

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

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List of Acronyms and Abbreviations

ACSA	Agency for Consulting and Training in Agriculture
AmCham	American Chamber of Commerce
BISNIS	Business Information Service for the Newly Independent States
CAMIB	Central Agricultural and Marketing Information Bureau
CCP	Critical Control Point
CNFA	Citizens Network for Foreign Affairs
CP	Concept Paper
GMP	Good Manufacturing Practice
HACCP	Hazard Analysis Critical Control Point
IFC	International Finance Corporation
Indcar	(Meat Industrialization)
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
MC	Marcolsti Combi
NVA	National Veterinary Association
PFID	Partnerships for Food Industry Development
SAR	Semi-Annual Report
SCP	Sanitation Control Process
SSOP	Sanitation Standard Operating Procedure
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 first Semi-Annual Report (SAR) and the first 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)

In March, Dr. Velupillai traveled to Moldova to help INZMV revise its work plan and adjust its staff organization. As a result, the list of country-specific project activities was to five. In April, Dr. Hubchen went to Moldova to review the Concept Papers for each project activity and found them to be more thorough by the time he returned in June.

In the reporting period, PFID accomplished the following actions in developing support mechanisms for the industry.

1) Improved Raw Material Supply

- a) Moldova – INZMV has developed:
 - i) *An out-grower scheme for genetically improved piglets* – To date, eighty-six farmers have received 1,688 piglets;
 - ii) *A beef feedlot plan* – To justify Global Exim’s search for foreign investment equivalent to \$730,000 US;
 - iii) *An examination of fishponds* – Leading to consultation services to forty fishfarmers; and
 - iv) *A freshwater fish processing plan* – In which production savings ranging from 7.9% to 27.7% would be realized, relative to the use of imported marine fish.
- b) Ukraine – World Lab has conducted initial activities for the establishment of a *model livestock market*, including
 - i) Analyses of existing mechanisms of livestock sales;
 - ii) Official approval and an office opening in Volhyn Oblast.

2) Information Systems

- a) Ukraine – World Lab has established a *database structure* to provide information services relevant to the needs of processing industries. This structure includes:
 - i) Information in at least twelve categories, including stakeholder information, raw material sources, standards, supplies and equipment; and
 - ii) A user-friendly interface to be incorporated into a newly established a web site.
- b) Moldova – INZMV has prepared the following:
 - i) *A database structure* with characteristics similar to that of World Lab;
 - ii) *A collaboration plan with ACSA, NVA and AgroInform* for information development and dissemination to raw material producers, including
 - (1) Dissemination of printed matter to forty-four fish farmers throughout the country,
 - (2) A seminar on fish production best practices to eighteen farmers in Soroca,

- (3) Three seminars on poultry best practices to nineteen farmers in Taraclia,
- (4) Four seminars in improved beef production to sixty-four farmers in Calarasi.

3) Association Formation

- a) Ukraine – World Lab has facilitated the following:
 - i) *The establishment of the Asov Sea Basin Association*, currently with twelve members– This association will control harvest in an area that the government allotted to it and improve linkages between harvesters and processors; and
 - ii) *Initial establishment of the “Black Sea Basin Association”* and a model fish industry association in the Middle Region of Ukraine.
- b) Moldova – INZMV has conducted the following:
 - i) Preparatory actions for Indcar, a *Moldovan meat processors association* currently having seventeen members – These included registration and a constituent meeting;
 - ii) Promotion of a *fish-farmers association*, resulting in thirty farmers expressing interest; and
 - iii) A *joint marketing scheme*, favorably received by five small and medium fish farmers.
- c) WFLO – On behalf of his organization, Mr. Seward conducted the following:
 - i) A *training program* in each country to demonstrate the resources and benefits available to a unified association;
 - ii) Identification of *key groups and individuals*; and
 - iii) Promotion of *action plans* for building effective associations and collaborations.

4) International Institute of Food Safety and Quality

- a) *Organizational activities* for the IIFSQ have been completed, including identification of founders and premises, definition of goals (including a HACCP training program) and preparation by-laws.
- b) An agreement that Moldovan organizations can become associate members of the IIFSQ.

Based on INZMV’s proposal, a trial will be conducted involving 120 kg of silver carp for processing. World Lab, INZMV and ACSA will further collaborate to develop their information systems. Mr. Seward recommended the formation of a core group from existing associations, the academic community and other participants in the cold chain. At this point, active stakeholders could apply for affiliation with WFLO. World Lab will initiate a case study for at least one association to determine its economic feasibility as a model of a single seafood technological production chain. INZMV will create a database, which will help organize fish farmers and target them for information services and a marketing support protocol. An agreement will be reached with Project partners regarding specific activities within the IIFSQ.

Technical specialists conducted several seminars within the Project’s scope. The conduct of those courses was facilitated by significant effort by World Lab and INZMV in preparing venues, selecting participants and translating training materials.

The seminars included the following:

- Three Ukrainians and two Moldovans successfully completed Seafood SCP/HACCP Basic Training in Louisiana State University on May 2002, in return for which they agreed to assist in teaching the HACCP class in their respective countries;
- Thirty Ukrainians and thirty Moldovans successfully completed Seafood SCP/HACCP Basic Training, which included instruction by an FDA official, in their respective countries in June and July;
- Forty-six participants attended the Meat and Poultry HACCP workshop in each country in May and June; and
- In June, three seminars were conducted on markets, branding and other economic topics: one each for red meat and poultry processors in Ukraine (attended by thirty-five and twenty-nine people, respectively) and one seminar for all processors in Moldova (attended by twenty seven participants).

Participants of all courses completed evaluation forms. They were generally highly favorable of the courses' presentation and suggested several future program directions. Training courses scheduled for the next reporting period include a seafood SCP/HACCP Train-the-Trainer program and a WFLO-conducted cold-chain management seminar.

Dr. Harrison traveled to Kyiv in April to attend the CNFA conference on Agribusiness Partnerships and to confer with counterpart economists. The CNFA conference had several sessions pertaining to JV formation in the food-processing sector. Contact was made with World Bank's International Finance Corporation (IFC) and law firms specializing in joint-venture law in Ukraine. The meetings among the economists were to plan a series of case studies regarding JV formation and the June seminars. Ms. Cainarean collected information relevant to the joint-venture process in Moldova and initiated contact with similarly minded organizations.

Unfortunately, Dr. Kamilova's and Ms. Cainarean's resignations stalled plans for the economic analysis. In Ukraine, Drs. Pashaver and Moldavan both were selected to replace Dr. Kamalova. In Moldova, Dr. Maria Gheorghita was selected as the replacement economist. The new economists will travel to LSU and confer with Dr. Harrison to better conduct the case studies and further working relationships with other institutions.

In Moldova, Dr. Velupillai identified several mutually beneficial collaborations that can be pursued under the framework of PFID for Moldova, as well as recommend changes to INZMV's structure and implementation. This includes Dr. Lobcenco assuming a greater role in INZMV's day-to-day management. Dr. Hubchen provided oversight to its INZMV's tracking and documentation of project activities.

The PFID web page has been updated and a Associate Award proposal has been submitted to USAID/Kyiv regarding the meat sector in Kharkiv Oblast. Management activities planned for the rest of the year include the preparation for the 2nd Annual Advisory Committee meeting, scheduled for January 2003 in Kyiv.

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

A. Accomplishments – Work Plan Revisions in Moldova

In March, Dr. Lakshman Velupillai, the Project Director, undertook a program and management evaluation of the PFID Moldova team. This evaluation was taken to alleviate some of the concerns raised recently by USAID/Washington, and USAID/Chişinău in regard to the PFID program and management capabilities in Moldova. Dr. Velupillai's responsibilities for this assessment included preparation of the responses to those concerns, revision of the work plan and adjustments to staff roles and functions.

A key result of this assessment was a modified list of work plan activities specific to Moldova (a revised Annex A of the Second Annual Work Plan is attached to this report). As a result of a program review conducted by Dr. Velupillai and INZMV, this list was reduced from eleven activities to five, enabling INZMV to place more concentration on each remaining activity. Those activities are as follows:

- *Activity 1, facilitation of increased raw material supply for meat processors* – To foster linkages between meat processing companies, industrial breeding complexes and private small-scale farms;
- *Activity 2, facilitation of meat quality and safety improvement* – To promote HACCP with companies collaborating with PFID Moldova and to facilitate the entry of Moldova to the International Institute for Food Safety and Quality (IIFSQ) established in Kyiv, Ukraine;
- *Activity 3, the organization of processor associations* – To initiate a meat processors association and provide seminars on the formation and benefits of associations, as well as to assemble fish farmers and use the association link as a vehicle for technological case studies and marketing improvement;¹
- *Activity 4, information system for the meat and seafood sectors* – To prepare data bases, websites and other information support schemes for clients; and
- *Activity 5, fostering formation of joint-ventures* – To conduct appropriate case studies, identify organizations experienced in facilitating joint-ventures, provide targeted PFID sector information and foster business partnerships between identified partners.

In April 2002, Dr. Jonathan Hubchen, the Project Coordinator, went to Moldova to follow up on the guidance provided by Dr. Velupillai. One of Dr. Hubchen's key tasks was to review the Concept Papers (CPs) that the INZMV staff prepared for each project activity. Team meetings concentrated on trying to meet Dr. Velupillai's focus on performance and results. Planning guidance given during Dr. Hubchen's trip involved the selection of indicators more closely tied to end results.

¹ Due to the inherent differences of the sectors, the activity lists for meat and seafood processing associations were prepared as separate sections. Association formation for the poultry sector will be deferred to Year Three, but will be investigated in Year Two.

By June, four of the five CPs relating to these Project Activities were revised to include a list of needed resources – including physical requirements and proposed collaboration. The one exception is the CP for fostering business partnerships, due to the departure of that activity’s leader. Activity leaders also demonstrated the ability to use CPs as a frame of reference when presenting their respective activities to potential collaborators.

B. Issues and Lessons Learned

Preliminary assessment indicates that while the team has the technical capacity and a good understanding of the needs of the meat, seafood and poultry sectors, it lacks experience of planning and implementation practices that emphasize program results. Despite these weaknesses, intense discussions with Dr. Velupillai have revealed that the team in Moldova has devised several activities and plans for the second year of PFID, which are expected to make a significant impact on these sectors. The linking of the processor with the peasant farmer in (Activity #1) has a good potential to be a model of collaboration between the World Bank funded Agency for Consulting and Training in Agriculture (ACSA) program, the National Veterinary Association (NVA) and PFID. PFID would facilitate the offering of a comprehensive and complementary technology/economic package to the peasant farmer, enabling him to market pigs to the processor. In another activity, the trial processing of fresh water fish by processors (a part of Activity #4) should potentially increase the supply of processed fish for consumers. This is expected to be cheaper than the products currently available in local markets.

Clearly defined roles between INZMV and its collaborators could be explicitly detailed in future CPs.

Section III. Objective #3: Formulate Support Mechanisms

In the second AWP, PFID identified the following support mechanisms to be developed in Year Two (2002) for the Ukrainian and Moldovan food industry: improved linkages between raw material suppliers and processors, information systems, association formation and the establishment of an International Institute of Food Safety and Quality, to be based in Kyiv.

A. Improving Raw Material Supply

1. Accomplishments, Moldova

Dr. Sergiu Chilimar, INZMV’s meat specialist, developed an out-grower scheme between Marolesti Combi (MC), farmers in the Soroca region of Moldova and a major processor for the distribution, fattening and sale of piglets of an improved genetic variety. All parties agreed to this scheme, which includes the following components:

- Production, weaning and distribution of pedigree piglets by MC;
- Fattening of distributed piglets by farmers identified by INZMV (and additional production of pedigree piglets by selected farmers);
- Consulting service on hog production for MC and participating farmers by PFID and collaborating organizations; and
- Purchase of the fattened hogs by Soro Meteor, the local processor.

MC is one of the nation's largest companies involved in hog production and processing. It has a breeding center, feed mill and slaughterhouse. It has access to high quality breeding stock and derives its sows from the Large White breed and two types of crossbreds between Large White and Landrace. Sires are generally derived from the Moldavian Sudic meat type, a specialized Nicônia line and an Estonian bacon breed. Breeding stock are developed and utilized in conditions controlled by MC.

As a result of this breeding, crossbred piglets are distributed to participating farmers. Distribution occurs under one of two mediums of exchange: cash sale at cost plus 15-20% or barter for the farmers' grain at current wholesale prices. These terms were documented in a contract template prepared by Dr. Chilimar and to which MC agreed on December 23, 2001. This template provides the terms for which MC and participating farmers can do business under the framework of the out-grower scheme. Under these terms, MC planned to distribute not less than 2000 pigs to farmers. Toward this end, MC has increased its breeding herd by twenty-five percent which is to be supplemented by up to twenty-four individual farmers who have expressing interest in breeding their own improved piglets for distribution.

In the first half of 2002, eighty-six farmers purchased 1688 piglets from MC for fattening or for formation of their own reproduction of piglets (this was verified by MC's accounts department). As proposed by Dr. Chilimar, Soro Meteor, which has a ready market in Ukraine, agreed to buy all hogs fattened under this out-grower scheme at prevailing market prices.

As a result of an unsolicited request, Dr. Chilimar developed a business plan for beef feedlot production, processing and commercialization by the Global Exim Company. Key among this plan was the calculation of daily weight gain and number of feedlot days to slaughter. Such a plan provides the justification for Global Exim to seek foreign investment equivalent to \$730,000 US, primarily for facility and calf purchases. Global Exim has a slaughterhouse and is confident of a Russian market. Implementation of this business plan over sixteen months is anticipated to result in a profit equivalent to \$1.19 million US.

By June, Dr. Vitali Lobcenco, INZMV's fish sector specialist, concluded a hydro-chemical and ichthyopathological examination of fishponds, including an analysis of feeding and fish growth. This was performed with the help of a Ministry of Agriculture fish-farming research station. As a result of this examination, about forty farms benefited from consulting services provided by this examination, ten of which are under continual analysis. The hydro-chemical analyses will improve the quality of water and will reduce the dissemination of fish illnesses.

Dr. Lobcenco also prepared a technical and economic justification for developing a freshwater fish processing enterprise involving the fish-dressing company Delifres and the fish farm Piscicola-Gura-Bicului. As a result of this analysis, Dr. Lobcenco provided Piscicola-Gura-Bicului and Delifres a recommended business scheme with the following items:

- An up-to-date freshwater fish processing scheme for seven kinds of fish products;
- Information on recommended processing equipment; and
- Raw material supply sources.

The cost of finished products was analyzed from the raw materials price, the loss of weight of fish during cutting and manufacturing costs. The analysis revealed that higher losses during cutting and processing of fresh water fish are offset by the significantly lower price for local raw materials, relative to imported salt-water fish, resulting in the following net savings:

- Salted products with sauce – 19.32%;
- Semi-canned fish – 7.93%; and
- Hot-smoked fish – 21.76%.

2. *Accomplishments, Ukraine*

In the Second Annual Work Plan (refer to Annex B of that document), World Lab committed itself to establish a model livestock market in one of the Ukrainian oblasts. A model livestock market would be a key solution to a series of problems, including information support, transparency of operations, payment on the basis of real prices, good selection of commodities, better control of livestock quality, etc.

To date, Project economists have conducted analyses of existing mechanisms of cattle markets and of current schemes of livestock procurement in the meat industry in Volhyn, Kyiv, Mykolaiv and Kherson oblasts. Selected statistical data and conclusions follow.

Table 1. Average live weight per head of livestock purchased by processing entities in Ukraine

Year	From Agrarian Enterprises		Household Plot Owners	
	Cattle	Swine	Cattle	Swine
1990	393	127	260	157
2000	311	91	328	116
2001	346	117	350	133

Table 2. Sales of the livestock and Poultry (in live weight) by all the distribution channels in 2001

Distribution channel	Amount sold (tons)	Percentage in total amount
Total	665,800	100.000
Procurement entities to the processing plants	201,600	30.300
Public catering system	145,300	21.800
Farmer markets	180,100	27.100
Other channels, exports	138,800	20.800
Commodity exchange and auctions	25	0.004

As a result of its analyses, World Lab concluded that livestock supply is still a weak point for meat processing operations. The agrarian market infrastructure is under-developed in that livestock producers remain attached to local processors and agree on any terms and conditions

they impose. The producers are rarely aware of alternative buyers and are reluctant to seek those alternatives and risk established relationships. The new schemes of livestock procurement that have been designed are rarely within the official economy. Today a new concept promoting efficient and accessible distribution, is required and one of the possible ways to achieve this could be a Model Livestock Market development.

Dr. Gennady Palshin, Dr. Nicolai Meleshko and Dr. Suzanna Kamilova (respectively World Lab's Director, Project Coordinator and former economist) held meetings with the District Governor of Kovelsky Raion of Volhyn Oblast, the Vice-Governor of Kharkiv Oblast, the Head of Kyiv Oblast's administration and executives of the Ministry of Agrarian Policy. In Volhyn Oblast, local authorities approved the establishment of the Model Livestock Market, partners were selected and stockyards found. Preliminary calculations of a market economic feasibility were made.

World Lab and four agribusinesses conducted all preparatory activities for establishing a Cattle Marketing Agency. Following the recommendation of Dr. Harrison, a decision was taken to ensure that no single meat processing plant would be selected as a buyer so that it couldn't dictate prices. Inviting as many private agribusinesses as possible to participate in the Agency would protect producers because prices for cattle would be established on a competitive basis. An Agency office was opened in the city of Lutsk (administrative center of Volhyn Oblast). This Agency would be a model organization to establish and organize Livestock Market.

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

Dr. Chilimar is organizing a seminar on ways to increase the hog supply and reduce its price cost. The seminar is planned for the 30th of July in Ghindeshti village, Soroca. The thirty-five trainees are farmer participants of the out-grower scheme with MC. Topics will include efficient fodder use, and disease prevention (both given by local NVA members) and economic aspects (given by INZMV's replacement economist).

In the CP for his Project Activity, Dr. Chilimar originally envisioned a model hog-fattening farm, which would be developed in collaboration with ACSA and would demonstrate production techniques to farmers participating in the out-grower scheme. Unfortunately, this did not occur due to a lack of funds available from either organization. All joint training seminars that were conducted for participating farmers were to be complemented by the dissemination of printed material, which was to facilitate ACSA's goal of producing and disseminating ten brochures for the second half of 2002. But, as with the demonstration farm, funding resources have not yet been identified by either Project.

In addition to MC, at least three of the twenty-four identified farms will be distributing piglets by the end of 2002. Dr. Chilimar will continue monitoring this and other components in the out-grower scheme.

After examining the processing scheme presented in Dr. Lobcenco's justification, Piscicola-Gura-Bicului, Delifres, and the processor Free Fisheries, developed a partnership plan to conduct a trial of freshwater fish processing. Piscicola-Gura-Bicului will supply "Delifres" Ltd. with 120 kg of silver carp for processing. "Delifres" Ltd. will cut the carp and prepare it for

processing. Free Fisheries Ltd. will brine and process the carp resulting in the following finished products: hot-smoked, in sauce and semi-canned in sauce. The entire process will be performed under a strict observance of veterinary, sanitary and epidemiological requirements, as well as preparation of required records. If successful, this use of cheaper, locally produced fresh-water fish could lead to lower price and higher availability to consumers, as well as greater profits to producers and processors.

World Lab's planned feasibility studies for a central market were stalled until new economists were found to replace the departed Dr. Kamilova. This and the search for potential partners and investors will be initiated in the next half of the year.

B. Information Systems

1. Accomplishments, Ukraine

World Lab established objectives and tasks of an information support system. Using experience of previous projects, World Lab specialists developed a database structure to provide information services that would solve the most urgent problems of processing industries. Databases have been partially filled out, including those for the poultry and meat sub-systems.

At the time of writing, the databases contain the following information:

- A sorted list of potential clientele with contact information – 275 poultry enterprises (including those in production, marketing, processing and associations) and 162 meat enterprises of sector (sixty-seven production and ninety-five processing);
- Information on raw materials and processed products for the meat sector (341 items categorized among four types) and for the poultry sector (fifteen product items among ten types);
- List of thirty-one poultry breeding crosses and sixty-two poultry pure breeds, with photos and brief descriptions;
- Annual monthly schedules for 2002 of eighteen breeding hatcheries and chicks (one-day and 120-days), with reference to poultry type, cross or breed;
- Lists of standards and specifications in force for meat and poultry products, grouped by product type;
- Stock list of 347 logistical resources and sixteen containers and packaging materials (available for purchasing in Ukrptakhoprom, the Ukrainian Association of Poultry Producers), grouped by equipment functions, with reference to price and country of origin;
- List of protein-vitamin additives, premixes and formula feeds offered for sale for poultry;
- Offers of incubated eggs, chicks, table eggs and poultry meat;
- Information on innovations in poultry industry, grouped by topics;
- List of swine breeds released in Ukraine, with photos;

- List of meat-type cattle breeds, with photos; and
- Information from the Ukrainian Association of Meat Producers (Ukrmiasso) on equipment for meat processing industry available at a Ukrainian engineering plant, with reference to functions, production capacity, prices and contact information.

A user-friendly meat and poultry sub-system database interface is being developed in Visual Basic (containing 732 KB of codes). Through the Internet, the interface will allow a user to select information to be used, using the following criteria: oblasts, groups of enterprises, types of products or equipment, etc. Furthermore, a web-portal development team was established, including web-design specialists, network development and administration specialists, and database development specialists. Activity on access channels provision, purchasing server on bid basis, etc. is being conducted. Project information is currently available on a World Lab-developed web site (<http://my.elvisti.com/worldlab/>)

2. *Accomplishments, Moldova*

INZMV based its information system scheme on those of partner institutions. The scheme has three components:

1. *Information dissemination through PFID Project web site via the Internet* – For globally available information about the Project;
2. *Information dissemination directly to the industry stakeholders* – Including the information presented by PFID’s American partners (on HACCP, best practice of processing, storage and transportation manuals, economic issues, association activities etc.) and PFID Project activities (meetings and seminars); and
3. *Partnerships with other institutions for information dissemination* – Particularly for raw material producers (typically small-scale farmers) for whom other institutions have already developed an information infrastructure, which will complement INZMV’s access to appropriate and up-to-date information.

Dr. Alexandr Marcenco developed a scheme of information blocks to coordinate the collection and dissemination within the framework of INZMV’s information system. Professor Ilie Costash, academician of the International Academy of Information Science, rendered advisory assistance in development of PFID information blocks scheme.

Key components include the following:

- Database of key PFID Project stakeholders (collected through the PFID Client Profile – refer to the 2001 Assessment Report);
- Database about refrigeration equipment of PFID clients (collected last year in a refrigeration survey – refer to the 2001 Assessment Report);
- Manuals and training materials, provided by Technical Team of LSU AgCenter and WFLO (including those provided for training seminars);
- INVMV-generated information materials for the meat, poultry and seafood sectors;

- Databases of potential members of Processors and Fish Farmers Associations (currently being conducted).

Drs. Lobcenco and Marcenco, together with three representatives of the Agency for Consultancy and Training in Agriculture (ACSA), met with World Lab, Ukraine in late June. The Moldovans availed of the experience of World Lab Project staff in information management. The experience of World Laboratory in formation of information system will be used for development of a PFID Moldova information system for Meat and Fish Sectors. ACSA representatives showed interest in studying the Vinnitsa Project information System and expressed readiness for the subsequent collaboration.

INZMV has prepared Project information in Romanian and Russian for a newly established web site (www.inzmv.moldline.net), which will be continuously updated. It initially has components similar to those of the LSU-generated web site: Project scope, partner institutions, summary of first year accomplishments and activities for Year Two.

INZMV has developed a plan of information development and dissemination among the producers of raw material in collaboration with ACSA, a national non-governmental organization that supports private agricultural sector by creating and developing a network of advisory, training and information services for agricultural producers. ACSA has shown interest in disseminating information pertaining cattle-breeding sector and the fish sector.

Information services to farmers were provided, including oral consultations and dissemination of the following: 126 issues of books on fish production methods and forty-four information leaflets on two topics. In collaboration with ACSA, forty-four farmers received this information. These included eighteen Soroca-area fish farmers who, in April, attended a seminar organized by the ACSA regional center. In this seminar, Dr. Lobcenco presented a seminar on best practices for freshwater fish production under local conditions. This seminar was complemented with the dissemination of the five information sheets of "Cultivation of commercial fish - Formula of success" to the seminar participants.

Drs. Ion Socican and Vassili Lupasco (respectively INZMV's Director and Poultry Specialist), in collaboration with a local NVA representative, have contributed to a seminar organized by the ACSA regional center in Taraclia region on the best practices of poultry breeding, nutrition and disease control. Nineteen poultry farmers attended this seminar. Dr. Chilimar conducted four seminars in three villages for 64 farmers on issues of improved beef production including improved genetic resources and feed management. These seminars were in collaboration with the Calarasi regional center of AgroInform (AgroInform is a network of regional non-governmental organizations supporting private farming through professional advisory services).

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

World Lab will further develop its system of preparing and distributing information concentrating on the following:

- Development of ways that stakeholders can access relevant information services;
- Distribution of information on a contractual basis, via phone and fax; and

- Distribution of structured information services via Internet.

The ACSA management has shown a large interest in the Vinnitsa Project and its experience pertaining to the development of an information system. Dr. Velupillai promised support in analysis of the Vinnitsa project that would facilitate the partnership between PFID and ACSA in the joint development of an information system.

Under its role of consulting to farmers who participate in the developed scheme, PFID Moldova will prepare for dissemination a poster, “Ways to Success”, which will be published in collaboration with ACSA. Using easily understood terms, the methods of cost price reduction for pork production will be described in this poster. At least two seminars will be conducted in collaboration with the Soroca regional center of ACSA and the regional center of NVA. These seminars will cover the most appropriate technologies for pork production including feeding, disease prevention, cost efficiency and other relevant topics.

Databases will be posted on the INZMV’s web page, including those client processors that gave their permission. Technical information developed for raw material seminars also will be included. INZMV’s information system will be further refined when the findings of a stakeholders survey is analyzed (the survey is currently being conducted). Dr. Lobcenco is scheduled to jointly conduct additional fish farming seminars with ACSA service providers in Edinet, Balti and other regions. Dr. Chilimar was invited by the AgroInform regional center at Ungeni to conduct seminars for beef producers.

C. Association Formation

1. Accomplishments, Ukraine

The development of model associations of seafood producers in the Southern region of Ukraine has significantly outgrown originally planned results. At the first stage of this Project Activity, the work focused on establishment of a model association uniting seafood processors and small private owners of fish-catching fleet of the Azov Sea Basin. World Lab held a series of meetings of potential members, involving experts from State Department of Fish Industry to explain the goals of the Asov Sea Basin Association. In addition, an organizational committee was established and by-laws were developed. The Association was registered as a union of twelve enterprises as members and four enterprises as candidates.

The establishment of this association has proved to be very timely. While the “shadow” fish sector is flourishing in Ukraine, such an association allows for establishing public control over the utilization of Azov Sea’s bio-resources and regulating human environmental impact. World Lab negotiated with the State Department of Fish Industry to allot specific catching areas for the Association so that it would be responsible for limiting catch volumes, for reproduction and for combating poaching within those specific areas. It also regulates relations between catchers and local authorities, sanitation and environmental control agencies, and custom officers.

The association also establishes direct relations between harvesters and processors, extends their mutual understanding and collaboration and reduces time of delivery to the final consumer. This supports the development of the market economy and reduces its transition period. Most

importantly, it convinces people that the market economy does not necessarily have to be brutal or callous but that it can be beneficial to individual households.

A similar association, called the “Black Sea Basin Association”, was established in Kherson Oblast. The initial stage was to establish an Organizational Committee; a meeting of founders was held, by-laws were developed, and negotiations with local authorities were conducted. The attractiveness of such associations has led World Lab to promote a model fish industry association in the Middle Region of Ukraine. Formal establishment of this Association is almost completed but its activities have not yet started.

2. *Accomplishments, Moldova*

Dr. Chilimar of INZMV undertook various preparatory actions for the establishment of a Moldovan meat processors association. He obtained information regarding Ukrmiaso’s organizational experience, including its constituent acts and agreement. The latter provided blueprints for similar documents in forming a meat processors association in Moldova, which were distributed to fourteen potential members. Dr. Chilimar conducted preliminary negotiations and prepared a list of potential members of the association’s core group. Based on the agreement with that core group, an Organizational Committee was formed and met on June 18. It was decided at this meeting to hold a constitutive meeting in July 9, 2002 to form a meat processors association in Moldova. Participants in this meeting would approve statutes (including entrance and annual fee) as well as elect an Association Board, a Chairman and an Inspection Committee.

A constituent meeting of the Moldovan core group of the proposed meat processors association was held in July. Seventeen people, mainly directors of processing companies, agreed to form an Association named "Indcar" (an abbreviation of Meat Industrialization in Romanian language). Dr. Ion Chubuk, a former prime minister, was elected as President of the company; in addition, seven Board Commission members and three Controlling Commission were selected. The Goals of "IndCar" Union included:

- Improvement of meat product quality;
- Diversification of product range;
- Increased product competitiveness, both in internal and foreign markets;
- Facilitation of entry into new markets;
- Advocacy of members' interests to the government, including Parliament; and
- Establishment of relationships with other Professional Associations and the media.

Dr. Lobcenco undertook similar actions to establish a Moldovan fish-farmers association. INZMV has identified 120 fish-farmers in the country and started surveying pond size and production. From this survey, Dr. Lobcenco has concluded that small and medium fish farmers have the potential to produce fish on the same level as large producers. Dr. Lobcenco documented his conclusion in a feasibility statement for an association of small and medium fish-farmers distinct from the current Association of large, former state-owned fish farms. Such an association would access technical assistance, coordinate activities (such as marketing) and

provide advocacy for its members. He solicited the support of the Ministry of Agriculture, which is critical because fishponds are state property rented to producers. This support was publicly announced at a Ministry-organized working meeting for the sector.

After discussions with thirty-four fish farmers throughout the country, Dr. Lobcenco obtained positive interest for a national association from thirty farmers. In the Soroca region, Dr. Lobcenco participated in an ACSA-sponsored fish-farmers meeting, in which eighteen farmers also agreed that it is necessary to form a National Fish Farmers Association and showed interest in establishing a regional branch of the National Association.

INZMV conducted an analysis, which recommended that small and medium fish farmers jointly combine their marketing efforts with processors to use the latter's existing distribution channels. In other words, market support may be established through establishing partnership relations between small and medium fish-farmers and:

- Large fish companies, using their traditional distribution channels; and
- Fish processing companies which, based on mutually beneficial terms, will receive fresh water fish produced by farmers for further processing.

Five small and medium fish farmers showed interest in this recommendation.

3. Accomplishments, WFLO Experience

In June, Mr. R. Brinkley Seward, membership director of the World Food Logistics Organization (WFLO), conducted a training program in each country to accomplish the following objectives:

- Demonstrate the resources and benefits available to a unified association representing the entire cold chain in Ukraine and Moldova;
- Identify groups of individuals as key people for each specific region; and finally
- Encourage those key people to formulate a plan of action for building an effective association.

The training attempted to point out the linkage among the food industry components and that commercial gain could be achieved through proper product handling and storage.

In Ukraine, Mr. Seward conducted this seminar as part of the conference, "Development of Associations of Refrigeration Producers, Seafood Harvesters and Processors", conducted in Odessa. There, it was observed that the conference participants were unaware of their colleagues in other sectors and that many were meeting each other for the first time. There seemed to be limited communication between the technology providers and "possible" technology users, (producers, processors and warehouseers of products) and limited interaction with regards to marketing efforts.

Participants displayed interest in better understanding the capacity of an industry working together to raise the level of the overall industry for all to benefit. It was pointed out that there was a wealth of knowledge, resources and talent within the existing associations and related cold and food chain industry and that it was WFLO's goal to assist in the coordination of these

associations into a unified body and to share its decades of research and training. As meetings among the associations progressed, a bonding developed when several of the key participants confirmed that they would work together to form one strong association. Further, the fish industry associations in the Odessa region indicated they would work among themselves and then coordinate with those in the meat industry in the Kyiv region. A similar experience occurred in a conference held for association executives and industry leaders in Chişinău. A very tangible benefit of the conferences was the conferences themselves, providing a forum and platform for the participants to become aware of one another and their common interests.

As an outcome of a round table discussion with top officials of Ukrmiasso, Ukrptakhoprom, the Ukrainian Food Union and the Association of Confectionery Producers, those associations proposed to join the Odessa Core Group and to establish the National Cold Chain Association. On June 26, 2002 the first meeting of the Steering Committee of the Association was held where major provisions of the founding statutes were accepted. The main goal of the new association would be to offer information on technological issues as well as support project management and evaluation, professional training and marketing.

The Institutional and transformation process continued apace. For instance, Presidents of Associations “Azov Sea Basin Association” and “Hadjibey Liman” after Odessa Seminar announced their decision to merge into one association.

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

In Ukraine, the Project was a catalyst in satisfying the long-felt need to unite efforts of small and medium private processors and raw material suppliers into associations and to develop activity standards adequate to national conditions. Mr. Seward identified the following individuals as important to the association building process:

- *International Industry & Research Association–South Association of Ukraine* – Currently has fifteen members (including fish industries, cold storage and academics);
- *Azov Sea Basin Association and Hadjibey Liman Association* – Twenty-two total members, primarily fish processors and processors;
- *Ukrmiasso and Ukrpratakhom* – Ukrainian National Associations of the meat and poultry sectors respectively (both are original PFID stakeholders and current WFLO members);
- *Association of Refrigerated Specialists of Moldova* – Represents professional interest of 100 member refrigeration engineers and is currently providing seminars to prevent ozone abuse;
- *National Refrigeration Association of the Republic of Moldova* – Develops and disseminates technical information for members; and
- *Carmez Company of Moldova* – Original PFID stakeholder and current WFLO member.

Mr. Seward made recommendations during both the formal conferences and outside meetings. The first regarded the formation of a core group from key players among existing associations, the academic community, warehouse operators, producers, processors, importers/exporters, suppliers to industry and other participants in cold chain management. The second was to initiate dialog on association formation. The formation of by-laws followed by efforts to satisfy legal requirements should follow. At this point, stakeholders could apply for affiliation with WFLO. As a result, WFLO can serve Cold Chain Associations in Ukraine and Moldova as newly affiliated members.

It was further recommended that the participants in the conference and those active in association building be used as resources to follow up cold chain activities. There was much expertise assembled and this was considered to be a valuable resource for the general membership of an association. It was further recognized that both Ukraine and Moldova had existing organizations from which to build. This will save much work to the advantage of the members of the new association in Ukraine and Moldova. The response from participants of the conferences and individual meetings was positive and by all accounts the training program was highly successful.

According to evaluation forms filled out by sixteen Moldovan participants of the WFLO Association Training Seminar, thirteen participants evaluated the training as very useful and three as moderately useful. Moldovan participants most commonly indicated the following topics as the most useful (in order): “The Role of an Association in the Food Industry” And “The Organizational Structure and Goals of an Association”. Moldovan participants most commonly recommended future programs be linked to the task of establishing a new association.

World Lab will continue to facilitate contacts between Associations of Southern Seafood Association and local administrations to obtain licenses and quotas, as well as exchange of experience. It will help prepare the necessary statutory documents and arrangements for constituent assemblies. It will use these associations as vehicles for information dissemination to stakeholders. It will initiate a case study for at least one association to determine its economic feasibility as a model of a single seafood technological production chain.

INZMV will create a database, which will help organize fish farmers in an Association and target farmers for consulting and information services. It will also prepare constituent documents similar to those prepared for the Moldova Indcar. Based on the recommendation of using the existing distribution channels of large fish farmers and processors, a marketing support protocol of intentions will be prepared. Possible provisions include asking specialists from large fish companies to harvest from small and medium fish-farmers’ ponds. Such small producers lack qualified personnel and equipment to do this in an efficient manner.

One might wonder why large fish companies in Moldova would develop marketing partnerships with potential competitors. Dr. Lobcenco feels that their incentive for doing so would be a more complete utilization of the harvesting and transportation equipment, which small and medium companies lack and should be willing to rent. Furthermore, if small and medium fish companies become partners with the larger ones, they can buy fingerlings (newly hatched fish) from those large producers.

D. Establishment of International Institute of Food Safety and Quality

1. Accomplishments

World Lab is working with Dr. Myronyuk of the State Committee on Standardization, Metrology and Certification to establish an International Institute of Food Safety and Quality (IIFSQ) that can sponsor educational activities, regulatory harmonization and promotion of HACCP. The following organizational activities for the IIFSQ have been completed:

- The final team of Institute founders was identified - World Lab, the Institute of Quality, the Ukrainian Center for Standardization, Certification and Metrology (UkrSCM) and the law firm “YurTransConsulting”;
- By-laws have been developed;
- Premises were found – an agreement was reached that the offices and laboratories of International Institute will be located within the Institute of Quality and UkrSCM;
- Main activity directions, functions and objectives were defined; and
- A series of work meetings with Institute founders was held.

Within the IIFSQ’s organizational framework, a basic HACCP certification training program for meat and poultry was conducted (refer to Page 23) and a round table meeting on food regulations reform was prepared, with participation of organizations involving in HACCP implementation in Ukraine. A significant success is that World Lab and other IIFSQ founders were included in a state-funded program on the development and scientific justification of draft regulations, curricula, methodological materials, organization of food HACCP System auditors and managers’ training.

Through negotiations with Dr. Myronyuk, INZMV has received an agreement in principle that Moldovan organizations can become associate members of the IIFSQ. INZMV also conferred with stakeholders regarding this possibility and nominated the Moldovan Center for Dairy and Meat Products Quality Verification for such an affiliation.

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

It was decided that a law firm become a co-founder of the IIFSQ. Without professional legal support any development of regulations, carrying out of independent expertise and competitions is not possible. YurTransConsulting is highly regarded as having personnel who are experienced in such areas.

An agreement will be reached with Project partners (LSU AgCenter and WFLO) on cooperation in specific activities of the IIFSQ.

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

Technical specialists from LSU AgCenter, WFLO and FDA conducted several seminars during the reporting period. World Lab and INZMV dealt with all logistical issues for the seminars, such as selecting and notifying participants, arranging venues and covering local financial needs.

They also translated all necessary training materials, including slides and manuals. Copies then were distributed to all participants of each seminar. As mentioned earlier, this dissemination process maintained as part of INZMV's information system while the Ukrainian dissemination of the materials relating to standards, safety and sanitation were implemented under the framework of the IIFSQ.

INZMV expended significant effort in ensuring that the selection of training participants was a transparent process that provided the best cross section of academicians, government officials and industry representatives. Such a process included the widespread distribution of training announcements and INZMV examination of application forms.

All instructors received consistently high marks for instruction and presentation skills in the participants' evaluations; many of these evaluations are included in Annex B and Annex C of this report.

A. Seafood SCP/HACCP Training

The HACCP Train-the-Trainer program was initiated under the framework of IIFSQ (refer to Page 20). Three candidates for Ukrainian Trainer positions were selected to participate in the Seafood SCP/HACCP Basic Training in Louisiana State University on May 2002. In return for this stateside training, the participants agreed to assist in teaching the HACCP class in Odessa in July 2002. Similarly, INZMV selected two of six interested candidates to attend the stateside training in return for assisting Dr. Moody in Chişinău.

In fact, this training consisted of two seminars. The first was a one-day workshop on Sanitation Control Procedures (SCP). It covered such topics as the following:

- Safety of water, condition and cleanliness of food contact surfaces, and prevention of cross-contamination
- Maintenance of hand washing, hand sanitizing and toilet facilities;
- Protection of food from adulterants, proper labeling, storage and use of toxic compounds;
- Control of employee health conditions;
- Exclusion of pests; and
- Examples of Sanitation Standard Operating Procedure (SSOP) plans and sanitation control records.

The SCP workshop was followed by a three-day course on seafood Hazard Analysis for Critical Control Points (HACCP). It covered the following topics:

- *First Day* – Overview of FDA seafood HACCP regulations, HACCP seafood safety, prerequisite programs and HACCP preliminary steps, a commercial processing example and SSOPs, hazards (biological, chemical and physical), hazard analysis and preventative measures (followed by a hazard analysis exercise) and establishing critical limits;

- *Second Day (morning)* – Critical control point monitoring, corrective actions, record keeping procedures, verification, sources of information on preparing HACCP plans.
- *Second Day (afternoon) and Third Day* – This entailed a work session in which groups reviewed and developed model HACCP plans.

All five participants successfully completed the course. In return for their participation in the US-based training, they committed themselves to assisting Dr. Moody with the in-country SCP/HACCP courses, to be held during the preparation of this report. Dr. Mary Snyder, Director of the Food and Drug Administration’s Division of Program and Enforcement Policy, also offered to assist in instruction. The contributions of Dr. Snyder and the participants of the US-based SCP/HACCP training are presented below.

	<u>SCP</u>	<u>HACCP</u>
• Dr. Snyder	Control of employee health conditions	The Seafood HACCP Regulation
• Ukrainian participants of US-based SCP/HACCP training	Safety of water	Hazards (biological, chemical and physical)
	Maintenance of hand washing, hand sanitizing and toilet facilities	Establishing critical limits
	Protection of food from adulterants and proper labeling, storage and use of toxic compounds	Corrective actions
	Exclusion of pests	Record-keeping procedures
• Moldovan participants of US-based SCP/HACCP training	Protection of food from adulterants and proper labeling, storage and use of toxic compounds	Overview of seafood processing regulations in Ukraine
	Prevention of cross-contamination	Hazard Analysis and Preventive Measures, Identification of Critical Control Points
	Water safety	Corrective Actions,
	Condition and cleanliness of food contact surfaces	Critical Control Point Monitoring
	(All instructors were to contribute to the example of an SSOP plan and sanitation control records)	Record-Keeping Procedures
		(All instructors were to facilitate discussion and work sessions)

Under the IIFSQ in Ukraine and the INZMV's information system component in Moldova, the following training materials have been translated and circulated among the participants of the Seafood SCP/HACCP Course:

- HACCP: Hazard Analysis and Critical Control Point Training Curriculum;
- Sanitation Control Procedures for Processing Fish and Fishery Products; and
- Fish & Fisheries Hazards & Control Guidance: *Third Edition*.

Complete information about this seminar will be provided in the next SAR. However, the following pictures are currently available.



Dr. Moody; Sergiu Ponomarenco, Translator; and Ion Todirel, Head of the Products Certification Department of the Moldovan Veterinary Diagnosis Center



Group work session in Chişinău

B. Meat and Poultry HACCP Training

1. Accomplishments

The Meat and Poultry Hazard Analysis Critical Control Point (HACCP) workshops were conducted through four consecutive days of training in Poltava, Ukraine during May 28-31 and in Chişinău, Moldova during June 4-7, 2002. Forty-six participants attended the workshop in each country. The participants represented meat and poultry plant employees, standardization and certification government personnel, analytical laboratory testing staff members, academic faculty members, and Project staff.

The workshops were planned and conducted as Introductory HACCP Training to comply with the International HACCP Alliance course curriculum and lead course instructor requirements. HACCP is currently recognized as the most effective method to insure safe food production in a processing plant. The International HACCP Alliance provides guidance and oversight over the training and certification of lead course instructors, curriculum approval, and course offerings. The curriculum for the workshops was approved by the International HACCP Alliance in 1997 and reaccredited in 2002.

The Meat and Poultry Introductory HACCP Workshop is designed to provide experiential learning for participants through concise presentations on pre-HACCP programs (sanitation,

good manufacturing practices, sanitation standard operating procedures), pre-HACCP requirements, seven principles of HACCP and five group exercises for participants to develop a mock HACCP plan. The requirements for a participant to receive a certification of completion of training from the International HACCP Alliance are attendance at workshop sessions (including group activities) and passing of a written examination.

Fourteen different presentations of the course materials were developed by Dr. McMillin and translated into Russian. Two course manuals, the Guidebook for the Preparation of HACCP Plans and the Meat and Poultry Products Hazards and Control Guide, also were translated into Russian and Romanian under the IIFSQ and the INZMV's information system component. Other training materials that also required translation were the list of participants, the agenda of topics and speakers, instructions for workshop group activities, the eight forms for development of HACCP plans, and the written examination. Russian was chosen for the workshops because all participants shared fluency in that language. The information was tailored to each country by government representative discussions of the specific country's HACCP requirements and by microbiologist presentations of biological hazards for meat and poultry in the country.

After registration and introductory comments in each seminar, a government official gave a review of the HACCP and sanitary product regulations specific to each country. These were: Dr. Gennady Myronyuk, First Deputy Chairman of the State Committee on Standardization, Metrology and Certification of Ukraine and Ms. Marina Baruschnaia, Director of the Center of Meat and Dairy Products Quality Control in Moldova. Dr. McMillin reviewed Good Manufacturing Practices (GMPs) and Sanitation Standard Operating Procedures (SSOPs) then introduced the Seven HACCP Principles for the participants. Dr. Myronyuk described the Identification and Control of Chemical and Physical Hazards. Dr. Oleksandr Averkyiv, Head of Bacteriology Laboratory of the Ukrainian Standardization and Metrology Center, and Dr. Silvia Rubtov, professor in Food Processing Industry Canning Technologies of the Technical University of Moldova, described the identification and control of biological hazards for meat and poultry products in Ukraine and Moldova, respectively.

The second day of training began with a presentation by Dr. McMillin on the preliminary steps necessary for completion prior to development of a HACCP plan. The participants were assigned to one of seven groups, each of which selected the following for the development of a mock HACCP plan: leader, recorder, reporter, company name, HACCP team, product, product description, ingredient and material list and process flow diagram. The reporter for each group then gave a report of the group activities to all participants with Dr. McMillin providing a critique of the work and suggestions for changes to each group. Dr. McMillin then described HACCP Principles 1 and 2, Hazard Analysis and Determination of Critical Control Points and presented an example of a HACCP Plan. The participants received instructions for group activities to complete a hazard analysis and determine critical control points for their product and process.

The next activity was group reporting on the hazard analysis and critical control point determination with critique of each group report by Dr. McMillin. Dr. McMillin then presented Principles 3, 4, and 5: critical limits, monitoring measures, and appropriate corrective actions for each critical control point. This was followed by group activities to address these issues, which included a report of the group's completion of the necessary forms, and a critique of the forms

and activities by Dr. McMillin. Principles 6 and 7, on record keeping and verification, were presented by Ms. Natalia Rudovska, Deputy Director of the Ukrainian Institute of Quality, in the Ukraine and by Dr. McMillin in Moldova, with group activities to determine necessary records and verification activities for each critical control point in the group HACCP plan.

On the final day of the workshop, groups gave their reports. After a critique of each group's presentations and HACCP plan by Dr. McMillin, he described the implementation and management of HACCP plans in meat and poultry plants. Dr. McMillin outlined the USDA requirements for importation of meat into the U.S. and summarized the workshop activities and information. The course examination was administered to workshop participants (all of whom passed) and each participant was requested to provide an evaluation of the workshop and to make suggestions on other workshops and seminars that might aid in the development of the meat and poultry industries in their country.

Scenes from the HACCP Training in Poltava, Ukraine are provided below.



Dr. McMillin with Ms. Oksana Dorofeeva, Assistant to Director, Institute for Quality, Kyiv

Dr. McMillin with Ms. Yelena Lazebnaya, Head, Poltava Standardization, Certification and Metrology Center, Poltava



Group work session at the Meat and Poultry HACCP Seminar in Ukraine (left) and Moldova (right)

2. *Issues and Lessons Learned*

According to evaluation forms filled out by Ukrainian participants of the Meat and Poultry HACCP course, forty of forty-six participants evaluated the training as very useful (the others

rated it as moderately useful or did not fill out the evaluation form). Thirty-six Ukrainian participants rated concepts and techniques to develop HACCP plans as very useful. Forty-two of forty-six Moldovan participants evaluated the training as very useful (the others rated it as moderately useful). Forty-two Moldovan participants also rated concepts and techniques to develop HACCP plans as very useful.

Ukrainian participants indicated the following topics as the most useful (in order): “Developing HACCP Plans”, “Hazard Analysis and Critical Control Points (CCPs)” and “Food Safety and HACCP Principles”. In Moldova, “Developing HACCP Plans” was overwhelmingly the topic most commonly rated as most useful.

Dominating comments in both the Ukrainian and Moldovan evaluations were words of thanks; participants noted high level of organization, as well as the professional and clear presentation of information. Ukrainian participants’ suggestions for improving the HACCP training course were mainly to slow down the pace of presentations and to extend total seminar duration. Participants also recommended to pay more attention to quality management systems currently applied in Ukraine and also to provide more time for group sessions. Moldovans suggested more practical exercises and examples, such as CCPs for specific canned products taken from a plant with HACCP. Among other recommended technical programs, the most attractive for both countries were Quality Control, Sanitation and Good Manufacturing Practices.

INZMV appreciated that Dr. McMillin’s HACCP seminar started on a Tuesday. Not only did this give them one extra day to prepare for the seminar, it proved to be easier for participants to travel on a Monday and be ready to attend the seminar promptly at 8:00 Tuesday. Dr. Moody’s course also is scheduled to start on a Tuesday and INZMV recommends that other courses follow this schedule.

C. Economic Seminars

1. Accomplishments

In June, Dr. Wesley Harrison conducted three seminars on economic topics: one each for red meat and poultry processors in Ukraine and one seminar for all processors in Moldova. The goals of the seminars were as follows:

1. To describe how the U.S. livestock/meat supply chain is structured.
2. To explain the mechanic of cattle markets.
3. To explain how U.S. livestock future markets work.
4. Improve participants understanding of markets and their implications for the Ukraine and Moldova meat industry.
5. Introduce participants to the basic concepts of demand and current trends in U.S. and global consumption.
6. To develop the participants understanding for basic concepts in branded food product marketing.

In Ukraine, thirty-five people attended the seminar for beef and pork processors, including twelve representatives of meat processing enterprises, three representatives each of the Ukrainian State University of Food Technologies and the National Institute of Meat and Dairy, nine representatives of Ukrmiasso office, various government officials, etc. Twenty-nine Ukrainian participants – including fifteen representatives of poultry processing enterprises, two journalists, nine trade association representatives and two academics – attended the seminar for poultry processors.

Scenes from the Economic Seminars for the Beef and Pork Sectors in Ukraine are below.



Left to right: Vladimir Popov, Director of Ukrmiasso; Dr. Harrison; and Anna Vassilenko, World Lab/PFID Office Manager



Left to right: Training participant; Dr. Harrison; and Sergiu Ponomarenco, Translator

In Moldova, twenty-seven participants attended Dr. Harrison’s economic seminar. These included fourteen representatives of processing enterprises, five academics, four staff members of other development programs (including ACSA and the Central Agricultural and Marketing Information Bureau - CAMIB) and four representatives of industry organizations.

2. *Issues and Lessons Learned*

The majority of the Ukrainian participants evaluated both of Dr. Harrison’s seminars in the Ukraine as “very useful” and all of them rated the marketing concepts and techniques covered in those seminars as “very useful” or “moderately useful”. Likewise, the majority of participants rated both the economic/marketing training and the food product management and development training in the Moldovan seminar as very useful. The specific topics that were most commonly rated of highest interest in the Ukrainian Beef and Pork seminar were “Overview of US Livestock Futures Markets” and “Economic Benefits of Livestock Markets”. The specific topics that were most commonly rated of highest interest in the Ukrainian Poultry seminar were “Review of Poultry Industry of the USA” and “Review of Poultry Industry of Ukraine”. By a large margin, “Strategic Planning and Branded Product Marketing” was the topic in the Moldovan seminar most commonly cited as most useful.

Participant comments included requests for presentations on issues relevant to local conditions, such as the promotion and pricing of a specific branded product. Toward this end, several participants recommended more time for the seminar. However, Dr. Harrison noted that this is

impossible to coordinate from the U.S., as World Lab and INZMV economist would be best qualified to provide economic information based on in-country analysis. The Project should make better use of in-country expertise in the training of marketing principles. This should be coordinated by World Lab and INZMV staff economists, who were not available for the first series of seminars as co-presenters (however, local economists, such as the President of CAMIB, were contracted for the seminars).

Technical programs that were most highly recommended by the participants in the Ukrainian Beef and Pork Seminar were “The System of State Regulatory Control” and the “Role of market research in developing export strategy”. Technical programs that were most highly recommended by the participants in the Ukrainian Poultry seminar were “Market Targeting”, “Role and functions of national trade organizations in promoting exports”, “The System of State Regulatory Control” and the “Role of market research in developing export strategy”. Technical programs that were most highly recommended by the participants in the Moldovan seminar were “Role and function of national trade organizations in promoting exports” and “Role of market research in developing export strategies”.

Based on the questions that he fielded, Dr. Harrison concluded that future seminar on U.S. standards and contractual arrangements may be an area of particular interest. In the beef and pork seminar, particular interest was expressed in details regarding U.S. custom feeding contracts, as well as futures contracts.

D. Seminars Planned for the Next Six Months

The same candidates selected by IIFSQ to attend the stateside SCP/HACCP training are nominated to attend the AFDO-sponsored Train-the-Trainer Program in Orlando (Florida) in the fall. INZMV also has nominated potential TTT participants from Moldova. INZMV feels that HACCP implementation will be critical for Moldova because it will allow the country to certify its processing plants and lift the export ban on meat and fish products to Romania and EU member countries.

Other capacity-building activities that are planned for the rest of the year include the following:

- Cold-chain management training to be conducted by WFLO specialists in September; and
- Preparation for Ukrainian and Moldovan participation in the WFLO Institute course, to be held in January 2003.

Section V. Objective #5: Fostering Business Partnerships

A. Accomplishments

Dr. Wes Harrison, the Agricultural Economist from the PFID Technical Team, traveled to Kyiv in April. The two primary activities during this trip are presented below.

- *Attend the Citizens Network for Foreign Affairs (CNFA) conference on Agribusiness Partnerships in Ukraine and other CIS countries* - The goal of attending this conference was to make contact and network with other organizations with related

operations in Ukraine and Moldova. Attending the conference also was a good opportunity for Dr. Harrison to verify his observations regarding the economic situation of food processing in Ukraine and Moldova, and learn about observations and conclusions by industry leaders regarding agribusiness issues in these countries.

- *Confer with the World Lab and INZMV staff economists* - The goal of these meetings was to outline an approach for analyzing the feasibility and success of livestock buying agencies in Volhyn oblast (mentioned earlier), and design case studies regarding joint-venture formation within the livestock and meat industries.

Dr. Harrison felt that attending the CNFA conference was a great success. The conference had several sessions pertaining to joint-venture (JV) formation in the food-processing sector. Participants included top executives of foreign firms involved in Ukrainian JVs. A good example of a successful joint-venture included presentations made by the CEO of Tetra Pak, a western European packaging company, and Chamuk, a leading Ukrainian ketchup manufacturer. Other industry experts in which contact was made includes project managers with World Bank's International Finance Corporation (IFC) and managing partners with at least two law firms specializing in joint-venture law in Ukraine.

Perhaps the most significant outcome of attending the CNFA conference was the contact made with IFC, which has a number of programs that are complementary to PFID goals. As a result, the groundwork for a partnership between PFID and IFC has been established. This effort will include training livestock producers with respect to the operation of local livestock auctions. Specific contacts included that with Leah Soroka, International Finance Corporation Project Manager of IFC's Agribusiness Development Project in Ukraine.

After the CNFA conference concluded, Dr. Harrison met with Dr. Suzanna Kamilova and Ms. Nina Cainarean economists for World Lab and INZMV respectively. These meetings were expected to produce plans for a series of case studies regarding JV formation in both countries, and a program for economic training to be conducted in June 2002. The meetings went very well. The economists developed seminars for Ukraine that included training in how livestock markets operate, and how they benefit both processor and livestock producers. Training in the marketing of branded food products was also planned.

Before she left the Project, Ms. Cainarean studied the joint-venture process in Moldova. She collected information regarding the legal framework, fiscal system, investment climate, registration procedure and recent investment activity in the country. This information, as well as the case study protocol references provided by Dr. Harrison, is available to Dr. Maria Gheorghita, her successor. Contact also was initiated with other organizations that promote joint-ventures, such as the Business Information Service for the Newly Independent States (BISNIS).

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

A common theme voiced among industry experts at the CNFA conference was that joint-venture formation in Ukraine was severely limited by ambiguities in Ukrainian law and by the difficulty in enforcing JV contracts. Other constraints to JV formation include the lack of adequate management and governance structure of Ukrainian joint-stock companies.

Unfortunately, both Dr. Kamilova and Ms. Cainarean resigned a few weeks after the visit with Dr. Harrison. Plans for the economic analysis remain unfinished as a result of the resignations. Replacement economists were selected in June. In Ukraine, Dr. Boris Pashaver and Dr. Lubov Moldavan – both of the Institute of Economy, National Academy of Sciences – were selected to work together. In Moldova, both Dr. Socican and Dr. Harrison identified Dr. Maria Gheorghita as the most qualified candidate.

However, it is unlikely that Dr. Harrison can spend significant time preparing the newly hired economists for their duties this year unless they travel to Baton Rouge. Consequently, the economic component of the project has not progressed as much as it should. Naturally, Dr. Harrison feels that replacement economists must continue the work as soon as possible or the economic component of the project will be significantly jeopardized.

The new project economists will collaborate with Dr. Harrison to continue the protocol design process and to collect, analyze, document and disseminate case study data. A trip to Louisiana State University to visit Dr. Harrison in September should provide this collaboration with a firm foundation. The replacement economists also will build on the initial contacts with other institutions such as IFC and BISNIS.

Section VI. General Management Issues

A. Accomplishments

As a part of the assessment process, Dr. Velupillai met with selected clientele and potential collaborators of PFID Moldova to determine their thoughts on the team's activities. These included USAID/Chişinău, CNFA, the ACSA Central Office, American Chamber of Commerce (AmCham), meat and poultry processors, and NVA. These discussions indicate that there are several mutually beneficial activities that can be pursued under the framework of PFID for Moldova.

The assessment has resulted in changes to the team structure, planning, and implementation procedures. The Moldovan budget line items pertaining to salaries and other categories have been revised. Other arrangements, such as visits by team members to Kyiv to study the Information Support Systems, have been made. The team is now fully aware of performance and results based program implementation.

In Dr. Hubchen's April trip, he was informed that Dr. Lobcenco, INZMV's seafood specialist, would be assuming a greater role in day-to-day management. He found that the development of working relationships was explored with ACSA and priority areas included information management, region-based training in fish farming and Chişinău-based training in fish farming. Collaboration on a regional basis would be appropriate with NVA and possibly AGROinform while CNFA, BISNIS and AMCHAM could facilitate PFID's efforts in promoting joint-ventures.

Dr. Hubchen returned to Moldova in June to provide additional management guidance to the INZMV, particularly oversight to its documentation of project activities for this SAR. At that time, INZMV showed improved capacity for activity tracking, including the use of an activity-tracking template.

The PFID web page (<http://www.agctr.lsu.edu/Inst/International/PageB.htm>) has been updated to provide a list of accomplishments to date and to improve navigability. New web site features include a PDF version of a project brochure; a paper version in English, Ukrainian and Romanian has been produced for distribution to potential stakeholders and collaborators. A proposal for an Associate Award has been submitted to USAID/Kyiv to initiate the transformation of the meat sector in Kharkiv Oblast from subsistence livestock farming and underutilized processing capacity to a sustainable, efficient and equitable supply chain.

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

Dr. Hubchen stressed that INZMV should consider collaboration, not as an end in itself but as a mutual exchange of responsibilities leading to mutual programmatic benefits.

General management activities planned for the rest of the year include the following:

- Additional updating of the Project Web Page;
- Continued preparation and submission of proposals for associate awards; and
- Preparation for the 2nd Annual Advisory Committee meeting, scheduled for January 2003 in Kyiv.

Annex A to the Second Annual Work Plan (revised)

Work Plan Activities Specific to Moldova

As a result of the review comments from USAID Washington, and the discussions between the Moldova team and Dr. Velupillai in March 2002, the list of eleven originally proposed activities has been reduced to five. These changes have been effected in the following manner (details have been discussed in the previous section on questions/answers):

- Activity #1 remains
- Activity #2 dropped
- Activity #3 remains
- Activity #4 dropped
- Activity #5 dropped
- Activity #6, #7 and #8 combined into one activity
- Activity #9, and #10 combined into one activity
- Activity #11 remains

The new set of activities is as follows:

Activity 1:	Facilitation of Increased Raw Material Supply for Meat Processors	2
Activity 2:	Facilitation of Meat Quality and Safety Improvement	3
Activity 3:	The Organization of Processor Associations	4
	A. Meat Sector	4
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Activity 4:	Information System for the Meat and Seafood Sectors	6
Activity 5:	Fostering Formation of Joint Ventures	8

Activity 1: Facilitation of Increased Raw Material Supply for Meat Processors

Justification: Soviet-era industrial complexes specializing in cattle and swine breeding have ceased operations. Most cattle and pigs are raised in private peasant farms, which do not provide reliable raw material supply for the meat processing industry. The shortage of raw material supply limits the usage of processing plants to thirty percent of working capacity. The focus of this activity will be the production of pigs by harnessing the capacity of private peasant farms for which support in the form of piglets will be facilitated by PFID. The liaison between PFID, ACSA and NVA will be developed to facilitate the exchange of cereal available at the peasant farms for the piglets and quality feed produced by the processor. A variety of options will be used to provide the high quality feed to the peasant farmer. Discussions with NVA reveal that they are interested in providing technical and managerial support through seminars and other forms of support to improve the lot of the peasant farmer involved in pig production. PFID and Dr. Holban of the NVA have discussed providing a comprehensive package utilizing complementary information and training.

Objectives: To foster linkages between meat processing companies, industrial breeding complexes (such as the joint-stock company "Marculesti Combi") and private peasant farms.

Results: The support mechanism will contribute to an estimated 15% increase of supply by participating livestock producers.

Activity Schedule

February – March	Develop the scheme and mechanisms of either internal or partnerships with international institutions, breeding/processing companies, ACSA, NVA and the farmer community in a selected pilot program
April – June	Facilitate discussions between potential partners including marketing channels for the processed meat
July	Facilitate registration of contractual relations between partners
August – November	Offer advisory/consulting assistance to private farms on raw material production in collaboration with NVA Investigate cost implications of this scheme to the producer and the processor
December	Document results of linkages or partnerships

Activity 2: Facilitation of Meat Quality and Safety Improvement

Justification: The Republic of Moldova was accepted in the WTO in 2001. Therefore, a new regulatory base - which complies with the requirements of Codex Alimentarius, WTO and HACCP – is required. PFID focus for this activity will be in the area of HACCP training and follow up of HACCP implementation, and the establishment of a branch of the International Food Safety Centre (IFSC) currently being established in Ukraine.

Objectives:

- 1) Analyze working conditions and prepare initial documentation for introduction of HACCP system by seminar participants, companies collaborating with PFID Moldova.
- 2) Justify the necessity for Moldova become a member of International Food Safety Centre (IFSC) established in Kiev, Ukraine, and explore a home in Moldova for establishing the Center.

Results:

- 1) HACCP principles introduced to Moldovan processing companies including Carmez; follow up to adoption of HACCP at these companies completed.
- 2) Increased access to capacity building in safety, sanitation and standards in Moldova through membership in the International Food Safety Centre achieved.

Activity Schedule

February	Consultations with the Ukrainian partners about the possibility for Moldova to become an associated member of IFSC
May	Coordinate with Moldovan firms on preparatory measures for HACCP implementation and training Identify a home in Moldova for the proposed IFSC member organization
June	Coordinate with processing companies for HACCP seminar Develop necessary documentation for IFSC establishment
July	Provide technical feasibility for HACCP system application
September	Complete process of Moldova entry in IFSC
November	Follow up to HACCP implementation at processors' plants

Activity 3: The Organization of Processor Associations

This activity is designed for PFID Moldova to assist and facilitate the formation of processor associations for the meat, poultry and seafood sectors. Due to the inherent differences and needs of the sectors as observed by PFID staff and from the deliberations at the November 2001 stakeholder meetings, the activity lists are provided below as separate sections to be implemented by the appropriate team member at the PFID Moldova office. Association formation for the poultry sector will be deferred to Year Three, but will be investigated in Year Two.

A. Meat Sector

Justification: There is no meat processors association in Moldova. Thus, processors' interests are not addressed and equal competition rules are not observed. Although the benefits of associations as seen by market economies are not fully appreciated, interest has been expressed by processors in Moldova to the PFID team for assistance in the establishment of associations.

Objectives: Initiate meat processors association establishment and provide seminars on the formation and benefits of associations.

Results: Potential members realize the necessity and benefits of association formation. The basic framework of a meat processor association will be created and potential stakeholders wishing to become members of association are identified. Drafts of constituent documents will be prepared and coordinated with potential members of the association.

Activity Schedule

February - May	Confer with clientele on the issue of association formation
May	Study the experience of "Ukrmiasso" association activity in Ukraine
June	Study the experience of WFLO on formation and activity of associations and provide seminar with assistance of WFLO experts
September - November	Prepare the drafts of constituent documents and coordinate with potential members of association
	Follow up with the newly formed association as to its function and utility to the membership

B. Seafood Sector

Justification: The formation of an association of small farmers, and their links to each other, will directly improve the local freshwater fish supply

- Objectives:
- 1) Identify and survey fish farmers – future members of the association
 - 2) Assemble the fish farmers and facilitate discussions regarding the association's establishment
 - 3) Prepare all necessary documents
 - 4) Utilize the link with association as vehicle for technological case studies and marketing improvement.

Results: The Small Fish Farms Association establishment will coordinate the activity of newly created fish farms, will advocate their interests and will ensure equal competition rules. The development of this association will be a premise for the organization of a Fish Industry Federation in Moldova.

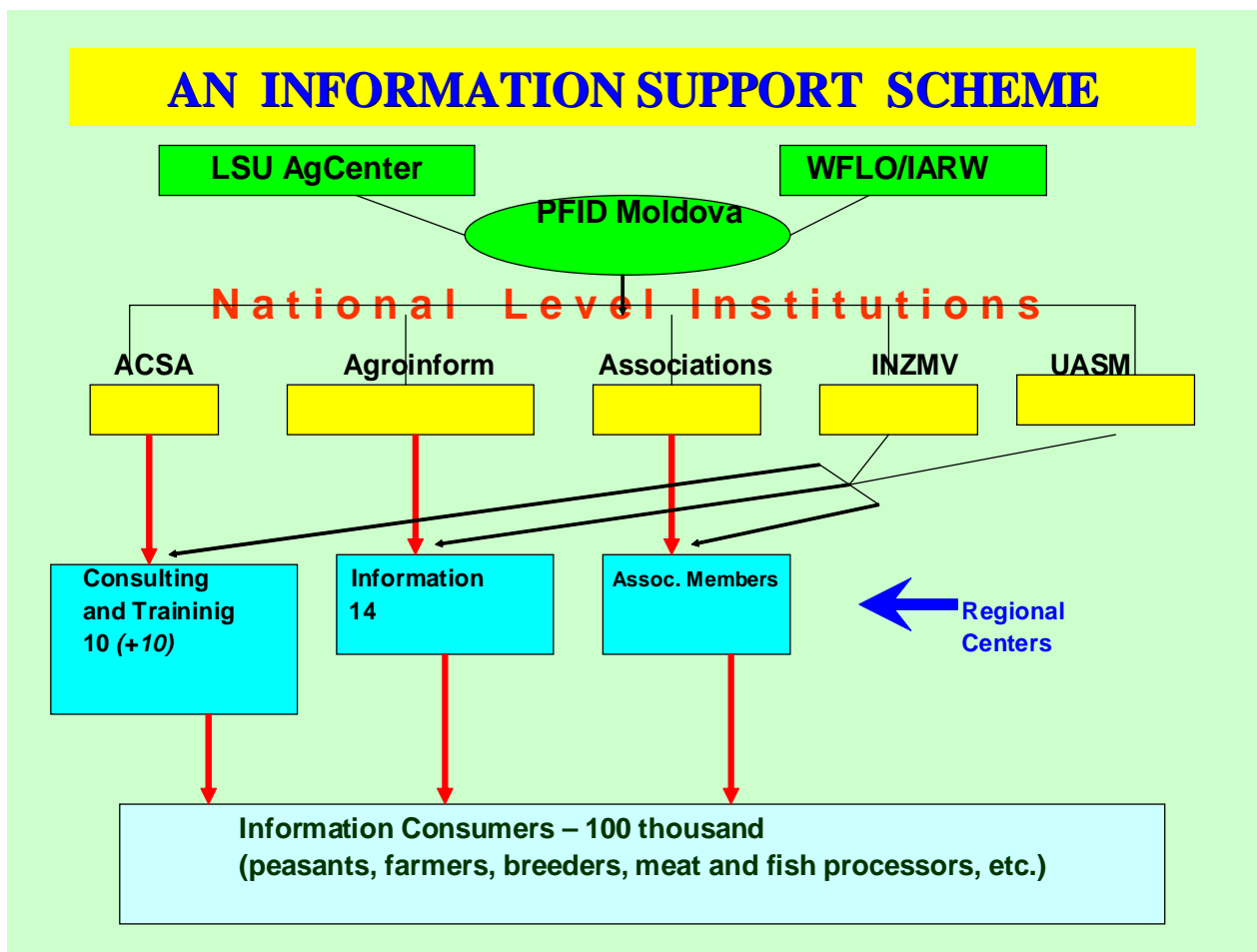
Activity Schedule

January - February	Initiate the work on the creation of an association; identify and survey fish farmers
March	Document all results of initial work Prepare and document the justification for small Fish farmers Association establishment Develop a protocol for trial processing of fresh-water fish
April - October	Carry out the analysis of the association's activity related to minimal quota mechanism implementation
May – June	Work with members in trial processing of fresh-water fish; provide seminar on formation and benefits of associations
May – August	Determine and initialize the marketing support mechanism with association members
August – September	Perform economic analysis of processing results
October	Perform market analysis
November	Prepare the documentation of association and case study activity within the Project

Activity 4: Information System for the Meat and Seafood Sectors

Justification: There is no information system in Moldova on problems of production, processing and marketing of meat and seafood in Moldova. Establishment of such a system will provide access to the key players in the sectors to useful information.

- Objectives:
- 1) Development and coordination of the information system scheme for raw material producers and processors (refer to the following figure)
 - 2) Preparation of database for an information system
 - 3) To develop and maintain Project web site on the Internet
 - 4) Develop preliminary Information Support scheme for clients



Results: Clients will have access to useful and practical information (on production, inputs, diseases, marketing, equipment, standards, etc.) in their respective sectors.

Activity Schedule

April	Develop the information Support scheme and plan components.
April	Prepare information about project and its activity for the Project web site on Internet
	Develop simple scheme of what information groups are needed, and how to obtain them with PFID resources. Identify database groups for the information. Secure assistance of specialists, including programmers/ database developers on an as needed basis.
May – July	Prepare and disseminate information provided by WFLO (manuals on the best practice, HACCP, sanitary and safety, modern technologies and the equipment on processing and storage of meat products)
	Continue development of databases and information components.
June - December	Prepare and disseminate to clients bulletins, brochures, leaflets and other information
	Continue development of databases and information components.
September - December	Demonstrate the use of the simple information system to potential clients
	Render advisory assistance to clients on issues of raw material production, meat processing technologies standards and storage

Note: Both the PFID teams in the US and in Moldova realize that a full fledged information support system such as that created in the Vinnitsa project in Ukraine require considerable resources (equipment, and staff time). Given the limited resources of PFID, a smaller scale system using manageable (on desktop PCs as opposed to more powerful equipment) databases with a limited number of components (example availability of inputs, or marketing information) will be established. The Moldovan team could then build on the success of this effort and leverage additional funds to expand and manage the system. Local producers, processors, and other agribusiness companies are good sources for such additional funds. Further it is also realized that the process of gathering data is time consuming and staff time intensive. The activity could easily carry into Year Three.

Activity 5: Fostering Formation of Joint Ventures

Justification: Fostering business partnership is a stated objective in PFID. Realizing that preliminary activities such as case studies and focused interface with potential local and foreign companies is needed, the PFID team in Moldova has planned an activity in this regard. One PFID Moldova stakeholder (joint-stock company Carmez International) has brought the possibility of forming a joint venture for the production of infant food canneries and plants in Moldova. Currently there are no such plants producing infant food in the CIS. Thus PFID Moldova will utilize this opportunity.

Objectives:

- 1) Conduct case study on joint venture formation
- 2) Identify potential organizations experienced in facilitating joint ventures, and provide targeted PFID sector information.
- 3) Foster business partnerships between identified partners.

Results: Case study on joint venture formation completed, and identified joint venture facilitator begins activities.

Activity Schedule

May	Examine joint stock company Carmez International's experience for a case study initiation
June	Initiate case studies with regard to the possibility to create of infant food canneries
July - October	Identify potential organization for facilitating joint ventures; provide this organization with sector specific information
November - December	Case study completed, identified organization above begins joint venture activities