

Ex-post evaluation of project STDF/PG/155

"Market-Oriented Training Service on
Standards Application (MOTSSA) in
Nicaragua"

Final report for:

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Table of Contents

Glossary of Acronyms	3
1 Executive Summary.....	4
1.1 Summary of Findings and Conclusions.....	4
2 Introduction	5
2.1 Context	5
2.2 Project Logical Framework	6
2.3 Project Objectives.....	6
2.4 Project Activities and Results.....	7
3 Methodology.....	9
3.1 Objectives of the evaluation	9
3.1.1 Detailed review of project documentation	10
3.1.2 Views/insights from relevant stakeholders and project implementers	10
3.1.3 Project field visit.....	11
4 Findings and Analysis	12
4.1 Relevance	13
4.2 Effectiveness.....	14
4.3 Efficiency	16
4.4 Impact	17
4.5 Sustainability	20
5 Conclusions and Recommendations.....	22
5.1 Conclusions	22
5.2 Recommendations	23
5.2.1 Project specific recommendations	23
5.2.2 General recommendations	24
6 Lessons Learned	24
Annex 1: Survey Used in the Evaluation	27
Annex 2: List of Survey Respondents	28
Annex 3: Responses to Survey	29
Annex 4: People Visited by the Evaluator	30
Annex 5: Consolidated Results of Survey Responses	31

Glossary of Acronyms

CAFTA	Central American Free Trade Agreement
CRS	Catholic Relief Services
DEU	Delegation of the European Union
DGPSA	Directorate General of Plant and Animal Health (now IPSA)
GAP	Good Agricultural Practices
GMP	Good Manufacturing Practices
HACCP	Hazard Analysis of Critical Control Points
IICA	Inter-American Institute for Cooperation on Agriculture
IPSA	Institute for Protection of Plant & Animal Health (ex-DGPSA)
INTA	Nicaraguan Institute for Farming Technology
MAG	Ministry of Agriculture (ex-MAGFOR)
MAGFOR	Ministry of Agriculture and Forestry (now MAG)
MIFIC	Ministry of Development, Industry and Trade
MOTSSA	Market-Oriented Training Service on Standards Application
NTON	Nicaraguan Obligatory Technical Norm
OID	Oficina Internacional de Desarrollo
ONA	National Accreditation Organism
ONCP	National Office for the Certification of Persons
PROMIPAC	Programa de Manejo Integrado de Plagas en América Central
STDF	Standards and Trade Development Facility at the WTO
SQAM	Standardization, Quality Assurance, Accreditation and Metrology
SOP	Standard Operating Procedure
SPS	Sanitary and Phytosanitary
UNA	National Agrarian University, Managua
UNAN-León	National Autonomous University of Nicaragua, León
UCATSE	Universidad Católica del Trópico Seco

1 Executive Summary

This document provides an evaluation of the project: "*Market-Oriented Training Service on Standards Application (MOTSSA) in Nicaragua*", implemented by the Inter-American Institute for Cooperation on Agriculture (IICA), between January 2010 to December 2012. The project was developed through an STDF funded Project Preparation Grant, implemented by Michigan State University in 2007. The main objective of the project was to support the development of certification bodies for the validation of competency of persons, establish Sanitary and Phytosanitary (SPS) matter related training units, disseminate implementation of SPS and quality through a process of training farmer groups, and establish a certification model for trainers in specific areas of SPS for different basic and export crops. The total budget funded by STDF was 560,994 USD, with other partners contributing in kind only.

The evaluation methodology focused on a detailed review of the project documentation as well as other data and information available, a country field visit by the evaluator and the feedback from relevant stakeholders and project implementers through structured surveys.

1.1 Summary of Findings and Conclusions

Overall, the conclusion of this evaluation is that this project was run successfully and that it has broadly met the original objectives in the field. The project was found to have made a real difference in raising awareness levels and demonstrated in practice the application of GAPs and SPS measures, in a cost effective and practical manner. There is generalized agreement that the project was the right answer at the right moment, for needs that the market was beginning to require at the time and has since continued to require. The key aspects that made the project successful were the strong involvement of government technicians from the start, as well as many direct in-the-field activities where producers could participate and see examples and immediately copy and put into practice the knowledge being shared.

The project can be seen as a model for institutional cooperation and coordination of efforts. It put in place a well structured planning process and management team for the implementation and coordination of activities and distribution of responsibilities among partners. The impact of the project has been large in comparison with the funds made available and the relatively short duration, as strong leverage was obtained thanks to the participation of government institutions who provided transport, expert staff, technical knowledge and gravitas to the project. Beneficiaries in turn also contributed strongly through co-funding of infrastructures, strong attendance and commitment to the trainings and objectives. The project also demonstrates the importance of proper planning in terms of timeframes and of testing its practical applicability as a pilot plan from a technical and socio-economic point of view. However, some of the tasks linked with the accreditation and certification of persons were somewhat over ambitious.

Foremost, the project has ensured that small producers are now implementing GAP for the benefit of their own health, the safety of the product they produce and benefiting the environment. The supply chain partners these producers work with also benefit through greater confidence in the product sourced, and the country's compliance with internationally agreed Sanitary and Phytosanitary (SPS) measures was enhanced, allowing continued access to demanding export markets, with the possibility of new ones. The project has also formed an excellent base to extend Good Agricultural Practices awareness and implementation to other products and species and a step towards the overall institutional and private sector

strengthening of the national SPS measures management system.

Person Certification Bodies meeting the ISO 17024 standard are used to assess the competency of people. In this project it had been planned to set these up for the certification of personnel trained in SPS related issues, and would have been housed in the UNA and in the IPSA. However these have not yet materialized, in part because the certification system and procedures for verifying the competency of the Person Certification Bodies with respect to the ISO 17024 has not yet been finalised – this is a hurdle which hampers the National Office of Accreditation (ONA) in accrediting these certification bodies. Caution in moving forward in offering these services is attributed to weak demand for the person certification services and lack of government policy prioritisation in this area.

Where the Universities are concerned, Good Agricultural Practice related subjects now form a regular part of the curricula of the three participating universities visited, however the initial diploma course developed for the purposes of certification in SPS capabilities has not been continued.

The project successfully aligned participating primary producers with good agricultural practices increasingly required by the market, through empowered cooperatives and farmers. The project set in place a solid knowledge base in Academia and Government institutions, ready for further deployment of GAP knowledge. However this process has been hampered by the lack of accreditation services and the lack of funds needed to finalise the accreditation system and the relatively high cost of setting up a GAP specific diploma course.

Almost all stakeholders mentioned that the project needed a follow up phase, as there is still a great need for further dissemination of GAP. This can be done by ensuring that the project results are given continuity through organisation and funding of follow up activities. These could be to continue to support the IPSA in training of its staff, spread the “showcase plot” exercise to new geographic and agribusiness areas, publication of more crop-specific GAP manuals, continuous training of qualified staff, and continuous capacity building to foster even more understanding of the importance of Good Agricultural Practices and SPS measures, and dissemination activities to enhance its visibility.

It is important in order to maintain and support the initiatives started by the project so that the objective of setting up a self sustaining certification system for qualified GAP professionals, to keep updating the course curricula, and to increase the extension work carried out to a wider geographic spread.

2 Introduction

2.1 Context

In recent years Nicaragua has undergone a dynamic agricultural transformation. Two forces that played a part in this are the increase of export sales to CAFTA and EU markets, and the growth of supermarkets on the domestic market, such as Walmart. As part of this transformation, farmers are now needing to meet more stringent specifications on quality and food safety, as part of the internationally agreed Sanitary and Phytosanitary (SPS) measures. As a result, more attention is now being paid by farmers and traders alike on implementation of Good Agricultural Practices (GAP) and Good Manufacturing Practices (GMP), as a way to

prevent contamination risks and increase food safety of the end product all the way from the field to the end consumer. Private standards such as GlobalGAP are also driving the producers to improve their compliance in order to remain competitive. Important market opportunities which have been seized by small, medium and large Nicaraguan farmer groups are at risk of being lost in the face of lack of awareness and implementation of measures, therefore further work was being needed prior to the project to build at national level a sound, high quality, market-oriented SPS training service.

The National Standard NTON 11 006-02 provides for the general hygiene requirements, procedures for establishing Good Agricultural Practices (GAP), as well as a system based on Hazard Analysis and Critical Control Points (HACCP), and stipulates that producers are responsible for drawing up their own GAP manuals. However the official government structures do not have the capacity for country-wide implementation of this standard, and require assistance where possible from projects such as MOTSSA to pilot strategies for materializing the objective of increasing compliance with this standard.

The project was managed by IICA through a contract with WTO/STDF, and was implemented with the cooperation of the UNA, MAGFOR, MIFIC and ONA. It was jointly managed with all institutions through an Inter-institutional Committee, IICA holding the Technical Secretariat. The initial setting up of the project interinstitutional committee suffered delays related to availability of government officials – however the final structure that emerged benefited in that it was seen to be a well represented and functional system.

2.2 Project Logical Framework

The project does not have a Logical Framework as such which can be used as the basis for an evaluation. This is explained by the fact that although nowadays the inclusion of a logframe is a key requirement, this was not the case at the time of the Project Preparation Grant implementation in 2007, and the project approval in 2008. Nevertheless this is a limitation from the point of view of being able to logically analyze the project's activities in relation to key deliverables, main risks and assumptions. Nevertheless the project was selected for funding based on the objectives and activities which are set out within the project proposal document – it is against these that this evaluation has been carried out. They are summarized below.

2.3 Project Objectives

The main objectives of the project were to:

- Support the DGPSA / MAG and ONA / MIFIC in the development of certification bodies for persons (trainers / professionals), its management system: training manuals, quality control and internal audit processes as part of the requirements of accreditation required by international standards, with involvement of the UNA.
- Establish SPS training units providing professional services of high quality training under the certification system of institutions duly accredited by the ONA, and other units supported by the MAG.
- Disseminate implementation of SPS and quality through a process of training farmer groups.

- Consolidate a sustainable and replicable certification model for trainers in specific areas of SPS for okra, beans, peanuts and root and tuber crops value chains, these being crops of high importance for trade and rural development in Nicaragua.

2.4 Project Activities and Results

The project's activities are shown below together with the results obtained:.

1. A baseline study conducted at the beginning of the project included 13 meetings with 385 producers, assisted by the MAGFOR inspectors. The study was able to identify relevant problems about production and marketing in the areas of peanuts, beans, okra and roots and tubers. Additionally the exercise served to evaluate the geographical and structural spread of actors working in the area as well as a general description of each of the organizations with which MOTSSA worked.
2. Selection of the organisations to be assisted with funds for setting up structures on 35 “showcase plots” was carried out based on set criteria including impact, alignment with the strategy of the respective cooperatives with the project, available resources and annual programme. Terms of Reference were drawn up, which guided the cooperatives in the choice of the selected sites. As a result the “showcase plots” were established in 24 organizations, including 21 producer organizations in different parts of the country and 3 universities related to education in agricultural production, fulfilling the goal that they serve as a learning tool in the process of implementation of GAP.
3. Contracts between the cooperatives and the IICA were signed, and the cooperatives themselves built the structures on the showcase plots, in many cases providing additional funds – the minimum included an agrochemical store, a concrete pesticide mixing area, a toilet with handwash and shower, dustbins, signs and PPE, as well as sealing off of the water wells where necessary. Contracts were signed and funds handed over, 11 different provinces were covered. Supervision of construction work was triangulated between MAGFOR officials, the cooperative technician and MOTSSA staff. Farms were officially registered with the MAGFOR at the end of the project, with the option of going for full GAP certification. These structures still stand and continue to be used locally as examples in training of new cooperative members or neighbouring farmers who adopt Good Agricultural Practices.
4. The training program for producer groups was designed around the implementation of GAP and HACCP in the production process, and included the identification of a significant number of topics in need of solution, many of which were then included as research topics for 21 technical papers in Quality, Safety and Traceability of Agricultural Products which MOTSSA funded. Training of trainers then took place, and the university diploma curricula was developed with the cooperation of the participating institutions. The UNA course, titled “The Diploma in Quality, Safety and Traceability of Agricultural Products”, addressed issues of quality, safety and traceability. The result was the training of 35 national experts in the field, and the building of competence at the University for the implementation of the course on these specific issues. The courses still run today and continue to train students on GAPs.

5. Workshops were carried out to identify technicians who would serve as recipients of the GAP training, of the 35 identified 17 were from MAGFOR, 2 from INTA, 10 from the farmer groups, 5 from participating universities and one from IICA. Training cycles were developed where at least half of the 35 diploma candidates participated as trainers of farmers' groups in the production areas. Each diploma participant also had to develop a technical paper (individual or as groups) on an area related to the course which was then published – as a result 21 research exercises on issues related to the needs described in the situational analysis were carried out by the technicians
6. Nine sets of technical farmer training sessions were carried out covering 6,347 trainees, over 277 separate events, following a protocol designed for the purpose of transmitting GAP knowledge to farmers. The women to men ratio of participation was 3 to 1 (30% women). The participation of the cooperative technicians in the trainings was key to lend greater support to the project's scarce resources. Separately, 39 different trainings took place at participating universities, and as a result 1,043 students were also trained at the participating universities. 5 different GAP "field days" were organised to bring together students and farmers, visiting exemplary organisations and thereby enriching knowledge uptake through discussions on GAP implementation issues.
7. The establishment of two certification bodies of persons or competencies required the development of quality management systems necessary for performance as established by the international standard ISO 17024 for this type of activity. External consultants were contracted to develop the quality management documentation for the National Office for Certification of Persons (ONCP), due to the fact that very little experience of managing this standard existed in all of Latin America, this being a relatively new and unknown standard. Some equipment was purchased and provided to the bodies carrying out accreditation, evaluation and certification of persons (UNA, DGPSA and ONA), and necessary training and mentoring in Nicaragua was secured with the OAA of Argentina. 65 professionals were trained on ISO 17024 (Certification of Persons), including inspectors of the MAG, INTA and IICA personnel, and universities such as the UNA and UNAN-León. As part of the development of the two competence certification bodies a process of exchange or internship with officials from the ONA / MIFIC, DGPSA / MAG, UNA and IICA was carried out, including a study trip to Argentina, as a learning exercise on the implementation of the 17024 standard. Unfortunately the persons trained were then moved to another area within DGPSA, which has since greatly hampered progress.
8. The UNA and DGPSA were set up for launching of the Persons Certification services, however there is still a need for funding of the development of the Certification Scheme documentation, in order to be able to start operation. It is now in the hands of those organizations to continue the roll out process, although still to be developed are the required and agreed training prerequisites for examination and assessment of skills. Since these activities could not be carried out within the period of implementation of the project due to delays in implementation, the certification bodies were established, but did not yet start operations.
9. In response to a direct request from DGPSA the project organised a specific training for inspection and implementation of HACCP systems in the food industry, in which it was possible to train 25 officials, including MAGFOR inspectors and professors

from the National Agrarian University, and technical institutions linked with the process of supporting small groups of producers. A diploma from the International HACCP Alliance was granted to successful participants.

10. Manuals for implementation of GAP in 4 different crops (Beans, peanuts, root crops and okra) were developed, as well as a manual for implementation of GMP, SOPs and HACCP in processing plants. Another important manual developed was for guiding the general implementation of GAP on farm, with extensive reference material provided in a complementary CD. In addition, a DVD was compiled directed to institutions carrying out extension work, training and capacity building on GAPs. It contained a training protocol with a collection of manuals, guides and reference publications. However this DVD was not finalised as it was still subject to further revision before final publication.
11. A pilot DVD was produced, which includes a proposal for training in GAP protocol, designed as a tool to accompany the process of training in GAP, the material is divided into 12 modules and each of them covers main issues and sub themes. It included reference materials, thematic presentations, tutorials, proposals for experiments for reinforcing theoretical concepts, and some videos according to the content development. It also includes a virtual photo library and GAP guides of many crops and related documents. In addition a document on practical recommendations for the implementation of Good Agricultural Practices and an interactive CD containing details of GAP implementation guides were produced, allowing review and navigation in web format for consultation.
12. An evaluation of the Performance, Vision and Institutional Strategy was performed as part of evaluating and strengthening the public sector. The results allowed planning and redirection of Plant Health in the medium term. Actions were identified relevant to the improvement of services offered to producers on plant health monitoring and safe production, these being the two main pillars in the facilitation of trade in foodstuffs. Due to the sensitivity of the information obtained, the results were not published.
13. Five technical exchange tours were carried out, in order to strengthen knowledge and demonstrate to participants other experiences of producer groups implementing Good Agricultural Practices on their farms, with 60 producers and 133 students benefiting from this activity.

3 Methodology

3.1 Objectives of the evaluation

The international consultant Hugo Hays was selected to conduct the ex-post evaluation of the project. His day-to-day work is carried out outside of Nicaragua, he is independent from all the parties concerned and has no conflicts of interests that could affect the objectivity of the evaluation. He has extensive experience in developing and implementing GAP, GMP, HACCP, and has successfully carried out several SPS related assignments and evaluations in the past, for example with the EU, GIZ and PTB. This is his first assignment with the STDF.

The structure and framework for this evaluation is based on the STDF's standard guidelines for the evaluation of projects funded by the STDF and on the OECD-DAC Principles for the Evaluation of Development Assistance.

As per the terms of reference, the objective of this evaluation is to verify whether the project achieved the objectives and outputs set out in the project document in the light of STDF evaluation criteria; and to identify whether the project has achieved any of the STDF higher level objectives:

- Measurable impact on market access;
- Improved domestic/regional SPS situation;
- Reduced Poverty;
- Key lessons learned identified, for the benefit of both recipients and donors and for future STDF program development.

The evaluation of the project was organized based on the STDF standard evaluation criteria of relevance, effectiveness, efficiency, impact, sustainability and lessons learned. The “Key Evaluation Questions” suggested in the STDF Evaluation Guideline were adapted and used to evaluate the project. From the analysis of these criteria some conclusions and recommendations are reached.

The project was evaluated according to the four main output areas, namely:

- With UNA involvement, support project partners DGPSA and ONA with the development of trained person certification bodies.
- Establishment of high quality, certified training capacity on SPS measures.
- Training and awareness raising of farmers and cooperatives in SPS measures and GAP.
- Establishment of a replicable and sustainable model of SPS trained person certification, to support export cash crop value chains.

The evaluation was conducted as a desk study and a field visit, including the following phases:

3.1.1 Detailed review of project documentation

This included a review of project reports, workshop materials, the project's proposal and action plan, training and dissemination materials, guides, DVD, publications and other related documents, sent to the evaluator by the STDF Secretariat and the project coordinator, Mr. Mauricio Carcache of IICA. Documentation and photographs were also gathered and examined during site visits.

3.1.2 Views/insights from relevant stakeholders and project implementers

A survey questionnaire (Annex 1) was developed, based on the standard evaluation criteria. The survey was designed and managed using an online system (“SurveyMonkey.com”), which allowed remote automatic gathering, storage and processing of feedback and assisted analysis and management of responses. The survey was directed at a sample of project

participants, including beneficiaries and members of the coordination team, covering government staff from the ministries of Industry and Agriculture, universities, Cooperatives and farmers. The survey was shared with 25 key persons which the project was able to provide names and contact numbers for, and received 22 responses. This is a very good response rate and gives credit to the strong sense of involvement the participants had during the project, who were eager to respond to the evaluation more than 3 years after the project had finished. To facilitate responses, the questionnaire was sent in Spanish, according to the stakeholders' mother tongue.

Annex 2 presents the list of all stakeholders who responded to the questionnaire. Many stakeholders participated in more than one of the four objectives of the project. The consolidated results of the comments from these surveys are attached in Annex 3.

This survey was conducted between 12th and 26th of February 2016. Reminders were sent to some of the stakeholders who were also visited physically, to request for written feedback. The questionnaire covered different areas of the project and allowed extracting opinions on its relevance, effectiveness, impact, sustainability and lessons learnt.

3.1.3 Project field visit

A five-day visit to Nicaragua was conducted by the evaluator in coordination with project counterparts and coordinators, as per list of persons visited and interviewed, listed in Annex 4. Prior to the field visit e-mail correspondence with project counterparts was held. During the mission extensive dialogue with coordinators and the management team, as well as detailed interviews were carried out. On site visits to farms, universities and government agencies were carried out in several locations, covering different provinces (Managua, León, Telica, Matagalpa, Estelí, El Tuma La Dalia, Boaco, Los Cocos, Santa Lucía, etc.). Facilities constructed at the “showcase plots” (parcelas vitrina) using project funds such as pesticide stores, mixing stations, field toilets and showers were visited and visually checked.

However, the methodology applied had some minor limitations in its ability to accurately determine the relevance and impacts of the project activities

- The fact that over three years have passed since the project finished meant that some of the potential stakeholders had either retired or moved away from their original positions and were difficult to track down. Also the interviewees did not have the project fresh in their mind, which made recall of some of the details more difficult. However in general the persons contacted were very forthcoming with information and did not at any moment shy away from requests for feedback.
- Interview and questionnaires could have been sent to a greater number of stakeholders. As it is the project had not kept a detailed database of stakeholders involved in the project – only 25 specific names were provided to the evaluator for interview/questioning. A higher number of questionnaire responses would have been desirable, in particular from the indirect beneficiaries. Even so the responses to the survey by the stakeholders contacted provided important insights on their perspectives, in terms of project outcomes and impacts.
- Project implementers provided valuable insights to the evaluator. However, there are possibilities for biased replies as respondents may feel that their performance is being assessed, reducing their objectivity.

- Contacting some of the stakeholders in government, specifically the MFIC was made difficult by administrative processes that require that meetings with external bodies be approved at ministerial level with many weeks in advance. This meant that despite insistence, for example no official interview was obtained with MFIC, only the retired counterpart of the project was available for comment (who had been fully involved in the project at the time), speaking on her own behalf.
- Regarding SPS-related capacity building activities, in terms of the higher level objectives of the STDF - country trade performance, improved overall SPS situation, poverty reduction, etc.- the market fluctuations and unfavourable rainfall are such that it is not easy to determine linkage of the project, within the context of short-term project activities. A review of the publicly available export data posted online by MIFIC for the last 3 years is not sufficiently disaggregated to review performance of specific crops other than Beans, and Peanuts and Sesame, of which Sesame shows the greatest performance with a 48,5% growth in volume and 16,5% increase in price over the 2013-2015 period. Beans and Peanuts have reduced both volume and value in the last year, by around 10% each, possibly due to drought conditions that are affecting the country.

4 Findings and Analysis

In English the project is named “*Market-Oriented Training Service on Standards Application (MOTSSA)*”, but in Spanish it is “*Fortalecimiento del sistema de certificación de servicios acreditados e implementación de Medidas Sanitarias y Fitosanitarias, Calidad e inocuidad de productos agrícolas*”. The title in Spanish actually changes the meaning, which in English would be translated as: “*Strengthening of the System for Certification of Accredited Services and Implementation of SPS Measures, Quality and Food Safety of Agricultural Products*” – in other words the title in Spanish is quite a bit more descriptive and in line with the activities carried out than the one in English.

At the onset of the project there was a consensus between stakeholders for the need to improve the existing awareness on GAP at government institutions, farmers and academic level, and for the need to increase the number of trained personnel dealing with GAP and SPS issues, as well as for instituting a nationally accredited system for certifying them. This was based on the need primarily for producing export crops in compliance with international SPS and food safety rules. Beneficial side effects from this awareness raising is multiple, as those applying pesticides are protected, there is less danger of chemical contamination of the environment, and the national population benefits from safer food.

The basic principles adopted for developing the project were based on a concept of it setting an example which would then be “multiplied” by the farmers themselves. In this line, strategically positioned demonstration plots were set up, to involve the farmer cooperatives in the implementation and management, and to provide hands-on mentoring and experience to selected technicians who would benefit from training in GAPs, with the eventual prospect of certifying the persons trained. The project was envisioned as a catalysing force for spreading GAP awareness and implementation directly at the institutional and farmer grass roots level, covering selected crops and as wide a geographic spread as possible within the time and financial budget and physical constraints of the project.

The following analysis includes the findings gathered during the visit by the evaluator to Nicaragua and the opinions resulting from the survey, as well as information from key project documents.

The survey answers evaluate the project, as relating to its relevance, effectiveness, sustainability and impact, as successful and adequate (fully or somewhat). The full consolidated results of this survey are attached in Annex 3.

The project was quite successful in achieving the objectives of disseminating information to the target audience on application of GAP in the field, and in training different stakeholders, in the short timespan provided. The funds provided by STDF were multiplied through in-kind contribution by Government and private enterprise contributions. MOTSSA was not able however to finalise the implementation of a National Office for Certification of People, due to the certification processes and procedures not having been developed yet – this was outside the scope of the project.

Throughout the project, both multidisciplinary management and public-private involvement of the stakeholders, assured a realistic and feasible implementation.

4.1 Relevance

Was the project the right answer to the needs of the beneficiary?

The project management stated it was careful to base actions on the results of the initial baseline study carried out, gathering as much feedback on the project as possible. This resulted in some cases in initial assumptions having to be changed, as in the case of the okra crop, which by the time the project was initiated had all but disappeared as an export crop.

Over 80% of stakeholders consulted confirmed that the project activities had been relevant in fulfilling the objectives of the project. Of the four objectives, the training of farmers was deemed especially relevant.

IPSA staff interviewed noted that this project came at the right time when products for export were needing to be certified, and fits well with the national development policy. For example before MOTSSA there were only a couple of large producers who were GAP certified, whereas now there are 125 farms certified. Last year exports of pitahaya to the US necessitated farmers to become certified, which they were able to achieve without much difficulty thanks to the knowledge provided by MOTSSA – certified farms went from 20 to 60 in one year.

What was the value added of this project, compared to other support programmes?

The timeliness of the project regarding market needs, the innovative nature of the demonstration plots, the “learning by doing” philosophy and the involvement from the start of the stakeholders were key elements which made this project achieve so much with relatively small funding. The selection of IICA as an independent body and the assignment as coordinator of a person who had worked in the Government was key. The strong involvement of government officials gave the project greater weight when motivating producers to get involved. In-the-field presence over more than 9 consecutively organised, local trainings helped stakeholders to bond together for the achievement of the common goals of the project.

Thanks to all these factors, a general mindset change was achieved with producers, which has stayed with them several years on. The general view of the project by stakeholders is that it created “Win-win” situations for most of the participants, which increased commitment and involvement and motivated greater level of effort and consequent achievement.

Perceived added value by stakeholders included: “Bringing together all parties in adoption and certification of GAP”; “Financial support for developing the demonstration plots”; “Demonstration plots were key to the learning by doing approach of the project”; “Knowledge in certification of persons was considerably increased by the project”; “Infrastructure built by the project remained in the field for continued use as demonstration plot”; “the high quality of the facilitators”; “prioritisation on training the persons who would be involved and then rolled out in practice with the local producers”, etc.

The involvement of the universities and development of university technical courses on SPS and GAP is also highly relevant in the longer term. Aside from the professors trained during the MOTSSA diploma, some 700 students have since received instruction on GAP and SPS where before they had none – this is a legacy of the project which helps build a more robust food production system nationwide.

To what extent do the needs which gave rise to the present project still exist?

In terms of achievements at the end of the project, several respondents commented on the fact that more follow up was needed to take the pilot plot to new areas, and to continue to support the training of cooperative technicians. Respondents also noted that the system for certification of persons had not been achieved.

Three years on, the main unfulfilled need by the project remains the setting up of the persons certification body, together with continuation of the SPS diploma which was discontinued after the project finished due to lack of further funding. The persons trained by the project were also unable to receive certification due to the two planned certification bodies, one in IPSA and the other at the UNA, not having been set up. The manuals developed for beans, okra, peanuts and roots and tubers by the project, and the guide on how to develop further manuals, were useful but greater support was needed to develop more manuals. This applies to other crops such as cocoa, coffee, pitahaya, but also to livestock and milk production sectors.

The IICA team had prepared a follow up project “APLAB”, which was to concentrate on following up on the MOTSSA project regarding certification of persons, and move the focus of SPS and GAP training to the beef and dairy sectors. However this project which would have provided continuity to MOTSSA, has not yet been accepted for funding by STDF. The project has not been presented for funding to other donors.

4.2 Effectiveness

To what extent were the project objectives achieved or are likely to be achieved (based on the indicators for expected outputs and outcomes identified in the project's logframe)?

As mentioned earlier, the project did not have a logframe (due to this not having been a requirement at the time of the project preparation and approval), which would have allowed more detailed benchmark comparison of achievement. The performance of the project is

therefore measured against the main objectives set out in the initial project submission document.

In the area of training of farmers, stakeholders were very clear in saying that the view the project as generally having been successful in achieving the objectives. In the other three areas related to certification of persons, objectives were only achieved in part.

Objective 1: *Support the DGPSA / MAG and ONA / MIFIC in the development of certification bodies for persons (trainers / professionals), its management system: training manuals, quality control and internal audit processes as part of the requirements of accreditation required by international standards, with involvement of the UNA.*

- The main part of this objective was achieved, in that the management system is operational and the manuals are all ready for implementation by certification bodies, and the persons having been trained to operate the certification bodies. However the certification manual (necessary for submitting to accreditation), which was not covered by the project, has proven a big stumbling block to further progress the operational phase. The certification bodies have also been hesitant to take the step of becoming accredited for fear of not being able to repay the investment if there turn out to be too few certification clients.

Objective 2: *Establish SPS training units providing professional services of high quality training under the certification system of institutions duly accredited by the ONA, and other units supported by the MAG.*

- The professionals were trained and passed the relevant tests also in the field, having accompanied the showcase plots for a whole year, attending to farmers linked to each plot. These professionals have continued to deliver their services either in academia, public service or for farming and export companies. Due to the lack of accredited certification bodies, the trained persons have since the project finished been unable to offer the accredited services initially envisioned by the project, even though this has not affected the quality of delivery of the services during the project.

Objective 3: *Disseminate implementation of SPS and quality through a process of training farmer groups.*

- The project achieved and exceeded its objectives in the area of farmer involvement, training and awareness raising, as can be seen from the survey and also came across strongly during the interviews.

Objective 4: *Consolidate a sustainable and replicable certification model for trainers in specific areas of SPS for okra, beans, peanuts and root and tuber crops value chains, these being crops of high importance for trade and rural development in Nicaragua.*

- Comprehensive manuals were developed for facilitating certification in GAPs for different crops, which are being used successfully by the farmers and extensionists.

What were the major factors influencing the achievement or non-achievement of the project

objectives, outcomes and outputs?

In terms of the achievement of the project's overall goal, there is a generalized agreement that the project's key, concrete output was the training of persons on GAP and SPS measures, and that in this area it was successful and adequate, but would have benefitted greatly with a follow up funding for continuing to spreading the GAP related knowledge wider to more remote farmers, crops and livestock who would greatly benefit to be brought into contact with this technology. Feedback from stakeholders name the following factors as having favoured the project's results: "use of concrete examples which related to the crops and conditions of the farmers"; "continuous follow up during a whole crop cycle on how to implement GAP"; "Quality of the coordination of the project"; "Financial assistance was key, especially in setting up the demonstration plots", "use of Showcase demonstration plots".

Regarding the factors affecting non-achievement, on certifications of persons, stakeholders commented that there was a lack of a firm long-term commitment by government in this area, and complained that the final accredited diploma was not provided to the 35 persons who were trained in GAP. They commended the strong support given during the project to developing the person certification programme, but bemoan the lack of a follow up project finished. Also observed was that the trained persons moved away from public service and joined private companies where their skills delivery becomes tied to the companies interests.

4.3 Efficiency

The efficiency of the project was measured by its timeframe, delivery of outputs and use of human and financial resources and how these contributed or hindered the achievement of results.

With these criteria, and considering what was discussed above, the project delivered as outlined in the initial objectives, except on the final implementation of the Person Certification Bodies, which was in part out of the project's control. Apart from this and a 6 month extension, activities and outputs were delivered on time and within the approved budget in compliance with the project document. The project is regarded as very efficient.

Were the activities and outputs delivered according to the PD, on time and within the budget?

The project activities were delivered mostly as planned, following a plan composed of setting up the project steering committee, getting the initial buy-in from the different institutions and signature of the corresponding MoU, carrying out the situational analysis, development of training material, selection of farms, signing agreements with them, training of the National Accreditation Body, etc. The setting up of the person certification bodies and the system for accrediting them were left ready to function – for the latter an extension of 6 months was granted.

In terms of delivery of outputs, the stakeholders rated the project as having strongly contributed towards fulfilling the beneficiary needs, with effective use of resources (80%). 20% of stakeholders were of the opinion that although the project contributed, resources could have been better used. The project also delivered additional outputs such as the above mentioned publication, a promotional video, more training sessions and an internal IICA evaluation.

Use of financial resources: the assigned resources were fully and efficiently used. IICA's purchasing procedures were selected, being more efficient and faster than those prescribed by government regulations. Additional financial resources were provided by the participating farmers themselves, as the investment in showcase plots was matched in financial contribution by the plot owner, in many cases by a large amount, as advantage was taken to overhaul some of the facilities. Partnerships with various organizations allowed better use of resources and leveraging additional resources to strengthen the activities of the project.

Use of human resources: efficiency was enhanced by engaging national technicians to reduce costs and foster compromise with the project. Additional cost reduction was possible using personnel from government bodies such as the DGPSA for transport to demonstration plots and training meetings.

What changes, if any, were made during project implementation?

Changes in the project: several changes that benefited the effectiveness of the project were implemented as the project was rolled out. These include:

1. The crops initially targeted were changed in response to market needs. Okra was not followed up, whereas root crops, beans, cocoa and coffee were included.
2. A six month extension was requested and granted to assist with the accreditation of the ONA.

Was the project a cost - effective contribution to addressing the needs of the beneficiary?

All stakeholders agreed that the project contributed effectively to covering the needs of the beneficiaries. 80% of those interviewed said that this had been done through efficient use of resources, whilst the remaining 20% stated that the resources could have been managed more effectively. The respondents from the 20% were those referring to the setting up of the persons certification scheme.

Working jointly with MIFIC, IPSA and the universities was cost effective, allowing greater deployment of the project activities.

4.4 Impact

To what extent did the project contribute to higher level objectives of the STDF program such as a measurable impact on market access, improved domestic, and where applicable regional, SPS situations, and/or poverty reductions?

The project has served as an example of how SPS requirements can successfully be brought down to the practical farming level. Respondents overwhelmingly agreed that the project contributed strongly (88% weighted score) to improve the application of SPS measures in the field. Access to export markets was also perceived as having increased (76% weighting) significantly impacting both local and export markets. Both markets have benefitted from a higher food safety assurance. In addition 73% of respondents agreed that the project had helped to alleviate poverty for farmer beneficiaries and their communities.

Compliance with SPS measures in the field are a requirement in national and international markets, imposed to local producers as an unavoidable condition for exports. As such, being

able to demonstrate compliance opens doors to export markets once other parameters are equally met (prices, quotas, etc.). This project aligns Nicaragua with Codex requirements, in accordance with the WTO SPS agreement.

What real difference (expected and/or unexpected) has the project made or is likely to have on the final beneficiaries?

The benefits for the final beneficiaries, according to interviews and the survey conducted, can be summarized as follows:

- **Change in Awareness and Attitude.** The greatest impact of the project has been the farmer's approach to reducing risks and dangers of producing chemically contaminated foods, as they became aware of how this affects their health, environmental impact and trade value. Producers exposed to the project have wholeheartedly embraced better agronomic, health and safety, pesticide handling and hygiene practices. This has resulted in better clean and waste water management, more environmentally friendly pesticide container disposal, reduced pesticide use, keeping of application records, and a healthier living attitude all round.
- **Food safety for consumers.** As a result of the increased assurances and compliance with SPS requirements, resulting from the application of good agricultural practices in the field and in harvest and processing, consumers have better guarantees of the safety of the products being offered. The reinforcement of measures to reduce aflatoxins in peanuts in the wake of the EU FVO inspection in 2012 was easier to implement thanks to the prior knowledge obtained by the farmers through participation in MOTSSA. Likewise export traders have found it much easier to source GAP compliant products for export, once the farms have taken on board the GAP knowledge obtained through MOTSSA.
- Implementation of knowledge gained during the project contributed significantly to **increased quality** in the crops covered, as the skills in crop planning, varietal selection, soil management, fertilization, integrated pest management, hygienic and harvesting/packing practices and safer working conditions developed by the farmers helped them to produce closer to market specifications, as certified by the farms which have obtained or are in the process of obtaining certification to the national GAP programme verified by IPSA.
- **Increased trade and Poverty reduction.** Incomes for the small producers involved in the project increased as a consequence of complying with SPS requirements, i.e. due to greater access to export markets, growing the right crops, better prices, greater yields, meeting client quality specifications, greater trust in the supply chain and more targeted use of agricultural inputs. The communities targeted by the project were mainly involved in agriculture, so thanks to the use of demonstration plots and group trainings, the whole communities benefitted.
- **Increased knowledge.** Farmers and their families, agricultural technicians, government officers, university professors and accreditation personnel have all benefitted from the project having provided them with training and advice, implementation manuals, materials, video, publication, leaflets, and infrastructure for continuing the task of spreading the word about the importance of Good Agricultural Practices to other stakeholders not involved in the project – 3 years after its end the legacy of the project is still evident and alive.

- **Ongoing benefits.** The infrastructure set up by the project at the demonstration plots in the form of toilets, storage sheds, wellhead protection, chemical mixing stations and fencing still remains and continue to be used by the producers as a model of how to work following good agricultural practices on their and neighbouring community farms. Small groups of students continue to be trained at the facilities set up at the universities.
- **Institutional strengthening.** The capacity of the National Accreditation Body ONA was strengthened and prepared for the next step in the development of accreditation services to Persons Certification Bodies. The UNA and the Ministry of Agriculture also had their capacity to operate as Person Certification Bodies developed, and as a result the UNA is ready to start operating the service once it becomes available from the ONA. The MAG decided to follow a different route of recognition of the trained staff, operating a system for recognizing inspectors but without using an accredited third party. Training of DGPSA/IPSA technicians had a great impact on the level of knowledge and therefore effective extensionist service that they could provide to farmers, creating a cascade of information which has since been spread far and wide.
- **In data gathering:** The initial situational analysis provided information and data which serve to enhance the knowledge base of the institutions involved, on aspects related to production in different parts of Nicaragua, of the crops covered.
- The project also promoted **collaboration** between all stakeholders for the advancement of the common objectives. The involvement of the government institutions provided a strong message to stakeholders in the 35 different locations in terms of taking the project seriously. The farmers and their communities embraced the project and multiplied its impact through high levels of participation and implementation of recommendations.
- **Follow up projects.** The project laid the ground for other agencies such as the CRS and PROMIPAC to develop SPS and GAP based projects which have since followed up with some of the communities that worked with the project. The beneficiaries however expressed their wish for another phase of the project to continue and expand on the support provided.
- **Greater resilience.** The farmers assisted during the project have shown great capacity to adapt to changing market conditions and weather (drought) in the 3 years since the project, which they attribute directly to the project having given them tools and confidence to adapt GAP to new crops. For example, Pitahaya is now exported by around 60 farmers thanks to the project as a knock-on effect.
- **GAP Certified Farms.** The current Nicaragua legal framework requires farmers to produce their crops according to GAP, which has been achieved partially by the project. However very few of the farmers had actually achieved GAP certification. For those that have, this is mostly thanks to MOTSSA and CRS project that followed on in some areas, with 125 farms now certified whereas before the project there were only 2 or 3 big farms certified. Several farmers became certified at the insistence of national clients (supermarkets, such as Walmart) or international customers who require compliance with GAP as part of their due diligence.
- **Long Term Knowledge increase.** The greatest long-term impact of the project is likely to be in the development and inclusion of GAP in the university curricula, as already some 600 students have been trained in this area since the end of the project.

4.5 Sustainability

The sustainability of the project outcomes varies according to the objective sought. It is important to understand that in the greater scale of things, this project can be considered as a “pilot” programme implementing measures to address the SPS deficiencies found on a national scale, and as such provides lessons for any larger initiative in this area. However as with any pilot there is a need to plan for a coordinated roll out on a larger scale – this has not been apparent, nor is it in the short term plans of the government. This is unfortunate as it means that the successes of the project are not able to be picked up and continued as part of a national roll out. A great majority of Nicaragua’s food is produced by small farmers who are in a similar situation to those which the project worked with, and who need help to improve.

In terms of the sustainability of the project outcomes, the survey respondents were of mixed opinion, as can be seen from the following figure:

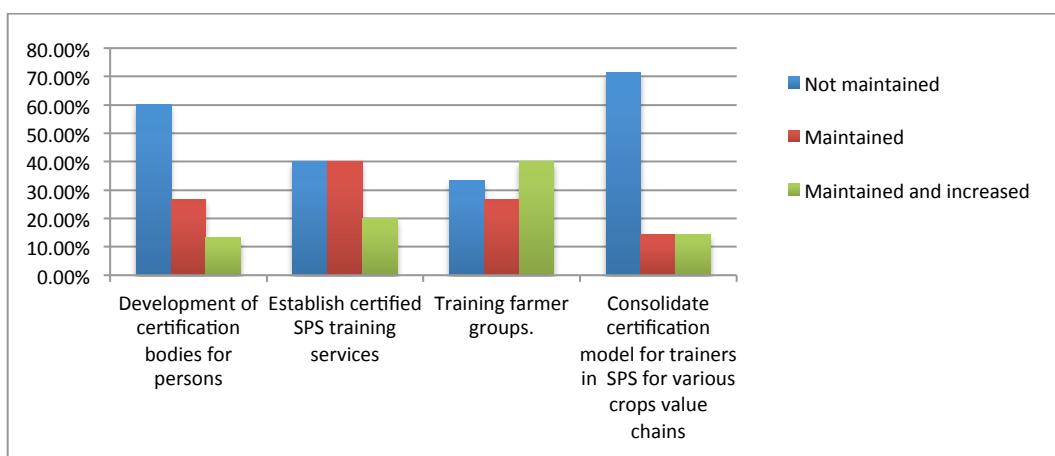


Figure 1: Maintenance of outputs after end of Project

- Development of certification bodies for persons (trainers / professionals) was stymied by the lack of progress towards certified accreditation of both the UNA and MAG. 60% of respondents thought this impact had not been maintained in time, and only 30% thought it had been maintained.
- Establish accredited, SPS training services – the sustainability of this objective is somewhat more neutral (40% of respondents thought it had not been maintained, whilst another 40% thought it had been), due to the services having been established (trained SPS experts), but they did not however achieve certification due to the constraint mentioned in point 1 above.
- In terms of objective 3, “disseminate implementation of SPS and quality through a process of training farmer groups”, this was probably the most successful area of achievement, however the sustainability is again brought into question as once the project ended there was no follow up project, which is what the beneficiaries expected. On the positive side, two thirds of the respondents stated that the results of the project had been maintained, or maintained and increased.
- Regarding the setting up of the accreditation system for certification bodies for persons, the sustainability is quite weak. 70% of respondents said the results were not maintained after the project finished. The main handicap was the lack of progress towards developing procedures and quality systems within the ONA.

Do the recipients of the project have the necessary capacity to sustain the results?

Opinions are divided on whether the beneficiaries have the capacity required: 40% stated they are not able to sustain the results, whilst a slightly higher percentage (47%) were confident that the beneficiaries could maintain them. This question was generic and not split over the objectives.

What follow-up activities, if any, are planned and/or required to sustain these results over time?

The questionnaire surveys and the field interviews show that the stakeholders regard this project as a first step and are seeking a follow up for achieving the longer term results. In terms of follow up activities, the UNA is continuing to train their students and intends to set up a certifiable diploma course on Good Agricultural and Manufacturing Practices in the near future. The training to farmers continues through the MAG and IICA, as well as through initiatives by the farmer beneficiaries, however the rate of training is now slower and less targeted. The work at the ONA in search of developing accreditation of certifiers of persons has halted altogether for the time being.

What are the major factors which influenced sustainability of the project?

Responses to this question ranged widely, but all pointed to the spirit of collaboration and willingness to learn and participate as key factors to the sustainability of the project. It is true that the project came at a very poignant time for the industry, when SPS challenges with export of some crops made farmers pay closer attention to the information and training provided by the project. The model of using showcase demonstration plots was considered a great success, as was the continuous follow up from the project implementers, and the fact that the work was carried out with leaders in each community, who then served as examples to follow for others. The funds provided for development of infrastructure was also cited as key to gaining momentum for the project at startup. Longer term sustainability is guaranteed through the incorporation into university curricula of much of the knowledge output from the project. The crops where the main opportunities lay at the time of the start of project implementation were peanuts, beans and edible tubers. In the last 3 years (2012-2015) the drought which has gripped most of the country has forced farmers to diversify their crops, and many of those who participated in the project have now moved to coffee, cocoa and other cash crops.

Was sustainability adequately considered at the project design phase?

The fact that the project lacked a Logframe means that it cannot be determined what assumptions were made and if the risk factors which ultimately affected the project were considered at the outset. It is understood that the project was prepared and submitted as a first step towards a larger implementation of GAP/GMF practices at a national level, and therefore its longer term impact became conditional on the development of a follow up project. The heavy reliance of three of the four objectives being dependent on the ONA moving forward to achieving the status of accreditation body for Certification Bodies of Persons indicates that the project design had a structural weakness – building up of accreditation processes is a long and drawn out process which can easily exceed two years. Several stakeholders consulted agreed that sustainability should have been better considered during the design phase.

Nevertheless in other aspects the project design successfully incorporated essential elements for sustainability and was built on strong foundations, as it started with a thorough situational analysis and early involvement of stakeholders, who supported and became strong advocates during the implementation phase. The involvement of academia especially means that the project's effects far outlive its 2 years existence, as new students are being trained using the material developed during the project for years to come.

5 Conclusions and Recommendations

5.1 Conclusions

In view of the review of documentation, results seen during the evaluator's visit and from a majority of the respondents to the surveys, overall the project was successful in answering the needs of the beneficiaries, and addressing the needs, especially of farmers. There is a generalized agreement that the project was the right answer at the right moment, for needs that the market was beginning to require at the time and has since continued to require since. With regards to the certification of persons, there had been obstacles related to bureaucracy that hampered the achievement of the initial objectives.

The project contributed to implementing Good Agricultural Practices on farms, raising awareness on Food Safety, Health and Safety and Environmental impact of production, as well as increasing local capabilities for training and capacity building. Under the project, an extensive number of training sessions, guides, manuals, dissemination leaflets and documents were produced, advancing local knowledge and facilitating national implementation of Good Agricultural Practices. Producers were able to access and retain new markets (local and international) for their products, and to extrapolate practices to new crops using the knowledge gained. The last three years of drought following the project end have affected farm yields considerably, but farmers have learnt to adapt with greater confidence to the market requirements, thanks to the project.

Regarding sustained results of the project, almost all stakeholders mentioned that the project needed a follow up phase, as there is still a great need for further dissemination of GAP across the country, and that the model used by the project had been key to its success. The key aspects that made the project successful were the strong involvement of government technicians from the start, as well as many direct, in-the-field activities where producers could participate and see examples and immediately copy and put into practice the knowledge being shared.

Where the Universities and the person certification services are concerned, the initial strong momentum created by the project has diminished somewhat. Although Good Agricultural Practice related subjects now form a regular part of the curricula of the three participating universities visited, the initial diploma course developed for the purposes of certification in SPS capabilities has not been continued. The Person Certification Bodies which had been planned to be housed in the UNA and in the IPSA have not yet materialized, and a hurdle which hampers the ONA in accrediting these certification bodies is that the certification scheme for assessing them has not yet been developed. Caution in moving forward in offering these services is attributed to weak demand for the person certification services, and to the fact that the government's priority has been on areas related more directly with addressing poverty reduction and implementation of social funds transfer programmes in

these recent years.

The overall conclusion is that the project aligns primary producers with good agricultural practices increasingly required by the market (including health and safety of operators, proper storage and handling of pesticides and tools, needs based fertilizer usage, use of Integrated Pest Management, hygienic toilet facilities, clean water sources, HACCP-based measures for harvest and product storage, environmental impact reduction, rubbish collection, records keeping and traceability amongst others) for primary production, through empowered cooperatives and farmers. The project also set in place a solid knowledge base in Academia and Government institutions, ready for further deployment of GAP knowledge, however this process has been hampered by the lack of accreditation services and the lack of funds needed to finalise the accreditation system and the relatively high cost of setting up a GAP specific diploma course.

The project can be seen as a model for institutional cooperation and coordination of efforts. It was able to bring together different institutional capacities, put in place a very structured planning process and management team for the implementation and coordination of activities and distribution of responsibilities among partners. The impact of the project has been massive in comparison with the funds made available, as strong leverage was obtained thanks to the participation of government institutions who provided transport, expert staff, technical knowledge and gravitas to the project. Beneficiaries in turn also contributed strongly through co-funding of infrastructures, strong attendance and commitment to the trainings and objectives.

The current Nicaragua legal framework requires farmers to produce their crops according to GAP, which has been achieved partially by the project, with 125 farms certified to GAP. However this is a relatively small number overall at country level. For those that have become certified, this is mostly thanks to MOTSSA and the CRS project that followed on in some areas. In addition several farmers became certified at the insistence of national (supermarkets, such as Walmart) clients or international customers who require compliance with GAP as part of their due diligence.

5.2 Recommendations

5.2.1 Project specific recommendations

- The project results need to be given continuity through organisation and funding of follow up activities. These could be to continue to support the IPSA in training of its staff, spread the “model field” exercise to new geographic and agribusiness areas, publication of more crop-specific GAP manuals, continuous training of qualified staff, and additional train-the-trainer capacity building to foster even more understanding of the importance of Good Agricultural Practices and SPS measures, and dissemination activities to enhance its visibility. IICA has shown strong interest in carrying out this follow up project, through the development of the APLAB project.
- A follow up project to address the full development of the ONA as an accreditation body for Certification Bodies of Persons should be prioritised. This should be coordinated with MIFIC and other donors such as the EU, who are working already on the development of SQAM aspects of the Quality Infrastructure.

- There are many unmet needs from farmers in other areas of Nicaragua, who could not be reached by this project, but who would greatly benefit from this very same approach. The MAG should be assisted in their search for funds for a follow up project which also involves beef and milk producers. IICA, should approach STDF, for advice on fund sourcing, alongside other donors present in the country.
- Greater donor interaction is necessary, for example with the ongoing EU project on Quality Infrastructure, which could have contributed to strengthening the ONA in this area. This should take place at institutional level to avoid unintended overlaps or working at cross-purposes.
- The development of a centralized database to locate all participants of the project would assist anyone looking for support from persons trained by the project. This should be a pre-requisite for all STDF project, as part of the legacy and in order to facilitate follow up Monitoring and Evaluation.
- A permanent web address with links to documentation that work would be beneficial to avoid loss of information developed, including the “tesinas”. IICA should do this as the original webpage developed is not fully working now.

5.2.2 General recommendations

- The project was approved without a Logical Framework. It is recommended that this be avoided, as the exercise of developing a logframe results in a more coherent and contextualized design, which addresses inherent weaknesses and risks, as well as expressing the assumptions. Incorporation of measurable objective results as part of the project logframe would have assisted the evaluation of results. STDF should scrutinize all projects carefully to ensure they contain detailed plans for expenditure of funds.
- Carry out the ex-post evaluation closer to the end of the project, especially as further projects depend on it (according to the IICA feedback). STDF to consider this point.
- Disseminate widely the tested pilot model resulting from the project. IICA and STDF should make the experience more widely known.

6 Lessons Learned

What lessons can be learned from the project regarding the process of project design and implementation?

Survey respondents put forward several valuable comments in this line:

1. “The importance of mixing practical with theoretical training – the field demonstration plots in the identified key demand-driven commercial crops, the certification and adoption of GAP/GMPs and the development of model infrastructure were really important in getting a clear message for change to the farmer.”
2. “Crop improvement, pest control, improvement in yields and lower use of chemicals”

3. “Involving the stakeholders in the design demonstrated openness and willingness to constructively work together, increasing the effectiveness and impact several fold.”
4. “With additional funds more can be achieved, working with farmers and along the value chain”
5. “The project was designed around solving real problems, however there is still a need for further activities in order to achieve the project’s objectives. Changing the attitude of producers is the key to obtaining results, no matter what the design of the project.”
6. “The project would have benefitted from a second phase, the evaluation shold have been done sooner”
7. “The project’s implementation was very effective taking into account resources and time available. The institutions involved worked well together, however more the diploma students who were offered a certification were never able to obtain it despite all the hard work, for which they feel let down”
8. “The training and trainers (technicians) was of high quality, it is necessary that their knowledge and skills is ratified with a certificate. The commitment of key decision-makers is crucial (i.e. chairpersons of cooperatives).”
9. “The farmers are now working with better processes, which brings better results”
10. “A second phase is needed”

To what extent were horizontal issues (particularly related to gender and environment) adequately addressed in the project?

According to the numbers of trainees and stakeholders participating and interviews, women were taken into account during the project’s implementation. Training reached 6348 farmers in different parts of the country, with 277 separate events. Average attendance was 30% women, 70% men. In addition, 85% of survey respondents indicate as much.

With regards to environment the figure is even higher, with 92% of answers indicating that the effect on the environment was considered during the project implementation.

What lessons can be learned from the project, which may be of importance to the broader donor community and which should be disseminated more widely?

Many comments were received on this point, a summary of which is as follows:

1. The “learning by doing” methodology worked very well with farmers, involving them in spreading the word and showing others by example – this model should be repeated for other projects.
2. The use of demonstration plots was particularly effective in communicating to farmers and neighbours how they needed to change their current practices.
3. The success of the project was due to vital support from Government, together with IICA’s experienced staff in project management, and openness of the farmer

organisations to cooperate.

4. The project delivered in delivering safe, higher quality, SPS compliant products with a wider access to markets.

Key lessons learned within the context of implementation in Nicaragua include:

- Strong buy-in and hands-on involvement from government bodies meant producers paid more attention and became involved, as this gave greater credibility and support to reach the desired objectives. A perceived win-win outcome for farmers, technicians and universities greatly leveraged the amount of resources dedicated to the project by participating institutions, on top of the funds provided by STDF.
- Thorough initial planning of the activities results in relatively higher fulfillment of targeted activities. This was essential given the country-wide geographic scope and the involvement of farmer groups and universities in diverse locations. This also meant that the project was able to accommodate unexpected changes due to delays in institutional agreements for example, re-planning the way forward along the way.
- A strong, balanced project supervision team was recognized by stakeholders as one of the strong points of the project. An enthusiastic, convincing and well connected project leader facilitated onboarding of stakeholders, involving them in the hands on process of rolling out the project activities, and obtaining greater goodwill and support through various in-kind contributions from state institutions for example. This helped also to leverage the effects of the project in the field.
- End beneficiary involvement from the beginning via the baseline analysis, and direct feedback from the numerous meetings and training activities throughout the implementation of the project facilitated greater impact.
- Flexibility in the implementation of the project meant that it was successful in its adaptation such as when one crop (Okra) was no longer seen as priority, and the focus was transferred to other crops.

Foremost, the project has ensured that small producers are now implementing GAP for the benefit of their own health, the safety of the product they produce and benefiting the environment. The supply chain partners these producers work with also benefit though greater confidence in the product sourced, and the country's SPS profile was enhanced, allowing continued access to demanding export markets, with the possibility of new ones. The project has also formed an excellent base to extend Good Agricultural Practices awareness and implementation to other products and species and a step towards the overall institutional and private sector strengthening of the national SPS measures management system.

Annex 1: Survey Used in the Evaluation

See attachment in pdf.

Annex 2: List of Survey Respondents

Name	Organisation	City	Province	Telephone	E-mail
Luis Francisco Moreno Mayorga	Universidad Nacional Autonoma de Nicaragua	León	Nicaragua	83536963	morenoluis76@yahoo.com
Efrain Garcia Mendoza	ASOPROL	Santa Lucia	Boaco	57997080	asoprolefrain@yahoo.com
Jose Felix Salazar	Asociacion de Prom.Sin Fronteras	Teustepe	Nicaragua	89414149	aprosifn1@gmail.com
Roque Jose Ramos	COSEMUSA R.L.	Jalapa	Nueva Segovia	8840420	cosemusarl@yahoo.es
Virgilio Torrez Torrez	CECOOPSEMIEN	Sebaco	Matagalpa	85284728	virgiliotorrez@yahoo.com
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Evertz Jose Arauz Blandon	COMPREVIDA	JINOTEGA	NICARAGUA	84056085	evertbir_2201@yahoo.es
Mónica Zapata	MEFCCA	Managua	Ticuantepe	84080565	monicazapata79@gmail.com
Luis Francisco Moreno Mayorga	Universidad Nacional Autonoma de Nicaragua	León	León	83536963	morenoluis76@yahoo.com
Erik Raul Juarez Alaniz	COSEMUSA R.L.	Jalapa	Nueva Segovia	89384548	juarezerik@yahoo.es
Su-lin Meyrat	IPSA	leon	leon	86042635	su_meyrat@yahoo.com
DANNY MARTINEZ GARCIA	ASOPROL	SANTA LUCIA	BOACO	57611105	mdannyabner@yahoo.es
Martha Elizabeth Zamora Solorzano	Universidad Nacial Agraria	Managua	Managua	22632609	martha.zamora@ci.una.edu.ni
silvia González Torres	IICA	Managua	Managua	82389043	silvia.gonzalez@iica.int
Exequiel	unsaid	nueva guinea	Nicaragua	84014664	exetermar@yahoo.com
Carlos Antonio Pérez Rivera	IICA	Managua	Leon	84946456	caledeha@yahoo.es
Bismark Antonio Perez Gonzalez	magfor -dgpsa (hoy) IPSA	Boaco - Chontales	región V	86393238	bapgonz07@yahoo.es
Hernan Francisco López Mendoza	Magfor	León	León	85150592	flop24h@hotmail.com
Armando José Gómez Romero	UPANIC	505	Managua	22510340 22710135	detrás de la DGI. central. Managua
Verónica Mendoza Vega	Ministerio de Fomento, Industria y Comercio	Managua	Managua	22489300	vmendoza@mific.gob.ni
Alcides Moncada	IPSA	Jinotega	Jinotega	86995054	alcides.moncada@ipsa.gob.ni

Annex 3: Responses to Survey

This annex is presented in electronic Excel format due to its spreadsheet format. To safeguard anonymity, the names of the respondents are not mentioned next to their responses.

Annex 4: People Visited by the Evaluator

Name	Surname	Position	Organisation	Telephone	Email
Carlos A	Pérez	Consultor	IICA/MOTSSA	84946456	caledeha@yahoo.es
Mauricio	Carcache	Consultor	IICA	82389055	mauricio.carcache@iica.int
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Annex 5: Consolidated Results of Survey Responses

This annex is presented in electronic Excel format due to its spreadsheet format. To safeguard anonymity, the names of the respondents are not mentioned next to their responses.