilient to environmental disasters and climate change if they are to become reliable suppliers and establish ongoing commercial ties with buyers. At the FO/CNS level, new partnerships can bring new and more stable forms of sales contracts, access to new markets (such as the nostalgia market for beans in the US) and increased access to credit for producers and FOs.

The analysis indicates that good results were achieved in FO development. Future interventions should focus on the sustainability of the existing FO/CNS network and on reaching a wider number of P4P participants, enabled by a strengthened and more informative M&E system. This will require strong technical assistance and, most importantly, a gradual institutionalization of the support to FOs through capacity building of Government technicians and transfer of responsibilities to Government institutions.[50]

M&E of P4P:

The P4P's M&E system should be improved to capture the changes, results and risk factors of the main object of the initiative's investment in El Salvador, the FOs and the CNSs. This will include, inter alia, systematized and updated records of the investments made in each FO by all partners and associated business plans as well as the establishment of realistic production targets and a periodic monitoring of sales contracts, volumes and prices, financial accounts, access to credit, number of producers supplying produce, quantities supplied, prices paid and prices offered by other market intermediaries. Additionally it would be useful to quantify the volumes and values of the sales of farmers from one FO to other FOs to assess the functioning and scale of the FOs' network operations. This assessment could be complemented by an analysis of the mechanisms used to establish the exchanges between FOs, grain price determination between the FOs and transport arrangements and costs.

Impact assessment methodologies need to be more aligned with the specific objectives of the initiative. In the case of P4P El Salvador, they should focus on changes in the quantities being sold and prices being fetched by the producers

49 For example, the facilities supported at the beginning proved to be too small and could not respond to demand in peak periods leading to contract failure. Processing capacity of FOs has been adjusted according to these lessons.

50 There are a number of institutions in El Salvador that could gradually take a more active role in the support to P4P FOs: Executive Division on Agricultural Economics (*Agro-negocios in Dirección General de Economia Agropecuaria*), CENTA and IFAD-financed projects (under the *Dirección General de Desarrollo Rural*).

who sell through the FOs and CNSs and how this is influencing the families' overall income. The main challenge that needs to be addressed is the fact that the treatment group – the producers who will end up selling through the FOs and CNSs – is not defined a priori, which raises problems with the definition of the sample size.

Being clearly an initiative that aims to promote economic development, it is important that at least some measurement of financial benefits can be performed, even if a full economic analysis might be unrealistic. The recommendations above provide some important elements for this, but the initiative should define a methodology for the quantification of the main costs generated by P4P activities and the additional revenue it generated for Salvadoran producers.

Chapter 6

REFERENCES

Comunicación y Desarrollo (C&D). 2012. *Sistematización de la experiencia de "compras para el progreso" (P4P) 2009-2011.*

Consorcio Africano de Investigación Económica (AERC). 2009. *Reporte de línea de base. Caso País, El Salvador*.

De Caterina, A., y López, M. 2011. *Informe del proceso de aprendizaje del P4P/PMA*. WFP.

De Caterina, A., y Melo, L. 2011. *Capturar, documentar y compartir las experiencias de compras para el progreso P4P en Centro América*. WFP and Royal Tropical Institute.

Estadísticas Agropecuarias. 2012. *Costos de Producción 2011-2012*. La Libertad, El salvador.

FAO El Salvador. 2012. *FAO and Family Farming*. El Salvador

FAO. Fonseca, J. M., Vergara, N., Prada, V. Forthcoming. *Análisis de la Vinculación de Compradores Domésticos de Granos Básicos con Pequeños Productores: El caso de El Salvador*. Working Paper. FAO. Rome.

Ministerio de Agricultura y Ganaderia (MAG), Dirección General de Economía Agropecuaria

OECD, FAO. 2013. *OECD-FAO Agricultural Outlook 2013-2022*. OECD/ FAO.

WFP. 2013. *Assessing the Impacts of P4P in El Salvador. Reports prepared for the data validation workshop*. San Salvador.

WFP. Countries: El Salvador. http://www.wfp.org/countries/el-salvador/ home

WFP. SD. *Propuesta Tecnológica, parcelas de validación de maíz y frijol*. Iniciativa piloto Compras para el Progreso (P4P). WFP El Salvador.

Annex 1

LEADING QUESTIONS AND SUMMARY OF KEY INFORMANTS' INTERVIEWS

The questions, not necessarily phrased as below or asked in this order, were used as a guide for semi-structured interviews. Some other questions might have been asked as deemed relevant during the interviews.

Interview with service providers

- What was the main objective of your intervention in the work of P4P and what were the main activities you undertook? What are the main achievements so far?
- How do you organize/coordinate your intervention with those of other service providers?
- What capacities have been transferred/ created within the FO? In your opinion, which were the major produced changes?
- What are the major differences in terms of capacities and behaviour between the different FOs you have supported?
- What are the main challenges you see for the achievement of the initiative's objectives? What can endanger the sustainability of the FO development model that P4P has been supporting?

Interview to staple grain buyers (industry)

- How did you learn about the opportunity to start trading with the FOs supported by P4P?
- What conditions do the FOs offer that make it interesting for you to trade with them?
- What are the determinant minimum conditions required to trade with FOs?
- Do you see any particular risk in trading with the FOs supported by P4P?
- Are you interested to continue trading with the FO supported through P4P without WFP facilitation?
- What are the main challenges for a sustainable commercial relationship between you and the FOs supported by P4P?

Interview with staff of PRODEMOR Central and Paracentral (IFAD-funded project)

- What are the main components of the project? What policies do they respond to? How does it coordinate with other projects?
- With regards to the component that supports rural businesses, what do you finance?
- How many subprojects have you financed in staple grains? Any in other value chains?
- What type of activities do you finance with what objectives?
- What is the number of participants per supported FO in the staple grains value chain? In other value-chains supported by the Project?
- What is the total amount spent thus far on staple grains value chain support? In other value chains?
- Who provides technical assistance to the participants at farm level? At processing unit level?

SUMMARY OF KEY INFORMANT INTERVIEWS AND FOCUS GROUP DISCUSSIONS WITH FARMER ORGANIZATIONS

Below are summaries of the interviews and focus group discussions the author conducted with key informants. They are not transcripts due to lack of contractual agreements between the interviewees and the interviewer; the individual interviewees did not review them. Nevertheless, they intend to describe the views expressed by each of the informants and do not reflect the opinion of the author.

Interview with Tito Reinado (Director) – R&R Consultores (credit and revolving funds)

In 2009, P4P started with the distribution of fertilizer and pesticides to the cooperative, which would then sell them to the farmers on credit (revolving fund). The credit could then be paid in cash or in kind (production). Consequently, capacity building activities needed to focus on the management of this revolving fund and on creating the legal conditions to enable FOs' access to credit and legal provision of credit services to its members. A Credit Management Committee was formed within each FO to receive capacity building support and manage the FOs' credit activities.

The capacity building activities included, inter alia: a SWOT analysis on credit-related issues; improved processes for formal calls for meetings and formal documentation of meetings in order to back up managers' actions (investments, taking on credit, etc.); the formulation/adaptation of tools to improve administrative and financial management procedures; the updating of all financial records and preparation of the documentation for acquisitions, request for credit, etc., in the name of the FO.

This intervention enabled the FO to enter the formal market, to start adopting formal accounting procedures and to manage their revolving fund, complemented by credit from some financing institutions.[51] These results created a culture of keeping good financial records and currently the FOs have an external accountant as required by law.

Apart from the interventions for which the interviewee was directly responsible, he also highlighted the importance of the construction/rehabilitation and equipment of the warehouses. According to the interviewee, this was key in providing the bargaining power smallholders have gained during the last few years, as without the warehouse farmers would be forced, either individually or in small groups, to hire transport to the nearest market where they would be left with no other option than to sell at the price offered at that moment.

Despite these achievements, these FOs are still not fully mature – e.g. some capacities still rest only with some individuals – and they need to be continuously monitored and provided with any ad hoc support they might need to ensure sustainability of the achievements from the last years.

Interview with Jorge Hernandez – Director of J. H. Consultores

JH Consultores has supported the FOs participating in P4P for two semesters during 2010 and 2011. During the first contract, the consultancy assisted the first 13 FOs that joined P4P in improving their financial management and administration processes. It also developed tailor-made accounting and internal control tools to comply with the national fiscal regulations and improve the transparency of results to FO members. The second contract focused on the formulation of 17 business and annual commercialization plans.[52] These plans did not focus solely on the crops sold to WFP, but also included other crops, such as sorghum.

As a complementary activity, the consultancy firm worked on strengthening farmers' groups and their decision-making, as well as improving internal communications and transparency through workshops and on-the-job capacity building.

51 The distribution of farm inputs only took place during the first phase of the project. The FOs that joined in the second phase were offered technical assistance in the formulation of business plans, exchange visits with other FOs (focusing not only on issues directly related to credit, but also on the importance of internal communication and decision-making).

52 The P4P team formulated the remaining business plans for the three CNSs.

The business plan work was participatory and involved activities such as: visiting buyers and suppliers; undertaking a first round of negotiations; and market evaluation or a visit to a group of intermediaries who explained first hand their perspective on how the market works and how prices are formed.

Credit issues such as the requirements to obtain credit (e.g., obtaining proof of fiscal solvency) were dealt with by another consultancy (see R&R Consultores).

According to the interviewee, the main achievements were the capacity of the FOs to programme, with a longer-term vision, the improvement of their "physical and organizational infrastructure" and a diminished need to reap immediate (even if lower) benefits from sales. Some of the provided examples of these improvements were:

i) improved liquidity and solvency and ability to present proposals and negotiate credit with credit cooperatives and banks;

ii) improved capacity to analyse the market beyond what intermediaries offer and in terms of prices offered for different levels of products;

iii) developed capacity to undertake simple cost-benefit analyses on business enterprises in order to determine how far it is worth going in the level of processing, depending on the price offered from each buyer for each quality standard (different buyers have different demands in terms of quality and offer different prices);

iv) developed capacity to negotiate contracts with large buyers; and

v) improved capacity to make informed group decisions, which enable the FO to act timely and effectively.

The interviewee also mentioned how important the strong presence of WFP in the field was in keeping the FOs motivated and in facilitating with other buyers (private and public), which enabled the FOs to have their first contracts with large non-P4P buyers.

With regard to youth, it was mentioned that younger people generally engaged more in marketing activities rather than in agriculture or FO management. One FO (COMUS/ ACOPROERIK) with communal shops *(tiendas comunitarias)* had young people running them to sell their products.

Interview with Edgar Morales (Director) and René Velazco (Technician) – *Centoamericana de Post-Cosecha* (CENPOSCO)

The interviewee runs a company that provides: i) grain quality inspection services to buyers (private and institutional); and ii) consulting services in post-harvest management and grain quality normative compliance.

During the P4P intervention, the company worked for a three-year period with each FO, either on inspecting grain or providing technical assistance for compliance with the clients' standards. Technical assistance and capacity building focused on: plague and moisture control; grain cleaning; selection and packaging processes; grain quality analysis (P4P equipped FOs with laboratory equipment); as well as organizational issues.[53]

With the exception of the production manuals and delivery of capacity building activities on post-harvest management and grain processing, the company staff was present during key processes, assisting the FO members and staff in learning-by-doing.

When asked about spillover effects from the project, given the steep learning curve the FOs underwent, it would be difficult for other FOs be able to reach similar standards and sell to the same buyers without the support of a similar project. However, they do see a possibility to upscale activities in the P4P FOs by buying from producers who previously were not members of the FO or even from other FOs.

53 The consultancy assisted in the formation of the committee responsible for grain processing and the attribution of roles among its members. Part of the sensitization activities were related to the fact that not everyone should be directly involved in the manufacturing activities of grain processing. For example, there should also be those who are solely responsible for quality control, or who know the formulas and prepare the seed treatments. These individuals should have specific minimum numeric and analytical skills.

Yet another opportunity for FO growth could be the export market. This would, however, demand new quality and product differentiation standards, and thus further capacity development support.

With regard to their major concern on sustainability, it was pointed out that some of the processes are still new and not all the FOs are sufficiently mature in terms of organization, management and a mass of technical knowledge to guarantee the sustainability of the current business model.

Interview with Mario Alarcón (Head of Planning) and Alfredo Alarcón (Value-Chain Development Coordinator) – National Agriculture and Livestock Technology Centre (CENTA).

CENTA is the national research and extension institution of El Salvador. It entered in the project as a partner providing technical assistance to producers with regard to production and post-harvest management.

Recently, CENTA has increased its presence in the field, as it is one of the institutions to implement the recent Family Farming Plan (PAF) (2011).[54] To respond to this demand, CENTA benefits from a loan from the Central American Development Bank, which is geared to financing a new set of skills (consultants) that can better respond to the objectives of the PAF. New skills should include, inter alia, post-harvest management, processing and business development, whereas the traditional area of CENTA's intervention is production technology. In general, CENTA's staff developed its capacity by participating in projects coordinated by institutions such as FAO – the interviewees mentioned "*Semillas para el Desarrollo*" (Seeds for Development) as one of the examples of capacity building activities in high-quality seed production and marketing.

Complementary to CENTA, the Executive Division on Agricultural Economics (*Dirección General de Economia Agropecuaria*) through its agribusiness unit provides technical assistance and implements capacity building activities to support the development of rural businesses within the framework of the PAF.

Both institutions work with producer organizations' Business and Logistics Centres (FO for *Centro de Acopio y Servicios*), which aim at concentrating the sales of agricultural products and which provide services to farmers such as credit or bulk purchases of agricultural inputs. The P4P pilot initiative developed a number of FOs, which CENTA and the agribusiness unit aim to continue supporting in their development and sustainability. The head of planning also mentioned the importance of avoiding dispersing resources in trying to reach all the FOs; the objective is to reach the FO with the most potential for development, giving continuity to the activities that have already been started in the field, in particular, the improvement of post-harvest and processing practices, as well as seed availability and selection for high-quality products that can be sold to larger and demanding buyers, including the Government. Support is also provided for group organization and administrative and financial management.

One of the objectives is that the PAF-supported producers can supply to the national industry under a quota imposed by the Government for purchases to local producers.

Interview with Jaime Tobar (Family Farming Plan Coordinator and Coordinator) – FAO El Salvador

FAO involvement in the P4P was always informal and mostly at the onset of the programme. FAO project staff[55] working in the regions that would benefit from P4P intervention advised the WFP coordinator on the selection of the main implementing partner for farm level activities, the National Agriculture, Livestock and Forestry Technology Centre (CENTA). CENTA is a Government institution, which received capacity building support from FAO and is equipped with the human resources and the local knowledge to assist the P4P producers in improving their crop production and post-harvest management. CENTA had also the advantage of remaining on the ground after the P4P

54 http://www.iica.int/Esp/regiones/central/salvador/proyectos/Paginas/paf.aspx

55 *Apoyo a la rehabilitación productiva y el manejo sostenible de Microcuencas, en Municipios de Ahuachapán a consecuencia de la Tormenta Stan y la erupción del Volcán Ilamatepec* (GCP/ELS/008/SPA).

ended. FAO also facilitated contacts between CENTA and P4P, which in the interviewee's opinion helped in the correct selection of the participating FOs.

Although FAO did not formally participate in the implementation of P4P, three of the FOs supported by P4P in the western region of El Salvador had been supported by the FAO emergency project[56] in the rehabilitation of their crops, improvement of production technology and group formation, which helped them to be in position to join P4P. According to the PAF Coordinator, P4P provided the investment support in equipment and a market outlet that FAO could not provide, giving scale and sustainability to the overall intervention.

In addition to facilitating the contacts between P4P and CENTA, staff from FAO projects also provided learning materials and technical backstopping to CENTA's staff on specific issues, mostly on harvest and on-farm post-harvest management, during the implementation of P4P. Finally, the FAO emergency project in the western region also partnered with UNDP and municipalities in the formulation of business plans for FOs and financed studies (e.g. warehouse construction studies and projects) that were then used for P4P financed investments.

Lastly, the interviewee also recognized the importance of some of the initial partnerships P4P established with other UN agencies, such as the UNDP Suppliers Development Programme (capacity building for those who aim at becoming industry suppliers) or the IFAD-financed value chain development projects, PREMODER, PRODEMORO and PRODEMOR Central, for the co-financing of the necessary investments for the implementation of the FO business plans.

Interview with Leonardo Quiroa (Manager of the School Feeding and Health Programme) – Ministry of Education of El Salvador (MINED)

MINED's school feeding programme issues soft tenders for 50 percent of its purchases of beans. These tenders are exclusively open to producers, while the remaining 50 percent are made through unrestricted tenders open both to producers and traders.

Although there is a window that favours local producers and thus allows producers to obtain greater prices than those proposed by an unrestricted market, small producers still face some obstacles in providing to the school feeding programme. The main obstacles are: a 60-day payment period for Government purchases; the need to show evidence of solvency; and the lack of a secure budget from the Ministry, which implies yearly changes in demanded volumes. Additionally, as the MINED is already achieving the target of 50 percent of purchases from producers, if the FOs want to sell larger quantities or there are more FOs that qualify to sell to the school feeding programme, either they will have to compete with the unrestricted market or the 50-percent quota for purchases exclusively from producers will need to be enlarged.

According to the interviewee, P4P was key in qualifying the FO to sell to the school feeding programme. P4P has had the double role of improving the capacities of FOs to market their products in demanding markets and of providing evidence to the buyers that these FOs are reliable suppliers. To illustrate how P4P introduced a change in FO capacities, the interviewee mentioned that, despite the Government's efforts through the PAF, which provides inputs and technical assistance to family farmers, the P4P-supported FOs are still the exclusive suppliers of the school feeding programme. Nevertheless, Mr Quiroa mentioned some opportunities for FOs with other characteristics and crops. For example the school feeding programme being developed with FAO, in which each school makes its purchases locally, provides a less demanding market and a wider range of procured crops.

Interview with Germán Martínez, (Director) and Javier Goodall (Regional Purchases Coordinator) – *Molinos Modernos-HARISA* (agro-industrial company)

HARISA started purchasing maize from Salvadoran small producers through a process facilitated by P4P. Before the WFP intervention, there was a mutual lack of confidence between the FO members and HARISA's management. Producers were uncomfortable

56 *El Corozo* in San Francisco Menéndez, *El Garucho* in Atiquisaya and *AGRISAL* in San Lorenzo.

with being exposed to negotiations with large private sector players based in San Salvador, while HARISA had doubts about the capacity of the FOs to deliver on time the contracted quantities with the necessary quality. Additionally, HARISA only trades with formal players that comply with national laws and regulations, conditions that small producer organizations hardly ever meet. According to the interviewees, the WFP programme was a crucial element as it facilitated the process and helped generate the needed confidence among the stakeholders.

The P4P assistance enabled the FOs to supply to buyers such as HARISA by: i) co-financing the storage and processing capacity for large quantities of maize; ii) fostering discipline in the provision of grain with good quality standards; iii) showing evidence of contract compliance; and iv) facilitating meetings, agreements as well as the signing of the first contract.
As a result, HARISA continues purchasing maize from these organizations and the confidence between the parts has been strengthened to the point in which current agreements on quality, quantities and prices are often verbal. Additionally, the quantities being purchased by HARISA have been increasing; therefore, the FOs with which it negotiates had to absorb more producers or, as in most cases, buy from neighbouring FOs. Nevertheless, the agreements were always made with the FOs engaged in P4P, as these are the ones that are formalized and ensure that the product is delivered on time with the required quality.

HARISA gained substantially from this partnership as it now obtains grain at a better price, often with higher quality and within shorter delivery periods. As a sign of its bet on the national grain suppliers market, the company recently opened a new warehouse in the western region of El Salvador mostly to receive the production coming from that area of the country.

According to the HARISA managers, one of the largest gains for both parties was the elimination of market intermediaries. By eliminating intermediaries' costs and margins, both parties are able to obtain more favourable prices. As a result, the share of HARISA's national purchases has been increasing, bringing several benefits to the company, namely: (i) smaller and more frequent deliveries which reduce working capital needs and storing costs; (ii) local contracts hedging against price variations of international markets; (iii) lower prices of locally-produced grain; and (iv) higher productivity (when milled) of local grain when compared with most US or Mexican grain given its intrinsic characteristics and shorter transport periods. In return, HARISA offers the FOs a guaranteed purchase of large quantities at a better price than the intermediaries and pays on delivery. HARISA also gives technical support on the required grain characteristics so that the FOs succeed in their contracts.

It was also pointed out that the technical support to production provided to the producers during the P4P intervention (improvements in seed quality, fertilizer and pesticide applications and irrigation) also played a critical role in ensuring sufficient production of good quality grain.[57] The major concern of HARISA is about an eventual gradual degradation of the technical standards of producers, particularly at the primary production level, as they stop using the inputs and agricultural practices promoted during P4P. By lowering the levels of farm inputs back to previous levels before their entrance in P4P, producers might render themselves uncompetitive.[58]

With regard to opportunities, the scope to increase the number of producers delivering to HARISA through the FOs, and the possibility of cultivating land, which is currently fallow, were highlighted. Farmers need to continue being supported in this regard. HARISA plans to increase the share of national purchases to 50 percent (it was not clear what its share was before P4P).

57 This statement could not be confirmed from other sources as there is no evidence that P4P producers have significantly increased their productivity or better quality maize than before the P4P intervention.

58 The data analysis for this report confirms the risk of the producers losing their competitiveness as international grain prices lower, but there is no evidence that this is related to particular agricultural practices promoted by P4P.

Interview with Carlos Domiguez (Director) - Rural Development and Modernization Project for the Central and Paracentral Regions (PRODEMOR Central)

PRODEMOR activities are implemented through three components: rural businesses, human and social development and natural resources.

The PRODEMOR component on rural businesses provides support to the development of the priority value chains identified in the PAF. It supports associations in logistics and marketing with pre-investment studies and business plans. PRODEMOR Central co-finances up to 80 percent of the investment in infrastructure and equipment for FOs for a maximum of USD 50 000. Additionally, it finances technical assistance in processing and management-related issues to all participating FOs. PRODEMOR, however, only invests at the logistics and processing level, as there are other institutions working at the primary production level (CENTA).

Thus far, PRODEMOR has invested mostly in staple grains, vegetables and fruit value chains, as these have presented the best opportunities within the PRODEMOR's approach. The staple grain value chain is of particular importance given that it includes a large share of the Salvadoran population and generates low incomes at the producer level.

According to PRODEMOR the main obstacles to the development of the associations are the lack of: i) maturity of the existing associations: and ii) access to credit of staple grain producers. The project has supported the starting up or improvement of five FOs' logistics and service centres'. Four of the FOs have partnered with WFP in P4P (ACALESE, ACAASS, ACD-NSNV, and ASAESCLA). The fifth one is in the department of Cabañas where P4P has no presence.

These FOs have received, in addition to the matching grant for infrastructure improvement and equipment, circa USD 300 000 worth of technical assistance in post-harvest management, processing and management. The project estimates that these FOs have the potential to reach a total of 3 000 producers in terms of commercialization.

Last year, the five FOs processed and commercialized around 2 800 tonnes of sorghum and 1 800 tonnes of maize under the "Agreement for the planting and marketing of white maize"[59] in which grain importers are obliged to buy a percentage of grain in the national market. PRODEMOR estimates that total sales - within and outside the Agreement – have a value of over USD 2 million.

For 2014, the quantities to be commercialized under the Agreement have decreased to 2 500 tonnes of sorghum and 782 tonnes of maize; thus the FOs would need to increase the sales to other buyers. There is the need to strengthen the network of FOs so they can respond faster and in larger quantities to the demands they receive as a whole. To this end, the project is assisting with the setting up of a "federation of producers" around the infrastructure with larger processing capacity and more favourable geographical location: the business and services centres (CNS according to the official terminology). However, the FOs face difficulties in accessing the working capital they need to manage larger quantities of grain, and are managing small grain quantities beyond those contracted under the agreement.

With regard to the other main value chain being supported by PRODEMOR, the vegetables value chain, the interviewees stressed its contrast with the staple grains value chain. Producers dealing with vegetables generally have high productivity and prefer to market their products individually. Although investments have always been done through FOs, these have often been used to finance greenhouses installed in the FO members' plots and only two logistics and processing centres have been supported. Each of the centres has a monthly turnover between USD 12 000 and USD 18 000.

59 The "*Convenio para la siembra y comercialización de maíz blanco*" is the tool that currently enforces a policy that requires white maize importers to buy a percentage of the produce they commercialize in the domestic market. Sales under the Agreement are made between FOs and the maize traders, but are subject to specific regulation.

Meeting with Roberts Oliver (Deputy Representative) and Mirna Escoledo – (procurement officer) – WFP El Salvador

The initiative started relatively well. Delays occurred in some of the first deliveries, but they quickly shortened in the following years. With regard to the types of purchase, WFP started issuing tenders from its onset.[60] However, in the first year some FOs did not submit their proposals within the deadline or the proposals revealed cases of collusion between the FOs. Thus they did not qualify. This was the reason why a few cases in the two initial years were contracted through direct purchasing (two tenders in 2009 and two in 2010, according to purchases data).

From the beginning, P4P tenders were issued in parallel with Standard Local Procurement (SLP) tenders. Although P4P tenders were less demanding in terms of penalties for late delivery, P4P competed since the beginning directly for price with SLP, as only the tender offering a lower price was valid. This explains why P4P purchases were never more expensive than those through SLP and in some years accounted for the majority of maize purchases in the country. With regard to beans it was found that P4P FOs were not as competitive in price (with imported beans) or quantity as other suppliers, though the quality matched WFP standards.
From 2014, all the purchases will follow the regular competitive standards. FOs will compete directly with other suppliers having to comply with the same standards, being penalized in case of delays, and being obliged to leave 5 percent of the purchase value as a deposit when signing the contract.

According to the procurement officers, the P4P brought little additional costs or disruption to the WFP programme in the country. Marginal costs of P4P purchases were thus insignificant. P4P suppliers virtually never defaulted: the largest default was of 597 kg in a contract of 178.18 tonnes; and the initial delivery delays regarded small quantities as compared with the overall WFP programme. Moreover, these small quantities did not need to be used at the contracted time as they were used for ongoing emergency projects as they were received.

Most of the delays were due to produce rejection – the producers did not achieve the minimum quality standard. As a consequence, in order to comply with the contract they had to procure a product that would meet the quality standards from neighbouring FOs. Moreover, most of them at the time were not equipped with machinery to process grain and did it manually.
Superintendence costs were the same for P4P and non-P4P purchases – USD 3 per tonne. The procurement unit visits both P4P and regular programme suppliers twice a year. The P4P quantities contracted do not seem to differ much from the regular programme, which results in similar logistics costs for P4P in both cases.[61]

60 These soft tenders differed from the regular tender as follows: for not requiring a guarantee/deposit; for allowing offers by e-mail rather than exclusively through the WFP's Internet platform; for being less demanding with the packaging/bagging standards; and for allowing delays without penalty.

61 Author's note: In the case of maize, P4P accounts for an average of 149.2 tonnes purchased per contract while SLP has an average of 130.2 tonnes purchased per contract in the period 2009-2013. In the case of beans it is SLP that shows larger quantities purchased per contract with an average of 170.6 tonnes against 57.1 tonnes of P4P. These differences seem to be attributable to the total quantities purchased at the time than to the programme itself, as P4P bought 6265.4 tonnes of maize in the period under analysis against 1041.8 tonnes in the case of SLP. With regard to beans, P4P bought a mere 285.3 tonnes, while SLP totaled 3242.2 tonnes for the same period.

Annex 2

LEADING QUESTIONS AND SUMMARY OF FOCUS GROUP DISCUSSIONS

Leading questions for focus group discussions

The questions were not necessarily phrased as below or asked in this order; they were used as a guide for the focus groups.

Leading questions about FOs

- Could you please tell me what the FO was like before joining P4P?
- What changes were introduced? Where and how did you sell?
- How did prices and transport costs change?
- What was the main purpose of the association prior to P4P?
- How did you overcome the hurdles along the way to get to where you are today?
- How did you finance the investments you made with own resources?
- Who do you sell to and in what amounts and prices?
- How do you establish the prices for you products?
- How do you pay the producers? What is the payback period?
- How and within what period do buyers pay the FO?
- How do you finance your working capital? Who manages the loans?
- Where are the grains stored along the year? Does it get stored in the FO facilities? If yes, what is the storage capacity?
- When do producers bring their production to the FO? Who takes care of the logistics?
- How did the number of associated farmers change since P4P started?
- How did labour requirements change along the way? Who participates in the different functions (management, processing, reception…)?
- What are the main constraints and opportunities to FO growth?

Leading questions about primary production

- Have there been recorded changes in input use and farm practices owing to the P4P intervention? Could you please list them?
- Did you experience any change in farm productivity as a result? Any change in post-production losses?
- In your experience, what is needed at farm level to guarantee that the grain is produced, reaching the warehouse with the necessary quality?
- Would producers make the same changes if they were to sell to intermediaries at a different price?
- Has the sown area of staple grains increased among the associated producers?
- Where do producers store the grain? What is the family consumption share?

Summary of focus group discussions with FO representatives

	AGRISAL	ACOPASAN	ACAAS (CNS)	ASAESCLA	ACOPROERIK (CNS)
Previous form of marketing	Before they sold smaller quantities in bulk to intermediaries at a lower price. Those selling individually would pay USD 0.5/qq [62] to transport it to the market and be subject to the price there.	Sold individually to intermediaries as the cooperative was reactivated through WFP. There had been previous trials (from FAO) with vegetables but never counted with full infrastructure (irrigation) and it never worked out.	They did not sell grain as a group before. Sales were done individually in the nearest market to intermediaries.	The infrastructure was co-financed by the municipality and PRODEMOR and started selling in group before partnering with WFP. WFP is strengthening their capacities to deal with buyers.	Marketing was individual to intermediaries.
Current buyers	They contact several potential buyers to offer product and currently sell to HARISA, MASECA, PMA and MINED	Diana, GUMARSAL, HARISA and MASECA	HARISA, GUMARSAL, MASECA, SULTANA, Government. Industry pays on delivery or after 8 days. Government pays after 60 days.	Selling mostly to industry through the "agreement" and are paid 15-20 days after delivery.	Industry through the "Agreement" and outside the "Agreement". Also sell to black bean exporters to Venezuela.
Quantities sold and prices	Dealt 900 MT between November and January (US 165 000 transferred to farmers at USD11/qq)	Quantities vary between 1 400-2 300 MT per year depending on working capital. Buy at USD 10.50 /qq and sell USD 0.3 to 0.5/qq more – current price at the market (intermediary) is USD 8/qq	Buy at USD 12.5 to 13/qq They know the market price of unprocessed maize and add up production costs that they learned to calculate. Always sell above cost. Dealing 14 000 qq of maize and 1 000 qq of beans. Have just created a beans brand. Target in two years is 20 000 qq maize and 6 000 qq of beans.	Currently buying at USD 13/qq from farmer (intermediary is offering USD11/qq) and selling at USD 14.5-15/qq to processing industries under the "Agreement"	The Business and Services Centre is new. For 2014 have contracted 525 tonnes through the "Agreement" and 660 tonnes outside the "Agreement". They will also sell packed beans in their own network of communal shops (COMUS). They were demanded 6 600 tonnes from a single industry, but still do not count with the necessary working capital (and probably logistics capacity – field observation). FO is buying at USD 10/qq while the intermediaries are buying at USD 9.5qq (usually not with fair weight). Selling at USD11 not processed, USD 12.5 processed. They also sell the service of processing grain.
Transport costs	Transport from land plot to CAS – 0.25 cents/qq		Grain is brought to the processing centre by producers.	Transport from land plot to FO – 0.25 cents/qq.	

	AGRISAL	ACOPASAN	ACAAS (CNS)	ASAESCLA	ACOPROERIK (CNS)
Infrastructure and equipment	Had access to storage before from the municipality. IFAD co-financed own infrastructure and WFP the equipment. Land plot provided by the municipality They contributed with USD 17 000 equivalent of labour.	First they hired a house for manual grain processing. Then they managed to obtain financing for land giving the same land and future construction as collateral. WFP supported the gradual enlargement of installations, and they contributed with labour and materials. About to buy truck on credit after calculating minimum use to break even.	PRODEMOR Central (IFAD financed project) co-financed building and equipment together with WFP. The FO entered in a second phase when WFP adopted a different approach (two years of capacity building before investment in infrastructure). Count with complete laboratory equipment, large-scale grain processor and packaging machine (WFP estimates 1 500 tonnes/month of maximum processing capacity). Storage capacity for 650 tonnes. Demonstrated capacity in post-harvest management (field observation). Opened the Business and Services Centre in 2012. Have acquired a truck.	Previous land acquisitions (ASAESCLA is now in its second enlargement after two previous land acquisitions) were supported with a USD 50 000 grant from the municipality. Building and machinery co-financed by PRODEMOR.	Count with large-scale logistics centre and equipment (WFP estimates 1 500 tonnes/month of maximum processing capacity) including industrial grain dryer. Equipment has been co-financed by PRODEMORO (IFAD funding) and WFP. Storage capacity for 650 tonnes.
Access to credit	Started the credit cycle with the farm inputs from WFP (revolving fund). Recovered part of it. There is a committee in charge of loan repayments and now all credit is recovered (borrowers leave guarantee and signed documentation).	Counted with 10 500 from WFP revolving fund (inputs) which has been fully recovered every year. Count with bank financing for land and USD 30 000 for working capital.	ACAAS was an association dedicated to selling inputs on loan and services to farmers. Their assets and WFP guarantee of investing in infrastructure served as collateral for the USD 50 000 loan to buy the land plot. Total debts amount to USD 200 000. Credit access has gradually increased and they are now borrowing at 10 percent/year.		Had difficulty in accessing credit and even in being received by the financing institutions. Finally and through mediation by WFP obtained credit for land purchase (USD 35 000) and building (including the labour they paid to those who participated), although WFP contributed to the building costs. Today they still do not access all the credit they need, but they are accepted by all credit institutions and count with an account manager at the bank. Do not borrow from associates, but have specialized partners that do it, ISAGRO and ALBA. Previously they did it for subsistence farmers (USD120 to each of the 190 producers), but that is not their business model anymore.

	AGRISAL	ACOPASAN	ACAAS (CNS)	ASAESCLA	ACOPROERIK (CNS)
Outreach Growth	Grew from 45 to 85 associates but buys from a larger group. They are active members of the CNS. They have a potential outreach of 5 000 producers, but believe about 2 500 have conditions to sell (others are self-sufficient farmers).	Moved from 24 to 70 associates but can reach up to 5 000 producers. Have expanded the activities to sorghum processing.	Started with 150 associates and today count with 668. They hope to double the figure in 2014. 150 associates are delivering grain this year.	They sell the production of 117 associates. They would sell the grain of more producers, if they had the capacity, but they are working at maximum capacity in this period. The plant counted with young (in one case educated in logistics) staff, which are also associated producers.	They have established a target of 6 600 tonnes of maize processed per year in the medium term, as they can reach now over 5 000 producers directly if they have the necessary working capital. They are increasing their network to be present in 14 municipalities with around 14 000 producers. At the moment they count with 1 125 associated producers. Nevertheless, they have only processed 230 tonnes in 2014 and count with credit constraints.
Organization and management	Have formed committees for production, commercialization, credit, administration and education	Management organized in committees	Education, credit, production and commercialization committees. Not all have clear functions, but there is a strong well informed leadership.		Will count with a full-time technician hired by WFP for 6 months to improve management and marketing capacity. (count with two well empowered young leaders - field observation) PRODEMORO still provides support.
Links with other FOs	Exchange grain with ACOPANSAN and El Garucho depending on which one gets the contracts	They are connected to PROGRANOS, which allows them to sell all year and better access to markets and equipment. Do not buy from others because being a cooperative they pay taxes, while those registered as non-profit do not (AGRISAL and El Garucho).	Not reported	Not reported	They reach a large number of individual farmers that can supply the quantity they need. They have shops and contacts in many municipalities.

Labour	Employ 2 people full-time + up to 25 in peak work seasons	3 permanent staff plus 2 guards + accountant. When done by hand 30 people in one day would do 3.3 tonnes. Today in only one shift they can do 6.5 tonnes with 4 people. At the time they are doing 2 shifts a day. Beans demanded even more people and it was hard to supply.	2 permanent staff in management and marketing. At the moment 26 people in total to process over 26 tonnes per day in two shifts. (workers earn USD 1.5/hour)	5 people during 8 hours processing 13 tonnes circa per day during 4 months. Does not operate year round.	3 full-time workers and at peak time 6 people in processing and delivery plus 3 in grain reception

62 *qq* is the abbreviation for the Salvadoran quintal, which is equivalent to 46 kg; maz is the abbreviation for the Salvadoran Manzana, which is equivalent to 0.7 hectare.

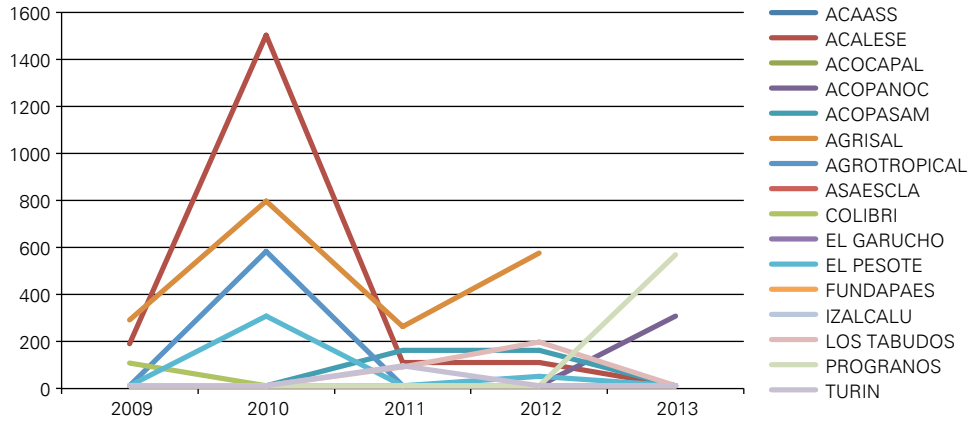
Main constraints to growth	Need access to credit (working capital) to deal with large quantities. Revolving fund is not enough. Only get credit (10.5 percent annual rate; subsidized credit at 4 percent) against sales contracts, but contracts require a deposit… Take credit only from coops as they are a non-profit organization. Now pay in 30 days with one extra dollar on the price of quintal (46kg paid at USD 10 to 11) – represents a very high interest.	Land available for processing operations and access to credit to buy large quantities during harvest and sell until April (need more storage capacity if that is the strategy to follow; they are currently overflowing – field observation). Have lost clients for lack of capacity (max. 20 000qq). PROGRANOS can process 100 000 during peak season (with one shift only) and will be a strategic partner. No problems of supply. Cannot attend to everyone and some producers leave grain on credit as the FO pays interest.	Only count with USD 50 000 of working capital when they estimate they would need USD 800 000 to work at full capacity. Grain supply would not be an issue, would they have the cash to pay for the product.	New players in the market with capacity to supply larger quantities in short time periods, such as *Alba Alimentos,* are seen as a threat. They would need larger infrastructure to compete. Just bought the adjacent land plot to enlarge facilities, as they do not have supply problems. Cannot process more than 50 000 qq in the 4 peak months even working in 8-hour shifts.	The large facility counts with no more than USD 50 000 loan for working capital, which is insignificant for its needs and potential. They hope to prove to financing institutions that staple grains farmers are worth credit. Transparency and confidence need to be maintained amongst all associates and management.
On-farm production changes	Understand the importance of the production and post-production management (toxic substances, moisture…) they ask CENTA to assist new associates. Many farmers count with silos at home from previous projects. The sell immediately what they cannot store.	They attend 130 people with credit for inputs (inputs worth USD 330/farmer). 20 young new producers have asked for credit and started cultivating new areas.	Before, inputs and other credit were given with an 18 percent annual interest rate. Today they manage to only charge 12 percent to the associates. Insists on post-harvest control with farmers. Need to ensure that all cobs are healthy when selecting them before threshing. With regards to beans they know they need one only seed variety for homogeneity if they want to have a brand.	Depends on farmers, and the process began before WFP's marketing support.	PRODEMORO is assisting in improving production and post-harvest management. Intermediaries seem to be offering better prices and fairer weighing.
Productivity changes	At producer level some might have improved their productivity from 2 600 kg/ha to 4 000kg/ha due to improved seed and extra fertilizer.	Depending on producers, productivity might change from 3 600 - 4 000 kg/ha to 4 600 - 4 900 kg/ha.	PRODEMOR strategy of incentivizing Productive Development Centres (sort of FFS) resulted in productivity increases from 2.6 to 5.2 tonnes/ha in some cases.	Depends on farmers, but many are now producing 5.2 tonnes/ha. Previous yields depended much on the farmer. The interviewee said during normal weather he can get 6.2 tonnes/ha on 2.8 ha. However, the main changes were the sales price and the fact that they are now paid for the fair weight of their grain.	It is difficult to generalize on productivity due to changes in weather from one year to the next, but with access to better inputs, they aim to move from producing 3 300 tonnes/ha to 5 200 tonnes/ha of maize. Main reported changes however have been in sale price and in the fact that they are paid for the fair weight of their grain (between 5 and 10 pounds per qq difference).

Annex

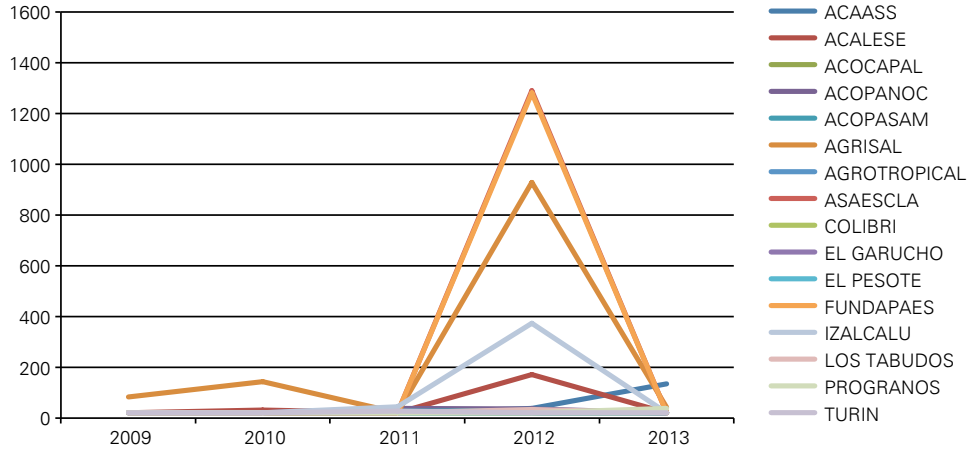
3

SALES DISTRIBUTION IN TIME

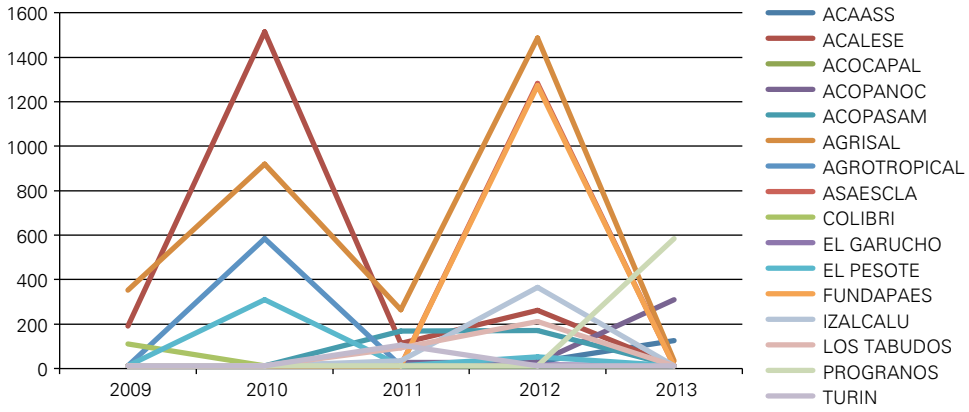
Volume of Sales WFP (MT)



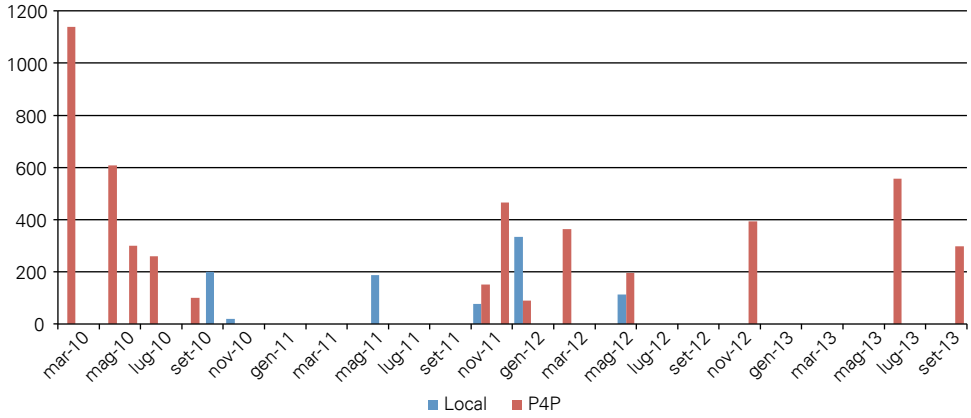
Volume of Sales Outside WFP (MT)



Total Sales Volume (MT)



Sales to WFP per month (MT)



Note: the decrease in sales in 2011 was mostly due to extreme whether events that caused severe crop damage (see http://documents.wfp.org/stellent/groups/public/documents/liaison_offices/wfp244219.pdf).

Annex 4

COSTS DETAILS AND STAFF HIRED BY P4P EL SALVADOR PER YEAR

El Salvador P4P Detailed Investment Costs Until 2013

	INVESTMENT (USD)	RECIPIENT
DIRECT INVESTMENT IN FOs	**1760 591**	
TECHNICAL ASSISTANCE AND SERVICES	546 723	
Post-harvest management (at warehouse level)	68 023	13 FO
Technical proposals	78 692	20 FO and CNS
Suppliers Development (UNDP)	51 462	13 FO
Marketing and administration	68 600	13 FO
Accounting and financial management	106 811	13 FO
Equipment and infrastructure maintenance	16 524	4 FOs
Brand design	11 324	3 CNS
Entrepreneurship	36 680	1 CNS and 2 FO
Credit access and management	9 928	20 FO and CNS
Geo-reference services	41 179	17 FO
Strengthening of management committees	16 050	13 FO
Farmgate price setting	19 500	20 FO and CNS
CENTA's capacity development	21 950	
EQUIPMENT	522 429	
Laboratories, scales, bags, fumigation and storage material, safety equipment	82 753	10 FO and 3 CNS
Packaging machines	151 133	3 CNS
Grain selection material	33 680	1 FO and 3 CNS
Packaging material	11 141	3 CNS
Project for equipment selection	4 200	4 FO
Grain selection equipment	207 890	4 FO and 3 CNS
IT equipment	31 632	20 FO and CNS
INFRASTRUCTURE	333 820	
Construction material and electrical and gas installations	333 820	8 FO and 3 CNS
Revolving Fund Establishment	357 618	
Farm inputs	357 618	9 FOs
PROJECT COORDINATION AND M&E	**1851 638**	
Wages	1178 939	
Fringe benefits	86 233	
Daily subsistence allowances	126 020	
IT equipment	64 227	
Capacity building activities	7 848	
IT platform	15 125	
M&E surveys	12 750	
Learning and sharing	50 810	
Other	309 686	

P4P El Salvador Staff

P4P Staff/El Salvador	2009	2010	2011	2012	2013	2014	Contract length
Coordinator P4P							
International Staff	1	1	1	1	1		Annual Contract
Local Staff					1	1	Annual Contract
M&E	1	1	1	1	1	1	Annual Contract
Market and Production Specialist	2	2	2	2	2		Annual Contract
Institutional Strengthening Specialist		1	1	1	1	1	Annual Contract
Financial/Access to Credit Specialist					1		Annual Contract
P4P Monitors			1	5			*Contratos de 3 a 6 Meses por año*
Admin Assistant	1	1	1				Annual Contract
Procurement		1	1	1	1	1	Annual Contract
Driver		1	1	1	1	1	Annual Contract
Crop Monitoring Specialists							
International Consultant					1	1	*Contratos de 3 a 5 Meses por año*
Local Staff				1	1	1	Annual Contract
Total Annual Contracts	**5**	**8**	**8**	**8**	**10**	**6**	
Total Short-term Contracts	**0**	**0**	**1**	**5**	**1**	**1**	
Total Staff Cost (USD)	99 998	184 650	290 463	362 670	327 393	n/a	

Source: P4P El Salvador

Note: In 2009, only the P4P Coordinator started in January; the other position started between April and June 2009.

Annex 5 ILLUSTRATIVE FINANCIAL MODELS

Illustrative Crop Models

Semi-technified Maize
(Country average 2011/2011 - National statistics)

	UNIT	QUANT.	UNIT COST	TOTAL
OUTPUT	kg	3476		
LAND	ha	1	75.43	**75.429**
INPUTS				**484.1**
Seed	kg	16	4.89	80.4
Fertilizer mix	kg	277	0.60	167.0
Ammonium sulfate	kg	250	0.40	99.2
Urea	kg	66	0.64	41.9
Pesticides	lumpsum			72.6
Interest	month	5	1.0%	23.1
LABOUR				**415.5**
Sowing	person.day	6	5.26	30.1
Soil mobilization	person.day	7	5.40	38.6
Fertilization	person.day	7	5.27	37.6
Weeding	person.day	16	5.14	80.7
Pesticides application	person.day	9	5.20	44.6
Other	person.day	4	5.58	23.9
Interest	month	5	1.0%	12.8
Harvest	person.day	20	5.16	103.2
In-farm-transport	person.day	7	5.76	41.1
Harvest loan Interest	month	2	1.0%	2.9
Total labout requirement	**person.day**	**76**		
MACHINERY AND ANIMAL TRACTION				**143.4**
Soil mobilization machinery	ha	1.0	50.00	50.0
Soil mobilization animal (ploughing)	ha	1.0	28.57	28.6
Sowing	ha	0.0	0.00	0.0
Intesrest	month	5	1.0%	3.9
Threshing	MT	3.5	17.17	59.7
In-farm Transport	MT	0.0	0.00	0.0
Harvest loan Interest	month	2	1.0%	1.2
Total cost				**1118.4**
Total cost/tonne				**321.7**

Technified Maize
(Country average 2011/2011 - National statistics)

	UNIT	QUANT.	UNIT COST	TOTAL
OUTPUT	kg	4561		
LAND	ha	1	82.14	**82.143**
INPUTS				**534.0**
Seed	kg	16	4.84	79.5
Fertilizer mix	kg	302	0.59	179.0
Ammonium sulfate	kg	315	0.38	120.6
Urea	kg	79	0.59	46.1
Pesticides	lumpsum			83.286
Interest	month	5	1.0%	25.4
LABOUR				**347.7**
Sowing and first fertilization	person.day	9	5.20	44.6
Second fertilization	person.day	3	5.18	14.8
Thrid fertilization	person.day	1	5.20	7.4
Weeding	person.day	11	5.16	59.0
Pesticides application	person.day	9	5.26	45.1
Other	person.day	13	5.17	66.5
Interest	month	5	1.0%	11.9
Harvest	person.day	19	5.2	96.6
In-farm-transport	person.day	0	0	0.0
Harvest loan Interest	month	2	1.0%	1.9
Total labout requirement	**person.day**	**64**		
MACHINERY AND ANIMAL TRACTION				**278.7**
Soil mobilization machinery	ha	2	50.61	101.2
Soil mobilization animal (ploughing)	ha	1	28.57	28.6
Sowing	ha	1	30.64	30.6
Intesrest	month	5	1.0%	8.0
Threshing	MT	4.6	13.91	63.5
In-farm Transport	MT	4.6	9.78	44.6
Harvest loan Interest	month	2	1.0%	2.2
Total cost				**1242.5**
Total cost/tonne				**272.5**

WFP Technical Proposal

	UNIT	QUANT.	UNIT COST	TOTAL
OUTPUT	kg	5586		
LAND	ha	1	82.14	**82.143**
INPUTS				**957.1**
Traps	each	36	0.32	11.4
Sorgum seed	kg	3	2.20	7.1
Maize seed treatment	cc	214	0.15	32.1
Seed	kg	19	4.84	94.1
15-15-15	kg	286	0.66	188.6
Organic fertilizer	kg	1314	0.11	142.9
Herbicide	lumpsum			48.9
Repelent	lumpsum			12.9
Insecticide	lumpsum			115.0
NH4NO3	kg	197	0.60	117.9
Urea	kg	194	0.72	140.7
Interest	month	5	0.01	45.6
LABOUR				**345.7**
Soil clearing	person.day	6	5.40	30.9
Insect traps	person.day	0	5.00	1.8
Sowing of protective lines (sorghum)	person.day	1	5.20	3.7
Seed treatment	person.day	0	5.00	1.8
Maize sowing	person.day	9	5.20	44.6
Fertilization	person.day	10	5.20	52.0
Weeding	person.day	3	5.16	14.7
Pesticides + fertilizer	person.day	10	5.3	52.6
Interest	month	5	1.0%	10.1
Harvest	person.day	20	5.20	104.0
Post-harvest	person.day	11	5.00	57.1
Harvest loan Interest	month	2	1.0%	3.2
Total labout requirement	**person.day**	**70**		
MACHINERY AND ANIMAL TRACTION				**98.4**
Threshing	lumpsum			96.4
Harvest loan Interest	month	2	1.0%	1.9
Total cost				**1483.3**
Total cost/tonne				**265.5**

Semi-technified beans (Country average 2011/2011 - National statistics)

	UNIT	QUANT.	UNIT COST	TOTAL
OUTPUT	kg	1150		
LAND	ha	1	80.71	**80.714**
INPUTS				**481.2**
Seed	kg	59	2.16	128.0
Fertilizer mix	kg	158	0.60	93.9
Manure	lumpsum			104.1
Pesticides	lumpusum			132.2
Interest	month	5	1.0%	22.9
LABOUR				**533.6**
Sowing	person.day	14	5.34	76.3
Soil mobilization	person.day	10	5.14	51.4
Fertilization	person.day	7	5.15	36.8
Weeding	person.day	11	5.19	59.4
Pesticides application	person.day	14	5.44	77.7
Other	person.day	4	5.32	22.8
Interest	month	5	1.0%	16.2
Harvest	person.day	29	5.59	159.8
Drying and bagging	person.day	3	5.28	15.1
In-farm-transport	person.day	3	5.03	14.4
Harvest loan Interest	month	2	1.0%	3.8
Total labout requirement	**person.day**	**96**		
MACHINERY AND ANIMAL TRACTION				**0.0**
Transport	lumpsum			0.0
Harvest loan Interest	month	2	1.0%	0.0
Total cost				**1095.5**
Total cost/tonne				**952.6**
Total cost without land				**882.4**

WFP Technical Propposal

	UNIT	QUANT.	UNIT. COST	TOTAL
OUTPUT	kg	1643		
LAND	ha	1	80.71	**80.714**
INPUTS				**720.2**
Traps	each	36	0.32	11.4
Maize seed	kg	6	3.53	22.9
Beans seed treatment	cc	214	0.20	42.9
Seed	kg	52	2.16	112.0
15-15-15	kg	286	0.66	188.6
Organic fertilizer	kg	657	0.11	71.4
Herbicide	lumpsum			45.7
Insecticide	lumpsum			155.9
Urea	kg	97	0.36	35.1
Interest	month	5	1.0%	34.3
LABOUR				**367.7**
Insect traps	person.day	0	5.00	1.8
Sowing of protective lines (sorghum)	person.day	1	5.34	7.6
Seed treatment	person.day	0.4	5.00	1.8
Beans Sowing	person.day	11	5.34	61.0
Fertilization	person.day	4	5.15	22.1
Weeding	person.day	6	5.19	29.7
Pesticides + fertilizer	person.day	16	5.4	87.4
Interest	month	5	1.0%	10.6
Harvest	person.day	26	5.00	128.6
Post-harvest	person.day	3	5.00	14.3
Harvest loan Interest	month	2	1.0%	2.9
Total labout requirement	**person.day**	**68**		
MACHINERY AND ANIMAL TRACTION				**29.1**
Transport	lumpsum			28.6
Harvest loan Interest	month	2	1.0%	0.6
Total cost				**1197.7**
Total cost/tonne				**729.0**
Total cost without land				**679.9**

Illustrative Processing Centre Financial Model

INVESTMENT COSTS		ADESCO AGRISAL					
		2008	2009	2010	2011	2012	2013
CAPACITY BUILDING AND TECHNICAL ASSISTANCE	18%						
Post-harvest management				$1,923	$554	$499	$1,098
Technical proposal						$3,935	
Suppliers Development Program				$5,146			
Marketing and administration				$1,200	$795	$1,855	
Accounting and financial management				$761	$3,654	$2,281	
Equipment maintenance						$2,066	$2,066
Brand design							
Credit						$496	
Georeferencing services						$1,453	$969
Learning and sharing					$755	$1,787	$1,266
Management committees				$1,235			
Farm pricing						$975	
Capacity building of service procviders (CENTA)				$1,688			
Other		$3,000					
POST-HARVEST EQUIPMENT	27%						
Laboratory equipment, scales, bags, safety equipment,…)			$833	$5,678	$5,700	$4,770	
Packaging machinery							
Conveyors for grains cleaning							$8,420
Spools for packaging (4 pounds &1 pounds)							
Design of machinery instalation				$1,050			
Grain cleaning and polishing machinery				$23,000			
IT equipment				$1,582			
Other (thresher, silos, scale)		$9,500			$1,800	$200	
INFRASTRUCTURE	25%						
Construction materials and energy supply equipment				$15,801			
Construction		$41,000					
WORKING C APITAL	30%						
Farm inputs			$25,000				$9,750
Working capital		$15,000		$20,000			
Total		$ 68,500	$ 25,833	$ 79,064	$ 13,258	$ 20,316	$ 23,569

In grey donations from MAG, PREMODER and CENTA

NOTE: Before the project AGRISAL sold small quantities to intermediaries from a warehouse lent by the municipality.

CASHFLOW AGRISAL - 19% capacity use scenario

cells in grey are WFP monitoring data; sales in white assumptions — constant prices from 2013

SALES	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Maize											
Outside P4P (MT)	62	122	0	909	900	900	900	900	900	900	900
Sales to WFP (MT)	280	786	252	565	0	0	0	0	0	0	0
Average price (USD/Tonne)	388	461	490	450	272	283	283	283	283	283	283
Average price (USD/quintal)	17.9	21.2	22.6	20.7	12.5	13	13	13	13	13	13
Total Sales (MT)	342	908	252	1,474	900	900	900	900	900	900	900
Total Sales Values (USD)	132,776	418,168	123,563	663,237	244,565	254,348	254,348	254,348	254,348	254,348	254,348
Beans											
Sales to WFP (MT)	0	49	14	153	0	0	0	0	0	0	0
Average price (USD/Tonne)	0	992	2,457	1,338	0	0	0	0	0	0	0
Average price (USD/quintal)	0	45.6	113.0	61.6	0	0	0	0	0	0	0
Total Sales Values (USD)	0	48,711	34,053	204,797	0	0	0	0	0	0	0
number of months equivalent in which operates	0.8	2.4	0.7	4.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2
% of full capacity	7%	20%	5%	33%	19%	19%	19%	19%	19%	19%	19%
OPERATING COSTS											
Maize											
Purchases (mt) - considering 5% losses in processing	359	953	265	1548	945	945	945	945	945	945	945
Average unit cost (USD/MT)	312	370	394	361	239	239	239	239	239	239	239
Average unit cost (USD/quintal)	14.4	17.0	18.1	16.6	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Purchases cost (USD)	111,962	352,617	104,194	559,268	225,978	225,978	225,978	225,978	225,978	225,978	225,978
Beans											
Purchases (mt) - considering 5% losses in processing		52	15	161	0						
Average unit cost (USD/MT)		788	1953	1211	0						
Average unit cost (USD/quintal)		36.3	89.8	55.7	0						
Purchases cost (USD)		40,649	28,417	194,573	0						
OVERHEADS											
Sales costs		11,004	7,611	13,495	7,337	7,630	7,630	7,630	7,630	7,630	7,630
Admin costs	4,895	6,644	6,661	4,247	4,891	5,087	5,087	5,087	5,087	5,087	5,087
Financial costs		1,348	2,163	625	1,223	1,272	1,272	1,272	1,272	1,272	1,272
DEPRECIATION	$3,000	$3,083	$7,004	$7,754	$8,251	$9,093	$9,093	$9,093	$9,093	$9,093	$9,093
Net Margin after taxes	**$ -**	**$ 9,689**	**$ 69,138**	**$ 22,488**	**$ 211,984**	**$ (2,337)**	**$ 3,965**	**$ 3,965**	**$ 3,965**	**$ 3,965**	**$ 3,965**	**$ 3,965**
Financial cashflow	**$ (68,500)**	**$ (9,913)**	**$ 16,203**	**$ 23,730**	**$ 270,083**	**$ (18,433)**	**$ 14,380**	**$ 14,380**	**$ 14,380**	**$ 14,380**	**$ 14,380**	**$ 14,380**
$ 131,418											

CASHFLOW AGRISAL - Growing capacity use scenario

SALES	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Maize											
Outside P4P (MT)	62	122	0	909	900	1214.4	1457.28	1700.16	1943.04	2185.92	2428.8
Sales to WFP (MT)	280	786	252	565	0	0	0	0	0	0	0
Average price (USD/Tonne)	388	461	490	450	272	283	283	283	283	283	283
Average price (USD/quintal)	17.9	21.2	22.6	20.7	12.5	13	13	13	13	13	13
Total Sales (MT)	342	908	252	1,474	900	1,214	1,457	1,700	1,943	2,186	2,429
Total Sales Values (USD)	132,776	418,168	123,563	663,237	244,565	343,200	411,840	480,480	549,120	617,760	686,400
Beans											
Sales to WFP (MT)	0	49	14	153	0	0	0	0	0	0	0
Average price (USD/Tonne)	0	992	2,457	1,338	0	0	0	0	0	0	0
Average price (USD/quintal)	0	45.6	113.0	61.6	0	0	0	0	0	0	0
Total Sales Values (USD)	0	48,711	34,053	204,797	0	0	0	0	0	0	0
number of months equivalent in which operates	0.8	2.4	0.7	4.0	2.2	3.0	3.6	4.2	4.8	5.4	6.0
% of full capacity	7%	20%	5%	33%	19%	25%	30%	35%	40%	45%	50%
OPERATING COSTS											
Maize											
Purchases (mt)	359	953	265	1548	945	1275	1530	1785	2040	2295	2550
Average unit cost (USD/MT)	312	370	394	361	239	239	239	239	239	239	239
Average unit cost (USD/quintal)	14.4	17.0	18.1	16.6	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Purchases cost (USD)	111,962	352,617	104,194	559,268	225,978	304,920	365,904	426,888	487,872	548,856	609,840
Beans					0						
Purchases (mt) - considering 5% losses in processing		52	15	161	0						
Average unit cost (USD/MT)		788	1953	1211	0						
Average unit cost (USD/quintal)		36.3	89.8	55.7	0						
Purchases cost (USD)		40,649	28,417	194,573	0						
OVERHEADS											
Sales costs		11,004	7,611	13,495	7,337	10,296	12,355	14,414	16,474	18,533	20592
Admin costs	0 0	4,895	6,644	6,661	4,247	4,891	6,864	8,237	9,610	10,982	12,355	13728
Financial costs	0 0	664	1,348	2,163	625	1,223	1,716	2,059	2,402	2,746	3,089	3432
DEPRECIATION		$3,000	$3,083	$7,004	$7,754	$8,251	$9,093	$9,093	$9,093	$9,093	$9,093	9093.2221
Net Margin after taxes	**$ -**	**$ 9,191**	**$ 69,138**	**$ 22,488**	**$ 211,984**	**$ (2,337)**	**$ 7,733**	**$ 10,644**	**$ 13,554**	**$ 16,465**	**$ 19,375**	**$ 22,286**
Cashflow	**$ (68,500)**	**$ (10,577)**	**$ 16,203**	**$ 23,730**	**$ 270,083**	**$ (18,433)**	**$ 19,404**	**$ 23,285**	**$ 27,166**	**$ 31,046**	**$ 34,927**	**$ 38,808**
$158,911											

Business plan - Projection at project start

SALES	BASE YEAR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Maize												
Average price (USD/MT)	370											
Average price (USD/quintal)	17.0											
Sales (Mt) with 5% processing losses	524	524	551	578	607	637	637	637	637	637	637	637
Sales Value (USD)	193,800	193,800	203,490	213,665	224,348	235,565	235,565	235,565	235,565	235,565	235,565	235,565
Beans												
Average price (USD/MT)	1,630											
Average price (USD/quintal)	75.0											
Sales (Mt) with 5% processing losses	131	131	138	145	152	159	159	159	159	159	159	159
Sales Value (USD)	213,750	213,750	224,438	235,659	247,442	259,814	259,814	259,814	259,814	259,814	259,814	259,814
External Services (grain processin)												
Quantities (MT)	690	690	725	761	799	839	839	839	839	839	839	839
Service price (USD/MT)	16.3											
Sales Value (USD)	11,250	11,250	11,813	12,403	13,023	13,674	13,674	13,674	13,674	13,674	13,674	13,674
Equivalent of full capacity months												
number of months equivalent in which operates	3.6	3.5	3.5	3.7	3.9	4.1	4.1	4.1	4.1	4.1	4.1	4.1
% of full capacity	30%	29%	30%	31%	33%	34%	34%	34%	34%	34%	34%	34%
		418800	439740	461727	484813	509054	509054	509054	509054	509054	509054	509054 0
OPERATING COSTS												
Maize												
Purchases (mt)	552	552	580	609	639	671	671	671	671	671	671	671
Average unit cost (USD/MT)	315											
Average unit cost (USD/quintal)	14.5											
Purchases cost (USD)	174,000	174,000	182,700	191,835	201,427	211,498	211,498	211,498	211,498	211,498	211,498	211,498
Beans												
Purchases (mt)	138	125	131	137	144	151	151	151	151	151	151	151
Average unit cost (USD/MT)	1,340											
Average unit cost (USD/quintal)	61.7											
Purchases cost (USD)	184,950	166,917	175,263	184,026	193,228	202,889	202,889	202,889	202,889	202,889	202,889	202,889
External Services (grain processin)												
Quantities (MT)	690	690	725	761	799	839	839	839	839	839	839	839
Unit cost (USD/MT)	7.6											
Processing cost (USD)	5,250	5,250	5,513	5,788	6,078	6,381	6,381	6,381	6,381	6,381	6,381	6,381
		346,167	363,476	381,650	400,732	420,769	420,769	420,769	420,769	420,769	420,769	420,769
OVERHEADS		40,831										
WAGES		25,990	27,286	28,650	30,083	31,587	31587	31587	31587	31587	31587	31587
SALES COSTS		4,188	4,392	4,606	4,830	5,066	5066	5,066	5066	5,066	5,066	5066
ADMINISTRATION		2,820	2,961	3,109	3,265	3,428	3428	3,428	3428	3,428	3,428	3428
DEPRECIATION		7,833	7,833	7,833	7,833	7,833	7,833	7,833	7,833	7,833	7,833	7,833
Net Margin after taxes		**$ 23,851**	**$ 25,344**	**$ 26,910**	**$ 28,553**	**$ 30,279**	**$ 30,279**	**$ 30,279**	**$ 30,279**	**$ 30,279**	**$ 30,279**	**$ 30,279**