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# Executive Leadership in Food Safety (ELFS) Program

- *Summary of the Projects*



Inter-American Institute for Cooperation on Agriculture

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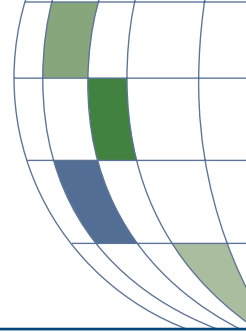
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## *Foreword*

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Changes in world food trade and new trends in consumer tastes and preferences have made it necessary to train new leaders to promote the formulation and application of food safety policies, and to implement sustainable food safety programs that will assist the countries of the Americas to adapt to current requirements.

With this in mind, the Inter-American Institute for Cooperation on Agriculture (IICA) and several international organizations joined efforts to implement the Executive Leadership in Food Safety (ELFS) Program, the purpose of which is to promote leadership as a key aspect of food safety policy formulation and application, and of key importance for effective action in this field.

Four modules of the program were offered over a two-year period, attended by 30 professionals working in different disciplines in both the public and private sectors of 18 countries of the hemisphere.

Each participant designed and executed an individual or group project involving leadership in food safety. All projects included actions that fostered the participants' personal and professional growth, encouraging them to stretch their efforts beyond their usual scope of action. Participants received ongoing guidance, which further honed their skills in the areas of communication, human relations, technical leadership and others.

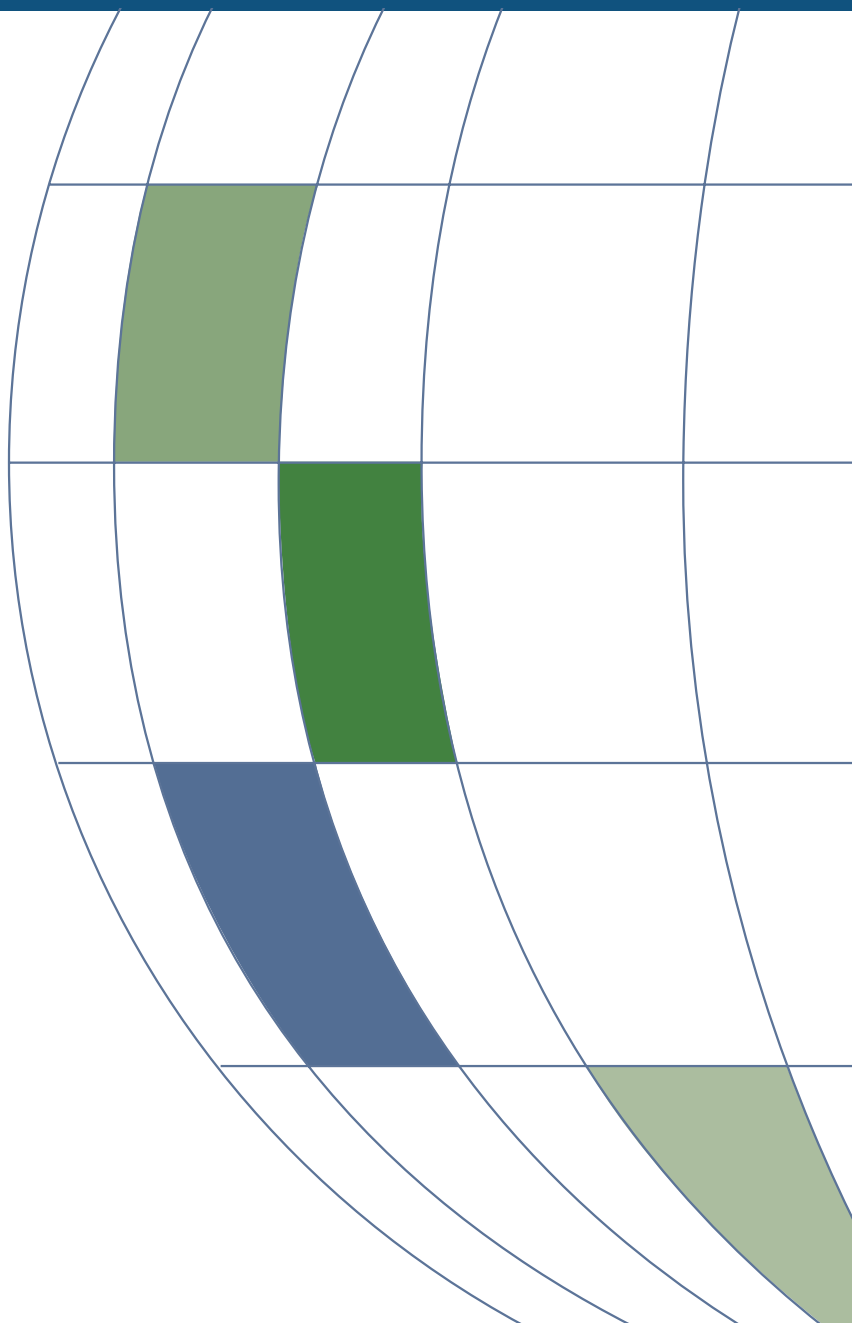
Through this publication, it is IICA's intention to disseminate information on the success and impact of all the projects conducted in the countries under the ELFS program, to demonstrate the importance of developing initiatives to promote leadership in food safety and, accordingly, to improve the well-being and competitive development of the countries of the Americas.

Kevin D. Walker

*Director  
Agricultural Health and Food Safety*



# *Andean Region*





## *Andean Region*

### *Bolivia*

#### *Design of a comprehensive program for food safety assurance in the llama meat chain in Bolivia*

#### *Background*

Pre-Colombian Andean livestock, represented by domesticated South American camelids –most notably the llama, the alpaca and the vicuña– offer a means to solve current food security, economic and social problems in the Bolivian highlands. The nutritional characteristics of llama meat and the quality and value of their fiber and hide are a means for llama-raising families to significantly increase their incomes. A program to ensure food safety in the llama meat production chain can improve the access of camelid products and byproducts to export markets, and expand the domestic market for these products.

#### *General objective*

Design and execute a food safety assurance program for llama meat produced in Bolivia.

#### *Outcomes*

1. Five SENASAG employees received training on the implementation and auditing of good manufacturing practices (GMP) and standard sanitation operating procedures (SSOP).
2. Employees of slaughterhouses in the largest camelid-producing area received training in GMP and SSOP. The following slaughterhouses participated: Carecruz in Belén de Andamarca; Andapata Lupe in Corque; Choquecota; Cosapa and Turco in Turco; Curaguara in Caranga, Santiago de Belén and Intiraimi.
3. Interested slaughterhouses received support for implementing GMP.
4. In a combined effort with the SENASAG Animal Health Unit, the National Foot-and-mouth Disease Eradication Program (PRONEFA), the municipal government of Oruro, NGOs, and the private sector (CONGABOL, ANAPCA), 23 municipalities in the Department of Oruro were declared free of foot-and-mouth disease with vaccination; efforts are under way to obtain international recognition through the World Organization for Animal Health (OIE).

### *Actions that promote leadership:*

- A cooperation agreement was signed by the Food Security Program (PASA) and the National Agricultural Health and Food Safety Service (SENASAG) for designing and conducting disease control and eradication programs (primarily for sarcosistiosis, foot-and-mouth disease, parasites), and for designing a training program on the application of SENASAG's food safety standards in the production and processing links of the camelid chain.
- A manual on llama meat cuts was prepared, and 5,000 copies printed. The manual was presented to the United Nations Economic Commission for Europe, which approved it.
- Two private-sector technicians received training on the use of the manual on llama meat cuts.

### *Overall impact: what made the difference*

- The Department of Oruro exported two shipments of llama meat to Switzerland. SENASAG provided sanitary support and the manual on llama meat cuts was used.
- SENASAG drew up a funding proposal for the National Health Program for South American Camelids (PROSACA), which covers municipalities in four departments of Bolivia (La Paz, Oruro, Potosí and Cochabamba), where the country's entire population of llamas (2,398,572) and alpacas (416,952) are located.
- A project was designed for building a slaughterhouse for export meats, through the inter-institutional coordinating committee created by the project and with the support of a commission from the European Union.

*"...you discover leaders among your co-workers, which makes it easier to delegate work. I feel a stronger commitment to my country and the hemisphere now."*

Participant



## *Colombia*

### *Training strategy for food safety in the meat chain of Colombia*

#### *Background*

Of the 43 million inhabitants of Colombia, 12.5 million live in rural areas; 60.2% are involved in meat production. Meeting food safety requirements in the meat chain generates additional costs but also important advantages, since it facilitates access to new markets and ensures that existing ones are maintained. For this reason, information on food safety needs to be disseminated, especially among meat producers and consumers.

#### *General objective*

Identify strategies for promoting the establishment of the National Beef Chain Council, to support the development and application of a national food safety program for meat and meat byproducts.

#### *Outcomes*

1. Lines of action and an operating plan were defined for the National Beef Chain Council, with a view to conducting activities in the area the food safety and for obtaining quality assurance certifications.
2. A survey conducted in the different parts of the meat chain revealed the most important lack of compliance with food safety standards, mainly in the primary sector.
3. Workshops on traceability, pesticide and veterinary drug residues, and animal health regulations for export farms were conducted for technical assistants and livestock ranchers in production areas with export potential (Departments of Cordoba, Bolivar and Sucre). Participants demonstrated high interest in the subject of food safety and were aware of its importance as key for competitiveness and for protecting public health.



### *Actions that promote leadership:*

- Facilitate coordination of the actions of the public and private sectors in their respective areas of responsibility to ensure food safety in meat products.
- Develop methodologies for disseminating information on food safety in the different links of the meat chain.

### *Overall impact: what made the difference*

- Four booklets targeting livestock producers, transporters, slaughterhouses and merchants, which will serve as the basis for the Quality Assurance Program in the meat chain, were delivered to the National Beef Chain Council.
- An international symposium was held on animal health and food safety in Bogota, and a videoconference was broadcast throughout the country on Brazil's experience with bovine traceability. These two activities contributed to strengthening policy-making and the implementation of food safety initiatives at the national, regional and official levels, as well as among industry and trade associations. Also, inter-institutional and inter-sectoral partnerships were created for designing state policies to strengthen the National Food Health and Safety System.

*“This type of activity helps disseminate information on a topic that is of interest to all countries, and involves regulations, agreements and commitments which must be analyzed and understood by the different sectors associated with food safety if they are to be successful in complying with them.”*

Participant



## *Ecuador*

### *Coordination of stakeholders of the chicken meat production and marketing chain in Ecuador*

#### *Background*

Poultry farming is one of the pillars of Ecuador's agricultural sector. National chicken meat production represents 5.6% of the agricultural GDP, and egg production accounts for 2.5%. The poultry industry, however, does not meet the food safety requirements of foreign markets. Because of this and the growing concern of consumers throughout the world for food safety, Ecuador needs effective agricultural health systems to enable its poultry farmers to access foreign markets.

#### *General objective*

Raise the awareness of public and private sector leaders regarding the importance of implementing food safety programs in the poultry sector; promote the adoption of good agricultural practices (GAP), good manufacturing practices (GMP), and hazard analysis critical control point (HACCP) systems to improve the safety of poultry and poultry byproducts.

#### *Outcomes*

1. The Colombian model used to implement GMP and HACCP was disseminated.
2. Sixty-five administrators and technical employees working in poultry enterprises received basic skills training on GMP and HACCP.
3. Seventy students from the School of Agri-food Sciences (Polytechnic College in Chimborazo) and the School of Chemical Sciences (Central University of Ecuador) received training in HACCP and GMP.

### *Actions that promote leadership:*

- Ecuadorian Inter-sectoral Committee for the Chicken Chain was created.
- Compile information on and analyze the regulatory base underpinning food safety.
- After analyzing the requirements, hold food safety training events for stakeholders of the chicken chain.

### *Overall impact: what made the difference*

- A food security course was created for the food engineering major at the Technical University of Ambato.
- Biosafety protocols were developed and implemented for the poultry sector.
- The Ecuadorian Agricultural Health Service (SESA) provided support to the poultry sector to enable it to further improve sanitary conditions in poultry farms.

*“I learned that, in defining a strategy for collaboration and teamwork, it is very important to get to know people and where and how they work; that it is preferable to reach consensus than to impose decisions; and that one must lead his/her team and always be open to the possibility of change.”*

Participant



## Perú

### *Quality assurance and food safety program for the coffee production chain*

#### Background

Coffee is one of the principal agricultural export of Peru and generates more than 30% of the foreign exchange revenues of the agro-export sector. More than one million people are involved in coffee production, transportation, processing, and export activities. Approximately 250,000 hectares are planted to coffee, principally in forest-edge and highland-forest areas, where coffee cultivation is a real option, especially for replacing coca cultivation.

Recently, coffee activity has been struggling with one of its worst crises, primarily because of the fall in international coffee prices due to oversupply worldwide. In addition, coffee safety must also now be assured, especially with regard to the elimination of ochratoxin A. Because of this toxin, coffee-consuming nations are adjusting their legislation to prohibit the entry of coffee that contains even trace amounts of same.

#### General objective

Strengthen coordination among the stakeholders of the coffee production chain; formulate and apply a coffee quality assurance and safety policy agreed to by all stakeholders; and improve coffee quality so as to boost the competitiveness of Peruvian coffee.

#### Outcomes

1. Progress was made in implementing the GAP, GMP, and quality assurance standards. During the April-December 2004 period, the national training program was implemented with PROMPEX, the National Coffee Board, and the Peruvian Chamber of Coffee, with support from the USAID Project Crecer.
2. The national training program on GAP, GMP and quality assurance standards was implemented with the participation of the Ministry of Agriculture, the Ministry of Health, producers' and exporters' organizations, teaching centers, nongovernmental organizations, and others. Over 110 people received training, surpassing anticipated goals by far.
3. An action plan was formulated and executed for preventing ochratoxin A in Peruvian coffee. The plan aims to improve coffee quality by implementing an integrated food safety policy for the entire coffee chain in all participating sectors. Its holistic approach focuses on promoting and reaching agreement on efforts to strengthen the coffee chain, especially in primary production. This plan is the most important guide for the coffee chain in Peru.

4. The Coffee Subcommittee is currently drafting Technical Standards 209.312 CAFE, on good practices for preventing the growth ochratoxin A-producing fungi. The Subcommittee published a flier with information on ochratoxin A, using project-generated information.

### *Actions that promote leadership:*

- Closer ties were established among all public and private stakeholders in the coffee production chain, who agreed to meet the food safety and quality assurance objectives proposed for coffee.
- Quality standards for coffee were disseminated and publicized in the principal coffee-growing areas. In November 2001, a high-quality publication was produced (printed version and compact disc) on the country's technical standards for green coffee: NTP-209.027:2001 CAFE VERDE. This was done with the support of the National Coffee Board, the Peruvian Chamber of Coffee, and the Export Development Commission (PROMPEX).
- A joint public-private sector National Commission to Prevent Ochratoxin A in Peruvian Coffee was established and charged with designing strategies to promote food safety in coffee.

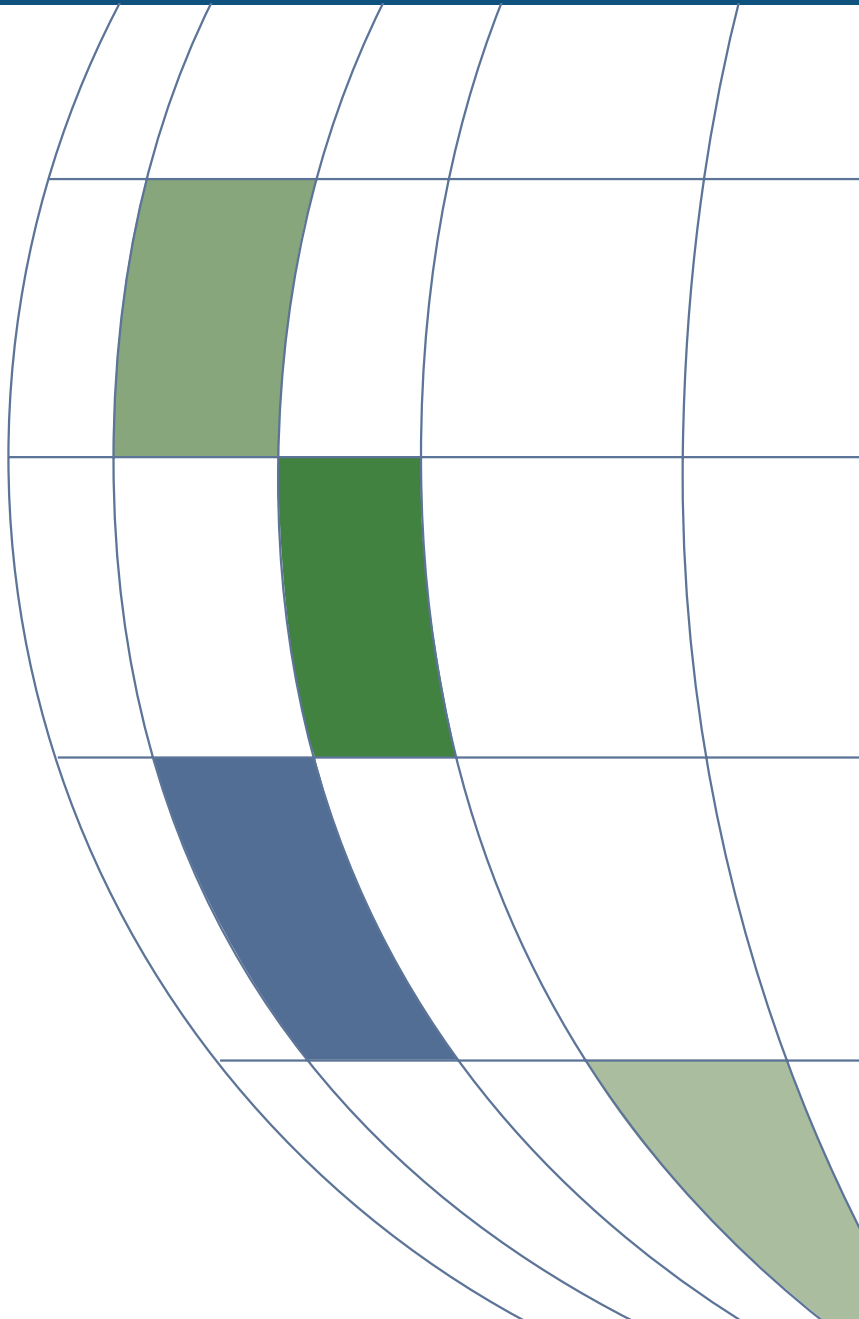
### *Overall impact: what made the difference*

- Project activities contributed to improving consensus on efforts to promote food safety and quality in Peruvian coffee and strengthened the coffee sector's capacity for early detection of possible food safety-related threats or opportunities.
- In 2004, coffee exports totaled 191,000 tons and generated US\$289.9 million, representing an important share of total agricultural exports.
- There was an increase in the production of fine coffees, which are distinguished from common varieties by their origin, variety, consistency of physical and sensory properties and growing practices, and they are highly prized on the international market.
- In 2004 the value of the special coffee exports was US\$49,540,000, or 17.1% of the total value of coffee exports and 14% of their volume. Most of Peru's special coffees are organic, making Peru the second-largest producer of organic coffee in the world.
- The quality of Peruvian coffee has been gaining recognition, for example, LUFTHANSA now serves it exclusively on all its flights.

*“One of the most important outcomes of the work done during the project, and after it, has been the establishment of partnerships among the different sectors involved. This has become the modus operandi and the basis for the resolution of problems and conflicts related to food safety.”*



# *Southern Region*





## *Southern Region*

### *Brazil*

*Training for the application of quality assurance and food safety programs in primary production and family agroindustry in the State of Rio de Janeiro*

#### *Background*

In Brazil, family farms produce 38% of food output and provide 77% of farm jobs. In this sector, however, adequate food safety practices are practically nonexistent because family-based farms and processing plants are unaware of Brazilian health legislation and use technologies that cannot meet those standards.

#### *General objective*

Provide training to technical instructors and people working in family-based farms and food processing plants, on quality assurance management and the application of good agricultural practices (GAP) and good manufacturing practices (GMP).

#### *Outcomes*

1. A network was established to link technical rural extension workers throughout the State of Rio de Janeiro, to facilitate communication and interaction.
2. An inventory was made of the strengths and weaknesses of the plan implemented for applying the technical guidelines.

### *Actions that promote leadership:*

- In State of Rio de Janeiro, 120 technical instructors received training on the management of GAP and GMP.
- Technical guidelines were drawn up to serve as inputs for a manual on GAP and GMP in family farming and family-based agro-industry, which were delivered to 120 technical outreach workers.
- In March 2004, the Veiga de Almeida University (Rio de Janeiro) created a specialized course and a master's degree program on quality assurance and food safety management, targeting technical personnel involved in this field in industries, restaurants, and hotels ([www.uva.br/courses/pos\\_graduacao/nutricao/gest\\_qual\\_segu\\_alim.htm](http://www.uva.br/courses/pos_graduacao/nutricao/gest_qual_segu_alim.htm)).

### *Overall impact: what made the difference*

- By July 2004, 250 farmers and agricultural processors had received training in GAP and GMP.
- Rio de Janeiro is the only state in Brazil that has at least one technician in every technical assistance office with training in quality assurance and food safety.
- An action plan, endorsed by the Ministry of Agrarian Development (MDA), was implemented as a priority national activity. Directly as a result of the project, the MDA requested that two additional projects be executed:
  - Production, with six research units of the Brazilian Agricultural Research Enterprise (EMBRAPA), of a book on food safety covering all aspects of primary production (GAP) and the processing of agricultural products (GMP). It was submitted in December 2004 to MDA for review and will be published in December 2005.
  - Implementation in 2006 of the National Training Program for Technical Instructors of Food Safety, with financial support from the Brazilian Government (MDA) and technical support from IICA and FAO.
- Contacts were made with Brazilian government institutions, including the Ministry of Agriculture, Fisheries and Supply and the National Health Surveillance Agency, in order to foster collaboration on the implementation of existing food safety projects and the design of new food safety projects.

*“My greatest concern now is to have the opportunity to apply all we have learned and to continue improving my leadership skills in the area of food safety.”*





## Chile

### *Education as the foundation of food safety*

#### Background

In Chile, the relationship between the public sector and private enterprise in the area of food safety must be strengthened. As a result of existing shortcomings, consumers receive incomplete information and, if a food safety crisis is reported in the mass media, their reaction is ineffectual. Thus, a food safety culture needs to be developed in the country. The focus of this project is to educate schoolchildren on food safety, preparing them to be informed consumers in the future, interested in participating in actions to promote quality assurance and food safety.

#### General objective

Identify and evaluate the actions of public and private sector institutions to educate schoolchildren in the area of food safety.

#### Outcomes

1. An educational proposal for food safety was designed and will serve as the basis for the model for action with consumers.
2. Through this project, another 1,000 schoolchildren attended plays put on by the schoolchildren who received the training.
3. The project was presented to 120 senior-level students at the School of Veterinary Medicine, in its course on hygiene and food technology. In follow up, they learned about new subjects and went attended a play on yogurt and microbial ecology at a high school.
4. A multi-disciplinary team was made up of professionals from Mundo Granja (Farm World) at the University of Chile and non-university professionals interested in social education. Its purpose was to design projects to be submitted to the Explora program of the National Commission for Scientific and Technological Research (Conicyt).
5. Some 200 teachers' guides and 1000 booklets for schoolchildren were published.
6. At the School of Veterinary Sciences (University of Chile) three theses were written on the subject: "Educational proposal on food safety for schoolchildren," "Implementation and evaluation of a food safety education unit," and "Effect of an educational proposal on food safety on seventh grade students." A fourth thesis on the subject is being prepared.

### *Actions that promote leadership:*

#### **Awareness in school children and teachers:**

- Instructors from six schools in different districts of Santiago received training in food safety and microbial ecology, four of them from low-income districts.
- Around 200 seventh and eighth graders received training in the subjects of food safety and microbial ecology.
- Under the project, the School of Veterinary Sciences and IICA prepared the interactive compact disc “Mundo Granja,” to provide information on GAP and GMP to primary school students.

#### **Public, private and academical partnerships**

- Two projects were submitted to the Explora program: a) “Microbial ecology and its bearing on our welfare (The Good and the Bad under the Microscope),” which was implemented in 2004 in four low-income schools in three different districts, funded by Explora, Nestlé and other institutions (approximately US\$60,000); and b) “Microbial Ecology and its bearing on our welfare: An invisible world uncovered (Part II),” implemented in 2005 with funding from Explora, Nestlé and other institutions (approximately US\$35,000).

### *Overall impact: what made the difference*

- The project “Microbial ecology and its bearing on our welfare (The Good and the Bad under the Microscope)” was selected as one of the top three projects in the country.
- The project “Microbial ecology microbial and its bearing on our welfare (The Good and the Bad under the Microscope)” was exhibited at the Tenth National Science and Technology Week (2004).
- The teachers’ guide for “Microbial ecology and its bearing on our welfare (The Good and the Bad under the Microscope) and the booklet “An invisible world uncovered” were distributed in different parts of the country at the request of several instructors and methodologists, making it necessary to reprint them.
- The project has worked uninterruptedly in five Santiago schools, two of which are in poor districts and three in upper-middle class districts.
- A new proposal is being drawn up for working with the National Fisheries Service (Sernapesca), attached to the Undersecretariat of Fisheries, Ministry of Economy, Development and Reconstruction, and the salmon industry, to deal with red tide and parahemolytic vibrión. The aim is to raise awareness as to the importance of food safety, the conservation of marine resources, and the dangers of over exploitation.

*“... it was necessary to establish ties with professionals in the public sector (high school teachers) and the private sector. These ties were strengthened over time because the initial project gave rise to two more projects... when working as a network, it is necessary to possess certain qualities that will facilitate interaction and make it pleasant and productive.”*



## Paraguay

### *Implementation of the Municipal Surveillance Network for Foodborne Diseases (VETA Municipal Network)*

#### *Background*

In Paraguay, foodborne diseases (FBD) have a strong impact on public health, and acute respiratory illnesses (ARI) are the leading cause of death among children between one and four years of age. Every year, some 40,000 cases of acute diarrheal disease are reported, which differs sharply from VETA system data for 1997-2000, according to which only 56 outbreaks and 934 cases of diarrheal diseases occurred during the entire period.

#### *General objective*

Establish a surveillance network for foodborne diseases in the municipalities of the Greater Metropolitan Area of Asuncion.

#### *Outcomes*

1. Fourteen training activities, including talks and workshops on GMP and VETA, were conducted; approximately 660 people attended (179 health professionals, 446 food handlers, housewives, and representatives of local committees).
2. Various activities were carried out to disseminate information:
  - a) 1000 posters, 1000 fliers, 1500 bulletins, and 1500 calendars on food security were designed and printed.
  - b) Information was disseminated through five radio programs and four television programs.
  - c) Four news articles were published by the press media.
  - d) Technical manuals were prepared (1500 VETA manuals, 1500 inspection manuals, 85 training manuals).
3. The private sector provided office materials in support of the training events.
4. Forty working meetings were held in the Municipality of Asuncion, and 25 more were held with the institutions involved in creating the Central VETA Committee, which is made up of representatives of Public Health Ministry (MPH), the Social Welfare Ministry (MBS), the Agriculture and Livestock Ministry (MAG) and the Municipality of Asuncion.
5. Four working groups were established (in the municipalities of Asuncion, Fernando de la Mora, San Lorenzo and Luque, MAG), involving 10 technical personnel.

### *Actions that promote leadership:*

- Authorities of the municipalities, ministries and international agencies were sensitized to the importance of VETA and the impact of FBDs:
  - a) Twenty-six people were informed: five mayors (municipalities of Fernando de la Mora, Luque, Villa Elisa, Lambaré and San Lorenzo), four presidents of municipal boards, 14 ministerial and municipal directors, and four officials from international agencies.
  - b) Three health directors and inspectors agreed to create VETA committees in their communities.
  - c) Two VETA committees were set up in the municipalities of Fernando de la Mora and San Lorenzo
- In December 2002, the Public Health Ministry (MPH), the Social Welfare Ministry (MBS), the Agriculture and Livestock Ministry (MAG), the Industry and Commerce Ministry (MIC), the National Institute of Technology and Standardization (INTN), and the Municipality of Asuncion signed a cooperation agreement on foodborne disease surveillance.

### *Overall impact: what made the difference*

- An inter-institutional effort on foodborne disease surveillance was implemented, coordinated by MPH, MAG, and other institutions that signed the agreement.
- The Municipality of Asuncion showed that it has the institutional capacity to assume responsibility for project coordination and to serve as a multiplier agency. Despite its limited resources, it showed a great willingness to participate, and its staff has good technical skills.
- 24-hour-a-day communication was established in the Municipality of Asuncion with the creation of radio message 611,500, code MUNICIPAL VETA.

*“...my challenges go beyond FOOD SAFETY: I want to create an association of all those families who make their livings fishing in San Antonio, the goal being to market only fish that are fresh and clean; to create an association of artisans in Asuncion, the goal being to produce handicrafts for sale in fairs; and to open a branch office of the RED CROSS in the MUNICIPIO DE ROQUE ALONSO, to provide training in the prevention of AIDS.”*

Participant



## Uruguay

### *The importance of traceability for ensuring food safety in poultry products*

#### Background

The first outbreak of food toxi-infection produced by salmonellosis in Uruguay occurred in 1995. Recorded outbreaks rose between March 1995 and 2001, usually caused by the consumption of contaminated poultry products. The multiplication of foci and outbreaks has alarmed the population, causing adverse economic effects due to reduced consumption and sales of poultry products. For this reason measures are needed to help control this important health problem.

#### General objective

Strengthen public-private partnerships and linkages to strengthen food safety in the poultry sector.

#### Outcomes

Standards were formulated to govern the application of management and biosafety practices in poultry production:

1. Information on the status of salmonellosis in Uruguay.
2. Regulations on the mandatory registration of commercial avian production establishments and companies that market live birds and their byproducts.
3. Regulations on biosafety standards for authorizing the operation of poultry establishments, including a procedures manual.
4. Regulations to govern the transport of poultry and poultry byproducts through the entire chain, introducing traceability systems in all production and processing plants.
5. Training for professionals on management and biosafety standards, and the importance of compliance.
6. Continuing education workshops on poultry production to disseminate information on the sanitary requirements of poultry establishments and distribute related materials (procedures manual for authorizing the operation of poultry establishments, biosafety standards).

### *Actions that promote leadership:*

#### Public and private partnerships:

- Creation of the Inter-sectoral Poultry Commission, involving both the public and private sectors. The public sector is represented by the Ministry of Livestock, Agriculture and Fisheries (Health Division and Agricultural Planning and Policy Office) and the National Meat Institute; the private sector is represented by trade associations of egg and poultry producers.
- Establishment of the Inter-ministerial Commission, made up of the Animal Industry Division, the Animal Health Division, and the Agricultural Planning and Policy Office (OPYPA).
- Creation of the Commission for the Control of Zoonosis and Foodborne Diseases, with representatives from the Ministry of Public Health, the Ministry of Livestock, Agriculture and Fisheries (Animal Health Division, Animal Industry Division, and Veterinary Laboratory Division), and the Association of Avian Veterinarians (AMEVEA).
- Creation of the Poultry Monitoring Unit at the Ministry of Livestock, Agriculture and Fisheries (MGAP) to oversee and monitor application of the new standards.

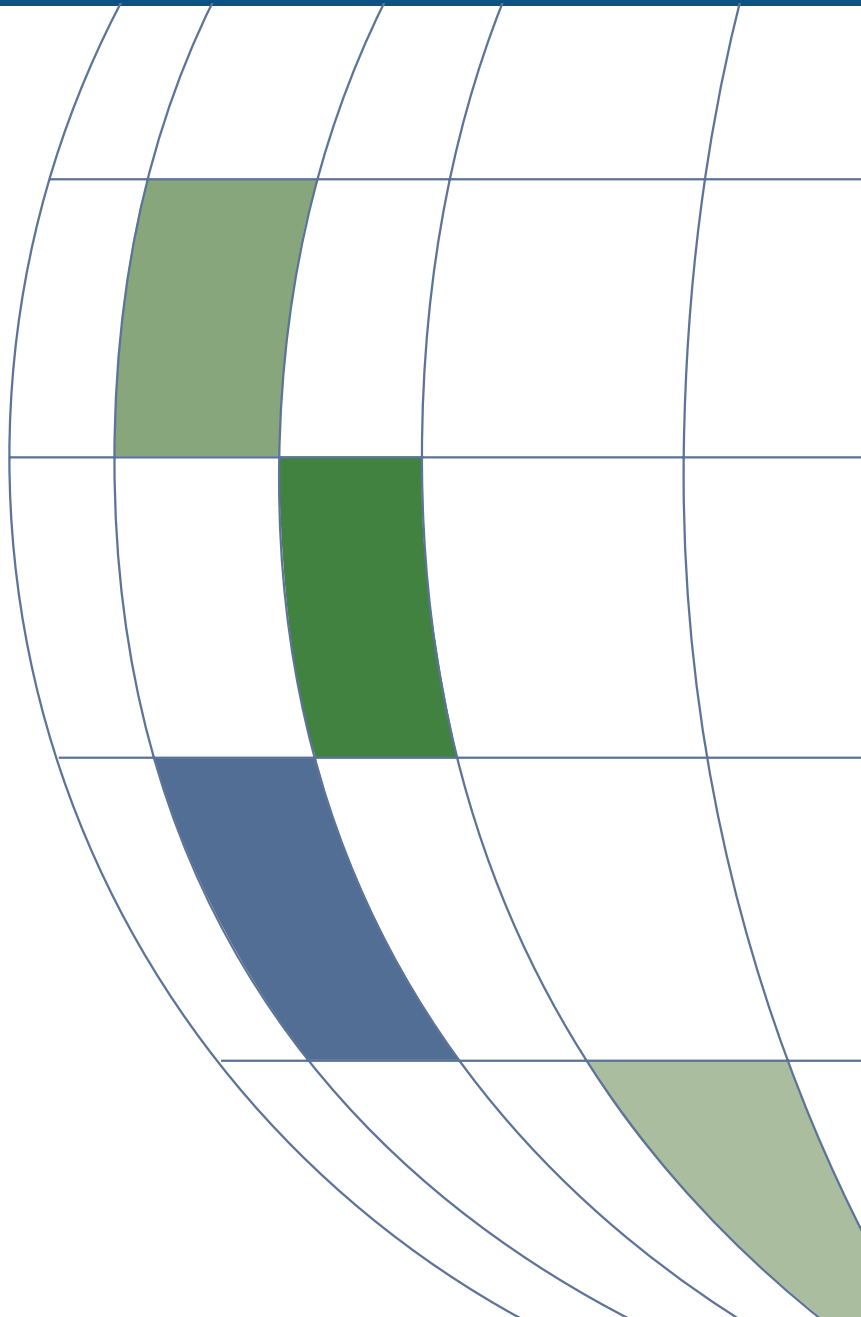
### *Overall impact: what made the difference*

- Biosafety technologies and systems were introduced in poultry farms, especially small farms, to ensure the production of safer and better quality poultry products.
- A sustainable network was established to link technical personnel and professionals working in the poultry sector.
- There was a decline in the number of complaints of diseases transmitted by the consumption of fresh eggs and poultry meat. While in 2001 a total of 21 complaints were recorded, in 2004 there were none.
- Documentation of the entire poultry production and processing process was established as a requirement, and includes keeping full records of same. In addition, sanitary standards must be met for authorizing the operation of poultry incubation and reproduction plants, broiler production plants, and commercial egg production plants for all avian species, as well as companies that market live birds and their byproducts .
- Biosafety standards were formulated and introduced in poultry reproduction, broiler and egg production establishments, and in commercial incubation plants for all avian species.
- To expand the work of the Intersectoral Poultry Commission, the Farming Coordinating Commission (CO.CO.A) was created to serve MGAP as a body for consultation, discussion and technical assistance in the preparation of State policies for the poultry sector.

*“If a sustainable project is to be successful, we must be persistent, trust in ourselves and become involved in all aspects of its implementation. Technical know-how is important, but to learn to negotiate, work as a team and resolve unforeseen situations is fundamental.”*



# *Central Region*





## *Central Region*

### *Costa Rica*

#### *Creation of regional groups for investigating and managing foodborne diseases in Costa Rica*

#### *Background*

In Costa Rica, as in other parts of the world, radical changes are being observed in the epidemiological incidence of waterborne and foodborne diseases (FBD), due to the rapid expansion of urban areas, more intense population movement (migration), and changing production, preparation, consumption, and food transfer practices, all of which are accentuated by the occurrence of natural disasters. Of the mandatory notifiable diseases, acute diarrhea holds second place in Costa Rica, after acute respiratory infections, and is the second cause of death in the country. In the past few years, the National Bacteriology Reference Center (CNRB), of the Costa Rican Institute for Nutrition and Health Education (INCIENSA), has documented major diarrheal outbreaks associated with the consumption of contaminated water and food. The capacity of local institutions to handle such outbreaks and to investigate the matter is limited, sometimes resulting in inconclusive findings.

#### *General objective*

Begin establishing regional inter-disciplinary, inter-sectoral and inter-institutional groups, provide training, and support their efforts to manage and control FBDs, and to later serve as leaders in the process to train local teams.

#### *Outcomes*

1. A reference system was set up for sending samples to CNRB when the cost or complexity of the test makes it impossible to conduct same at the local level. This will also serve to supplement and/or confirm diagnoses of enteropathogens associated with FBD outbreaks.
2. A quantification was made of the capacity of CNRB/INCIENSA to address and support efforts to diagnose FBD, as well as of CEQIATEC's capacity for service.



### *Actions that promote leadership:*

- Multi-disciplinary teams were created and their members received training to strengthen their leadership skills in the investigation, management, and reporting of FBD outbreaks in the regions.
- The roles of all members of FBD outbreak investigation groups were defined.
- FBD reporting, investigation, and control actions were conducted in orderly and coordinated fashion, resulting in the successful confirmation of the diagnoses of enteropathogens associated with outbreaks.
- Intra- and inter-institutional channels of communication were established to improve responsiveness to problems.
- Tasks and competencies were defined for each clinical food and water analysis laboratory, including CEQIATEC, the National Laboratory Network and CNRB/ INCIENSA, all of which are involved in investigating FBD outbreaks.

### *Overall impact: what made the difference*

- With the collaboration of local institutions, the National Laboratory Network and the CNRB/INCIENSA, the pathogens associated with FBD outbreaks can now be detected on a timely basis.
- The CNRB can now monitor the resistance of enteropathogens (such as Salmonella and Shigella) to antibiotics, the circulation of certain serogroups and/or serotypes of enteropathogens, the trends in the reports on pathogens in specific locations, and other situations that may pose high epidemiological risks.
- The information generated by the network's laboratories and CNRB/INCIENSA is used by international networks, including the American Network for Surveillance of Antimicrobial Resistance of Salmonella, Shigella, and Vibrio cholerae (PAHO/WHO), the laboratory of the Center for Disease Control-Canada (LCDC-Canada) and the Program for Serotyping and Testing Sensitivity to Antibiotics, sponsored by the Global Salm-Surv (GSS), a network that receives support from the Danish Veterinary Laboratory (DVL), the World Health Organization (WHO) and the Center for Disease Control (CDC).
- Information is analyzed regularly and forwarded in timely fashion to the Ministry of Health, the Costa Rican Social Security System (CCSS), other health sector institutions, and the scientific community, for use in decision-making.
- Standards are currently being prepared for the Surveillance of the Foodborne Diseases (VETA) in Costa Rica, with the Ministry of Health, INCIENSA, the CCSS, and other institutions.
- In 2004, 28 outbreaks of diarrhea were documented; the initial warning notification for 11 of them came from the laboratories of the national network.

*“To set up a team comprising professionals from different institutions for the purpose of reaching consensus on the development of the project,....led to changes in both the working environment in and the image of our institution.”*



## *Costa Rica*

### *Manual for managing the quality and safety of fresh produce*

#### *Background*

Although agricultural activity in Costa Rica can be considered successful for many reasons, it became evident recently that improvements were needed to assure the quality and safety of fresh produce (fruits and vegetables), both for export and for the national market, primarily because of the pressure from more demanding consumers for producers to deliver safer products.

#### *General objective*

Provide agri-businesses that produce fresh fruits and vegetables with guidelines that enable them to implement an agribusiness and operational quality assurance and food safety management program, so they can adopt and consolidate appropriate technologies.

#### *Outcomes*

1. In 2004 a training program for instructors taught 525 public sector professionals and technical personnel about the use of quality assurance and food safety instruments, including GAP, GMP, EurepGAP standards, HACCP and record-keeping.
2. Support was provided to small- and medium-scale enterprises:
  - a) 1500 employees received training in GAP, GMP, EurepGAP standards, HACCP, and record-keeping.
  - b) 125 companies from the melon, pineapple, watermelon, chayote, blackberry, roots and tubers, guava, banana, plantain, ornamental plants, and coffee subsectors received advice regarding field and installations infrastructure, development of documental records, training in GAP and GMP, and pre-certification audits.
  - c) 55 small- and medium-scale enterprises were certified under the EurepGAP and other standards.

### *Actions that promote leadership:*

- National Chamber of Agriculture and Agroindustry (CNAA) and the National Production Board (CNP) joined forces in a strategic partnership to create the program “Produce to Compete,” the purpose of which is to improve the capacity of agricultural enterprises to manage quality assurance and food safety through training, technical assistance and improved record-keeping.
- Through Executive Decree 30746-MAG-MEIC-COMEX, published in the official journal La Gaceta on 3 October 2002, the Government of Costa Rica declared the program “Produce to Compete” of the public interest.
- Various public and private sector institutions included quality assurance and food safety among their priority topics.

### *Overall impact: what made the difference*

- Entrepreneurs realized that food safety is an investment and not a cost.
- Costa Rica is the first Central American country and the third Latin American country to have companies that have been certified by EurepGAP.
- A culture of quality assurance and food safety was created in the agricultural sector.
- Agricultural schools included the subject of quality assurance and food safety in their curricula.
- Due to the success of the “Produce to Compete” program, public agricultural funds were allotted to enable private small- and medium-scale enterprises to receive training and advisory services, and to be certified.
- It was established that all companies and organizations that receive funds for changing and modernizing their production practices must implement quality assurance and food safety management programs.
- The CNP continued to implement the program in the projects it finances to change and modernize the production of specific products consumed domestically or exported.

*“At the national and international level, our institution is now recognized in the field of quality and safety, and the team we lead, for its expertise, professionalism and competence.”*

Participant



## Guatemala

### *Food safety for indigenous peoples*

#### Background

Twenty-three ethnic groups in Guatemala maintain their cultural traditions, the largest being the Kakchiquel group. Most of its members live in rural areas, where 76% of the population lives below the poverty line. Poor hygiene practices and widespread illiteracy (75%) among women result in high rates of diarrheal, waterborne and foodborne diseases among Kakchiquel children of preschool age. Studies by the Nutrition Institute of Central America and Panama (INCAP) found that Kakchiquel children under the age of three are infected with enteropathogens two weeks after they are born, get diarrhea by the time they are seven months old, and suffer from five to eight diarrheal episodes a year. Ten percent of these episodes result in persistent diarrhea, lasting more than 14 days. Repeated infections, combined with calorie- and protein-poor diets, are the cause of their short stature and poor intellectual performance in adult life.

#### General objective

Improve the food handling techniques of mothers of preschool children in the Santa María de Jesús region, in order to improve food safety and reduce the rate of diarrheal disease among children under the age of three.

#### Outcomes

1. The findings of qualitative research were used to formulate recommendations for improving the handling of water and food, and for improving personal hygiene, in the homes and especially in the kitchens of Kakchiquel mothers of children under the age of three. The recommendations include:
  - washing hands frequently, especially during food preparation and handling, saving water and soap by means of the tipi-tap<sup>1</sup> system
  - washing nipples before breast-feeding
  - protecting the water used in the home
  - pasteurizing water with sunlight using “sodis” (recycled two-liter plastic bottles)
  - preventing cross-contamination during cooking
  - reheating food
  - storing food appropriately
  - keeping poultry in pens

<sup>1</sup> Tipi-tap: solar disinfection of drinking water.

2. Illustrated materials were designed for each recommendation, then validated and distributed to participating mothers for their use.
3. Volunteer mothers were visited by outreach workers fluent in the Kakchiquel language, to determine to what degree the recommendations had been adopted, what obstacles prevented their implementation, and favorable observations on same.

### *Actions that promote leadership:*

- Seven of the eight recommended practices were adopted without resistance by the target population.
- Bilingual Spanish-Kakchiquel materials were prepared for eight recommendations that promote appropriate hygiene and handling of food and water, to prevent contamination.

### *Overall impact: what made the difference*

- The diarrheal episodes of children under three of the 120 participating mothers fell from eight per year to less than three.
- Support was received from World Vision-Guatemala for disseminating the eight recommendations and translating them into other Mayan languages.
- The recommendations were submitted for additional funding to the Rigoberta Menchú Association with the aim of promoting their use among the indigenous community.

*“We succeeded in establishing a partnership between the health sector and the municipalities of Coatepeque and Escuintla, which are working together to promote hygiene (washing hands, boiling water) in the home, with a view to reducing the incidence of diarrhea. They reach their audience through weekly radio programs.”*

Participant



## *Honduras*

### *Training program for food safety in fruits and vegetables*

#### *Background*

In 2000, the agri-food sector contributed 21.8% to GDP and generated 47% of the foreign exchange earned from the export of goods (including coffee, banana, palm oil, meat, sugar, shrimp, lobster, tobacco, melon and pineapple). Given the importance of the sector, the competitiveness of its products must be increased by establishing internationally recognized quality assurance and food safety systems and by reducing the amount of diseases transmitted by plant-based food products.

#### *General objective*

Promote changes in attitudes, know-how, and practices with a training program to ensure the quality and safety of fresh fruits and vegetables.

#### *Outcomes*

1. A total of 181 people received training in food safety, including producers, students, university instructors (Regional University Center of the Atlantic Coast, Francisco Morazan University), exporters and consumers.
2. Strategic partnerships were established among companies, producer associations, and the Secretariat of Agriculture and Livestock (SAG).
3. Training materials were prepared, including a producers' manual and an instructors' training manual.
4. Training manuals (181 copies) were printed and delivered to producers, along with a guide to the good agricultural practices (GAP) of the United States of America, and organic fertilizer standards.

### *Actions that promote leadership:*

- An Agricultural-based Food Inspection and Safety Department was created at the SAG (Agreement 588-01).
- Food inspection and safety regulations for fresh and processed fruits and vegetables were officially authorized (Agreement 632-03). These regulations were consensually developed by the participants in five workshops carried out in five areas of the country under the PROMESAS program, through a technical and financial cooperation agreement signed with the Canadian International Development Agency.
- In February 2003, an agreement for technical and administrative cooperation was signed by SAG and the Ministry of Health.
- The National Codex Committee was transferred from the Ministry of Health to the SAG (Agreement 521-03).

### *Overall impact: what made the difference*

- A plan was designed for providing information on the application of the Bioterrorism Act (Agreement 936-03).
- The National Codex Committee and eight technical subcommittees were reactivated, and more than 24 observations were submitted to the Codex Alimentarius Commission.
- A strategic partnership was established with the IDB-MIF/RIOPPAH project for training activities on the Bioterrorism Act, public consultation meetings on priority Codex topics for Honduras, and food safety training for producers and exporters of fresh fruits and vegetables.
- SAG was charged with serving as the permanent Technical Secretary of the Codex and as the Codex contact point.
- Three projects were designed and submitted to the Food for Progress Program of the United States Department of Agriculture (USDA); they were approved.
- SAG designed a program to strengthen the National Codex Committee. It was submitted to the United States wheat donation program, and approved.

*“At the professional level, I am leading the food safety initiative in Honduras. I am very proud to be a part of this effort. My passion for what I am doing and what I believe in makes me feel very happy about what I am.”*

Participant



## *Honduras*

### *Integrated training program for hygienic handling of food in the hotel sector of Honduras*

#### *General objective*

Establish an integrated food-handling training program.

#### *Outcomes*

1. Fourteen training activities were conducted in the selected hotels, attended by 194 employees, 12 vendors and four members of the maintenance staff; a hygienic food-handling culture that combines quality assurance, health and food safety was instituted.
2. An action plan was drawn up to correct evidence of non-compliance found in the audit of industrial kitchens.

#### *Actions that promote leadership:*

- A manual was prepared on safe food handling.
- Through an agreement with the Honduran Association of Hotels and Related Services (AHAH) and the Vocational Training Institute (INFOP), a food safety and food-handling program was created for the hotel industry, under which the staff of 25 hotels received training.



*Overall impact: what made the difference*

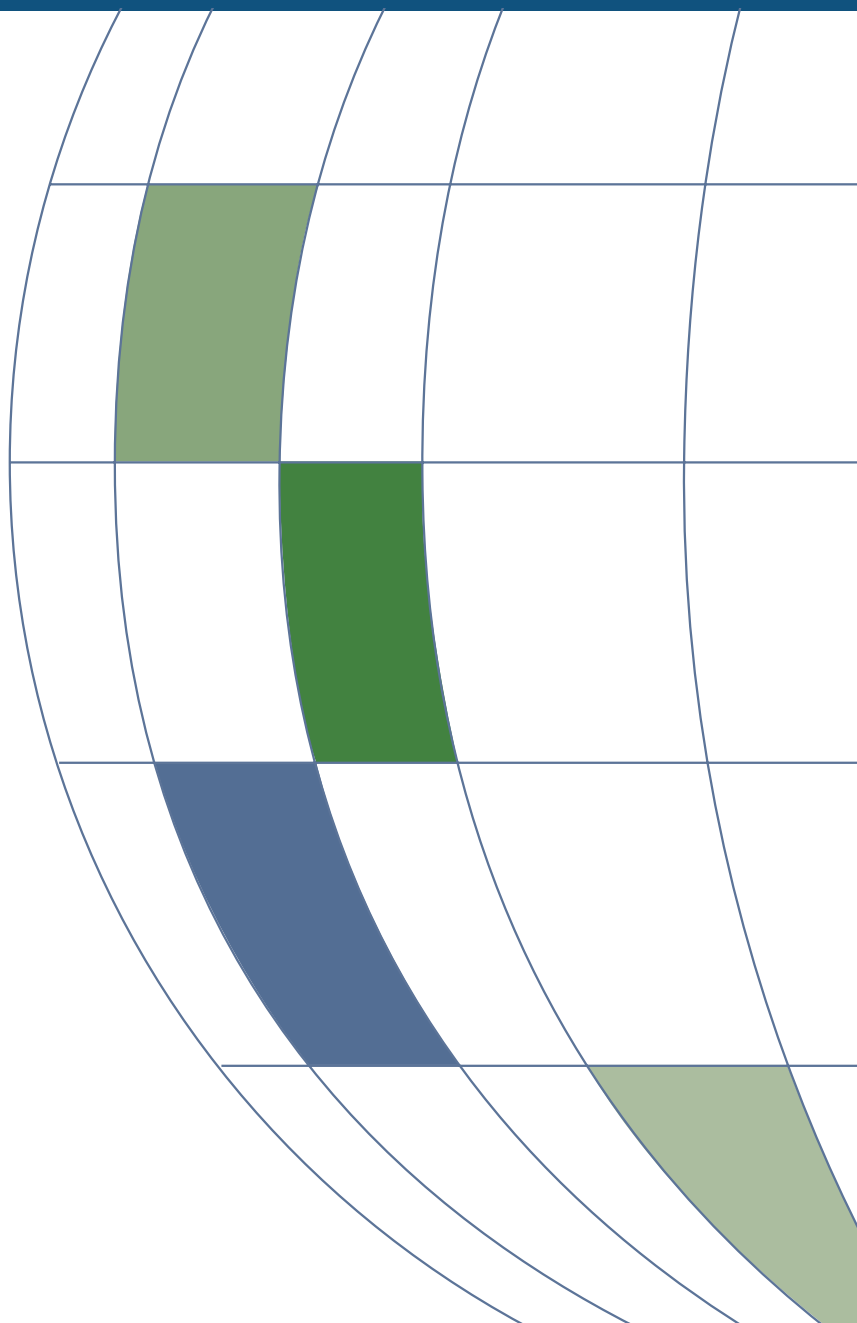
- The tourist industry was strengthened with the implementation of food handling programs in hotels that lacked them.
- A quality assurance seal was created for hotels whose staff has received training in food safety and safe food handling.

*“I have learned to work as a member of a team and to listen to other ideas in order to make things happen.”*

Participant



# *Northern Region*





## *Northern Region*

### *Canada*

*Raising awareness of Codex and consideration of Codex Texts when developing CFIA Regulations and Policies*

#### *Background*

The Government of Canada invests significant resources in its contribution to and participation in the food standard setting activities of the Codex Alimentarius Commission and its subsidiary bodies. This participation is motivated by a number of factors including the increased importance of international standards in the evolving global food trade, the recognition of Codex as the primary international food standard setting organization, its recognition under the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and the commitment of the Government of Canada to use international standards when those achieve Canadian regulatory objectives.

#### *General objective:*

To raise awareness regarding the importance of Codex activities and to review procedures in place to ensure appropriate consideration is given to Codex texts (i.e., codes of practices, standards, guidelines and recommendations) as the basis for the Canadian Food Inspection Agency (CFIA) regulations and policies in support of public health protection and fair practices in the food trade.

#### *Outcomes*

1. More than 200 staff across Canada benefited were trained and informed.
2. A number of workshops were held to inform regulatory staff and raise their awareness of Codex and the importance of considering international Codex texts when developing Canadian regulations and policies. Federal food safety regulators were targeted first, but other levels of governments (e.g., provincial authorities) were also involved in these information sessions.
3. Additional measures have been proposed to better measure the level of alignment of CFIA regulations and policies with newly adopted Codex texts.

### *Actions that promote leadership:*

- More than 200 staff across Canada benefited from information sessions.
- Canadian Food Inspection Agency (CFIA) processes in place were reviewed to ensure Codex texts are given appropriate consideration when developing regulations and policies.

### *Overall impact: what made the difference*

- In order to carry out these process, a training manual was developed jointly with Health Canada. This Canadian manual provided the basis for the development of an FAO Training Manual used to train regulatory officials on Codex, in particular in developing countries.
- This project has contributed significantly to raising awareness regarding Codex and the importance of appropriate consideration and alignment to the extent possible of Canadian requirements to Codex texts. It has also further formalized the procedures in place to ensure appropriate consideration is given to Codex texts.
- The project has provided further clarification and justification regarding the appropriate level of involvement/participation in various Codex fora, and the benefits accrued by such participation.

*“We have strengthened the partnerships with other offices and with other countries, with a view to promoting Canadian proposals in international forums on food.”*

Participant



## *Mexico*

### *Use of irradiation technology in the food industry*

#### *Background*

Irradiation technology can alter certain biochemical processes in products such as bulbs, roots and tubers, and is effective in destroying insects, parasites, and bacteria that infest food. It is therefore useful for preserving and protecting food hygiene and offers an alternative to quarantine treatment. Because of these benefits and the construction of an irradiation plant at the National Nuclear Research Institute (ININ), a series of activities were carried out to promote the use of irradiation in treating food destined for trade.

#### *General objective*

Increase the trade and consumption of food irradiated in the country, and facilitate an exchange of experiences on the subject.

#### *Outcomes*

##### **1. Research projects:**

- a) Effective doses were determined for achieving different desired technical effects. For example, for the quarantine treatment of mango, citrus fruits and guava, it was determined that 150 Gy is the dose required to disinfest these fruits (which are of economic importance to Mexico) of their different pests. In addition, sensory, chemical and physiological tests demonstrated that product quality is unaffected by irradiation.
- b) The minimum dose was determined for inhibiting the development of pathogenic bacteria in poultry meat; also, the average dose for decontaminating spices and dehydrated vegetables was established.

##### **2. Work with companies:**

After sending technical information to different companies and reviewing the responses to questionnaires, it was found that 70% of spice and condiment businesses, 45% of fresh produce firms and packers, 20% of poultry processing companies, and 15% of companies that process marine products want to irradiate their products destined for trade.

### *Actions that promote leadership:*

- A working group was organized to formulate draft irradiation standards for phytosanitary health treatment, which were accepted in the International Plant Protection Convention under the title “Guidelines for the use of irradiation as phytosanitary treatment.”
- Entrepreneurs and other stakeholders involved in food technology showed great interest in investing in irradiation technology.

### *Overall impact: what made the difference*

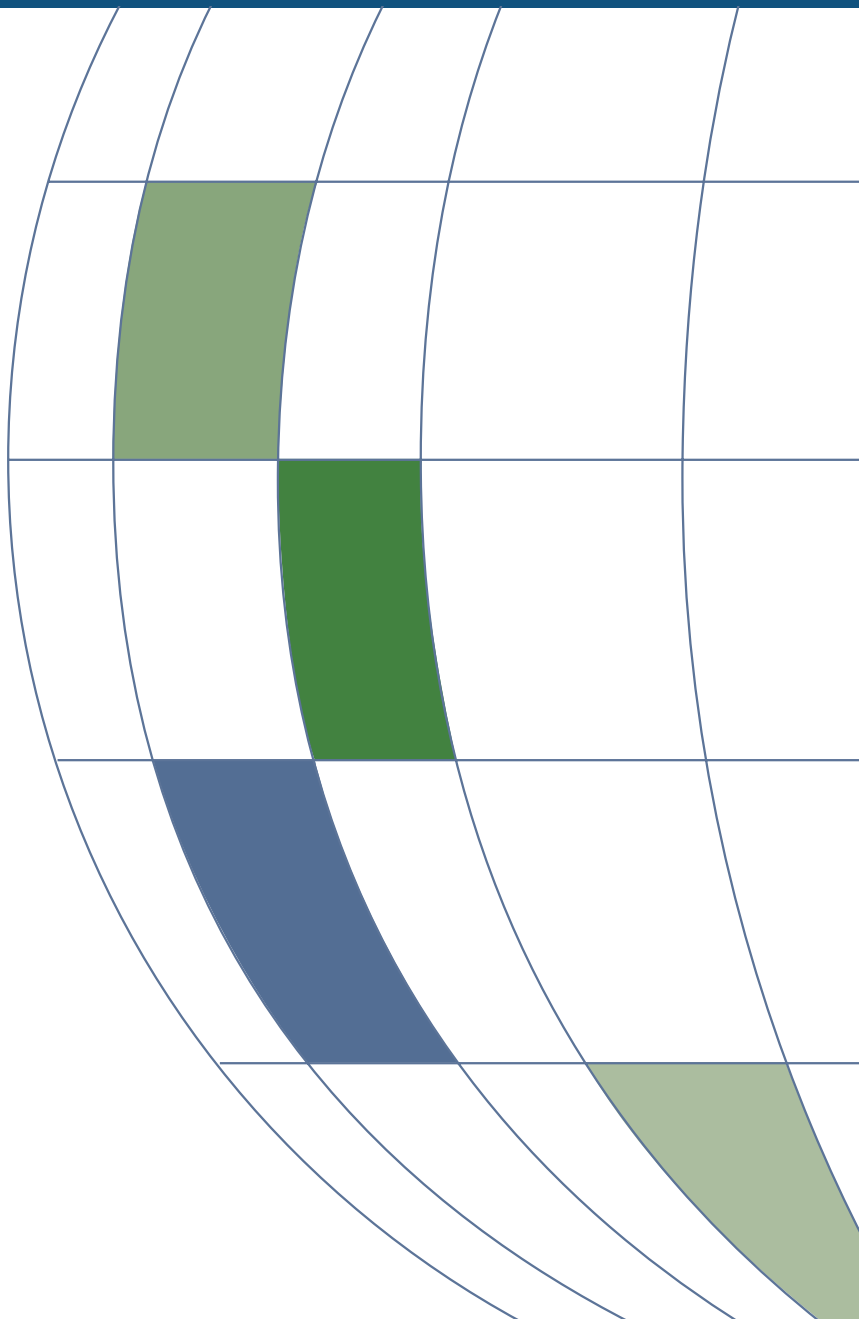
- Under the program Regional Cooperative Arrangements for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean (ARCAL), implementation of a project involving seven Latin American countries (Argentina, Brazil, Chile, Cuba, Mexico, Peru and Venezuela) was coordinated. The aim of the project was to harmonize a research protocol to demonstrate the effectiveness of irradiation as a quarantine treatment. In addition, a model was prepared for certifying irradiation treatment.
- The ININ irradiator continued to work at maximum capacity and the Nuclear Center at the National Autonomous University of Mexico (UNAM), which has a research irradiator, provides services to many companies and continues to conduct research.
- The private enterprise Steringenics, which launched operations in 2000, is processing condiments and spices, flours, fruits, and dehydrated vegetables, refrigerated meat and frozen chicken, among other things, and has conducted research on various tropical fruits, including tejocote (Mexican Hawthorne), sour sop, star fruit, black plum, mamey, and pitahaya.
- The firm Phytosan S.A. de C.V. launched operations in 2002 with the idea of promoting the use of irradiation as a quarantine treatment for fresh fruits; it is presently building two irradiators, one in the state of Jalisco and the other in San Luis Potosí.

*“It enabled me, on the one hand, to interact with professionals from different disciplines and, on the other, to get radiation recognized as a conservation treatment by the educational and public and private sectors.”*

Participant



# *Caribbean Region*





## *Caribbean Region*

### *Caribbean Region*

*Caribbean Poultry Industry Integrated Improvement Program (CPIIIP) - Improving Competitiveness in Caribbean Poultry Industry Marketing Standards, Food Safety, Avian Health and Farm Productivity*

#### *Background*

The CARICOM poultry industry is one of the three largest agro industries, together with sugar and rice, in the region with an output of 130 m broilers and 24 m dozens of eggs per annum valued at 390 m USD. The industry produces 65% of the 40 kg per capita of chicken consumed annually in CARICOM. Its 90 manufacturing plants make a small but significant contribution to the region's manufacturing output. It employs 30,000 people, 50% of whom are small producers and processors and it utilizes the output from 50,000 acres of corn, millet and rice. Unlike many other agro industries, it has continued to show healthy growth in output over the last few decades.

Caribbean producers have demonstrated over the last 5 years that they can achieve biological productivity efficiencies equal to that of the top 10 % of North American producers. However small market and scale economies are a great disadvantage to the industry. As a result the Caribbean Poultry Association has developed an industry development strategy to improve the industry's competitiveness, some of which have important implications for food safety and human health.

#### *General objective*

To improve the competitiveness of the CARICOM poultry industry in the area of Marketing Grades, Food Safety, Avian Health and Farm Productivity.

#### *Outcomes*

1. Strengthened Regional Poultry Association – A CPIIIP coordinator and office were established at the School of Veterinary Medicine and University of the West Indies, to provide a sustainable series of programs to improve poultry industry food safety and avian health.
2. Strengthened National Poultry Associations – 4 associations were formed and/ or rejuvenated. There are now functioning associations in the CARICOM 6 that account for over 85% of regional production.



## Inter-American Institute for Cooperation on Agriculture

3. Protocol Development – 16 industry specific protocols (marketing standards, laws, regulations, codes of practice, standard agricultural practices) were developed by largely regional specialists and vetted by regional public sector / industry working groups.
4. Protocol Adoption – So far 2 protocols have been adopted by respective regional standards bodies and 10 are receiving consideration during 2005.
5. Regional Protocol Training – 9 regional workshops and schools were held which were attended by 500 people at the regional level and 20,000 posters prepared for distribution to educate key stakeholders in the protocols use.
6. National Protocol Implementation - 20 national seminars with 40 – 60 producers/ processors per seminar were held in 6 countries to train producers in the use of the protocols.
7. Conducted a survey to determine prevalence of Salmonella on farms.
8. Developed a Good Agricultural Programme for egg producers.

### *Actions that promote leadership:*

- Improvements in Industry Performance from CPIIP Program. – At least one Association, the Belize Poultry Association, is reporting an increase in egg consumption of at least over 25 - 50% which is being attributed to the Generic Promotion Campaign.
- Strengthened regional organisation and improved collaboration with public sector – All the CPA – CPIIP programs placed exceeding strong emphasis of collaboration with the government sector. Apart from strengthening the associations, the second largest component of the program was to collaborate with the public sector to strengthen their industry specific infrastructure and services. As a result, the relationship between the industry and public sector is growing stronger at both the national and regional level.
- Avian health disease surveillance programs for food borne diseases (SE) and List A poultry diseases in 6 CARICOM states to improve food safety, avian health and to facilitate trade in eggs and poultry products.

### *Overall impact: what made the difference*

- Marketing Standards – CARICOM Council (of Ministers) of Trade and Economic Development (COTED) - Two standards on poultry meat and eggs have been adopted by the regional governments in 2005 and the remaining 11 should be adopted by the end of 2006.
- Food Safety – Food safety laws and regulations are in various levels of drafting and adoption across the region, as a result of the effort of a wide range of initiatives.
- The model CPIIP Broiler Processing Regulations have been incorporated by PAHO into the new Food Safety Laws being drafted by Barbados and the 7 OECS states.
- Role model for other industry association. The following regional associations have borrowed various elements of the CPA/ CPIIP program in developing their associations and related work programs – Pork Association of the Caribbean, Caribbean Bakery Association, Caribbean Brewers Association, Caribbean Dairy Federation, Caribbean Agribusiness Association.

*“The ability to develop a clear vision of the project and to communicate it effectively has been essential in the success of same.”*