

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

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**Phase II, First Annual Work Plan, South Africa  
Component**

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**Submitted by**

**International Programs**

**Louisiana State University Agricultural Center**

**Baton Rouge, Louisiana**

**In association with**

**The World Food Logistics Organization, Alexandria Virginia and**

**The University of Stellenbosch, South Africa**

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**January 15, 2005 ~ January 14, 2006**

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## List of Acronyms and Abbreviations

AWP.....	Annual Work Plan
CAC .....	Codex Alimentarius Commission
HACCP .....	Hazard Analysis Critical Control Point
IARW.....	International Association of Refrigerated Warehousemen
LSU AgCenter .....	Louisiana State University Agricultural Center
M&E .....	Monitoring and Evaluation
PFID.....	Partnerships for Food Industry Development
PFID-MSP.....	PFID for Meat, Seafood and Poultry
PTC .....	Post-Harvest Technology Center
SAR.....	Semi-Annual Report
USAID .....	United States Agency for International Development
USAID/EGAT.....	USAID Bureau for Economic Growth, Agriculture and Trade
USt .....	University of Stellenbosch
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 South Africa. However, this document is officially the South Africa component of PFID-MSP's fifth AWP as this corresponds to the fifth year of the Project's worldwide 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 2001 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 Southern Africa, with an initial focus on South Africa and expansion to Namibia and Mozambique in the case of an associate award. The specific objectives to be met in Southern Africa through the PFID-MSP Project's Phase II included the establishment of a Post harvest Technology Center (PTC), the promotion of food safety, security and quality through HACCP and the promotion of value added post-harvest technology – this area includes identification, analysis and processing of cold chain technologies.

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 South Africa to regulate this industry and facilitate the country's increased participation in regional and world trade.

The Work Plan covers start-up activities, initial activities for the Project's three objectives in South Africa and general management activities. Start-up activities include initiation of working relationships with the PFID Host Country Partner Institution in South Africa, the University of Stellenbosch (USt).

Project staff will assess the key issues facing the food industry in South Africa as a first step for the design of solution strategies. This will be done through research and a field study in the industry. 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. Based on this report, at least two activities will be initiated

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)<sup>1</sup>. 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. 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.

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, 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.

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;

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

- 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 South Africa through the PFID-MSP Project's Phase II include the following:

- 1) Establish a Post harvest Technology Center (PTC) – the primary objective of this center will be to improve opportunities for value added post harvest technology by becoming a repository and clearinghouse for information related to the food industry, training and information support.
- 2) Promote food safety, security and quality through HACCP – 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
- 3) Promote value added post-harvest technology – this area includes identification, analysis and promotion of processing of cold chain technologies.

The PTC will provide a sustainable platform for PFID services, including training in food safety and post-harvest technology (cold chain) vital to enhance trade within the region and between the region and the US and Europe.

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

- At least four stakeholders will become qualified HACCP instructors and, as a result, will provide training to at least forty participants for basic certification in HACCP (under the auspices of the PTC);
- At least one cold chain technology innovation will be adopted on a commercial level;
- An Annual Training Institute for Sub-Saharan Africa to coordinate the training of cold store managers and supervisory staff to improve international product marketability, stock control and general storage efficiencies;
- Further improvement of storage practices through a local benchmarking project set up along the lines of the biannual benchmarking exercises run by the International Association of Refrigerated Warehousemen (IARW, the WFLO's sister organization);
- Adoption of technologies promoted by PTC-conducted training in various disciplines, such as refrigeration for non-technical staff; and
- An updated industry register and cold storage textbook.

In addition to enhancing the capacity of the regional food industry, many of these services will be geared toward generating revenue for the PTC. This will provide the Center with financial sustainability and ensure that it will continue to contribute to the region long after the project's conclusion. It should be noted that the WFLO will assume the bulk of the programmatic responsibility for this target area, particularly in the promotion of cold chain

technology and curriculum development for the PTC, as well as assessment and technical follow-up for all project activities in the target region. The LSU AgCenter's contribution will include HACCP capacity building and oversight of the in-country PTC.

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

### **Section III. First Annual Work Plan**

This section describes the initial activities relating to two of the Project's three objectives in South Africa. These activities are outlined in the schedule found in the next section. A third objective – Food Safety, Quality and Security Compliance (although it is in fact designated as the second objective in the Scope of Work) will be addressed in Year 2 (2006).

The schedule also lists Project start-up activities, such as negotiation/execution of a sub-agreement with the South African partner institution, already identified as the University of Stellenbosch. This will include the hiring, orientation and training of any staff that the South African 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 South Africa and to prepare meetings for the subsequent team visit in May and June. This work plan is based on the assumption that \$621,882 will be obligated to the Project in 2005.

#### **A. Project Objective # 1 – Post Harvest Technology Center**

Post harvest problems facing the South African food sector include a lack of a post harvest culture among processors, deficient infrastructure in certain fields such as pack-houses and cold stores, distance to markets, difficulties in establishing a position in the international market, a lack of competition (and hence efficiency) in the packaging sector, insufficient technical expertise among export agents and insufficient research capacity. Much tertiary-level instruction on post harvest technology in the country is conducted at the University of Stellenbosch; a limited program is offered at the University of Pretoria. There is no formal extension service in South Africa; private consultants provide such a service in a limited degree. A number of these give various HACCP courses to the meat industry. The industry makes use of contact with individuals in the various universities that offer post harvest training and research.

PFID-MSP has determined that several measures needed to improve the post harvest technology sector in the country can be achieved through the establishment of a Post harvest Technology Center (PTC). Cape Town is the logical location for such a Center, due to the access to port and airport facilities, proximity to the University of Stellenbosch and numerous export agencies in the region. The primary objective of this Center will be to improve the regional food industry's access to technology and information.

Through such activities, the PTC (serving as a repository of information and resources for the food industry) would provide the following benefits to the South African food industry:

- Coordination of training needs to avoid duplication of effort;

- Increased access to technical information to assist enterprises; and
- Contact with international institutions, such as IARW/WFLO

In 2005, activities to meet this objective will include *Assessment* – WFLO, USt and stakeholders will identify the program directions that address regional post-harvest needs and are within the PFID-MSP’s programmatic scope.

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

This core activity is a capacity-building exercise for the South African 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 chain. 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.

Other potential technologies to be considered include those initially identified by USt:

- Hot deboning – Ostrich Swartland abattoir
- Cold Chain upgrading – Fish - Abalone Farm
- Tuna Project
- Roers – Biggest Meat Producer in the Western Cape - Cold Chain Upgrading and Production System Upgrading
- Checker Supermarkets – Cold Chain Problems
- Sweetwell – Upgrading of abattoir and Cold chain.

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

- a) *Assessment and Identification* – With guidance from PFID-MSP specialists, 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 South Africa, 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, USt already has been selected as the South African partner institution for PFID-MSP and the Project proposes acceleration of its sub-contract to start in February 2005, by accessing part of the "forward funding" mentioned by USAID/EGAT.

## Section IV. Schedule of Project Activities

Activity	Targets	Indicators	Results
<b>January – February 2005</b>			
<i>Project Startup</i>			
Negotiation/execution of sub-agreement with UoS	To determine respective roles and responsibilities for each partner	Cooperative agreement signed and initiated	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 Object #3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Assessment of South African cold chain and identification of potential technology	Develop assessment plan and gather initial background information	<ul style="list-style-type: none"> <li>• Assessment plan outlining key personnel and roles is identified</li> <li>• Background information/ literature review documented</li> <li>• Travel to South Africa for assessment is scheduled</li> </ul>	Assessment process can continue
<i>Management, Monitoring and Evaluation</i>			
Establishment of logistics, office, communication facilities, etc. in South Africa	Identify selected office space and sources of office equipment	Documented rental contract, purchase orders or similarly appropriate documentation	PFID-MSP operations can commence
<b>March – April 2005</b>			
<i>Project Object # 3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Assessment of South African cold chain and identification of potential technology	Conduct on-site assessment	Documented collection of data	Assessment report can be prepared
<i>Management, Monitoring and Evaluation</i>			
Establishment of logistics, office, communication facilities, etc. in South Africa	Identify selected office equipment and vehicle source	Documented purchase orders or similarly appropriate documentation	PFID-MSP operations can commence

<b>Activity</b>	<b>Targets</b>	<b>Indicators</b>	<b>Results</b>
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
<b>May – June 2005</b>			
<i>Project Object # 3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Assessment of South African cold chain and identification of potential technology	Prepare assessment report	Documented report with analysis, conclusions and recommendations – particularly an identified technology	PFID-MSP has programmatic framework on which it can base its cold chain activities in South Africa
<i>Management, Monitoring and Evaluation</i>			
Establishment of logistics, office, communication facilities, etc. in South Africa	Finalized purchase of major office equipment	Documented purchase orders or similarly appropriate documentation	PFID-MSP operations can commence
<b>July – August 2005</b>			
<i>Project Objective # 1- Post Harvest Technology Center (PTC)</i>			
Assessment	Initial design	Documented agreement between WFLO and USt regarding assessment methodology	The project has a procedural framework on which they can identify programmatic directions for the PTC
<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
<b>September – October 2005</b>			
<i>Project Objective # 1 – Post Harvest Technology Center (PTC)</i>			
<i>Assessment</i>	<i>Conduct on-site assessment</i>	<i>Documented collection of data</i>	<i>Assessment report can be prepared</i>

<b>Activity</b>	<b>Targets</b>	<b>Indicators</b>	<b>Results</b>
<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
<b>November 2005 – January 2006</b>			
<i>Project Objective # 1 – Post Harvest Technology Center (PTC)</i>			
Assessment	Prepare assessment report	Documented collection of finding and recommendations for PTC’s program directions	PFID-MSP has programmatic framework on which it can base the establishment of the PTC
<i>Project Object # 3 – Value Added Post-Harvest Technology – Cold Chain Technologies</i>			
Case Study Initiation	Initial implementation of technical case studies	Documented initialization of trail implementation of proposed technologies at plants	Case study findings are available by the next year.
<i>Management, Monitoring and Evaluation</i>			
Year 2 (6) Planning	Preparation of AWP	1 <sup>st</sup> Draft Submitted	2 <sup>nd</sup> AWP can be finalized