

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

Leader-with-Associates Agreement No: PCE-A-00-01-00012-00

Funded by

The United States Agency for International Development

USAID M/FM/CMP

1300 Pennsylvania Avenue, N.W.

Washington, DC 20523-7700

5th Semi-Annual Report

February 1 – July 31, 2003

Submitted by

International Programs

Louisiana State University Agricultural Center

Baton Rouge, Louisiana

In association with

The World Food Logistics Organization,

The World Laboratory, Ukraine Branch, and

The National Institute of Animal Husbandry and Veterinary Medicine of Moldova

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List of Acronyms and Abbreviations

AAFI	Agency for Attracting Foreign Investments
ACM	Advisory Committee Meeting
ACSA	Agency for Consulting and Training in Agriculture
ASBA	Azov Sea Basin Association
BISNIS	Business Information Service for the Newly Independent States
CAMIB	Central Agricultural and Marketing Information Bureau
CNFA	Citizens Network for Foreign Affairs
CP	Concept Paper
GMP	Good Manufacturing Practice
HACCP	Hazard Analysis Critical Control Point
HVAC	Heating, Ventilating and Air Conditioning
IAC	Information and Advisory Centers
IFC	International Finance Corporation
JSC	Joint Stock Company
JV	Joint Venture
LSU AgCenter	Louisiana State University Agricultural Center
IIFSQ	International Institute of Food Safety and Quality
INZMV	National Institute of Animal Husbandry and Veterinary Medicine
LSU AgCenter	Louisiana State University Agricultural Center
MTE	Mid Term Evaluation
MTU	Moldovan Technical University
PFID	Partnerships for Food Industry Development
PFID-MSP	PFID – Meat, Seafood and Poultry
RFA	Request for Applications
SAR	Semi-Annual Report
SCP	Sanitation Control Process
SSOP	Sanitation Standard Operating Procedure
SWOT	Strength, Weakness, Opportunities and Threat
UAUR	Union of Associations “Ukraine-Refrigeration”
Ukrmiasso	(Ukrainian Association of Meat Producers)
Ukrptakhoprom	(Ukrainian Association of Poultry Producers)
UkrSCM	Ukrainian Center for Standardization, Certification and Metrology
USAID	United States Agency for International Development
WFLO	World Food Logistics Organization
World Lab	World Laboratory, Ukraine Branch

Section I. Introduction and Summary

This is the fifth Semi-Annual Report (SAR) and the third that primarily describes the implementation of solution strategies by the Partnerships for Food Industry Development (PFID) for the processing of meat, poultry and seafood. This Project is jointly undertaken by the Louisiana State University Agricultural Center (LSU AgCenter), the World Food Logistics Organization (WFLO), the Ukrainian Branch of World Laboratory (World Lab) and the Moldovan National Institute for Animal Husbandry and Veterinary Medicine (INZMV).

PFID-MSP's planning process for Year Three (2003) included two meetings and the Project's response to the USAID Mid-Term Evaluation's (MTE's) recommendations. For Year Three, World Lab and INZMV are to provide most of the initiative for project activities, which would focus on meeting the Project's three implementation objectives: Support Mechanisms, Capacity Building and Fostering Business Partnerships. PFID will repeat this planning procedure to develop its 4th Annual Work Plan (AWP). The MTE's recommendations included continued focus on international food safety and quality standards and targeted assistance for associations and information support. The MTE recommended discontinued support to production-side assistance activities and a change of PFID-MSP's management in Moldova. It also recommended a formal marketing program of PFID-MSP for USAID missions.

A. Program Highlights

The PFID-MSP program has recorded significant results in the third year and has slated additional relevant activities for the balance of Year Three. An important feature is the emphasis on sustainability and an increased wider impact on stakeholders. Another feature to be noted is that, with the support of the LSU AgCenter and the WFLO, both Ukraine and Moldovan partners are seeking local funding support to expand PFID activities.

Considering where the two target countries were at the start of the PFID-MSP Project in terms of food safety and support systems in 2001, the following examples demonstrate visible and sustainable impacts. PFID Ukraine in particular has influenced significant policy changes in the country and is poised to become a leader in Eastern Europe in terms of science-based food safety as an important component in national and international trade.

Among the highlights for this reporting period are:

- World Lab helped a Livestock Marketing Agency conduct two auctions in Kovel raion, in which a total of seven animals were sold, saving the Kovelsky meat processing plant 5-7% in buying expenses;
- As a result of a presentation by a founder of the Union of Associations "Ukraine Refrigeration", participants of a seminar in Algeria decided to establish a similar association in that country;
- Two representatives each from the Ukrainian and Moldovan cold chain sector attended the WFLO training Institute and toured an Arkansan cold storage facility;

- Activities of PFID-established associations helped their members address a series of legal and economic constraints arising from the current period of economic reforms;
- IIFSQ has proved its organizational independence by conducting the first fully Russian language Basic Seafood HACCP Certification training in any CIS country – this also showed IIFSQ’s potential to conduct other AFDO-approved training in Eastern European;
- Kyiv National University of Trade and Economy (KNUTE) approved a HACCP course into its curriculum;
- IIFSQ staff have demonstrated that it could be recognized as a “competent third party” and certify Ukrainian seafood enterprises to export to the U.S. complying with American regulations; and
- As a result of adopting a PFID-promoted technology in freshwater fish processing, a new Moldovan plant named Ihticom established a significant sales volume and increased its employment by eight positions.

B. Program Issues

Annex A compares the anticipated indicators of Project Activities of the last six months, as stipulated in the 3rd Annual Work Plan (AWP) with the actual results. Annex B summarizes PFID-MSP’s activities for USAID’s 2003 Fiscal Year (from October 1, 2002 to the present) in conformance with Title XII reporting guidelines.

During this reporting period, the local partner in Moldova was changed as recommended by the MTE. The Project Director, Dr. Velupillai visited Moldova twice to support review and encourage the Moldova effort and to enter into a closer dialogue with the local USAID office. The Project Director also visited Ukraine twice to support the Ukraine PFID-MSP Team. The new USAID Project Manager/Cognizant Technical Officer, Ms. Carol Wilson, accompanied Dr. Velupillai in June to review progress in both countries.

Section II. Objective #2: Developing Awareness of Critical Issues

A. Accomplishments

Most of the Project’s first years’ activities involved project start-up, assessment and planning. In Year Two, PFID-MSP developed a series of support mechanisms for the Food Industry chain, including improved linkages with raw material suppliers, association building and an information support system for the industry. The Project also focused on capacity building, including training in food safety, economics, marketing and cold chain issues. PFID-MSP capacity building also included case studies in the processing of Moldovan fresh water fish. PFID-MSP/INZMV has collected and analyzed information on Joint Ventures in Moldova, providing expertise in joint venture formation among business leaders and policy recommendations to government.

In developing the PFID-MSP's activity plans for Year Three (2003) the following activities were conducted:

- A November planning meeting in Chişinău, Moldova;
- The Second Advisory Committee Meeting (ACM) held in January at Kyiv, Ukraine;
- The Mid-Term Evaluation (MTE) conducted by USAID immediately following the ACM (the MTE's report was submitted in March 2003); and
- An April 4th discussion meeting between key members of USAID and PFID-MSP, after which the LSU AgCenter submitted a response report to the MTE and that meeting.

At the first two meetings, it was decided that World Lab and INZMV would provide most of the initiative in conducting project activities, supported by LSU AgCenter and WFLO. Future Project activities would focus on meeting the Project's three implementation objectives, as follows:

- *Support Mechanisms* – Enhancement of the Information Support Systems, stakeholder associations and linkages for improving supply of raw material;
- *Capacity Building* – The International Institute for Food Safety and Quality, HACCP introduction and case studies of value-added products in Moldova and other training activities; and
- *Fostering Joint Venture Formation* – Through case studies and information sharing.

The Information Support System in both countries would include an Internet presence and collaboration with other entities to provide relevant information to stakeholders in the food industry. Such information would cover topics such as cold chain issues and food safety, as well as the meat, poultry and seafood sectors. Association enhancement activities would include capacity building, integration with the ISS, marketing assistance and support of business proposals submitted by associations. Raw material linkages involve supporting a central livestock market in Ukraine.

The IIFSQ and the Moldovan partner institution would aim to create conditions for HACCP implementation through training, monitoring, collaboration with US food safety and quality entities, policy advocacy and the establishment of food science departments at national universities. INZMV has begun to facilitate expansion of the freshwater fish processing to a commercial level and conduct a deep processing trial of spent hen meat.

Through continued case study preparation and dissemination, PFID-MSP/Moldova would identify Moldovan businesses with the potential to attract foreign investment and recommend appropriate strategies. General project management activities would include maintenance of the PFID-MSP web site, a Project evaluation and development of a procedure to submit associate award proposals as needed.

These activities as well as general management and monitoring are outlined in the Third AWP, submitted to USAID as a separate document.

B. Issues and Lessons Learned

The original AWP was submitted to USAID in February 2003. A revised AWP was developed, based on USAID's Mid Term Evaluation's (MTE's) recommendations and LSU AgCenter's responses to those recommendations. The MTE's recommendations included continued focus on international food safety and quality standards and targeted assistance in the area of industry association support, including practical information support useful to industry clients. The MTE recommended discontinued support to production-side assistance activities and a change of PFID-MSP's management in Moldova. It also recommended a formal marketing program of PFID-MSP for USAID missions. PFID's revised AWP reflects these recommendations; a final revision that reflected additional comments by USAID's Cognizant Technical Officer/Project Manager was submitted and approved in July 2003.

PFID will repeat its previous planning procedure to develop its 4th AWP, detailed as follows:

1. By the middle of September 2003, Ukrainian and Moldovan Project Activity Leaders will be asked to develop concept paper (CP) first drafts for their respective activities, to be submitted to the LSU AgCenter by the beginning of November;
2. After staff members from the LSU AgCenter and WFLO review the drafts, representative will meet with all activity leaders and recommend any revisions during a mid-November planning meeting in Kyiv;
3. Based on the consensus reached at the planning meeting, the activity leaders will revise their CPs in time for the third Advisory Committee Meeting (ACM), to be held in Chişinău in mid-January;
4. During the ACM, further recommendations will be solicited from committee members, particularly the USAID Project Manager and the representative of the LSU AgCenter's Chancellor; and
5. Based on those recommendations, the CPs will be finalized and incorporated into the 4th AWP, to be submitted by February 2004.

PFID staff will consider including the following components in the 4th AWP:

- To decrease livestock marketing costs (mentioned in Page 9), assist two communities in establishing livestock marketing cooperatives and/or informal assemblies for joint transportation of livestock to the market;
- Verify the viability of a small model wholesale livestock market in Gorokhiv raion and replicate it on three other areas;
- A representative from FDA's Office of Seafood should accompany Dr. Moody on his June 2004 build on recent efforts to initiate regulatory agreements between the FDA and PFID's target country governments (refer to Page 20) and to evaluate seafood-processing facilities for compliance¹; and

¹ This is critical to the Project's sustainability. It is also recommended that both Ukraine and Moldova plan seafood HACCP training programs for FDA evaluation. During this visit, Dr. Moody and the FDA representative will present a three-day seminar in Kiev on US Food and Drug Laws for Governmental Officials. The Ukrainian governmental has requested this seminar as instrumental in fostering international trade.

- Expand the International Institute for Food Safety and Quality (IIFSQ) from focusing on Ukraine to focusing on the Eastern Europe/NIS.

Section III. Objective #3: Formulate Support Mechanisms

As reflected in the Third AWP, emphasis has been placed in developing the following mechanisms:

- *Expansion of linkages for improving supply of raw material* – enhancement of working relationships between livestock producers and meat processors.
- *Information support expansion* – disseminated through web pages and/or brochures; and
- *Association enhancement* – organizational development activities to increase an association’s capacity to deliver services (information exchange/education, marketing and industry promotion) to its members.

A. Improving Raw Material Supply

1. Accomplishments and Impact, Ukraine

World Lab continued to provide assistance to the Livestock Marketing Agency in Volhyn oblast (province) for the development of the Livestock Auction Standing Order. A standing order is an internal document, developed to ensure compliance with the Provision on Livestock and Poultry Auctions approved by the Ministry of Agrarian Policy. Two particular provisions of the Standing Order, “Auction Procedure” and “Settlement Procedure”, were developed in response to the Agency’s chief concerns. Dr. Moldovan, the World Lab Economist, also is coordinating the drafting and advocacy of the following to be submitted as bills to the Supreme Rada (National Parliament):

- “On Regulation of Agrarian Market Development” (working title), particularly the provision, “Animal Husbandry Support”; and
- “On Auctions of Livestock and Poultry”.

PFID/World Lab facilitated meat processors and local agricultural regulators’ understanding of the central livestock market concept as well as its advantages for the meat industry. With facilitation of Dr. Moldovan, a team of livestock evaluation experts was established in Gorokhiv raion (district or a sub-component of an oblast), and a seminar on the current regulatory requirements on livestock evaluation was conducted. To describe the advantages of central livestock markets and the auction trade, a presentation was made at the meeting of agricultural producers and specialists of district-level agricultural departments of Kovel and Gorokhiv raions in Volhyn oblast. Dr. Moldovan started collecting materials for brochure to be titled “Organized Livestock Markets: U.S. Experience and Prospects for Ukraine”. Preparations have also been made to establish a column entitled, “Formation of Efficient Raw Material Procurement Channels” in Meat Business Monthly, a national journal.

Dr. Moldovan and Mr. Anatoly Yashchynky (Head of Gorokhiv Raion Department of Agriculture) visited the LSU AgCenter in May 2003 to acquire information and skills relevant to

livestock marketing. Dr. Moldavan and Mr. Yashchynskyy spent much of their time discussing relevant issues with Dr. R. Wesley Harrison who is the Agricultural Economist on PFID's Technical Team. Dr. Harrison also took the Ukrainians to observe a central livestock auction in Kinder, LA. Other visits included the a field visit to East Feliciana Parish, State Veterinarian office, local retail markets and the Mississippi office of USDA Officials responsible for packing and stockyards and for Veterinary Services.

As a result of this trip, the following revisions were made to the activity schedule:

- Based on their experience, an analytical note on U.S. central livestock market experience and adaptation of this experience to the Ukrainian context was submitted to the Ministry of Agrarian Policy;
- Upon the request of the initiating group in Gorokhiv raion, assistance was provided in business-plan plan development for a local livestock wholesale center – this included a seminar at the livestock market of Zhashkiv Raion; and
- A workshop was conducted to simplify livestock marketing and decrease costs of raw material procurement to processing enterprises – twenty-five livestock producers, cooperative officials and local government specialists in Khmelnytsky and Vinnytsia oblasts attended this workshop.

Impact: With World Lab assistance, the Agency conducted two auctions in Kovel raion, in which a total of seven hundred head were sold. The auctions were for former breeding stock that finished their productive life – culled cows, bulls and swine. The main buyers were local meat processors, including the Kovelsky meat processing plant, as well as individual consumers. These auctions saved Kovelsky 5-7% in expenses compared to what the plant originally incurred when it collected animals in numerous villages.

The agency and World Lab analyzed these first auctions to verify the relevance of the fore-mentioned Provision on Livestock and Poultry Auctions by the Ministry of Agrarian Policy. The experience from these auctions shows the necessity in amending and improving some articles of the Provision, specifically Market fees. The Provision currently obligates the buyer to pay a registration fee. In the US, the seller pays the fee. Dr. Harrison recommended such an amendment as an incentive for more buyers to participate. In addition, Dr. Moldavan favored amending the Provision to regulate functions of the government's Veterinary Service.

2. *Issues, Lessons Learned and Actions Planned for the Next Six Months*

As a result of analyzing the first auctions, the following issues were identified:

- The establishment of an auction market for commercial livestock involves significant equipment expenses;
- To conduct auctions, it is necessary to have not only qualified auctioneers and livestock evaluation experts, but also a team of other experts in each auction covered by the Agency and this team needs to be trained in the field; and
- Transportation of livestock to auctions is still problematic.

Regarding the last issue, not all shadow market intermediaries want to openly participate at the organized market. The Agency is unable to organize livestock transportation to auctions and farmer assemblies responsible for such transportation are not yet available.

The experience of the Central Livestock Market in Volhyn is being shared with interested parties from Cherkasy and Vinnytsia oblasts; this has the potential of expanding the Project impact in several regions. The training of the livestock evaluation team was rescheduled from February to May to correspond to the availability of the local departments of agriculture.

The U.S. tour significantly expanded understanding of possible options in central livestock market formation in Ukraine. Along with auctions, it might be expedient to develop small local wholesale livestock markets that would facilitate transactions between small-scale processors and livestock producers. Dr. Moldovan and Mr. Yashchinky also learned in Louisiana that it would be advisable to consider promoting informal unions of small farmers for joint marketing of livestock at central markets.

The following activities are planned for the rest of the year:

- To conduct three additional auctions at the established site in Kovel raion;
- Facilitate a wholesale livestock center in Gorokhiv Raion; and
- Study the viability of the informal small producer union model for facilitating larger lots of livestock at the market that take advantage of economies of scale.

PFID-MSP originally aimed to continue its efforts in expanding raw material for pork processors in Moldova. However, it has consented to the MTE's recommendation to discontinue this activity.

B. Information Systems

1. Accomplishments, Ukraine

To achieve Year 3 objectives for the provision and broad-based Information Support System (ISS) for industry clientele, several actions were taken. For example, a poultry information sub-system was placed on the Ministry of Agrarian Policy's website (www.ptakhy.org.ua). At the Poultry Quality Round Table Discussion mentioned on Page 21 (and sponsored in part by PFID), the poultry sub-system was demonstrated to participants.

A fish data bank and accompanying interface were developed, which included contact information and description of 456 fish enterprises grouped into several categories: processors, harvesters, fish-farmers, trade associations, ports and traders. The data bank also included a list of standards and specifications and a list of fish products. The latter includes 1,703 items of thirteen product types and is organized into a database to make it easier for enterprises to register products into the database, add new information and promote their products.

The International Institute for Food Safety and Quality's (IIFSQ's) web page is placed on the World Lab web-site (www.ubwlab.org). The page includes:

- *General HACCP information* – HACCP principles and history, administrative issues, terms and definitions;
- *General IIFSQ information* – History, prospects, activities and membership requirements;
- *IIFSQ services* – Training and HACCP plan development, application for services and a directory of HACCP trainers (refer to picture below on left);
- *IIFSQ materials* – HACCP manuals and articles;
- *Food safety legislation* – Texts of twelve laws, orders and guidelines;
- *Current and recent events* – including activity schedules (refer to picture below on right).



Interactive application form for IIFSQ/HACCP services IIFSQ/HACCP Current Activities

A cold chain web page is included in the World Lab web site (www.ubwlab.org, refer to Page 13).

2. Accomplishments, Moldova

The Project web site has been regularly updated to include information about the results of the 2002 Project activities, announcements on forthcoming meat and poultry HACCP and seafood HACCP seminars and announcements about Moldovan potential partners for joint ventures.

Data collection and processing to form various databases have been performed resulting in an ISS that will include the following information blocks:

- *Information on PFID Project* - including Project objectives, achievements to date and contact information;
- *Profiles and contact information on the project stakeholders* - including capacities and kinds of production;
- *Food safety/HACCP system* – Including requirements for HACCP implementation on meat, poultry and fish processing enterprises and HACCP basic principles, HACCP

guidebooks and information materials (provided by Dr. Moody and Dr. McMillin) and project activities on HACCP implementation;

- *Best practice of raw material production* – including information on genetic stock;
- *Post-harvest technologies* – namely Project activities on spent hens and freshwater fish processing;
- *Cold chain issues* – including guidelines presented by WFLO and the National Refrigeration Association;
- *Association development* – including information concerning the formation of Propiscicola, enhancement of the National Refrigeration Association capacity and the WFLO experience on association development; and
- *Marketing information* – including raw materials and processed production sales, as well as contact information about fish fingerling sales, breeding stock and poultry.

Thirty-two pages of an information system have been prepared, including:

- Fourteen pages on meat sector, nine pages on poultry sector and seven pages on fish sector;
- Two pages pertaining to meat and poultry HACCP and Sanitation Standard Operational Procedure (SSOP) guidebooks and seafood HACCP and Sanitary Control Procedure (SCP) guidebooks

Translation and dissemination of relevant information provided by members of the US Technical Team has been undertaken, including the HACCP supporting materials mentioned later in this document. Four stands were erected for the Food and Drinks Exhibition, concentrating on Project activity information, HACCP, freshwater fish processing and spent hens processing. Five hundred and twenty-five information leaflets for 125 poultry farmers and 342 information leaflets for 57 fish farmers were disseminated during seminars held in association with ASCA Regional Centers. The five types of information leaflets distributed to the fish farmers also were submitted to the “Agro-Courier” newspaper for publication. Lastly, articles on PFID Project activities were published in the Moldovan mass media in topics such as HACCP seminars and implementation, fish farmer seminars and production and spent hen processing; these are detailed later in this report.

3. *Issues, Lessons Learned and Actions Planned for the Next Six Months*

The poultry information sub-system placed on the Ministry’s of Agrarian Policy website allows for providing specific benefits to poultry enterprises:

- A businessman who wants to establish a broiler growing enterprise can identify the best cross of meat chickens to use for broiler production - after selecting the proper cross, s/he can find the most favorable producer of pedigree stock;
- A hatchery enterprise, having learned of the production schedule of each producer, can develop a hatchery schedule that is most convenient to that customer;

- A poultry enterprise, regardless of its specialization, can find necessary equipment for poultry care, such as climate control equipment, poultry feed, hatcheries, etc.;
- Using ISS, an enterprise can learn about regulations pertaining to the poultry industry;
- To conform to existing legislation, poultry enterprises can find in ISS a list of State Standards and Specifications for all types of poultry products.

An agreement has been reached with the Department of Fisheries on the joint development of the fish web page. PFID/Ukraine's responsibility is to develop the data bank, web page and to place it in the Internet; the Department's responsibility is to provide information and to maintain sub-systems after the end of the Project. In the next six months, World Lab will continue to place all available information in the Internet, fill and gaps in data banks and to add new information into all ISS sub-systems. Lastly, it will develop and establish feedback with ISS users.

The key goal of the Moldovan information system will be the transition from sole dissemination of printed materials to include dissemination of and electronic-based ISS. A commodity storage manual, an energy conservation manual and a refrigerated warehouses manual provided by WFLO are being prepared to be included in the Moldovan ISS.

C. Association Formation

In Ukraine, the current PFID work plan calls for the aggressive development of industry associations through seminars, training, mentoring and partnering. In Moldova, the current PFID work plan calls for increasing stakeholder association capacity through a series of round table discussions, strategic planning, and advocacy and leadership development activities.

1. Accomplishments, Ukraine

To increase effectiveness of the Union of Associations "Ukraine-Refrigeration" six Regional Information and Advisory Centers (IACs) were established, covering almost all of Ukraine. Among IAC major activities are information support and provision of consultations in cold chain, expert reviews of draft designs and technical evaluations, professional training, legal services, etc. With PFID assistance, office premises have been found and IAC heads have been selected. PFID also contributed to identifying the needs of each specific region (deriving from commodity specialization, such as seafood in the coastal regions) and how the corresponding IACs would address those needs. In Berdiansk (Eastern IAC), a seminar on IAC organizations was conducted; Eastern IAC management shared their experience with representatives of other regional centers.

Preparation of a Directory of technical instructions for refrigeration, freezing, thawing and storage of meat, poultry and seafood was completed. The Directory is available at World Lab's website (www.ubwlab.org) and will be disseminated in hard copy among participants at a seminar to be conducted in September 2003 by Union of Associations "Ukraine-Refrigeration" (UAUR) with participation of WFLO specialists. World Lab and UAUR also conducted a seminar in July entitled "Efficiency Improvement of Refrigeration Enterprises". Dr. Steven

Neel, a WFLO-affiliated specialist, attended the seminar from WFLO; full information will be available in the next SAR.

Together with the Ukrainian Branch of International Academy of Refrigeration's Press Center, materials have been prepared for the Digest of CIS Publication's first quarterly issue, "Refrigeration and Application", which includes the following sections: market analysis, technical audit, advice, "At Laboratories and Research Centers", new equipment, people and events and "Meet the Firm".

An electronic version of the manual "Utilization of Refrigeration in Fish Industry" (200 pages) also was prepared. The following additional materials of WFLO library were translated:

- Warehouse design and construction;
- Power utilization;
- Sales and marketing strategies;
- Freezing basics;
- Food preservation – product, process, packaging;
- Minimization of power costs; and
- Crisis management.

A draft Provision on certification of personnel responsible for refrigeration system design, installation and maintenance was developed. It is based on European regulations RGE #13313.

PFID and UAUR facilitated the formation of a thirteen-person team to give lectures, conduct seminars and workshops, and provide consultations in the field. The team has already prepared training materials for ways to reduce costs of meat processing, refrigeration, freezing and storage – as well as a simulation involving the conduct of an Enterprise Energy Audit.

In January 2003 a team of UAUR experts initiated a technical study of the refrigeration system's condition at Odessa Poultry Plant; findings of the group provide the foundation for a conceptual reconstruction plan. Equipment that could continue to be used was identified and assessed. Basic characteristics of the refrigeration facility were elaborated, including elements of automation and energy support. In July at the UAUR executive meeting the findings were reviewed with two foreign specialists who presented their own proposal (details are not yet available at the time of this report). These specialists were Ervin T. Burkholder from Burkholder & Associates (USA) and Sedat Kosucuoglu from Entegre Otomasyon (Istanbul, Turkey).

In April 2003 in Odessa UAUR conducted a round table discussion (attended by sixteen men and four women) with Vladimir Cherepovsky, who shared the knowledge he received at WFLO Institute. Mr. Cherepovsky used WFLO materials for the designing and implementation of a refrigeration facility construction project for his enterprise. Currently the facility is in the construction phase. The UAUR is performing technical tracking of this project.

PFID stakeholder associations were enhanced through wide utilization of ISS, and access to training sponsored by PFID. This includes an Azov Sea Basin Association (ASBA) member's participation in HACCP seafood basic certification course and Ukrptakhoprom participation in a round table discussion on poultry quality (both mentioned later in this document).

At a scientific workshop for refrigeration producers conducted on April 20-23 in Algeria, Dr. Ighor Chumak, one of the UAUR founders and Honorary Rector of OSAR, gave a presentation on UAUR experience and benefits of this model. Participants of the seminar decided to initiate establishment of a similar association in Algeria (Algeria Refrigeration Association), with support of UAUR and OSAR.

2. *Accomplishments, Moldova*

INZMV obtained support from the Ministry of Agriculture and Food Industry for the formation of Propiscicola, which encouraged Agency for Consulting and Training in Agriculture (ACSA) to conduct a two-day seminar for fish farmers under the auspices of the association. A seminar entitled “Pond Fishing - Basic Course for Fish Farmers” was held in March; twenty fish farmers from all regions of Moldova were trained and certified by ACSA and Scientific and Research Fish Station. In addition, three regional seminars, with a total participation of thirty-eight farmers, were held on marketing and technical issues. With PFID’s assistance, Propiscicola established contacts with the Ministry’s Scientific and Research Fish Station. As a result of this support, the Station provided legal consultations to two fish farmers preparing court claims: one regarding utilization of fish farming ponds rented from local authorities and the other regarding the identity of a purchased carp breed.

The following articles were written in relation to PFID’s activities with Propiscicola:

- Article “Rod, not Fish Given” described the two-day seminar in both Romanian and Russian in the newspaper “Capital” on March 20, 2003; and
- The article “Water Survival School” described the same seminar in the English Appendix to the “Capital” newspaper on April 3, 2003.

In May 2003, Mr. Ron Vallort, a WFLO-affiliated expert, visited Moldova primarily to participate in a cold chain round table held during the Chişinău Food and Drinks Exposition. This round table was organized by PFID/Moldova and attended by representatives of PFID/Ukraine and UAUR as well as Dr. Velupillai. Discussion issues included panel construction, panel heat absorption, rules of thumb, Freon vs. ammonia, and types of under-floor heating. Mr. Vallort also gave a presentation of Heating, Ventilating and Air Conditioning (HVAC) at the Moldovan Technical University (MTU) and answered questions regarding the future of fluorocarbons, Freon versus ammonia as a refrigerant and the future of solar and wind generation of energy.

He also gave a presentation on the design and construction of refrigerated warehouses at Carmez Meat Processing Company, covering the following topics:

- History and Trends;
- Factors that affect facility design;
- Dialogue with owner and basic questions;
- Design issues: goals, flexibility and expansion;
- Office and site issues;
- Energy costs and insulation;
- Exterior building construction;
- Building features;
- Maintenance reduction;

- Facility features: clear-heights, racks, blast cells, docks, curbs and guards;
- Fire protection;
- Mechanical, electrical and plumbing;
- Floor warming;
- Lighting;
- Machine room; and
- Example of a typical project.

Lastly, Mr. Vallort visited various refrigeration facilities and discussed operation issues with the managers.

Under a cooperation agreement signed between UAUR and the Moldova National Refrigeration Association, UAUR specialists provided consultations on refrigeration equipment and monitoring instruments for reconstruction of cold facility of meat processing enterprise in Balți. An audit of refrigeration facilities of fruit and vegetable industry of Moldova also was conducted and equipment depreciation, power consumption and environmental safety were assessed. About forty enterprises were investigated, resulting in the establishment of a computerized technical and energy monitoring system.

3. *Accomplishments, WFLO Experience*

Two Ukrainian and two Moldavian stakeholders had the opportunity to attend the WFLO institute located at the University of Oklahoma. The WFLO Institute was established in 1965 to fill the public refrigerated warehousing industry’s need for a specialized training curriculum. The Institute is a three-year program, with 3½ days of programming each year devoted to helping warehouse and food distribution professionals better understand the many facets of the refrigerated warehouse industry. Nearly forty classes are offered at the Institute, divided among seven tracks—Facilities Management, Finance and Productivity, Food Science/Food Safety, Human Resources, Logistics Management, Risk Management, and Warehouse Technology. More than 200 people, in positions ranging from supervisory level to top management, participate in the Institute every year. A plaque is awarded to those who complete the three-year course (the PFID-sponsored participants underwent the first year program). Participants also take home a textbook, *Successful Refrigerated Warehousing*, which serves as a reference guide to all they have learned.

The value of this three-and-one-half day program is recognized throughout the food industry. In addition to operations personnel, people who specialize in administration, engineering, human resources, accounting, and other areas attend the Institute to become more valuable employees by understanding all aspects of the PRW business.

After the visit to the WFLO Institute, candidates from Ukraine and Moldova had the opportunity to visit with the management of Arkansas Refrigerated Services, Inc. to discuss various industry practices and standards. During the visit the team toured the cold storage facility and had a “hands on” opportunity to see various management practices.

WFLO's contribution to the Project are described in greater detail in Annex C, the Combined Technical Assistance Narrative

4. *Issues, Lessons Learned and Actions Planned for the Next Six Months*

The Asov Sea Basin Model Association has proven itself to be a viable entity, able to act independently and provide services to its members (refer to the previous SAR). One of the greatest impacts provided by the Project is a dissemination and application of the ASBA model as a favorable contrast to older associations. Many of these associations are "top-driven" institutions accounting to government offices rather than to its members. They are characterized by an over-organized regulatory infrastructure. Recently, several of the largest Ukrainian poultry enterprises established an Association to promote their own interests. In the new economic situation, hundreds of small enterprises are under-represented. To advocate the interests of medium and small poultry businesses, PFID's poultry expert in Ukraine has organized a core group, including heads of several poultry enterprises, for the establishment of a "bottom-driven" Association based on the ASBA model. Currently the core group is developing association by-laws and will receive members directly and not through regional centers. It will be able to conduct commercial activities among a wide array of services, and it will include poultry growing complexes, farmers and processors - allowing for a continuous production chains.

In Kmelnytsky, a Fish Farmer Association was established using the same model of that poultry production chain from production to consumption. This newly established association will facilitate harmonious utilization of fresh water fish resources at the local level.

Activities of PFID-established associations have revealed that these activities are relevant. In the period of economic reforms many small and medium enterprises have faced a series of legal and economic constraints, while organized institutions that originally advocated their interests were disbanded and not replaced. Under such conditions, associations often are the only means for small enterprises to survive and expand. Undoubtedly, it is necessary to continue development and enhancement of the established associations and replicate this model in other regions and industries.

Taking into consideration a large share of old and obsolete equipment remaining from Soviet times, it was the right time and right place to establish UAUR and its regional Information and Advisory Centers and to develop materials on application of cold technologies.

The Project has shown itself to be a "corridor", through which cold chain information from WFLO comes to Ukraine. Translated materials are in high demand among specialists and notably cold chain business newcomers, who do not have established information sources. For example, at the UAUR executive meeting, a consensus regarding the details of the reconstruction plan for the Odessa Poultry Plant will be reached. It is probable that UAUR member South-Refrigeration Association (based in Odessa) will be selected as a leading organization.

World Lab and UAUR negotiated with BIZPRO to collaborate on the provision of business services in the cold chain. BIZPRO is the flagship SME development project for USAID in Ukraine and Moldova and provides business skills development to local enterprises. This collaboration will be conducted through regional IACs with participation of BIZPRO business

advisers. Possible ways of information support provision could be “hot lines” for small and medium businessmen participating in BIZPRO Project in Lutsk, Zhytomyr, Kirovograd, Lviv, Kremenchug, Cherkassy and Kharkiv.

In the next half-year, World Lab plans to continue facilitating the UAUR’s enhancement, both through development of regional Information and Advisory Centers and through study of experience of foreign associations. For this purpose, a study tour of leaders of Ukrainian associations to the U.S. will be proposed. As part of UAUR capacity building activities the seminar “Role of Associations in Agrarian and Food Industry” will be conducted in September. This seminar will cover the following issues:

- Potential for implementation of newly acquired cold chain skills;
- Round table on Association activities, experience of successful associations;
- A Leaders Round Table, “Prospects for development of associations through international collaboration”; and
- Any other technical training needs identified by Dr. Neel at the July efficiency round table discussion.

A list of preliminary recommendations by the participants of the round table discussion mentioned above included development and dissemination of regulations and instructions pertaining to refrigerated storage, adjusted to Ukrainian specifics.

UAUR and ASBA will continue sharing model association experience with industries in Ukraine and possibly abroad. WFLO will create and conduct assessment activities directed at Association Development and Association Capacity in the perishable food sector. Effective market development programs are strengthened by accurate and timely program evaluations. This project will endeavor to garner useful information from stakeholders who have had access to or participated in WFLO’s developmental programs. Knowledge of perceptions and impressions will assist WFLO with program efforts and value based decision-making.

This assessment will consist of the following steps:

- 1) *Survey Development* - WFLO will assess participants’ perception of WFLO-conducted programs – and identify additional training needs, support needs and program weaknesses.
- 2) *Survey Conduct* - Companies, associations and individuals will be contacted and asked to participate in one of three formats:
 - Company or Association Survey – Upper management in the association(s) and companies will be contacted for one-to-one interviews; and
 - Round Table Interviews - Persons who have participated in PFID-sponsored training will be asked to participate in a series of round table discussions in order to determine the quality, effectiveness and overall impact of PFID programs.
- 3) *Analysis and Report* – WFLO will compile a summary of the association, company and round table interviews into a final report for PFID Staff. The survey summary report will

include a listing of suggested training solutions and events to fulfill training needs as stated by survey participants.

- 4) *Follow-up* – WFLO will coordinate supplemental training and educational efforts in the region in support of the aforementioned training needs as identified by the survey mechanism.

WFLO will work closely with pre-established associations to strengthen association building efforts in the region, providing the following association management and membership development support:

- *Pilot Membership Directory* – This directory will profile existing association members, identify prospective members and explore affiliated groups that may benefit through membership in the association. For the purpose of this study, the National Refrigeration Association (NRA) of Moldova will be used as the model association. Once compiled and completed, the Pilot Membership Directory will be presented to the association as part of a formal process linking the association with the WFLO.
- *Technical Training Seminar* - The affiliate association linkage and association activities will take place during a fourth quarter technical training seminar coordinated by WFLO, LSU AgCenter and the local PFID staff. This seminar will provide valuable follow up training which will be outlined in the survey section of this work plan.

Dr. Michael Moody will spend the rest of the year preparing for industry and association (including IIFSQ) representatives from Ukraine and Moldova to attend the International Boston Seafood Show in Boston, MA. The dates are Sunday, March 14 through Tuesday, March 16, 2004. This activity will be important in establishing international networking opportunities for sustainability in future business opportunities. Consideration may be given to acquiring booth space to showcase fisheries products from both countries. Specific work items will include the identification of products and participants, as well as satisfying logistical requirements.

Section IV. Objective #4: Create Technical and Educational Capacity

In Year Three, action has been taken on the following capacity building and technical activities:

- *International Institute for Food Safety and Quality (IIFSQ)* – enhancement of the IIFSQ’s capacity to provide services to clients and to promote policy formation²;
- *Facilitate HACCP introduction* – enabling the participants of the basic certification HACCP courses to apply what they learned to the Ukrainian and Moldovan industry, as well as the US-based Train-the-Trainer participants to develop approved food safety curricula;
- *Post harvest/value added products* - informational support and case studies; and

² This activity was originally categorized as a support mechanism in the Solution Strategy Paper and the 2nd AWP but World Lab has since decided that it was more appropriately grouped with the capacity building activities.

- *Further training building on topics covered in Year Two – Including livestock market mechanisms, refrigeration and cold chain issues, poultry quality control and revitalization of aquatic resources.*³

A. Food Safety and Sanitation

The descriptions of Technical Assistance from US-based experts in the area of Food Safety are divided between the following sub-sections on the IIFSQ in Ukraine and on HACCP introduction in Moldova. These descriptions also are provided in greater detail in Annex C, the Combined Technical Assistance Narratives.

1. Accomplishments and Impact - International Institute of Food Safety and Quality (IIFSQ)

IIFSQ adjusted the training curriculum for meat and poultry to the Ukrainian context. A system of training course documentation and the IIFSQ certificate code system was developed. To accredit the HACCP training course in Ukraine, training design documents were submitted to Ukrainian Body for Personnel and Curricula Certification. Accreditation procedure is almost completed as of this report. Lead instructor application letters and supporting documents for four Ukrainian trainers and one HACCP trainer from Moldova were sent to the International HACCP Alliance.

Full versions of the latest editions of the following National Seafood HACCP Alliance manuals were translated in to Russian and proofed (the manuals are in high demand among processors and regulators):

- HACCP: Hazard Analysis and Critical Control Points. Training Curriculum (276 pp);
- Fish and Fishery products Hazard and Control Guidance (326 pp); and
- Sanitation Control Procedures for Processing Fish and Fishery Products (175 pp).

To promote sustainability of seafood HACCP training after the end of the Project, an approval process of these translated manuals was initiated with the Seafood HACCP Alliance. Scientific reviews were obtained from Institute of Food Products, Kyiv National University of Trade and Economy and Department of Foreign Languages of Moldova State University. The manuals, along with translated scientific reviews, were submitted to National Seafood HACCP Alliance.

Mr. Gregory Small of the FDA’s Center for Food Safety and Applied Nutrition (Office of Seafood) visited Ukraine. Mr. Small stated that FDA will consider IIFSQ as a competent authority in the region of Eastern Europe, and FDA is ready to provide information support for IIFSQ. On June 17, IIFSQ and World Lab organized a round table discussion on current FDA policy and forms of collaboration with foreign governments and institutions for regulators from Ukraine and Moldova. This included a presentation by Mr. Small entitled, “FDA Regulatory Compliance Agreements for Imports/Exports”. This seminar was an important initial step toward initiating a regulatory “Agreement” between FDA and Ukraine to facilitate seafood

³ In fact, the capacity building activities pertaining to cold-chain and aquaculture revitalization are closely related to the support mechanism of association development and is described as part of that Project activity. The poultry quality control is categorized with the Project activity relating to food safety and quality.

exports to the US. Sixteen Ukrainians and Moldovans (more information on the latter is available on Page 26) attended the round table and learned first-hand of recommendations on how cooperation with FDA could be established to facilitate increased trade.

On March 18, 2003, IIFSQ together with the editorial committee of Law & Person Monthly organized a round table discussion on HACCP attended by twenty-one representatives of government authorities, public organizations and mass media. Participants agreed on the necessity to facilitate HACCP implementation in Ukraine.

On April 15-16, the IIFSQ co-sponsored the conference “Modern Market Requirements to Food Safety and Consumer Protection. HACCP System”. Moldovan colleagues attended the Conference and participants gave presentations on the following issues:

- The need of HACCP implementation to facilitate integration with global economy;
- Food safety and HACCP legislative framework in Ukraine; and
- Others, including the importance of sanitation for food safety, the necessity to organize a system of training of specialists and applied recommendations for HACCP implementation, etc.

Impact: IIFSQ has proved its organizational independence by conducting the first fully Russian language Basic Seafood HACCP Certification training in any CIS country (June 11-13, Berdiansk, Ukraine). The Association of Food and Drug Officials (AFDO) and National Seafood HACCP Alliance approved the training, which was attended by thirteen women and ten men. Both Dr. Moody, who monitored the course and participants noted the high professional level of training and usefulness of materials. Dr. Moody believes that IIFSQ has fully demonstrated its capability to provide AFDO certified seafood HACCP training in the Eastern European arena.

Special attention was given to the fish harvesting and processing company “Briz”, located in Berdiansk. Initially, only one person from this enterprise applied for participation but after the first presentations, he asked organizers to allow three more specialists of his company to participate. As IIFSQ had to strictly follow the training protocol that didn’t allow participants to miss a lecture, the trainers decided to give additional presentations to these three persons. As a result, a full HACCP team was actually trained for “Briz” company.

On July 3, at the Poultry Quality Round Table discussion organized by Ukrptakhprom, IIFSQ, World Lab and NAUU (and attended by twenty-eight persons), a series of HACCP presentations were made (other topics presented at the Round Table are presented in):

- Mr. Sergeev, HACCP trainer, presented newly effective National HACCP Standards developed with facilitation of PFID;
- Dr. Myroniuk presented legal aspects of HACCP in other countries; and
- Dr. Kenneth McMillin, of the LSU AgCenter, discussed U.S. Poultry Standards and Regulations, modified atmosphere packaging, in-package bacteria inhibition, recovery of poultry mince for value added products and soy isoflavones’ effects on broiler growth and carcass traits (these specific topics were requested by Ukrptakhprom members).

As HACCP raises significant interest in Ukraine, IIFSQ responded to a series of proposals to participate in activities conducted by other institutions:

- On April 4 Dr. Myroniuk discussed HACCP with thirty attendees of a seminar on dairy safety organized by UkrConservMoloko (Ukrainian Canned Milk) Association;
- On April 8-11 IIFSQ participated in “LaborTech’03”, an International Exhibition, where it demonstrated the services that it could provide and conducted a seminar entitled “International Requirements to Food Safety on the Basis of HACCP Principles”;
- IIFSQ trainers participated in an information seminar for thirty-five food processors in Kyiv;
- On April 18 Dr. Myroniuk participated in the international symposium of Bureau Veritas “Quality and Environment – 2003” and presented “Application of HACCP Standard: Domestic and International Aspects”; and
- On May 6 Victoria Prishchepa, HACCP trainer, gave a one day seminar “Experience of HACCP System Development and Implementation for Food Processing Enterprises” to approximately 35 persons.

For PFID’s pilot monitoring of HACCP implementation, two enterprises were selected. As a representative of the seafood industry, the enterprise “Akvavit” was identified. Sergey Smorodinov, the firm’s HACCP team leader, and a colleague received Basic Seafood HACCP Certification in Odessa on July 2002. IIFSQ and Akvavit developed the first draft of HACCP plan that was reviewed by Dr. Moody during his June inspection visit (refer to the picture below). Following Dr. Moody’s recommendations, Akvavit will purchase special monitoring equipment and nine additional firm employees received operational training (without receiving an AFDO-approved certification) in 2003.

The other model enterprise selected for HACCP pilot implementation is Lubny Meat Processing Plant. A cooperative agreement was signed and a work schedule was developed. A HACCP plan was developed for paste sandwich sausage. A USDA Generic HACCP model plan for similar products was translated into Russian and provided to the enterprise along with materials on sanitation. The plant’s management and staff are committed to HACCP implementation and IIFSQ provided individual training for a three-person nucleus of the HACCP team. A HACCP plan have been developed with supporting documents and, when Dr. McMillin visited the enterprise for the purposes of HACCP plan inspection, he gave a very positive review.

Without a proper legislative framework, HACCP implementation in Ukraine would not be possible; therefore one of IIFSQ’s primal goals is facilitation of development and advocacy of laws, standards and regulations that regulate HACCP application. The Draft National Standard of Ukraine “Management of Food Safety on the Basis of Hazard Analysis and Critical Control Points” co-developed by IIFSQ HACCP trainers, was translated into English and sent for review to Dr. McMillin. He concluded that the document was generally acceptable.

The provision of IIFSQ consultations to governmental authorities now covers safety issues of different types of food. Upon request of the Supreme Rada’s Committee on European

Integration, the following Draft Laws pertaining to food safety were reviewed to assess their compliance with EU Regulations and WTO principles:

- Draft Law of Ukraine “On Amendments to the Law of Ukraine “On Veterinary Medicine”;
- Draft Law of Ukraine “On Milk and Dairy Products” – in fact, this was not passed in the first reading in part due to the IIFSQ assertion that the Draft Law had no HACCP-related provisions and does not comply with EU regulatory requirements.

Kyiv National University of Trade and Economy (KNUTE) approved an introduction of a HACCP course into the University training curriculum; KNUTE and IIFSQ have divided responsibilities for the development of training program. On April 3-4 KNUTE students made two reports on HACCP at the Student Scientific and Practical Conference.

To promote HACCP in Ukraine and develop awareness of HACCP concept and benefits of this among wide consumer audience six publications in popular and trade periodicals were prepared. A HACCP/IIFSQ web-site structure also was developed (refer to the ISS section).



Drs. Moody (center) and Myroniuk (right) with Akvavit’s manager during a HACCP implementation inspection at that seafood plant



Dr. McMillin (2nd from left), Dr. Vitale Lupascu (INZMV, 3rd from left) and Tochile staff during a HACCP implementation inspection at that poultry plant

2. *Accomplishments – HACCP Introduction in Moldova*

PFID/INZMV sent information letters regarding its intention to hold meat/poultry and seafood HACCP seminars in 2003. An article on HACCP implementation at enterprises and forthcoming seminars was published in “Capital” newspaper. The HACCP manual for seafood HACCP instructors, given by Dr. Moody, also was translated.

Two meat/poultry HACCP guides and three seafood HACCP guides have been prepared for the seminars. The review of the translation of seafood HACCP guidebooks and the guidebook on sanitation required by the National HACCP Seafood Alliance were obtained from the Department of the English Language Philology of the State University of the Republic of Moldova. The review was forwarded via IIFSQ to the National HACCP Seafood Alliance.

In addition, INZMV prepared the following articles for Moldovan publications:

- An article “Expenses are rewarded by trust”, describing HACCP seminars and implementation activities performed by the Project was written in Romanian and Russian for the “Capital” newspaper on February 27, 2003;
- An article on HACCP implementation activities at Free Fisheries was written for “Dezvoltarea” newspaper on April 10, 2003; and
- Article “It is high time for HACCP”, concerning the necessity of HACCP implementation, as well as concerning HACCP implementation activities performed by the PFID Project, was written for the Russian language newspaper “Moldavskie Vedomosti” on April 12, 2003.

HACCP plans were developed for Carmez International, Free Fisheries and Tochile poultry plant. Dr. Moody monitored the HACCP implementation at “Free Fisheries” early in June. He made suggestions, especially in smoked fish products. Smoked fish products, particularly scomboid fish species, represent one of the most challenging areas for HACCP development. The overall assessment is that this company has a good understanding of the requirements provided in 21CFR123 and has the knowledge to sustain an efficient HACCP program.

Dr. McMillin monitored HACCP implementation at “Carmez International” (meat processing; see preceding picture) and “Tochile” poultry plant (poultry processing).

To prepare a memorandum of mutual understanding regarding HACCP problems, Dr. Moody met with representatives of the Preventive Medicine Center, the Ministry of Agriculture and Processing Industry and Moldova Standard. Dr. Moody received encouragement in these meetings to continue his efforts to provide information relative to regulatory compliance issues and international commerce.

3. Issues and Lessons Learned and Actions Planned for the Next Six Months

As opposed to last year’s HACCP training, processors were the most common participants at the Berdiansk seminar; this conforms to the IIFSQ’s HACCP training/implementation strategy:

- Train the first target group of food specialists, and provide TTT programs not for processors but for consultants and regulators of that first group (completed last year);
- Promote HACCP in cooperation with the trainers who endorse the procedure among processors through their regular jobs; and
- Start training processors who to agree to the importance of HACCP.

It is noteworthy that all processors wrote in their training evaluation forms that they would like IIFSQ to provide them assistance in HACCP development. Thus, IIFSQ now has created opportunities for provision of consulting services to specific enterprises. Such services could be provided on a fee basis that would contribute to IIFSQ sustainability.

In its awareness seminars, IIFSQ ensured that a diversity of representatives of veterinary services, trade and marketing institutions and international organizations (such as the International Financial Corporation) appreciate the importance of HACCP.

Akvavit plans to double its current seafood production of 400 tons per month and intends to target the international market where HACCP is mandatory. Expansion of production and acceptability of Akvavit crab sticks at international market would allow for an eighty-percent increase in employment. In mid-July Akvavit will be shut down for reconstruction and HACCP implementation phase will start by the end of the year.

In Ukraine, work on HACCP implementation in seafood/fish industry advances in faster pace than that in the meat/poultry industry. Since HACCP adoption is voluntary, the major incentive for enterprises to do so is their respective market requirements. Currently, Ukraine has almost no exports of meat products to countries where HACCP is already mandatory. The difficulty of HACCP implementation increases for processor of multiple products each requiring a separate HACCP. It is technically impossible to conduct several different HACCP plans at one line during one shift. In contrast, some new fish processing enterprises, such as Akvavit, produce only one or a few products, and are located near raw material sources (rivers and the sea). All these factors simplify development and implementation of HACCP while the higher export market share, relative to the meat and poultry sector, increases the need to implement HACCP.

Some Ukrainian seafood products are exported to the U.S. But because U.S. regulations require that an importer employ HACCP, Ukrainian companies face certain difficulties in complying with custom entry procedures. IIFSQ, having HACCP trainers who attended standardized and FDA-recognized HACCP training could be a “competent third party” and certify Ukrainian seafood enterprises to export to the U.S. complying with American regulations, that would significantly simplify and facilitate trade between the two countries.

IIFSQ activities encouraged governmental authorities (in particular, the State Committee for Technical Regulations and Consumer Protection and Technical Committees on Standardization) to be more active in HACCP:

- On April 25, the State Committee organized a meeting pertaining to HACCP implementation in Ukraine for heads of regional Centers for CSM – decision was taken to develop agreed policy of HACCP regulatory documents elaboration;
- On April 7, the National HACCP Standard “Management of Food Safety on the Basis of Hazard Analysis and Critical Control Points” № 4116-2003 was approved – it comes into effect on July 1, 2003.

In spite of its name, most of IIFSQ’s current activities are limited to food safety and quality promotion in Ukraine. However, its scope will not be limited to the national level; it has ambition to be a regional Eastern European institution. Moldovans already have taken part in IIFSQ activities and plans for such expansion will be further detailed in the Fourth AWP and proposals for associate awards (refer to Page 33). In the next half year, IIFSQ is going to continue and build on all the activities that it started, including completion of accreditation procedures, work with pilot HACCP enterprises and policy formation.

In fact, protocols of HACCP plan implementation were signed with four Moldovan companies: Free Fisheries, Carmez International, Anina Agricultural Company (a poultry processor) and Delifres company. However, Delifres ceased its activity due to its transformation into Ihticom Company. Furthermore, the Ministry of Agriculture and Processing industry transferred the property of Anina agricultural company back to the governmental in April 2003 and this poultry processing enterprises does not still operate. Therefore, PFID/INZMV concluded a new protocol on intentions with another poultry processing enterprise – “Tochile” poultry plant JSC.

As travel constraints prevented Mr. Gregg Small of the FDA to visit Moldova, representatives of the Moldovan Government (Preventive Medicine Center and Moldovan Standards), as well as INZMV staff members, traveled to Kiev to participate in his seminar on memorandum on mutual understanding and equivalence. Furthermore, Dr. Moody was not able to evaluate Critical Control Point Critical Limits since custom requirements prevented him from bringing in the required equipment. He recommended that Free Fisheries in Moldova and Akvavit in Ukraine acquire equipment necessary to monitor Critical Limits.

Unfortunately, neither World Lab nor INZMV received complete instructions for completing the accreditation applications for the meat and poultry HACCP course that they intended to conduct this year. During his visit, Dr. McMillin provided assistance in the correct completion of the documents. Pending approval by the International HACCP Alliance, the seminar will be held in Moldova at the end of August 2003, the same month as the Seafood HACCP seminar.

The three enterprises selected for initial monitoring of HACCP implementation in Moldova will be used as the basis for HACCP training. In addition, a round table on HACCP implementation will be held with interested government agencies in July. Preliminary activities on HACCP implementation at Carmez JSC⁴ will be performed in the second half of 2003.

B. Case Studies - Post Harvest Technology

Fostering joint venture formation is a primary aim of PFID-MSP. To do so, it is necessary to identify businesses that possess the physical, financial, and human assets required to attract foreign direct investment. To accomplish this task, the economists from INZMV and LSU AgCenter have initiated a series of case studies to examine existing joint ventures in Moldova. Results of these studies will yield a body of information to be used to identify, evaluate, and build the capacity of other potential partners within the Moldovan meat industry.

1. Accomplishments and Impact

INZMV promoted the expansion of the freshwater fish processing from a trial to a commercial level by developing protocols on intentions with Vesnechia, Ihticom, Costesti, Free Fisheries, and Telenesti fish plants. Free Fisheries worked with PFID last year on the processing trials; the new collaborators received technical documents and recommended procedures. The processed products were promoted at the Food and Drinks Exhibition in May.

⁴ Distinct from Carmez International, a Joint Venture with a Belgian company, Carmez JSC is a wholly domestic operation.

Impact: On July 1, 2003, Ihticom (a newly formed enterprise and one of the participating processing plants) submitted records on freshwater fish processing and sales volumes for the first three months of its operations. It stated that, due to adopting the protocol, 13.26 tons of freshwater fish were processed or 69.8 percent of that plant's total sales volume (the remainder originating from imported saltwater fish). As a result, employment at the plant increased by eight positions.

PFID/INZMV also initiated discussion regarding deep processing of spent hens to contribute to the higher efficiency of poultry farming and greater raw material supply to the food industry. Anina Agricultural Company, Carmez JSC and Leghorn poultry plant have indicated their support to this initiative. Technical information of this process was collected and shared with these three companies. Protocols on intentions - stipulating liabilities of the parties involved in spent hens processing, the volume of spent hens supplied for processing and distribution of processing expenditures - were signed with the collaborating companies.

Carmez and Leghorn made the necessary preparatory expenditures and the initial trial was performed. Leghorn supplied 600 kg of poultry live weight for slaughtering to Bicovet poultry plant. As a result, 335 kg of eviscerated hen carcasses were supplied to Carmez JSC for trial processing in cans.

The following six types of processed poultry products were processed for a total volume of 1015 metal cans (each weighing 325 grams; refer to the following picture):

- Hen ragout with pearl barley;
- Hen meat in its own juice;
- Hen meat in jelly;
- Hen ragout in jelly; and
- Hen hearts;
- Hen ham meat.

The new products were presented at the international Food and Drinks exhibition. INZMV's involvement in post-harvest technology also was described in the following articles:

- The article "If Not Meat then Fish" describes the PFID Project's activities on fostering freshwater fish production and processing and was published in "Economic Overview" ("Economic Overview") on July 25, 2003;
- The article "Age Does Not Matter, Even for Hens", concerning the Project activities in spent hen processing was written in Russian and Romanian in the "Capital" newspaper on May 27, 2003.



Canned items from processed spent hen meat

2. *Issues and Lessons Learned and Actions Planned for the Next Six Months*

An unexpected result of the freshwater fish processing presentation at the Food and Drinks exhibition was the interest shown by Nortada Ltd. Nortada asked PFID to render assistance in procuring cut and frozen freshwater fish with the intention to export to European countries.

In spite of signing the protocol of intentions, Anina did not initiate the spent hen processing trial. In the next six months, PFID will analyze and document the feasibility of spent hen meat processing and, if the results are positive, extend the range of ready-to-eat products.

Section V. Objective #5: Fostering Business Partnerships

A. Accomplishments

Five case studies on JV establishment in meat and fish industries of the Republic of Moldova were analyzed, documented and submitted to publication. These case studies described the following joint ventures: Carmez International Inc., York Delicatese, Pascua, DC Ltd and Free Fisheries company. These case studies analyzed the republic's meat and fish markets and identified the supply structure of the operating joint ventures, taking into account different market segments. The analysis outputs were published in the international conference held by the Technical University of Moldova in May 2003.

The case studies disseminated the following information to potential Moldovan partners:

- Significance of the partner selection process for purposes of sustainability and efficiency;
- The impact of property structure and management control over JV formation; and
- The interrelationship between partner compatibility, mutual renewal of resources, management control over joint ventures and economic indicators.

The results of the analysis have been submitted to an international conference organized by the Commercial Cooperative University in June 2003 and the Information Catalogue of the Central Agricultural Marketing Information Bureau (CAMIB). It is hoped that this material will be used to improve the capacity of future local partners.

Preparatory work has been done to hold a conference in October 2003 on joint ventures. The conference's goal is to enhance the capacity of future local partners in terms of JV formation and creation of an industry task force to identify and settle issues hampering to improve the investment climate and to attract foreign investments.

Identification of potential local partners to establish JVs in the meat, fish and poultry processing industry has been initiated. INZMV contacted the Agency for Attracting Foreign Investments (AAFI), provided information on the PFID's objectives and activities and asked the AAFI for cooperation. The AAFI contacted potential foreign partners, with which it had established working relations. When a partner from the Czech Republic expressed an intention to establish a JV in the poultry processing industry, PFID and the AAFI proposed Anina JSC.

A second local partner Roma was identified directly by PFID. First, the letters-inquiries were sent to enterprises, asking if they are willing to establish a JV and Roma expressed interest. Thus, the INZMV economist conducted a Strength, Weakness, Opportunities and Threat (SWOT) analysis on the enterprise and arranged a visit with the AAFI's Director. During this visit, concrete directions for JV formation were developed and the AAFI agreed to search for a foreign partner.

The preparation of the SWOT analysis of potential local partners to form the basis of information to be put in the Project's web site has already been initiated (refer to the section on Information Support Services) and will be published with the AAFI.

All shortcomings existing in the current legislation on foreign investments, as well as negative moments on which both foreign and local partners of operating JV should concentrate their attention, were discussed with the First Deputy Minister of Economy.

B. Issues, Lessons Learned and Actions Planned for the Next Six Months

Industry capacity is anticipated to increase due to the dissemination of case study outputs, particularly during a conference scheduled for October 2003. An expected outcome of this conference will be an industry task force, created to identify and solve impediments to the investment climate and to attract foreign investments. More local potential partners will be identified and linkages with relevant organizations fostering JV formation will be facilitated. It is hoped that JV formed to be more closely tied to HACCP implementation and export increase.

As a result of their technical study mentioned in Page 14, UAUR specialists are invited to participate as experts in the "Odessa Chicken" Project that will be financed by the American-Ukrainian firm DOCS Incorporated at a total cost of \$18,500,000. The Project objective is to produce poultry meat at the rate of nine thousand heads per hour. To achieve this, three poultry growing companies, one hatchery with a capacity of one million eggs, two formula-feed plants and Odessa Poultry Plant (constructed in 1989 and currently idle) will be involved.

PFID has facilitated initial contacts between US companies and host country enterprises. Atlas Cold Storage LSU AgCenter and WFLO have identified potential partners for a refrigerated warehouse that Atlas wishes to build in Ukraine. PFID staff has also introduced Purdue Farms Inc. to Carmez International, a Moldovan processor that wishes to import American poultry products for sausage production to export to other Eastern European countries including Russia. PFID is ready to provide any assistance in the development of these linkages toward functioning business partnerships.

Section VI. General Management Issues

A. Selection of New Moldovan Partner

1. Accomplishments

A new Moldovan partner, the Central Agricultural Marketing Bureau (CAMIB), has been selected through a transparent process with the participation and guidance of the USAID/Chişinău and the PFID CTO/Project Manager. This change in management was

recommended in the USAID MTE and subsequent discussions with project Managers at USAID/Washington. This process included the following actions:

- A newspaper advertisement was placed on Monday, May 19 and a Request for Applications (RFA) was released to applicant NGOs by Friday May 23 – at this time, Dr. Lakshman Velupillai, the Project Director also solicited interest for potential applicants in Chişinău;
- The RFA closing date for receipt of applications was June 13, 2003;
- Selection of the two best applicants to be interviewed was completed at International Programs by June 17, on which date the chosen applicants were informed by email about an interview in Chisinau; and
- On June 25, Dr. Velupillai, Ms. Carol Wilson (USAID’s CTO and Project Manager) and Mr. Corneliu Rusnac (a representative from the Chisinau USAID office) interviewed the two applicants.

2. *Issues, Lessons Learned and Actions Planned for the Next Six Months*

As the new Moldovan partner, CAMIB will perform the roles originally delegated to INZMV. Some work items have already been started by INZMV and would be continued by CAMIB.

Upon selection of CAMIB, the LSU AgCenter, has issued a thirty-day notice of termination for convenience to the current partner, INZMV. Simultaneously, Dr. Velupillai has discussed the role of the new partner, and completed the process of executing a sub-contract with the new partner to manage PFID-MSP Moldova. Details including office space and location, transfer of existing equipment, personnel, and other administrative and financial management will also be addressed to effect a smooth transition. Based upon discussions with USAID concluded after the evaluation, the LSU AgCenter has requested that key members of the current team be retained to ensure continuity as well as linkages with project stakeholders.

B. PFID Expansion

1. Accomplishments

After three months of project startup, the LSU AgCenter began exploring expansion possibilities for PFID. After a year of implementing solution strategies, PFID identified strengths in two major programmatic areas: increasing the body of knowledge for industry stakeholders and developing linkages within the food industry. Specifically, the Project has demonstrated a comparative advantage in the two key areas of the food safety regulatory area and in association formation. Therefore, the LSU AgCenter has decided to develop an overall plan for marketing this comparative advantage to USAID missions. This document was submitted to USAID in April 2003.

In March 2003, a proposal for PFID-related activities in Ukraine’s Kharkiv oblast was submitted to the USDA’s Emerging Markets Office; unfortunately, USDA declined to fund the proposal. Also in March 2003, a concept paper has been submitted for the USAID mission in Jakarta to consider a proposal for an associate award to target the province of East Java. While the mission

does not currently have funds to consider such a project, the then Acting Mission Director has invited Dr. Velupillai to meet with him in August to discuss potential application strategies. Dr. Velupillai will now submit a complete proposal and discuss it at the USAID/Jakarta Mission on August 13. The LSU AgCenter submitted another Associate Award proposal to USAID/Honduras for HACCP Training in collaboration with the Escuela Agrícola Panamericana in Zamorano. Additional concept papers have been written to USAID Missions in South Africa and Bulgaria.

PFID also has examined the following European and Eurasian countries with USAID Missions, based on the recommendation of USAID: Azerbaijan, Georgia, Romania, Albania, Croatia, Kosovo, Armenia, and FYR Macedonia. LSU AgCenter staff summarized the Missions' strategic plans of the first three countries in terms of relevance to PFID's institutional experience and qualifications in separate documents; the last five were examined in a single document.

In May 2003, Dr. Velupillai and Ron Vallort, the WFLO specialist met the Citizen's Network for Foreign Affairs (CNFA) Moldova Office to explore possibilities for collaboration to rehabilitate the country's cold chain infrastructure. A first step would be to assess the existing facilities and decide whether each of the facilities should be renovated or replaced. Mr. Vallort felt that it would be ideal to have smaller refrigerated warehouses out in the country and larger refrigerated warehouses near the main cities. LSU AgCenter and WFLO later developed a proposal to CNFA involving refrigeration, building, processes and logistics

In May 2003, Dr. Sergey Melnychuk of the National Agricultural University of Ukraine visited the LSU AgCenter to acquire information and contacts relevant for establishing a university level food science program and to develop an initial plan of action for establishing such an academic department in Ukraine. Dr. Melnychuk spent considerable time with Dr. Moody, as well as that Department's other faculty members and graduate students. Dr. Melnychuk concluded his trip with a planning meeting with Dr. Moody.

2. Issues, Lessons Learned and Actions Planned for the Next Six Months

LSUAgCenter and WFLO are working on an additional associate award in Albania and Dr. Velupillai will follow up on this during a trip to that country in September 2003. In addition, the PFID staff has prepared a proposal for CNFA/Moldova to contract PFID in providing technical assistance relating to that country's cold chain infrastructure. The process will first involve a technical audit conducted by WFLO-affiliated experts on selected enterprises. This audit will provide the Project with information needed to address critical issues of each enterprise, as well profile that enterprise for potential partners and investors. CNFA/Moldova will consider this proposal when its own funding situation is clearer.

Both Drs. Moody and Melnychuk are confident that future collaboration between the LSU AgCenter and the NAUU will yield tangible benefits to the Ukrainian Food Industry. Such collaboration includes an offer by the LSU AgCenter's Chancellor, Dr. William R. Richardson, for Ukrainian students to come to the Department and earn an advanced degree in food science.

Dr. Moody has proposed that a formal activity schedule of establishing a food science program at NAUU be developed when he visits Ukraine in September for the 3rd Conference of the Global

Consortium of Higher Education and Research in Agriculture. Activities that can be included in the schedule include the following:

- An assessment of NAUU's food science curricula to identify the gaps between what the NAUU should do to fulfill its potential contribution to the Ukrainian food industry and what it already offers;
- Providing an overview to students of a university-level food science program such as what is offered at LSU – such a seminar could serve as promotion for interested students to apply for the fore-mentioned assistanceships;
- A short course taught by a LSU Food Science professor, preferably during the short semester of May-July; and
- Other cooperative programs with an emphasis of specific, discreet “mini-projects” (which could facilitate PFID's efforts in leverage).

A final plan should be submitted by 11/15 and should include results of the assessment and options for potential funding and the suggested strategies to apply for that funding. In October 2003, a similar visit to Baton Rouge is planned for Dr. Natalya Prytulskaya of the Kyiv National University of Trade and Economy. As with Dr. Melnychuk, this trip also is funded through University, not Project funds. During his trip in June, Dr. Moody visited both universities to confirm these plans.

The LSU AgCenter, in support of the PFID program, will fund all of the fore-mentioned travel.

PFID has adopted a strategic plan for global expansion of the project through USAID's Leader-Associate mechanism. Its key component is proposal procedure outlined as follows.

- 1) Identify a country with a USAID Mission, with which the LSU AgCenter or WFLO has an existing contact or about which the LSU AgCenter has received information regarding potential interest.
- 2) Review the strategic objectives of that mission and identify those that can be addressed by PFID, as described in a summary of accomplishments and qualifications.
- 3) Develop a concept paper with the following outline:
 - a) Background – concentrating on: the food industry issues of the identified country that PFID can address, the relevant qualifications of PFID and experience that the LSU AgCenter or its partners has in the identified country (if any);
 - b) Proposed Project Activities – technical areas and key program characteristics, *emphasizing PFID's strengths in promoting food safety/HACCP and association development*; and
 - c) Conclusion – included suggested next steps.
- 4) Submit the Concept Paper to the Mission with a cover letter covering the following:
 - a) Experience that the LSU AgCenter or its partners has in the identified country (if any);

- b) USAID policies and procedures pertaining to Leader/Associate agreements (as stipulated in USAID Contract Information Bulletin # 99-10);
 - c) A description of the mission's strategic objectives to be addressed by PFID; and
 - d) Conclusion – included suggested next steps.
- 5) Follow up with e-mail correspondence or other possible contact (i.e. telephone call or face-to-face meetings) with the Mission.
- 6) If the Mission wishes, prepare a more extensive proposal with format corresponding to the Mission's request.

The LSU AgCenter will explore other countries. Based on assorted factors (links with PFID/MSU, USAID recommendations and experience of LSU AgCenter, its staff or its partners, etc.), initial consideration will be given to the following countries: Former Yugoslavia/Serbia and Montenegro, Philippines, Viet Nam, South Africa, Bangladesh, El Salvador, Moçambique and East Timor.

Another FAS funding source explored by the LSU AgCenter was the Scientific Cooperation Research Program. Given the relatively small amount provided by this program (no more than \$15,000 per year), the LSU AgCenter decided to limit its proposal to a single discreet activity (a HACCP seminar) in a relatively nearby country (Honduras).

To promote the international aspect of the IIFSQ, Dr. Moody recommends that it host a PFID Eastern European Food Safety and HACCP Conference for the region. This conference could serve as a catalyst to initiate successes in Eastern Europe that are similar to those accomplished in Ukraine and Moldova. In order to host the conference, it is requested that USAID provide \$18,000 in travel funds for speakers.

C. Project Evaluation

In July 2003, PFID-MSP will collect field data for a Project evaluation. Dr. Walter Morrison of the LSU AgCenter has been contracted for this task and has developed the appropriate survey instruments. As a result of this evaluation the Project will obtain relevant information for the measurement of its progress toward its objectives and a list of recommended changes for its programmatic operations for its final year. The information and recommendations will be documented in a report, to be submitted by the end of October and presented at the third Advisory Committee Meeting.

Annex A

Summary Table Comparing 3rd Annual Work Plan Indicators with Actual Results of Reporting Period

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
<i>Project Objective # 2 - Develop Awareness for Critical Issues among Key Players</i>			
Annual Work Plan	AWP submitted to USAID's satisfaction	Original AWP submitted in Feb, first revision in May, final revision submitted and approved in July	Revisions based on USAID's MTE and CTO's review
<i>Project Objective # 3 - Formulate Support Mechanisms and Networks</i>			
Ukrainian Information Support System	Receipt of Poultry Sub-system data bases by the Ministry of Agrarian Policy	Poultry Sub-system databases, including all changes and additions made after initial receipt, were received by JSC "AgropromSystem" for insertion into the Ministry of Agrarian Policy's web portal	
	Physical Evidence of ISS in Internet, with the following: <ul style="list-style-type: none"> • Refrigeration Technologies • HACCP certified specialists • Fish enterprises data base 	<ul style="list-style-type: none"> • www.ubwlab.org/cool.htm • www.ubwlab.org/mibik.htm • Fish enterprises data base is developed 	Fish enterprises data base will be placed in Internet by the end of this year
	At least twenty participants attend a course on the ISS	Attended by 27 representatives of poultry enterprises on July 3, 2003	
Moldovan Information Support System	Documented participation in the national "Food and Drinks" exhibition on May 21st, 2003	<p>The Project participation in the "Food and Drinks" exhibition was documented and the following booths prepared and presented:</p> <ul style="list-style-type: none"> • Project activities information booth; • HACCP systematic approach to food safety; • Freshwater fish processing scheme; • Spent hen-processing scheme 	More than 60 copies of PFID Project leaflets were disseminated at the exhibition

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
Moldovan Information Support System (cont)	Initial web page designs of PFID-MSP information system developed	<p>Initial web page designs of the following blocks were developed:</p> <ul style="list-style-type: none"> • Information of PFID Project; • Profiles and contact information about the project stakeholders; • Production safety securing on the basis of HACCP system; • Best practices of raw material production; • Post-harvest technologies (spent hen and freshwater fish processing); • Issues on cold chain; • Association development; • Marketing Information 	The work on electronic format ISS development continues and will be completed in September as envisaged in the activity schedule.
Ukrainian Association Enhancement	Ukrainians who attended 2003 WFLO Institute in February share experience with at least twenty colleagues in a round table	In April 2003 in Odessa a round table discussion was conducted under UAUR, with participation of Vladimir Cherepovsky, who shared the knowledge he received at the WFLO Institute	
	Documented participation of the Azov Sea Basin Model Association and representatives of BIZPRO and other associations in a round table	A total of 20 persons (4 women) attended the round table mentioned in the previous row.	<p>To increase efficiency, it was decided to discuss the following issues that were planned for the seminars of the first half-year at the Seminar "Role of Associations in Agrarian and Food Complex" to be conducted in September 2003.</p> <ul style="list-style-type: none"> • "Potential for use of new cold chain skills" • Round table on Association activities, experience of successful associations • Discussion "Leaders Round Table: Prospects for development of associations through international collaboration"

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
Ukrainian Association Enhancement (cont.)	Facilitation of establishment of regional information and Advisory Centers of UAUR	Six Regional Information and Advisory Centers (IAC) were established Eastern IAC (Berdiansk): Western IAC (Lviv), North IAC (Kharkiv), Central IAC (Ukraine), South IAC (Odessa), Crimea IAC (Simpheropol); heads of offices selected	Functions of IACs: <ul style="list-style-type: none"> • Dissemination of relevant information • Conduct of facility reviews; • Facilitation of professional training; • Legal issues, marketing, etc. • Facilitation of best practices
Increase Moldovan Stakeholder Association's Capacity	At least twenty fish farmers participate in a 2-3 day logistics seminar	12 th -13 th of March 2003, under PFID guidance, "Propiscicola Association" with ACSA conducted the basic course for twenty fish farmers	The seminar was postponed by one month due to delayed financial support from ACSA
	Documented participation of WFLO, NRA and at least ten participants in a round table	20 people, including WFLO (Ron Vallort), NRA and various cold chain enterprises representatives, participated in the round table	
Model Livestock Market In Ukraine	Comparison of Livestock Auction Provision compliance with operational requirements is submitted to the Ministry of Agrarian Policy	The report was submitted to the Ministry's Work Team that will draft legislation entitled "On Auctions"	
	Documented training of Livestock evaluation group	An Auction Committee of Kovel and Gorokhiv raion identified members of Livestock evaluation group; first stage of three-stage training has started	Training was postponed until March as selection of participants required more time than was originally estimated
	At least ten participants from local livestock unions are trained in creating a livestock procurement and sales cooperative	25 participants from Ladyzhyn Village of Umansky Raion, Cherkassy Oblast, received this training	

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
Model Livestock Market In Ukraine (cont.)	Initial periodic monitoring reports of auction operations	Two auctions were conducted; 700 head of cattle sold.	Laws that regulate auctions are not yet approved. Therefore, the first two auctions were authorized as pilots, and a draft provision on Livestock and Poultry Auctions was verified. Also, another form of livestock market has been identified, a small wholesale market, that is currently being examined in Gorokhiv raion and in Zhashkiv town of Cherkassy oblast
	Documented visit by World Lab economist and government colleague to Louisiana	Trip is documented in IP web page	Trip provided Drs. Moldovan and Yaschynsky with useful information to apply to this project activity
Moldovan Producer-Processor Linkages	The activity and activity leader's employment are terminated	Termination documented	Due to recommendations of USAID midterm review
<i>Project Objective # 4 - Create Technical and Educational Capacity among Key Institutions</i>			
Enhancement of the International Institute for Food Safety and Quality (IIFSQ)	Documentation of initial recommendations and assistance for Subcommittees of the State Standards Committee of Ukraine	Ukrainian Draft HACCP Standards translated; Dr. McMillin's recommendations on improvement of the Draft Standard submitted to the developers of legislation	

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
Enhancement of the International Institute for Food Safety and Quality (IIFSQ, cont.)	Documented conduct of HACCP General Information Seminars in Kyiv and Alushta	<ul style="list-style-type: none"> • March 18 - IIFSQ conducted a round table discussion on HACCP, attended by representatives of governmental authorities, public organizations and mass media • April 9 – IIFSQ conducted seminar “International Requirements to Food Safety on the Basis of HACCP Principles” at the “LaborTech’03” International Exhibition (Kyiv) • April 15-16 – IIFSQ conducted Conference “Market Requirement to Food Safety and Consumer Protection: HACCP Standard System”. This Conference was attended by our Moldovan colleagues 	<p>Unscheduled Activities - As HACCP system excites significant interest in Ukraine, IIFSQ responded to a series of proposals to participate in activities conducted by other institutions:</p> <ol style="list-style-type: none"> 1. April 3 – Dr. Myroniuk gave presentation on HACCP at the seminar on milk and dairy safety, arranged by National Association “UkrKonservMoloko” (UkrCannedMilk); 2. April 8-11 – IIFSQ participated in “LaborTech’03” where it presented its HACCP training and HACCP plan development proposals in a separate booth; 3. IIFSQ trainers participated in Information Seminar for food processors of Kyiv, organized by IIFSQ co-founder UkrSCM; 4. April 18 - Dr. Myroniuk gave presentation “Application of HACCP Standard: Domestic and International Aspects” in International symposium of Bureau Veritas “Quality and Environment – 2003”
	Thirty participants trained in Sevastopol and twenty elsewhere in HACCP/ seafood Basic Certification training course	23 individuals attended Berdiansk Basic HACCP training.	Additional participants will be trained next year.
	At least three processing enterprises have developed HACCP plans with IIFSQ assistance	HACCP plans are developed for 2 enterprises: Lubensky meat processing plant and Akvavit seafood processing plant (respectively monitored by Drs. McMillin and Moody)	Currently IIFSQ has received about 10 requests from enterprises for HACCP plan development and implementation as a follow-up of information seminars and training.
Enhancement of the IIFSQ/ HACCP Introduction in Moldova	Contact between FDA and Ukrainian and Moldovan governments to lead to a signed MOU in the future	Contact between FDA and target governments initiated by seminar conducted by Mr. Gregg Small; Two Moldovan representatives, and seven Ukrainian representative attended	FDA doesn’t conclude MOU anymore; instead, it concludes Agreements on Cooperation.

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
HACCP Introduction in Moldova (cont.)	Documented monitoring of HACCP plans by Dr. Moody and Dr. McMillin for at least two enterprises	<ul style="list-style-type: none"> • Doctor Moody monitored HACCP implementation at Free Fisheries • Doctor McMillin monitored HACCP implementation at “Carmez International” joint venture (meat) and Tochile poultry plant (poultry). 	
	At least thirty participants are trained in Meat and Poultry seminar	Meat and poultry HACCP seminar was not held in June as scheduled due to accreditation delay.	Owing to Dr. McMillin’s assistance to speed up the accreditation process, the seminars will be held in August 2003 but, if the IHA’s approval is not forthcoming, this item might have to be delayed
Deep Processing of Spent Hens and Freshwater Fish	“Free Fisheries” submits a concept paper to CNFA	FF materials were developed with Mr. Iurcu and will be submitted for 600 thousand euro credit to be granted by the World Bank	INZMV has provided initial documentation; USAID recommended that work be concluded by Mr. Vitalii Iurcu
	Documented production figures from trial processing of spent hen meat and commercial processing of freshwater fish	<ul style="list-style-type: none"> • “Leggorn” plant supplied 600 kg of live weight to Bicovet poultry plant for slaughtering. From that, 335 kg of meat of eviscerated hen carcasses were supplied to Carmez JSC for trial processing, which produced 6 kinds of product for a total of 1015 cans. • This new production of spent hen meat was presented at the international exhibition “Food and Drinks” held in Chisinau in May 2003. • By July 2003 Ihticom proceeded and sold 13.26 tons of freshwater fish. 	
<i>Project Objective # 5 - Foster Business Partnerships</i>			
Fostering JV Formation in Moldova	Four - six case studies published in appropriate outlets	5 case studies analyzed and market analysis and prepared for publishing.	The analysis will be published in CAMIB in July-August.
<i>General Project Management</i>			
Evaluation	Evaluation plan and schedule, probably including a qualitative survey for stakeholders	All documents prepared according to schedule	Preparation has facilitated Dr. Walter Morrison’s field collection in Ukraine and Moldova (July 11-25)

Activity	Planned Indicators	Actual Results	Notes: Reasons for Deviation, Corrective Action, Consequences, etc.
Selection of New Partner Institution in Moldova	<ul style="list-style-type: none"> • List of potential replacements and advertisement for the PFID-MSP Moldova management • Identification of selected partner institution • Notice of termination of INZMV's subcontract within PFID-MSP and subcontract with CAMIB 	All actions undertaken according to schedule and during Dr. Velupillai's two trips to Moldova	<p>PFID's new Moldovan partner institution is the Central Agricultural Market Information Bureau (CAMIB), which will effectively start as the Moldovan partner institution on August 1.</p> <p>Dr. Lobcenco, Ms. Nedvoreaghina and Ms. Avram will remain with the project on a permanent basis while the other technical specialists will perform needed services on a contractual basis</p>
Prepare associate grant proposals as needed	At least three proposals are submitted by December	<ul style="list-style-type: none"> • Dr. Sergey Melnychuk of NAUU visited LSU to plan the establishment of a food science program; a planning meeting with Dr. Moody was documented • Concept papers have been prepared to expand PFID to Bulgaria and South Africa • A proposal has been submitted to CNFA Moldova for a cold chain feasibility study 	<ul style="list-style-type: none"> • Dr. Moody proposed that a formal activity schedule of establishing a UFSP be developed when he visits Ukraine in September • The Bulgarian CP will be submitted in July • The CNFA proposal has been favorably received

Annex B

Summary of Title XII Information Pertaining to Project Results

This document is prepared for Carol Wilson, CTO/Project Manager of PFID to inform her of PFID-MSP's Year Three activities to date. This information is based on the draft version of the Project's 5th SAR. This document's format is based on the memorandum regarding reporting for Title XII report for Congress in FY 03 and beyond. Note that four success stories are mentioned in footnotes.

Activity	Results	Actual and Possible Use of Results	Primary Beneficiaries
<i>Objective #3: Formulate Support Mechanisms</i>			
Improving Raw Material Supply, Ukraine	Development of the Livestock Auction Standing Order	Compliance with government provisions	Livestock Marketing Agency, Volhyn oblast
	Livestock evaluation team established and trained; other training by World Lab	Training Objective – The evaluation team will understand the central livestock market concept, regulatory requirements and advantages for the meat industry, as evidence in their documented management and monitoring of an auction	Meat processors and local agricultural regulators' in Volhyn oblast (2 women, 2 men)
	Visit to LSU AgCenter in May 2003	Training Objective – The visitors will acquire information and skills relevant to livestock marketing that they will share with stakeholders, resulting in revised work items	Project Economist and collaborating government official (1 male, 1 female)
	Two auctions conducted; 700 head sold	Impact: Decreased buying expenses by 5-7% ¹	Kovelsky meat processing plant, sellers
Information Systems, Ukraine	Poultry information sub-system placed on the Ministry of Agrarian Policy's website	Electronic access to input, regulatory and best practice information	Poultry sector enterprises
	Fish data bank and interface developed listing 456 enterprises, standards and 1,703 products	Electronic product promotion	Fish sector enterprises
	IIFSQ's web page	Electronic access to information on available services, materials, legislation and events	Food industry enterprises and regulatory agencies
Information Systems, Moldova	Thirty-two pages of an information system have been prepared	Electronic access to information on each sector and HACCP	Food industry enterprises and regulatory agencies

¹ With World Lab assistance, the Agency conducted two auctions in Kovel raion, in which a total of seven hundred head were sold. The auctions were for former breeding stock that finished their productive life – culled cows, bulls and swine. The main buyers were local meat processors, including the Kovelsky meat processing plant, as well as individual consumers. These auctions saved Kovelsky 5-7% in expenses compared to what the plant originally incurred when it collected animals in numerous villages.

Activity	Results	Actual and Possible Use of Results	Primary Beneficiaries
Information Systems, Moldova (cont.)	Dissemination of information, including 525 leaflets for 125 poultry farmers and 342 leaflets for 57 fish farmers	Access to printed information on HACCP, production and processing	ACSA and its client meat/poultry/fish producers
Association Formation, Ukraine	Six Regional Information and Advisory Centers (IACs) for the Union of Associations "Ukraine-Refrigeration" (UAUR) established; staff organized	Access to information support and consultations in cold chain, expert reviews of draft designs and technical evaluations, professional training, legal services, etc	UAUR members throughout Ukraine
Association Formation, Ukraine (cont.)	Cold Chain technical directory completed	Access to technical instructions for refrigeration, freezing, thawing and storage of meat, poultry and seafood available via electronic and printed media	UAUR members throughout Ukraine
	WFLO library materials translated	Electronic access to cold chain information, including warehouse design, energy efficiency, etc.	Enterprises involved in cold chain/refrigeration
	Formation of a thirteen-person team of experts	Access to training and materials to reduce costs of meat processing, refrigeration, freezing and storage	Enterprises involved in cold chain/refrigeration
	UAUR-initiated technical study of a refrigeration system's condition, January 2003	Foundation for a conceptual reconstruction plan	Odessa Poultry Plant
	UAUR-conducted round table discussion	Training Objective – The participants at the WFLO Institute will share knowledge that they received	Participating members of the Ukrainian cold chain (16 men, 4 women)
Association Formation, Moldova	Four courses provided for fish farmers in collaboration with Propiscicola (an association of small fish-farmers) and ACSA	Training Objective – Participants will receive information on basic pond fishing (for certification), marketing and technical issues	Fifty-eight participating fish farmers, including three women
	Contact between Propiscicola and Agriculture Ministry's Scientific and Research Fish Station	Station provided legal consultations	Two fish farmers preparing court claims
	Three cold chain presentations by Mr. Ron Vallort (WFLO expert)	Training Objectives – Participants will discuss issues on panel construction, coolant options, warehouse design etc.	Participating members of Moldovan cold chain (38 women, 36 men)
	UAUR-provided Advice on refrigeration equipment and monitoring instruments	Facilitated reconstruction of a refrigeration facility	A meat processing enterprise in Balți

Activity	Results	Actual and Possible Use of Results	Primary Beneficiaries
Association Formation, both countries	Participation at the WFLO institute (3 ½ -day training program)	Training Objectives – Participants will gain understanding of various cold chain issues: facilities management, finance & productivity, food science/food safety, human resources, logistics, risk management, and warehouse technology	Two Ukrainian and two Moldavian stakeholders (all male)
	Trade associations have provided services to their members	Member benefits include training/information support, advocacy and marketing assistance ²	Members of thirteen Ukrainian associations and one Moldovan association
<i>Objective #4: Create Technical and Educational Capacity</i>			
International Institute of Food Safety and Quality (IIFSQ)	Visit by FDA representative who presented, “FDA Regulatory Compliance Agreements for Imports/Exports”	FDA will consider IIFSQ as a competent authority on seafood safety in Eastern Europe; attendees learned how cooperation with FDA could facilitate increased trade	Eleven Ukrainians, and four Moldovan regulatory officials(9 men, 6 women)
	Several Informational conferences on HACCP	Appreciation of how HACCP implementation facilitates integration into global economy	300+ representatives of government, public organizations and mass media
	The first Russian language Basic Seafood HACCP Certification training in any CIS country	Impact: IIFSQ is an independent, sustainable food safety organization Basic certification in HACCP implementation ³	23 Ukrainian participants (13 women and 10 men)
	Poultry Quality Round Table	Training Objectives – Participants will increase potential earnings through information on HACCP standards in Ukraine and elsewhere, US poultry standards, etc.	28 participants (18 men, 6 women)
	Review of two pieces of pending food safety legislation	Recommendations for increase compliance with international principles	Supreme Rada (parliament)

² PFID helped form the Azov Sea Basin Association (ASBA), enhancing the fisheries sector in Ukraine. Members’ harvest volumes increased average by twenty percent; and association members have greater access to markets in Russia, Estonia, Poland, Romania and Belarus. Several ASBA members who formally operated in the “shadow sector” now have the means to produce at a scale sufficient for participation in the formal economy. The members’ costs of production decreased because ASBA members shared resources and eliminated intermediaries while sales prices increased due to quality and other marketing improvements;

³ IIFSQ has proved its organizational independence by conducting the first fully Russian language Basic Seafood HACCP Certification training in any CIS country (June 11-13, Berdiansk, Ukraine). The Association of Food and Drug Officials (AFDO) and National Seafood HACCP Alliance approved the training, which was attended by thirteen women and ten men. Both Dr. Moody, who monitored the course and participants noted the high professional level of training and usefulness of materials. Dr. Moody believes that IIFSQ has fully demonstrated its capability to provide AFDO certified seafood HACCP training in the Eastern European arena.

Activity	Results	Actual and Possible Use of Results	Primary Beneficiaries
HACCP Implementation in both countries	HACCP Train the Trainer Seminars (for Seafood and Meat & Poultry)	Training Objectives – Participants are able to conduct basic certification courses to the approval of the IHA (for meat & poultry) and the AFDO (for seafood)	Nine Ukrainians and eight Moldovans (including seven women)
	Pilot monitoring of HACCP implementation	Expert oversight and recommendations for increased compliance to international standards	Two Ukrainian and three Moldovan processing enterprises
Post Harvest Technology, Moldova	Documented cases studies on freshwater fish processing with favorable technical and marketing findings	Processing can expand to commercial level	Moldovan fish processing plants
	Protocols of intentions developed	Expansion of the freshwater fish processing from a trial to a commercial level	Five fish processing plants
	Monitoring of freshwater fish processing at one plant	Impact: 13.26 tons of fish were processed or 69.8 percent of that plant's total sales volume; employment increased by eight ⁴	Ihticom (one of the participating processing plants)
	Monitoring trial processing of spent hens	Six types of processed poultry products processed for a total volume of 1015 metal cans (each weighing 325 grams)	One layer house, one slaughter house and one processor
<i>Objective #5: Fostering Business Partnerships</i>			
Fostering JV Formation in Moldova	Five case studies on JV establishment analyzed, documented and submitted to publication	Access to information on partner selection, property structure, management control, etc.	JV proponents for Moldovan meat and fish industries
	Identification of local partners to establish JVs in collaboration with Agency for Attracting Foreign Investments (AAFI)	Potential partner selected for Czech company interested in establishing a JV with a poultry processor	Anina JSC (poultry)

⁴ INZMV promoted the expansion of the freshwater fish processing from a trial to a commercial level by developing protocols on intentions with five fish plants. One of these, Free Fisheries, worked with PFID last year on the processing trials; the new collaborators received technical documents and recommended procedures. The processed products were promoted at the Food and Drinks Exhibition in May. On July 1, 2003, Ihticom (one of the participating processing plants) submitted records on freshwater fish processing and sales volumes that stated that, due to adopting the protocol, 13.26 tons of fish were processed or 69.8 percent of that plant's total sales volume for the first three months of its operations. As a result, employment at the plant increased by eight positions.

Annex C
Combined Technical Assistance Narrative: February – June 2003
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Partnership for Food industry Development

V Semi-Annual Report

Implementation of the Work Plan By the World Food Logistics Organization

Activity 1. Ukraine and Moldova PFID participants attend WFLO Institute

Both Ukrainian and Moldavian management personnel, who are part of the PFID training program, had the opportunity to attend the WFLO institute located at the University of Oklahoma.

The WFLO Institute was established in 1965 to fill the public refrigerated warehousing industry's need for a specialized training curriculum. The Institute is a three-year program, with 3½ days of programming each year devoted to helping warehouse and food distribution professionals better understand the many facets of the PRW industry. Nearly forty classes are offered at the Institute, divided among seven tracks—Facilities Management, Finance and Productivity, Food Science/Food Safety, Human Resources, Logistics Management, Risk Management, and Warehouse Technology. More than 200 people, in positions ranging from supervisory level to top management, participate in the Institute every year. A plaque is awarded to those who complete the three-year course. Participants also take home a textbook, *Successful Refrigerated Warehousing*, which serves as a reference guide to all they have learned.

The value of this three-and-one-half day program is recognized throughout the food industry. In addition to operations personnel, people who specialize in administration, engineering, human resources, accounting, and other areas attend the Institute to become more valuable employees by understanding all aspects of the PRW business. One PRW official, who has sent all of his supervisory and management personnel to the Institute, praises the program for “offering state-of-the-art management skills and the very latest technology in the industry.” In a letter to WFLO, another respected warehouse executive writes, “After talking with my staff people on return, all were in total agreement that the new three year plan is perhaps the finest thing you could have done.” But the highest praise comes from Institute participants themselves:

“The Institute refueled my desire to do my best and to respect my fellow workers and customers.”

“The Institute provided a forum for networking which promotes growth and level of knowledge.”

“The textbook will be an excellent reference manual in my office.”

“The program gave me a better understanding of warehousing all over the country.”

Excellence in Performance Seminar—Warehouse Security

Each Institute begins with an Excellence in Performance Seminar for students in all three years. In 2003, this three-hour program will cover a broad range of topics and provide a great deal of information that will be helpful in safeguarding your facilities and your customers' products. In addition to all of the traditional security issues related to inventory theft and pilferage,

warehouses today must be concerned about cargo theft, possible bio-terrorist activity, and, especially in ammonia facilities, a critical need for improved chemical security. The discussion will include a review of government efforts to secure the food supply. This program, which will feature leading authorities on warehouse and distribution center security, will be a worthwhile investment of time for supervisors, managers, and other employees who need to understand the importance of controlling losses, protecting product, and safeguarding personnel.

Senior Executive Panel

For the seventh year, the Institute will feature a panel of senior warehouse officials who share their outlooks and perspectives on the PRW industry and answer questions from participants. This is the only place to learn from industry leaders how they got into this business, what they think about the latest trends, their outlook for the PRW industry, and even what mistakes they have made over the years.

Continuing Education Units (CEUs)

The International Association for Continuing Education and Training (IACET) has authorized WFLO to award CEUs to Institute participants. CEU awards are based on class evaluation/assessment forms. Participants must satisfactorily answer 70% of the questions in order to receive 2 CEUs.

Activity 2. Visit to Arkansas Refrigerated Services and OK Foods by WFLO Participants.

During the visit to the WFLO Institute, candidates from the Ukraine and Moldova had the opportunity to visit with the management of Arkansas Refrigerated Services, Inc. to discuss various industry practices and standards. During the visit the team toured the cold storage facility and had a “hands on” opportunity to see various management practices.

Following the cold storage visit, the candidates had the opportunity to visit the OK Foods, Inc. The team visited the poultry processing facility to again see various management practices and standards in a working environment.

O.K. Feed Mills began operation in the spring of 1933 manufacturing livestock and poultry feeds, which were sold in the Fort Smith, Arkansas area. This business, born in the Depression, initially had a total of twelve employees.

In the early 1950's, O.K. began to place chickens with contract growers for the production of broilers. As this phase of the business grew, the company entered into a joint venture with other business people in the Fort Smith area to construct a poultry processing plant known as O.K. Processors. The original plant was built in 1959, had an operating capacity of 12,000 chickens per day, and employed 80 people. Several years ago, the name was changed to O.K. Foods. In April 1994, O.K. Foods began operation of its second first-processing facility located in Heavener, Oklahoma.

In 1985, O.K. Feed Mills changed its name to O.K. Industries. O.K. Industries is the parent company of totally owned subsidiaries: O.K. Farms, Inc.; O.K. Foods, Inc.; O.K. Transportation, Inc.; and Ecology Management, Inc.

The company is totally integrated providing for all live production of breeders, pullets, and broilers handled by O.K. Farms, the entity charged with the responsibility for hatchery operations and all transportation of eggs, chicks, and broilers ready for processing. O.K. Foods, in turn, processes the live broilers and completes deboning and all further processing.

The company entered into the further processing poultry business in the early '70's. Today a complete line of precooked poultry is distributed throughout the United States. This line of products is designed to meet the needs of virtually any foodservice operator, retailer, or consumer. The line includes blanched tenders, marinated filets, wings and a host of fully cooked items. These products are all consistent with O.K. Foods' mission to make available products of the highest quality at the least cost. Additionally, O.K. Foods sells products both domestically and internationally through commodity markets.

The quick service chain restaurants also comprise an important part of O.K. Foods business. Through extensive R & D facilities, vigorous Quality programs and creative pricing programs, O.K. Foods has established itself as a leader in this area.

Two 45,000 square foot additions have been added to the facilities at O.K. Foods in Fort Smith, to increase the frozen food production of the company and allow the company to process a retail line of products to be sold to wholesale clubs and retail stores in bulk 3, 4 and 5 pound packages, under the trademarked name of "Tenderbird". These products were first available for sale in May of 1992. O.K. Foods also opened a 45,000 square foot plant located in Heavener, Oklahoma, in May 1992.

In early 1994, O.K. Foods opened a state-of-the-art Research Center in Fort Smith. This center's focus is on new product development to meet needs of both current and future customers. In this facility, customers have the opportunity to conduct tests on scaled down processing lines. Essentially every production line in the further processing facility located in Fort Smith can be simulated for testing purposes.

In April 1996, O.K. Foods opened a new freezer, distribution and further processing facility in Muldrow, Oklahoma. This facility was designed to consolidate the distribution function into a single company-owned facility. This additional further processing capacity reduced the production requirement of the Fort Smith further processing facility. With the opening of the Muldrow facility, a new subsidiary, O.K. Transportation, Inc. was formed and headquartered at Muldrow. This company handles the transportation of finished product.

Activity Report – Ron Vallort

The following is a chronological listing of my activities and contacts between May 15, 2003 and May 25, 2003 with regard to the WFLO trip that I took to Moldova:

- May 16, 2003 - I met John Nelson who is a consultant with USAID working in their Business to Business area to develop the Moldova business network. He had been in Moldova multiple times and was an excellent resource for me. He also introduced me to Angela Cebotar, the local Office Manager for BIZPRO Moldova, USAID. John thought that there were many opportunities for us to work together and suggested that I contact Angela. If you need additional contact information for Angela, please let me know.
- May 16, 2003 - At the airport in Moldova I also met Mr. Lobchenko, PFID Moldova Local Manager; Dr. Zubaty, National Refrigeration Association; Dr. Cartofeanu, Technical University Director; Andrei Harchenko, PFID; and Serghei Ponomarenco, PFID interpreter.
- May 17, 2003 – Dr. Zubaty introduced me to Moshkovich Mihail, General Director of MGM a local refrigeration supplier and installer. We drove to the offices of Sheriff where I met with the Vice President and we spoke about their cold stores, supermarkets, hotels, and football stadiums. Much of the discussion dealt with HVAC design for atriums and large spaces. i.e. domed stadiums. They are one of the largest private companies in Moldova and they are very interested in further development of the infrastructure for the cold chain. MGM is one of the largest suppliers of food service equipment and erectors of refrigerated warehouse, from small to large size.
- May 18, 2003 – Met additional PFID staff including Alexandr Marchenko - Food Specialist, Vasile Lubashko – Poultry Specialist, Maria Gheorghitsa – Economist, Natasha Avram – Accountant, and Valentina Mitrofan – Office Manager. I visited multiple additional facilities supplied and constructed by MGM throughout the day and met that evening with some of the PFID staff.
- May 19, 2003 – I made a presentation on HVAC at the Moldovan Technical University for students and faculty members. The questions from the audience, especially the faculty members, were excellent and very probing. After lunch, I visited with the technical director of Vitanta, the largest brewery complex in Moldova, and toured their process and refrigeration facilities. Later in the day, I met Dr. Velupillai, the Director of International of Programs at the LSU Ag Center, and we talked about projects that he had coming up in South Africa, Indonesia, China, and Honduras. He was very interested in my knowledge of

not only refrigeration, but also my food processing knowledge and building knowledge. He suggested that Mike McClendon incorporate me into their current projects.

- Dr. Zubaty also wants to work with me on joint funded projects which should also be of interest to WFLO along with Dr. Cartofeanu of the Technical University of Moldova who wishes to collaborate with me on multiple refrigeration projects.
- May 20, 2003 – I spoke for three hours with refrigeration industry and food processing engineers on the design and construction of refrigerated warehouses. The interchange was excellent. The presentation was held at Carmez, which is the largest meat processing company in Moldova; they have over 3,600 tons of refrigeration and more than 1,000 employees. The following people were present at the presentation made at Carmez JS:
 - “Ceproserving” JSC Centre for design, engineering and marketing services, chief engineer – Veazovsky Askold (tel. 3732-27-28-14)
 - chief specialist, technological-engineer of “Ceproserving” JSC – Danilova Liudmila (tel. 3732-27-28-14)
 - “Indal Project” Co. Kovaleova G. I. – chief cold chain expert (tel. 3732-74-58-36)
 - “Carmez” JSC – Obuhov I. U. – chief expert on ISO-9001 quality system (tel. 52-11-91, email: obuhov@carmez.mdlnet.md)
 - “Carmez” JSC – Brijatii Petru – technical director
 - “Carmez” JSC – Sudachevsky B. – chief of compressor plant
 - “Carmez” JSC – Popa I. – compressors’ plant foreman
 - Kalenic Vladimir V. – chief of “Vitanta” JS compressor plant
 - Zubatii Alexandr – President National Refrigeration Association
 - Cartofeanu Vasile – head of Refrigeration Department, Technical University of Moldova
- May 21, 2003 – Met with PFID Staff to prepare for the MOLDEXPO Roundtable and also to tour FREE FISHERIES which is one of the largest fish processing facilities in Moldova. Vasile Scobioala, Commercial Director of FREE FISHERIES, gave us a tour of their existing facility and discussed their new freezer that is presently being designed. They are also planning a new fish processing facility. He asked many questions about his existing and future facilities and I addressed his questions. He is an aggressive businessman and I believe he has the potential to work with us in the future.
- May 22, 2003 – Dr. Velupiallia and I met early in the morning at the Citizen’s Network for Foreign Affairs (CNFA) Moldova offices to see if there is any common ground for mutual projects. We met with Rod Beason, Moldova

country director; Anatoly Terzi, project manager for large projects; Valentina Plesca, manager for small grants; and Vasile Munteanu, program director/policy officer. They have recently completed a project developing 59 farm stores in Moldova and were very pleased with their accomplishment. We discussed the poor infrastructure in Moldova and the lack of refrigerated warehouses. 80% of the refrigerated warehouses in Moldova are either shut down or in a state of disrepair; I saw this as a wonderful opportunity to improve Moldova's poor infrastructure. We talked about looking at the condition of the refrigeration and building systems along with potential food processing and logistics to make a judgment as to whether each of the facilities can be renovated, or needs to be replaced. It would be ideal to have smaller refrigerated warehouses out in the country and larger refrigerated warehouses near the main cities. Dr. Veloupiallia was to develop a proposal and present it to CNFA involving 2 people. I would handle the refrigeration, building, and processes and an additional member would address logistics. This work is similar to other work that I have done in the state of Alaska and the lower 48 states.

- That afternoon, I spoke to a group of technical experts and food processing individuals at MOLDEXPO. I discussed important factors in the design and construction of refrigerated warehouses.
- May 23, 2003 – I again visited Carmez to meet with Mr. Petru Brijatii to discuss the spent hen business venture promoted by PFID that will be used in the poultry industry. Spent hens had little or no commercial use previously, but now Carmez is retrieving the meat from the spent hen and canning the meat to be sold in food stores. This is an excellent example of a successful project by PFID. The product was on display at MOLDEXPO and was well received by the public. Our discussion then turned to the refrigerated warehouse industry in Moldova and Mr. Brijatii said that Moldova needs a refrigerated warehouse system badly. A high quality audit of existing warehouses, including type of product stored, would be highly desirable. There is a large post harvest loss of production in Moldova due to poor refrigeration. It would be desirable to determine the appropriate building and refrigeration capacity and technology needed along with the necessary logistics technology and capacity. Mr. Brijatii said there is a need to promote the cold storage warehouseman industry in his country.
- May 24, 2003 – I visited DINA and spoke with Mihail Cociug, General Director, and his staff about the future of the refrigeration industry in Moldova. DINA is a large refrigeration supplier and contractor for the food service industry and cold storage warehouse industry.
- I visited a recent project by CNFA/USAID that added a controlled atmosphere refrigerated warehouse adjacent to a farm store in Codru. I visited this facility

with the contractor who constructed the facility. This is a prime example of good intentions, but many things were lacking, that would not have required much initial investment that will ultimately affect the life of the facility and its operating costs. The facility lacked curbs to protect the walls, bollards to protect the door openings and overhead door track, thermal break on the inside metal skin under the floor slab and outdoor weather protection for the refrigeration equipment.

- Additional people that I met with:
 - Juravlev Anatolii, Science Academy of Moldova (Institute of Power Engineering) – Chief of Laboratory
 - Shit Mihail, Science Academy of Moldova (Institute of Power Engineering) – Leading Scientist
 - Balan Eugene, Joint Stock “Montajcom” – deputy general director on innovation and marketing activity

I wish to thank the entire PFID staff, Dr. Zubaty, Dr. Cartofeanu and many others for the courtesies that they extended to me during my visit. They made the trip most enjoyable and productive.

I hope this gives you the essence of my activities and the people that I met while on this trip. There is sizable potential that exists for improvement in this country’s infrastructure and cold chain. I look forward to being able to participate in this endeavor. If you have any questions, please contact me.

PFID Trip Report - Michael W. Moody
May 30- June 19, 2003

Department of Food Science
Louisiana State University

This phase of the project targeted evaluating of food safety and HACCP training sustainment, evaluating seafood processing plant HACCP implementation and examining preliminary steps in establishing importation/exportation agreements between FDA and officials in Moldova and Ukraine. The initial plan called for a representative from the US Food and Drug Administration (Mr. Greg Small) to accompany Dr. Michael Moody during the entire trip, however, raised security levels and other factors limited Mr. Small visit to only the last four days of the trip.

Moldova, June 2-6, 2003

Efforts were focused in two areas: (1) evaluation of HACCP plan implementation in seafood processing plants and (2) preliminary discussions with key governmental officials on ways to increase the potential for export/import agreements.

HACCP Evaluation:

Dr. Moody spent several days reviewing HACCP plans of Free Fisheries. Suggestions were made, especially in smoked fish products. Smoked fish products, particularly scomboid fish species, represent one of the most challenging areas for HACCP development. Dr. Moody was not able to evaluate Critical Control Point Critical Limits since he was unable to bring in the required equipment in country due to custom requirements. One recommendation is that the facility acquire equipment necessary to monitor Critical Limits. The overall assessment is that this company has a good understanding of the requirements provided in 21CFR123 and has the knowledge to sustain an efficient HACCP program.

Export/import Agreements:

Dr. Moody met with representatives from the Ministry of Health of the Republic of Moldova, Ministry of Agriculture and Food Industry of the Republic of Moldova and the Department of Standardization and Metrology of the Republic of Moldova at three separate meeting to discuss the potential for developing agreements for export/import trade based on regulatory compliance with HACCP. Since a FDA representative was unable to accompany Dr. Moody into Moldova, it was explained that a seminar on the subject by FDA would be presented in Kiev on June 17th. Each of the Minister's Offices indicated that they were interested in sending a representative to the seminar. Dr. Moody received encouragement in these meetings to continue his efforts to provide information relative to regulatory compliance issues and international commerce.

Ukraine, June 7-19, 2003

Efforts were focused in three areas of evaluation: (1) HACCP training sustainment, (2) evaluation of HACCP plan implementation in seafood processing plants and (2) preliminary discussion with key governmental officials on ways to increase the potential for export/import

agreements. HACCP training sustainability evaluation was conducted in Berdiansk. HACCP plan implementation was conducted in Odessa and meetings about HACCP regulatory compliance was conducted in Kiev.

ODESSA:

Dr. Moody met with management of the seafood enterprise Akvavit in Odessa to review the HACCP plan and to offer suggestions and recommendations. The facility is modern and has excellent technical potential. The HACCP, with a couple of exceptions, meets the requirements of 21CFR123. The plan needs to validate its critical limits at pasteurization and to make a decision about critical limits at the initial mixing step. Dr. Moody will provide information on equipment manufacturers that could provide the necessary instruments needed for measurements.

BERDIANSK:

Dr. Moody participated in and monitored a seafood HACCP class planned and conducted entirely by IIFSQ. IIFSQ was responsible for registering and receiving all materials from AFDO, providing instructors and providing training materials. All phases (there are three) of the class were conducted in a highly professional manner and met all AFDO requirements. The evaluation sheets completed by students reflected a high degree of satisfaction and importance with the class. This activity clearly demonstrated a significant step towards sustainability by the Ukrainian team. Dr. Moody believes that IIFSQ is fully capable of providing AFDO certified seafood HACCP training in the Eastern European arena.

KIEV:

Greg Small, USFDA, arrived in Kiev on June 14th. Mr. Small presented a seminar to governmental health and food regulatory officials on the current FDA policies in establishing “FDA Regulatory Compliance Agreements for Imports/Exports”. This seminar was an important initial step toward initiating a regulatory “Agreement” FDA and Ukraine to facilitate seafood exports to the US. In addition, Dr. Moody visited Kiev National University of Trade and Economics and the National Agricultural University of Ukraine to discuss development of food science and technology efforts in the region.