

**Partnerships for Food Industry Development
A U.S./Nicaraguan Partnership**

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In association with

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Fifth Annual Work Plan, Nicaragua
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List of Acronyms and Abbreviations

AWP.....	Annual Work Plan
CAC	Codex Alimentarius Commission
CLUSA	Cooperative League, USA
FDA.....	US Food and Drug Administration
FSIS.....	USDA Food Safety Inspection Service
FSQ	Food Safety and Quality
FSQO	FSQ Organization
HACCP	Hazard Analysis Critical Control Point
LSU AgCenter	Louisiana State University Agricultural Center
M&E	Monitoring and Evaluation
OIRSA.....	Organization for Agricultural Sanitation
PHSBTPRA	Public Health Security and Bio-terrorism Preparedness and Response Act
PFID.....	Partnerships for Food Industry Development
PFID-MSP.....	PFID for Meat, Seafood and Poultry
USAID	United States Agency for International Development
USAID/EGAT.....	USAID Bureau for Economic Growth, Agriculture and Trade
WFLO	World Food Logistics Organization
WTO	World Trade Organization

Section I. Summary

This document presents the first annual work plan (AWP) activities for the Partnerships for Food Industry Development in Meat, Seafood and Poultry (PFID-MSP) Project in Nicaragua. However, this document is officially the Nicaragua component of PFID-MSP's fifth AWP as this corresponds to the fifth year of the Project's world-wide operations

This project resulted in USAID approval of a proposal submitted by Louisiana State University Agricultural Center (LSU AgCenter), the World Food Logistics Organization (WFLO), the World Laboratory Branch in Ukraine, and the National Institute of Animal Husbandry and Veterinary Medicine of Moldova. While the project has incorporated a global strategy for processing meat, seafood and poultry, it focused its Phase I activities in Ukraine and Moldova from January 2005 to January 2005.

In April and May 2004, the LSU AgCenter submitted a scope of work and budget for a Phase II of PFID-MSP. Target areas for Phase II included Central America, with an initial focus on Nicaragua. The specific objectives to be met in Nicaragua through the PFID-MSP Project's Phase II included the promotion of food safety, security and quality and of value added post-harvest technology. In June 2004, USAID/EGAT approved these documents, giving PFID-MSP the opportunity to begin operations in Nicaragua.

The partners to this proposal have planned a four-year food industry development program involving a five-stage process: 1) industry assessment/crosscutting analysis; 2) assembly of key stakeholders; 3) identification of critical issues, prioritization of needs, and impact on local cultures; 4) development of solution strategies; and 5) implementation of strategies. The proposal provided concrete technical assistance and links among the food industry with U.S. counterparts. Resulting commercial gains for the food industry include improved food plant utilization, and product quality improvement. This initiative is expected to assist Nicaragua to regulate this industry and facilitate the country's increased participation in world trade.

The Work Plan covers start-up activities, initial activities for the Project's two objectives in Nicaragua and general management activities. Start-up activities include selection of a Nicaraguan partner, execution of sub-agreements with that partner and acquisition of necessary facilities, as well as the hiring, orientation and training of any additional staff. Preliminary contacts also will be made to initiate working relationships in Nicaragua.

Project staff will assess the key issues facing the food industry in Nicaragua as a first step for the design of solution strategies. This will be done through research and three field study trips in the country. The findings from these activities will result in an analysis report. This information will be presented to the stakeholders and reviewed by the Technical Committee members, both of whom will contribute to the formulation of the solution strategies in a final strategy report.

General activities that cut across the objectives will include the establishment of the teams, communications and reporting procedures. Facility and logistical needs also must be met. Printed and electronic dissemination material will be prepared and staff will establish monitoring/evaluation procedures.

These activities are outlined in the schedule found in Section IV.

Section II. Review of Project Design and Preparation

The Louisiana State University Agricultural Center (LSU AgCenter), its partner, the World Food Logistics Organization (WFLO), and international partners, the World Laboratory, Ukraine Branch, in Kyiv, Ukraine, and the National Institute of Animal Husbandry and Veterinary Medicine, Chisinau, Moldova, presented a proposal to the Office of Agriculture and Food Security, Center for Economic Growth and Agricultural Development, Bureau for Global Programs (G/EGAD/AFS), United States Agency for International Development (USAID)¹. This proposal was submitted in response to a Request for Applications for The Partnerships for Food Industry Development (PFID) Program. The category selected for this proposal was Category I, Meat, Seafood and Poultry.

This proposal was a combined cooperative effort of all partners above, and presented a global strategy, which included assessments, support mechanisms, capacity building and the fostering of business partnerships. This is a partnership that combined complementary strengths and expertise. The LSU AgCenter brought its research and education capacity, as well as its proven record of working with industries and producers. The WFLO represented the “cold chain” industries and brought its state-of-the-art knowledge and worldwide experience in the preservation of perishable products. The program was anchored on the following themes: 1) industry awareness; 2) support mechanisms; 3) post-harvest and processing technologies; 4) capacity building; and 5) business partnerships.

This “Phase I” of the PFID-MSP, was designed to produce a large and positive impact on the key institutions and people involved in the meat, seafood and poultry processing industries. The implementation approach involved a five-stage process: 1) industry assessment/crosscutting analysis; 2) assembly of key stakeholders; 3) identification of critical issues, prioritization of needs, and impact on local cultures; 4) development of solution strategies; and 5) implementation of strategies.

The proposal provided concrete technical assistance and links among the food industry with U.S. counterparts. Technical assistance included assessment of the industry chains and the development of solutions (technology advancement, institutional capacity building, human capacity building); establishment of support systems, linkages and business partnerships; and the understanding and development of food safety, sanitation and standards. Resulting commercial gains for the food industry included improvement in food plant efficiencies, improved plant capacity utilization, and product quality improvement. These were shown to result in increased earnings, employment and export potential. These results also increased the demand for the raw product, which in turn will enhance incomes of agribusinesses and small farmers.

This program’s accomplishments included: 1) Awareness of critical issues created among leaders in the industry, academic/research institutions and consumers; 2) Industry status report prepared as a baseline; 3) Solution strategies specific to the Ukrainian and Moldovan environment identified; 4) Workable plans for implementation of solutions (educational, awareness,

¹ This office has since been reorganized into the USAID Economic Growth, Agriculture and Trade (EGAT) Bureau.

technology support, partnerships and linkages to harness private sector-government expertise) developed and implemented; 5) The understanding and capacity of regulatory and consumer organizations enhanced; 6) Institutional capacity, particularly at local universities and research institutions for training in food safety and, Hazard Analysis Critical Control Point (HACCP) systems, technologies, and regulatory issues enhanced; and 7) Local institutions able to support policy makers in the areas of food safety, sanitation and standards issues, as well as working to align local standards to WTO and CAC guidelines.

The management structure for this program was designed with the guiding principles of communication and collaboration. To this end a simple and effective approach was proposed to ensure systematically articulated and coordinated implementation without compromising accountability and oversight. Program implementation also included monitoring and evaluation as integral and indispensable elements of sound management.

In April and May 2004, the LSU AgCenter submitted a scope of work and budget for a Phase II of PFID-MSP. Target areas for Phase II included the following:

- Central America, with an initial focus on Nicaragua;
- Southern Africa, with an initial focus on South Africa; and
- Eurasia/CIS, with an initial focus of expanding the Ukraine-based International Institute for Food Safety and Quality's operations within the region.

The specific objectives to be met in Nicaragua through the PFID-MSP Project's Phase II include the following:

- 1) Promote food safety, security and quality through HACCP and compliance with recent U.S. legislation pertaining to food security – this area is addressed through training (particularly training of host country nationals intending to be authorized HACCP trainers), consultations, HACCP compliance verification and policy advocacy; and
- 2) Promote value added post-harvest technology – this area includes identification, analysis and promotion of processing of alternative product and of cold chain technologies.

In meeting these objectives, PFID-MSP has anticipated the following outcomes:

- At least four stakeholders will become qualified instructors and, as a result, will provide training to at least forty participants for basic certification in HACCP;
- At least one food safety and quality organization (FSQO) will be enhanced or created to serve as a repository of food safety issues and information and as a resource for training and policy intervention;
- At least three plants will receive favorable reviews on their implementation of HACCP plans and another three will be shown to be compliant with US bio-security legislation;
- At least one food safety policy initiative will be advocated by the FSQO up to its passage by a national governing body;

- At least one post-harvest technology innovation involving alternative value-added use of a local product will be adopted on a commercial level; and
- At least one cold chain technology innovation will be adopted on a commercial level

In June 2004, USAID/EGAT authorized the PFID-MSP's Phase II, allowing the LSU AgCenter and WFLO to commence operations in Nicaragua by 2005.

Section III. First Annual Work Plan

This section describes the initial activities relating to the Project's two objectives in Nicaragua. These activities are outlined in the schedule found in the next section.

The schedule also lists Project start-up activities, such as negotiation/execution of a sub-agreement with the Nicaraguan partner institution, already identified as the Cooperative League, USA (CLUSA) Nicaragua. This will include the hiring, orientation and training of any staff that the Nicaraguan partner requires to fulfill its obligations under the sub-agreement. LSU's AgCenter also has to implement the initial planning of its Project Team, which will involve developing a consensus among the team regarding project methodologies.

Preliminary contacts also will be made to initiate working relationships with food industry and agencies in Nicaragua and to prepare meetings for the subsequent team visit from July to September. It should be noted, however that the bulk of the Year One field activities for Nicaragua will not commence until July when the subcontract with CLUSA Nicaragua is signed. Budget constraints prevented the project from providing the Nicaraguan partner institution with funds before then and it was felt to be impractical for US-based specialists to conduct field visits without in-country support. For this reason, the work items before July will be preparatory in nature.

A. Project Objective # 1 – Food Safety, Quality and Security Compliance

As with the rest of Central America, the Nicaraguan food industry already has begun to address FSQ issues in the animal origin sectors. The project activities to be address to meet this Project Objective will facilitate increased adoption of standards for food safety and quality. Project staff will help enable the stakeholders in the processing industry to enhance and apply their skills in Hazard Analysis and Critical Control Points (HACCP). Project staff also will help the stakeholders in the processing industry to establish a sustainable framework that promotes HACCP and other food safety and quality concepts long after the Project's conclusion. Based on the premise that Safety, Quality and Efficiency are the three basic prerequisites to improving Profitability, the proponents contend that the capacity building and implementation of proposed activities will increase income and expand markets for targeted plants. As such, this core activity could be considered a trade enhancement program, which will provide stakeholder processors with market expansion opportunities leading to expansion in production, sales and employment.

Since 9/11, significant bio-security implications have arisen for international food industry development and trade. The Public Health Security and Bio-terrorism Preparedness and Response Act (PHSBTPRA) of 2003, requires all international processors selling in the United

States to register with the FDA or FSIS by December 2003, maintain extensive records and provide prior notification of all shipments. In fact, the Organization for Agricultural Sanitation (known by its Spanish acronym OIRSA) has already initiated capacity building for regional compliance to this legislation; PFID-MSP proposes to follow-up on their work, thus ensuring stakeholders' access to external markets and ability to provide employment. This concept uses risk analysis, risk management and risk communication to minimize food safety consequences in the food chain. In promoting this science-based concept, PFID-MSP will stress the need for cooperation among university scientists, government officials, food industry associations and other educational outreach media to reduce food-borne illness risks to consumers.

In 2005, activities will initiate PFID-MSP efforts to meet this objective will include:

- a) Assessment – Two PFID-MSP specialists will travel to Nicaragua and assess the degree to which HACCP principles are being followed for two commodity types. Dr. Ken McMillin of the LSU AgCenter's Department of Animal Science, will travel in July-August to assess HACCP compliance as it relates to Meat and Poultry. Dr. Michael Moody of the LSU AgCenter's Department of Food Science, will travel in September to assess seafood HACCP compliance. The Specialists also will begin the process by which PFID-MSP identifies the candidates for each Train-the-Trainer course and subsequent courses for basic certification. PFID-MSP also will assess the degree to which the provisions of PHSBTPRA are understood and followed by processors in Nicaragua.
- b) Institutional Establishment – In response to the need in Nicaragua, existing food safety and quality organizations (FSQOs) will be enhanced or new ones will be created to serve as a repository of food safety issues and information and as a resource for training and policy intervention.

B. Project Objective # 3 – Value-Added Post Harvest Technology – Cold Chain Technologies

This core activity is a capacity-building exercise for the Nicaraguan food industry; it examines and promotes post-harvest technologies that increase the value of agricultural products. For year one, this specific activity examines cold storage/warehousing technologies as a first step to increased efficiency in the cold chain². In this activity, host country Project staff and stakeholders identify a link, or specific process, in the cold chain, the improvement of which can lead to increased operational efficiency and/or a higher value product. With guidance from WFLO, the staff and stakeholders will conduct technical and economic analyses to determine the feasibility of that process. If such case studies have positive results, stakeholder enterprises are encouraged to adopt such a process on a commercial level.

An example of such an activity in the MSP sector could be the investigation and adoption of carcass cooling procedures and methods designed to push the integrated cold chain further back towards slaughter, extending the usable shelf life of perishable products and resulting in measurable and significant product quality, safety and efficiency attributes. Other examples include retrofits and small field refrigeration units.

² PFID-MSP also intends to examine and promote value added post harvest technologies for previously under-utilized meat, seafood or poultry product in Nicaragua (designated as Objective #2 in the Phase II Scope of Work), but that activity is not scheduled to start until 2006.

In 2005, this objective can be addressed through the following items:

- a) *Assessment and Identification* – With guidance from WFLO specialists (primarily during a July-August field study), in-country support offices and stakeholders will identify a process or technology that addresses a critical cold chain need. Priority will be given to processes that increase energy efficiency or improve a product's quality in relation to a market standard.
- b) *Case Study Initialization* –The in-country office will secure a commitment from selected stakeholders to test the technology on an experimental level, thus determining the technical feasibility of the procedure. The case study will continue in 2006 with palatability tests (if needed) and cost/benefit analysis to determine the technology's overall feasibility.

C. Management, Monitoring and Evaluation

To ensure that the various Project teams have the capacity to fulfill their responsibilities, some general activities that cut across the fore-mentioned objectives must be achieved. These include the establishment of those teams in the U.S. and Nicaragua, through discussion of functions, communications and reporting. Facility and logistical needs also must be met. Implementation, meeting and reporting schedules must be clearly communicated to all Project staff.

As previously mentioned, CLUSA already has been selected as the Nicaraguan partner institution for PFID-MSP and the Project proposes acceleration of its sub-contract to start in July 2005.

Section IV. Schedule of Project Activities

Activity	Targets	Indicators	Results
January – June 2005			
<i>Project Startup</i>			
Negotiation/orientation of sub-agreement with CLUSA	To determine respective roles and responsibilities for each partner	Documented conduct of orientation and initial correspondence between LSU AgCenter and CLUSA	Each partner conducting activities relating to respective roles
Negotiation/execution of sub-agreement with WFLO	To determine respective roles and responsibilities for each partner	Cooperative agreement signed and initiated	Each partner conducting activities relating to respective roles
<i>Project Objective # 1 – Food Safety, Quality and Security Compliance</i>			
Assessment of HACCP Compliance	Develop assessment plan and gather initial background information	Documentation of the following for both commodity types (meat & poultry and seafood): <ul style="list-style-type: none"> • Assessment plan outlining key personnel and roles is identified • Background information/literature review documented • Travel to Nicaragua for assessment is scheduled 	Field work can be conducted later in the year
<i>Project Object #3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Assessment of Nicaraguan cold chain and identification of potential technology	Develop assessment plan and gather initial background information	<ul style="list-style-type: none"> • Assessment plan outlining key personnel and roles is identified • Background information/literature review documented • Travel to Nicaragua for assessment is scheduled 	Field work can be conducted later in the year
<i>Management, Monitoring and Evaluation</i>			
Negotiation/execution of sub-agreement with CLUSA	To determine respective roles and responsibilities for each partner	Cooperative agreement signed before July	Each partner conducting activities relating to respective roles

Activity	Targets	Indicators	Results
July – August 2005			
<i>Project Objective # 1 – Food Safety, Quality and Security Compliance</i>			
Assessment of HACCP Compliance	Conduct on-site assessment and prepare assessment report for Meat and Poultry in July - August	Documented collection of data and report with analysis, conclusions and recommendations	PFID-MSP has framework on which it can base its Meat & Poultry FSQ activities in Nicaragua
<i>Project Object #3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Assessment of Nicaraguan cold chain and identification of potential technology	Conduct on-site assessment and prepare assessment report for cold chain technologies in July - August	Documented collection of data and report with analysis, conclusions and recommendations	PFID-MSP has programmatic framework on which it can base its cold chain activities in Nicaragua
<i>Management, Monitoring and Evaluation</i>			
Establishment of logistics, office, communication facilities, etc. in Nicaragua	Identify selected office equipment and vehicle source	Documented purchase orders or similarly appropriate documentation	PFID-MSP operations can commence
Establishment of Monitoring/Evaluation procedures and work items	To determine Project's M&E system	Project's M&E plan prepared and submitted in August SAR	M&E system in place and criteria available to measure Project success
September – October 2005			
<i>Project Objective # 1 – Food Safety, Quality and Security Compliance</i>			
Assessment of HACCP Compliance	Conduct on-site assessment and prepare assessment report for Seafood in September	Documented collection of data and report with analysis, conclusions and recommendations	PFID-MSP has framework on which it can base its Seafood FSQ activities in Nicaragua
Institutional Establishment	Identification of FSQO	Documented identification of: <ul style="list-style-type: none"> Existing FSQO to be enhanced or New FSQO to be created 	A working relation can be established between the Project and the FSQO
<i>Project Object #3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Case Study Initialization	Initial negotiations and plans with stakeholder companies	Commitments from at least two companies to explore a cold chain innovation with the project	PFID-MSP and stakeholders are ready and willing to examine cold chain innovation at a trial level

Activity	Targets	Indicators	Results
<i>Management, Monitoring and Evaluation</i>			
Establishment of logistics, office, communication facilities, etc. in Nicaragua	Finalized purchase of major office equipment and vehicle	Documented purchase orders or similarly appropriate documentation	PFID-MSP operations can commence
November 2005 – January 2006			
<i>Project Objective # 1 – Food Safety, Quality and Security Compliance</i>			
Institutional Establishment	Determination of working terms between PFID-MSP and FSQO (and terms of organization if necessary)	Draft Scope of Work for FSQO (and organizational checklist if necessary)	Each organizational requirement can be systematically met
<i>Project Object #3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Case Study Initiation	Coordinate with stakeholder to conduct cold chain case study	Approved case study methodology on proposed cold chain innovation case study, including provision of technical assistance from PFID-MSP	Data can be collected for case studies
<i>Management, Monitoring and Evaluation</i>			
Year 2 (6) Planning	Preparation of AWP	1 st Draft Submitted	2 nd AWP can be finalized