

Business Plan

FOOD SAFETY INSTITUTE OF THE AMERICAS

University of Puerto Rico at Mayaguez



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I. BACKGROUND

In December 2000, the University of Puerto Rico (UPR), the Food & Drug Administration (FDA), and the Food Safety & Inspection Service (FSIS), entered into a Memorandum of Understanding (MOU) that established a framework for collaboration on activities mutually beneficial within FSIS and FDA's scientific and regulatory interests and the UPR. The MOU supports & encourages improved understanding of science based regulatory systems in the Americas. In essence, the University of Puerto Rico would serve as a gateway to the Americas on food safety and other scientific matters given its similar cultural heritage and language capability. In general, the MOU activities are centered on several major areas: 1) Educational programs; 2) Outreach for recruitment; 3) Fostering cooperative activities and partnerships; and 4) FDA activities in the areas of Drugs, Biologics, & Medical Devices.

The MOU is managed by an Executive Committee composed by the President of the UPR, the FSIS Administrator, and the FDA Deputy Commissioner. Other members of the Committee are representatives of Inter-American Collaboration for the Americas (IICA), Institute of Association of Caribbean Universities and Research Institute (UNICA), Center for Hemispherical Cooperation in Research and Education in Engineering and Applied Science (COHEMIS), the Food and Agriculture Organization (FAO), the Pan-American Health Organization (PAHO), and others who have food safety interests in the Americas. These representatives serve in an advisory capacity and ensure that the MOU has a broad collaboration. As a result, diverse resources can be brought to the activities undertaken as part of the MOU.

Since the signing of the MOU, partners have successfully collaborated on educational programs on food safety & hygiene at the Mayagüez and Río Piedras Campus with broad participation of government, private sector and academic representatives from Puerto Rico, the

United States and sixteen countries including Aruba, Granada, Guyana, St. Kitts, Dominica, Suriname, St. Lucia, Jamaica, Barbados, Trinidad-Tobago, Chile, Mexico, Argentina, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, El Salvador, Peru, Uruguay, and Venezuela. Encouraged by the success of the activities undertaken, the partnering agencies have decided to pursue the establishment of the Food Safety Institute of the Americas (FSIA) within the University of Puerto Rico as a priority of the FDA Commissioner, the President of the University and the Chancellor of the Mayagüez Campus. Johnson Diversey, a multinational company leader in providing cleaning and hygiene products and solutions, has expressed preliminary interest in sponsoring such an undertaking. The FISA concept entails a comprehensive vehicle for providing bilingual food safety & hygiene education and information with emphasis on Spanish to countries in the Americas by using classroom lectures and experiences, web-based, and hands-on format. All of these through an effective collaboration that leverages the resources of industry, government, academic institutions and international organizations within the region and foresees an administrative and financial structure geared towards self-sustainability.

II. ORGANIZATION & ADMINISTRATION

FSIA Concept Overview

The FSIA contemplates a comprehensive and effective mechanism for coordinating, planning and prioritizing food safety educational activities in a global marketplace with a charter to provide greater access to existing resources, more efficient delivery at lower costs, minimize duplication and achieve economic self-sustainability. The FSIA entails an institutional university structure that is, as mentioned, both web-based and classroom-based in a bilingual format with emphasis on Spanish. The Institute will bring together the fragmented resources of

the many academic institutions, organizations, and industry associations working on the common goal of improved food safety in the Americas. UPR has taken the lead in creating this collaborative, multi-agency effort involving partnerships with FSIS, FDA, other Federal, state and local government agencies, as well as animal health and public health authorities, industry, and academic institutions. Operating on a cost recovery fee for services basis, the FSIA is foreseen to achieve financial self-sustainability within the first five years to assure continuity and the flexibility to expand and customize evolving services in a changing regulatory, economic and scientific trade environment. It is recognized from the conceptual development phase that for the FSIA to be well staffed and supported in a long-term focus its needs to become financially self-sufficient.

Organizational Structure

-Steering Committee

The Institute will be guided by a Steering Committee, which will provide broad direction and policies. The Steering Committee will work under the overall direction of the Executive Committee of the MOU under the charter presented as Exhibit 1. Refer to Exhibit 2 for the proposed FSIA organizational chart structure.

-Staffing

The FSIA will comprise a core staff of administrative and technical support personnel headed by a director and co-director with a strong technical background and complementary competencies in food and animal sciences. The co-directors will commit 75% of their time each to the FSIA. The staff and the Steering Committee will determine the areas of learning best suited to the Spanish speaking audiences. Faculty and researchers from UPR and elsewhere with

relevant competencies will join the FISA staff as program delivery and requested services evolve. The resume of the FISA's directors is included as Exhibit 3.

-Educational Services Topics

There is a broad range of food safety topics, and a large number of organizations and institutions conducting programs in these areas. Using a university model, similar subject matter from diverse locations, will be grouped along the lines of "colleges and departments" within the FSIA into the following programs:

- ? Regulatory Foundation Studies: Provide basic training and education programs for Government inspection and compliance officials.
- ? Manufactured Foods: Designed for private sector food manufacturing personnel particularly small plants as well as inspectors, investigators and faculty where the food sciences and food technologies are taught.
- ? Public Health Studies: Will address areas of study like Risk Assessment, Management and Communication, Epidemiology, Surveillance, Traceback, and Foodborne Disease.
- ? Codex: Relates to international food safety standards, guidelines and related texts
- ? Animal and Food Production Studies: Designed for the manufacturing community as well as practicing veterinarians, vocational agriculture faculty for Spanish speaking audiences.
- ? Retail Programs: Will address U.S. FDA Food Code training and certification and other related topics.
- ? Food Security: Focuses on preventing and detecting threats to the safety of the food supply.
- ? Laboratory Studies: Provides information in basic laboratory skills, safety, analytical methods and quality assurance.
- ? Consumer Education and Information Programs: Will address consumer issues and incorporate partnerships already in place that are part of the "Fight BAC! ®" and Thermo™ educational programs.

-College “Faculty” Workgroups

Each program represents a particular broad area of food safety information and education. The development of the college curriculum will need to be a collaborative effort among a diverse group of partners who have particular interest and expertise in the topic. These individuals, working together, will become the faculty for the college. Faculty workgroups will be responsible for identifying any needed competencies; define curricula; identify existing programs; determine gaps & identify specific course needs; create partnerships to develop programs; and determine the best method for program delivery (i.e.: classroom/lab environment within UPR or abroad, web-based instruction, CD-ROM’s or videoconference).

Physical Facilities

The University of Puerto Rico, Mayagüez Campus (UPRM), is one of the three land grant universities in the tropics, and the only one where Spanish is the native language while also using the English language extensively. It is the only campus within the UPR System with Engineering and Agricultural Colleges besides Business Administration and Arts & Sciences faculties that hosts strong, mature, industrial engineering, industrial microbiology and food technology programs. Complementary to these unique technical capabilities the UPRM has a campus wide tradition of outreach focus through programs such as the Agricultural Extension Service, the Agricultural Experimental Station, and the Sea Grant Program to name a few examples. This outreach tradition transcends the Island particularly into Central, South America and the Caribbean. For these reasons, it is reasonable to conclude, that UPRM provides a unique setting, and to some extent, is in a privileged position to serve as an international center for study, training, and research in the field of food safety.

The FSIA will be housed in the Darlington Building owned by the UPRM, a strategically located facility with easy access to highways, the campus, and lodging, medical & shopping

facilities and adequate parking facilities with security and computer services. The FSIA headquarters will occupy approximately 2,971 square feet that will be remodeled at a cost of \$110,000 to provide state of the art offices and classroom facilities. Another advantage of this location is that it will be adjoining the Biotechnology Learning Center sponsored by Amgen Corporation, world leader in biotechnology pharmaceutical products, that by definition is a complementary program to the proposed FSIA. The physical facilities comprising the FSIA headquarters will be complemented by the wealth of instructional and laboratory resources of the Mayagüez Campus and the University of Puerto Rico system and the already established linkages with facilities of the food industry private sector and regulatory agencies.

Administrative & Logistical Support

The FSIA will operate as an autonomous unit ascribed to the College of Agricultural Sciences (CAS) with separate financial accounts and the flexibility to fulfill its mission free from unnecessary bureaucratic constraints. The involvement and strong commitment from the President of the University and the Chancellor of the Mayagüez Campus assures the necessary clout to obtain the appropriate involvement of other government, academic and private partners while also facilitating the coordination of resources from different units of the UPR system. It will receive support in fundraising and financial matters from the CAS Office of External Resources. On the other hand, the CSA Office of International Programs will provide logistical support in all matters relating to the effective delivery of educational services to international clients. For fast tracking of customized educational programs, professional certificates and recruiting of external faculty the FSIA will work in collaboration with the Continuing Education and Professional Studies Division within the Academic Affairs Department. The experience during the past year provides the basis for the effective coordination among the various supporting entities that need to work together for the success of the FSIA concept. In fact, past

experience served as a “rehearsal” to facilitate success in undertaking the substantially expanded role foreseen for the FSIA.

Networking & Linkages

In an international context for an effort to be successful, networking and linkages across multinational boundaries need to be in place to cost-effectively integrate and leverage resources and access potential clients. In this regard, the past year served as an exercise to identify and establish the working relationships with academia, government and private sector entities at the local, federal and international level that could represent collaborators, supporters and/or clients. These linkages will be further nurtured and expanded using technology tools to the maximum. The most immediate linkages established so far included the entities signing the existing MOU that comprise the steering committee (refers to Exhibit 1).

It is reasonable to conclude that this relevant group of players provides an adequate basic platform to successfully launch the FSIA concept in an international context. Nevertheless, a continuous effort to translate linkages into action-oriented results with respect to program delivery and fundraising is to be one of the main responsibilities of the Institute’s co-directors.

III. MARKET ANALYSIS

Overview

Almost 30 years ago the United States Food and Drug Administration (FDA) developed a food safety program whose original use was for the astronauts on the space program but its use has been spread to different areas of the huge food industry. This standard is known as the Hazard Analysis and Critical Control Point (HACCP). Since 1998, the U.S. Department of Agriculture (USDA) has adopted the HACCP for meat and poultry processing plants. Most of these establishments were required to start using HACCP by January 1999. According to the

USDA regulation very small plants had until January 25, 2000 to adopt the use of the HACCP. The USDA regulates meat and poultry while FDA all other foods.

New challenges to the U.S. food supply have prompted FDA to consider adopting a HACCP-based food safety system on a wider basis. The FDA now is considering developing regulations that would establish HACCP as the food safety standard throughout other areas of the food industry, including both domestic and imported food products. To help determine the degree to which such regulations would be feasible, the agency is conducting pilot HACCP programs with volunteer food companies. The programs have involved cheese, frozen dough, breakfast cereals, salad dressing, bread, flour and other products. The HACCP has been endorsed by the National Academy of Sciences, the Codex Alimentarius Commission (an international food standard-setting organization), and the National Advisory Committee on Microbiological Criteria for Foods. A number of U.S. food companies already use the system in their manufacturing processes, and it is in use in other countries, including Canada.

The Need for an FSIA

The worldwide trend in recent years has been toward more free trade. This means that barriers to trade created by tariffs have been reduced. However, non-tariff barriers to trade still exist in the form of regulations. Examples of these are regulations related to safety and quality regulations with respect to food. According to the Food and Agriculture Organization of the United Nations (FAO) to discourage these types of barriers from being created, agreements are being made to ensure that national regulations and trading agreements must be based on science

and be applied evenly to both domestic and imported products.¹ These non-tariff barriers seem to occur in terms of regulations and technological issues.

The need for HACCP widespread adoption in the United States, particularly in the seafood and juice industries, is further fueled by the growing trend in international trade for worldwide equivalence of food products and the Codex Alimentarius Commission's adoption in 1993 of HACCP as the international standard for food safety. As a matter of fact, the FAO has expressed that *“the HACCP approach is internationally recognized as essential to ensuring the safety and suitability of food for human consumption, and it enhances the potential for international trade”*.²

Another United Nations agency, the World Health Organization also reports that there is a worldwide interest in implementation of the Hazard Analysis Critical Control Point Approach (HACCP) system by the food industry and food control regulatory agencies³.

As shown above, within the context of globalization, existing and contemplated international trade agreements recognize that:

- (1) There is a need for promoting international harmonization and standardization of food related issues among different countries;
- (2) Because of the former, there is a need for enhancing and institutionalizing technical assistance on food safety issues;
- (3) As a response to that need there is a demand for creating a cost-effective knowledge (technology) delivery vehicle for the dissemination of food safety information

¹ Food and Agriculture Organization, United Nations. *Seafood safety – Economics of Hazard Analysis and Critical Control Point (HACCP)* – Chapter 9: International Trade and HACCP. March 14, 2003 ?www.fao.org/docrep/003/x046se10.htm?

² Whitehead A. J., Oriss G. *Food Safety Through HACCP – The FAO Approach*. Food and Agriculture Organization, United Nations. March 14, 2003 ?www.fao.org/docrep/v9723t/v9723t0.e.htm?

³ *idem*

Within this context it is reasonable to conclude that the proposed Food Safety Institute of the Americas (FSIA) of the UPRM emerges as a most relevant and unique instrument to facilitate bilateral trade opportunities for the Spanish speaking business community and industries from the Americas with food safety issues and concerns such a distributors, handlers, producers and regulators. The bilingual capacity on food safety scientific knowledge that the FSIA represents coupled with the cultural similarities that Puerto Rico's Spanish heritage has in common with other Latin American countries has proven to be a successful asset for bringing capacity building workshops on food safety matters to the regulatory and business community of Latin American countries. As a matter of fact, during the past year workshops on this subject were offered to more that 600 participants form English and Spanish speaking countries from the Caribbean, Central and South and America.

The Free Trade Agreement of the Americas and the FSIA Initiative

On the year 2005 the new Free Trade Agreement of the Americas (FTAA) will allow that Latin-American countries to trade with the US free of tariff barriers. The agreement will ease the imports of agricultural and food products to be available to U.S. end consumers. Thus, the FTAA implies that harmonization must occur among national standards or regulations on food preparation and handling. In the practical sense, this also implies that the Spanish-speaking business community of our Caribbean Central and South American neighbors will need to be acquainted about the prevailing food safety standards on the huge market that they target in some cases for the very first time. For the Spanish speaking business community and the regulatory agencies at these countries as well as to their counterparts in the United States this trade opportunity requires that the language barrier that precludes a better understanding about the regulations of the U.S. market be overcome.

As a case in point, food-borne diseases cause substantial economic losses in those countries where this type of cases are or have been reported. These include loss of manpower, health care costs, and decrease in tourism and foreign trade. In the USA, diseases caused by the major pathogens alone are estimated to cost up to \$35 billion annually (1997) in medical costs and lost productivity. Furthermore, adverse reputation in food safety will severely affect the economy of a country by a restriction of food exports and by reducing the values of exported foods as well as deterring tourism. For example, the re-emergence of cholera in Peru in 1991 resulted in the loss of US \$500 million in fish and fishery products exports that year.⁴

Potential Market

-The Puerto Rico Food Industry

The Puerto Rico food industry as in any other country comprises retailers, producers (agro industrial business), service establishments (cafeterias, restaurants hotels, etc.) and institutional operations such as schools and hospitals. According to the last Economic Census performed by the Bureau of the Census of the U.S. Department of Commerce in 1997 the distribution of establishments on categories related to food handling on the Island is described on the following table.

⁴ *Food Safety and Food borne Illness*. Fact Sheet no. 237, Revised January 2002. World Health Organization, United Nations. ?www.who.int/inf-fs/en/fact237.html?

Table 1

THE PUERTO RICO FOOD HANDLERS MARKET

Business Category	Number of Establishments	Number of Employees*
Food and kindred Products Manufacturers	287	18,094
Wholesale Trade (Non-durable goods)	1,341	22,330
Food Stores ⁵	2,066	29,068
Hotels and other lodging places**	211	12,534
Eating and Drinking Places (Prepared food) ⁶	3,021	39,527
Total	6,926	121,553

Source: Puerto Rico 1997 Economic Census of Outlying Areas: Wholesale Trade, Retail Trade, Service and Manufacturing Industries

* Includes unpaid family workers, proprietors and partners.

** Figures for this group were obtained from the Puerto Rico Industrial Composition, (Fourth Quarter, 2001) published by the Puerto Rico Department of Labor and Human Resources (PRDLHR). It is worth to mention that the PRDLHR started to classify business according to the new, more detailed NAICS (North American Industrial Classification System) since last year (2002). Under the new system Lodging and Food Service establishments now comprises one single category, similar to the combination of Eating and Drinking Places plus Hotels and Lodging Places, which, as reported for the first quarter of 2002, had 3,244 establishments and 59,938 paid employees.

Food handlers at all these business operations are required to comply with good hygienic practices and the application of the HACCP. In addition to the figures shown above in Puerto Rico there are many mobile cafeterias and other very small street vendors, frequently managed as family business that not necessarily appear on the official figures shown before.

The demand for educational services related to food safety issues should continue to increase in the local market as the Puerto Rico Health Department (PRHD) is carrying out a more aggressive enforcement of the General Rules for Environmental Health Regulation. This statutory regulation includes federal government dispositions on food safety for preparing, handling and storing food for immediate consumption. The PRHD acknowledges that there is

⁵ As defined by the Standard Industrial Classification Code (SIC) on business group 54 (grocery stores, supermarkets, bakeries, meat and fish stores, etc.) used by the Bureau of the Census to classify surveyed business through the 1997 Census questionnaire.

broad ignorance about this regulation, which makes that very small cafeterias and other small business owners do not qualify for a food related business permit renewal or start-up when they apply for them.⁷ UPRM has been active offering seminars and workshops to the Puerto Rico food handlers' business community on these topics.

-The United States Hispanic-Owned Business Market

According to the last Housing and Population Census (year 2000) the Hispanics officially comprise the biggest minority group in the United States. Hispanics accounts for 12.5% of total U.S. population of 281 millions inhabitants, that is 35.3 millions. That is an astonishing 58% increase from the 1990 figures. The Census Bureau describes this increase as “the largest population increase in our nation’s history.”⁸

The impact of the increase of this minority group is also evident on the economic arena. The U.S. Bureau of the Census prepares a special series of its Economic Census series but based on the ethnic origin of business owners. These reports provide information about business owned by minorities. The corresponding edition for the Hispanic minority, titled 1997 Economic Census Survey of Minority-Owned Census: Hispanic provides the following figures for this ethnic group businesses engaged on food industry.

⁶ As defined by the Standard Industrial Classification Code (SIC) on business group 58 (Cafeterias, restaurants, refreshment places, fast foods, etc.) used by the Bureau of the Census to classify surveyed business through the 1997 Census questionnaire.

⁷ Rodríguez Cotto, Sandra D. *Rigor con los Negocios Ambulantes*, El Nuevo Día. Thursday, May 20, 2002. El Nuevo Día Directo. San Juan, Puerto Rico.

⁸ Bureau of the Census. U.S. Department of Commerce. March 25, 2003.
http://www.census.gov/mso/www/press_lib/hisorig/sld005.htm

Table 2

**FOOD-HANDLERS HISPANIC-OWNED BUSINESS ON
THE UNITED STATES**

Business Category	Number of Establishments	Number of Employees
Food and kindred Products Manufacturers	2,207	15,254
Wholesale Trade (Non-durable goods)	31,480	47,479
Food Stores ⁹	18,063	37,354
Hotels and other lodging places	1,795	6,458
Eating and Drinking Places (Prepared food) ¹⁰	34,862	205,446
Total	88,407	311,991

Source: 1997 Economic Census, Survey of Minority-Owned Business Enterprises: Hispanics.
Census Bureau, U.S. Department of Commerce

According to the same source the number of establishments owned by Hispanics represent 10% of the total number of these business categories as shown on the following table.

⁹ As defined by the Standard Industrial Classification Code (SIC) on business group 54 (grocery stores, supermarkets, bakeries, meat and fish stores, etc.) used by the Bureau of the Census to classify surveyed business through the 1997 Census questionnaire.

¹⁰ As defined by the Standard Industrial Classification Code (SIC) on business group 58 (Cafeterias, restaurants, refreshment places, fast foods, etc.) used by the Bureau of the Census to classify surveyed business through the 1997 Census questionnaire.

Table 3

FOOD-HANDLERS BUSINESS ON THE UNITED STATES

Business Category	Number of Establishments	Number of Employees*
Food and kindred Products Manufacturers	20,878	1,561,429
Wholesale Trade (Non-durable goods)	183,850	2,621,962
Food and Beverage Stores (445)	148,528	2,893,074
Hotels, rooming houses, camps, and other lodging places	58,161	1,696,594
Eating and Drinking Places (Prepared food) ¹¹	475,907	(100,000+)
Total	887,324	8,773,059

* The Census document does not provide a specific figure but states that they are more than 100,000.

This broad market suggests the need for the development of printed and web based materials and educational services in Spanish in order to ensure the maximization of knowledge delivery among this group regarding food safety. Furthermore, since FDA is now considering developing regulations that would establish HACCP as the food safety standard throughout other areas of the food industry, including both domestic and imported food products the demand for certified or trained personnel on food safety or hygiene practices should expand exponentially in the next years.

The following table provided also by the Bureau of the Census shows the States with the higher proportion of Hispanic owned businesses.¹² This is vital information to target promotional efforts of the FSIA within the U.S.

¹¹ As defined by the Standard Industrial Classification Code (SIC) on business group 58 (Cafeterias, restaurants, refreshment places, fast foods, etc.) used by the Bureau of the Census to classify surveyed business through the 1997 Census questionnaire.

¹² HACCP: A state-of-the Art Approach to Food Safety. FDA Backgrounder. Food and Drug Administration. March 17, 2003. ? www.cfsan.fda.gov/nrd/bghacep.html?

Table 4

**STATES WITH THE LARGEST PERCENTAGE OF
HISPANIC-OWNED FIRMS: 1997**

State	Hispanic-owned firms	All firms (number)	Hispanic-owned as a percent of all firms
U.S. Total	1,199,900	20,821,900	5.8
New Mexico	28,300	131,700	21.5
Texas	240,400	1,526,000	15.8
Florida	193,900	1,301,900	14.9
California	336,400	2,565,700	13.1
Arizona	28,900	329,000	8.8
New York	104,200	1,509,800	6.9
New Jersey	36,100	654,200	5.5
Colorado	20,900	410,200	5.1
Nevada	6,600	129,800	5.1
District of Columbia	2,200	45,300	4.8

Source: U.S. Census Bureau, Public Information Office

Considering that most of these businesses are owned by Hispanics with strong cultural ties with Central, South America and the Caribbean as depicted in the next table it is reasonable to expect that free trade developments will spin off ten of thousands international business transactions among Spanish speaking counterparts in a strictly regulated, mostly English formatted, industry and that this will translate into a high demand for educational services in a bilingual and culturally adapted format from the business and regulators end of the trade transactional equation.

Table 5

HISPANIC-OWNED FIRMS BY ETHNIC GROUP: 1997

Ethnic group	Firms
Mexican	472,000
Hispanic Latin American	287,300
Other Hispanic	188,500
Cuban	125,300
Puerto Rican	69,700
Spaniard	57,200
Total	1,199,900

Source: U.S. Census Bureau, Public Information Office

-The Latin America Market

When the Free Trade Agreement of the Americas activates on January 2005 thirty-four countries of the Western Hemisphere will trade among them free of tariff barriers. In the meantime, authorities from the respective countries are expected to be working in preparing their respective economies to fully comply with the FTAA dispositions.

Article 18.3.a.1 to a.4: Implementation of the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures in the Free Trade Agreement of the Americas expresses:

“Parties shall apply to trade among them the international standards recommended by the relevant international bodies and their subsidiaries, in particular the Codex Alimentarius Commission, the International Office of Epizootics, and international and regional organizations that operate under the framework of the International Plant Protection Convention.” The Parties shall promote bilateral or subregional agreements with a view to achieving the harmonization of sanitary and phytosanitary measures, particularly in respect of procedures related to the inspection and certification of animals, plants, their products and by-products, as well as those related to food safety, among others, thereby facilitating trade between the Parties. The Parties shall develop, with the participation of agricultural health and food safety organizations, actions geared towards reaching subregional harmonization agreements and, where possible, at the Hemispheric level, as well as to strengthen those already in force. (Authors emphasis).

In this regard, most countries of the hemisphere has shown their interest on complying with these dispositions as they have already sent representatives of their regulatory agencies to workshops and seminars at the UPRM. Because of the bilingual capability of the FSIA and its demonstrated outreach ability there are ample market opportunities for the educational services to be offered by the Institute within the international mandate to work on these matters.

The following table shows the number of business related to food handling by industrial sector in Latin America. The list is not exhaustive but offers a broad picture of the market size. Notice that the fact that some of these list web sites, which could facilitate marketing efforts targeted to private sector potential clients in Latin America.

Table 6
Number of Business by Selected Industrial Sectors on Latin America

Economic Sector	Companies Listed	With Company Web Site
Agriculture, Forestry and Fish	213,962	3,482
Food & Beverages	250,071	3,400
Health & Pharmaceuticals	256,660	3,517
Tourism & Entertainment	164,085	6,842
Totals	884,778	17,241

Source: www.amarillas.com

A specific figure about the number of business exporting food products to the US is not available. Nevertheless, statistics about a selected list of food commodities being imported from Latin America to the United States as shown in the table below represents a multi billion dollar business.

Table 7

**U.S. Trade by Commodity with South America,
Central America, and the Caribbean
Selected Food Related Commodities
(US dollars, millions)**

Commodities	Year 2001
Tobacco, Manufacturing	\$259
Crude Vegetable Materials	483
Fish, Fresh	788
Crustacean	1,007
Vegetables, Roots & Tubers, Fresh, Chilled or Frozen	101
Fruit and Nuts, Fresh Or Dried	1,304
Sugars, Molasses And Honey	206
Coffee And Coffee Substitutes	970
Totals	\$5,118

Source: International Trade Administration, United States Department of Commerce.

Note: Mexico trade figures, major Latin America US trade partner, are not included on the table as they were consolidated with Canada because of the North American Free Trade Agreement (NAFTA).

Food safety & hygiene standards apply on all the products shown on the previous table. The international trade requirements plus the opportunities for business that the FTA will provide to these countries creates a need for a broad and effective education and communication effort about food safety. Development and dissemination of accurate information and timely training and education services as the FSIA could offer seems to be critical to the food producer in Latin America that seeks to expand their export business.

Competition

- The Caribbean Food Safety Initiative

The is a program from the U.S. Agency for International Development that finances several initiatives whose purpose is to help resolve key market issues impeding environmentally sound and equitable-free trade in the Western Hemisphere, some of them based at universities.

- Caliso Training Corp

This is a company based in California that offers online Food Safety HACCP training at a cost of \$199.95. Web address is www.iso-training.com/ot.html

- Institute of Food Technologists

A not for profit society that offers continuing education, professional development educational services in food safety & technology. Also organizes regular conferences at various locations.

- Illinois Institute of Technology

Offers masters degree in food safety & technology and food process engineering as well as related professional certificate programs.

- American Institute of Baking

Non-profit industry group that offers HACCP related trainings and seminars as well as materials, both in print and CD format. It also offers some of the workshops in Spanish.

Marketing Strategy

-Positioning

The FSIA will be positioned as the premier supplier to the Americas of educational products & services on food safety, hygiene and other related scientific matters given its similar cultural heritage and language capability.

-Segmentation

Three target markets for the FSIA products and services have been identified as previously described. As it has been done in the past, seminars, workshops, videos and reading material will be customized accordingly to the groups to be served and the subjects to be discussed. In addition, computer-based instruction for classroom use and distant learning tools such as online courses, video teleconferencing, or regular videotapes and self-instruction guides will be developed being culturally and language sensitive. Regarding technology FSIA will remain on the cutting edge in using distance-learning methods. Within the US market, the relationship with federal regulatory agencies (FDA and FSIS) will be used to serve the Hispanic markets. With

respect to other universities and private and public entities that could offer similar services, the FSIA will be ready to be the main supplier of didactic materials in Spanish and partner on the development of new courses and materials.

-Promotion

The collaborative network established by the MOU among entities with national and international authority, scope, and outreach capability on food safety matters will be the main asset to promote the services of the Institute and to be acquainted about the public and private sector educational needs. Web based marketing will complement the partners disclosure efforts making easy to access the data on available products and services as well as a calendar of events. The FSIA will have presence on relevant trade and food safety related activities as well as in publications and magazines catering the institute potential clientele.

-Pricing

The mandate of the FSIA is to become financially self-sustaining while facilitating the disclosure of food safety instruction and information throughout the Americas. Thus, services and products will be competitively priced balancing the dual goal of sustainability but not in detriment of accessibility, particular with respect to Latin American clientele that is affected by currency exchange matters. Some of the activities to be carried-out by the FSIA such as information dissemination and general public educational campaigns are to be provided free of charge under the existing MOU.

If funding to implement the FSIA is secured the Economic Development University Center could work with the FSIA project team in developing a detailed marketing plan to facilitate that market opportunities identified are translated into effective demand for services.

IV. FINANCIAL PROJECTIONS

Operational Budget

The projected operational budget for the FSIA first five years with its corresponding explanations notes is shown in the next page. The consolidated budget, as developed by the FSIA project team, for the five-year period amounts to \$3,162,191 of which the UPR will contribute \$994,533 (31.5%) and \$2,167,658 is requested from Johnson Diversey (68.5%). The UPR contribution considers only the direct allocation for the FSIA and does not quantifies the value of complementary facilities and technical resources such as computer access, labs, library, linkages, etc. that will be available to the FSIA initiatives which will require a multimillion investment to establish.

**Food Safety Institute of the America
(2003-2007)**

Operational Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Salaries						
Director	\$ 55,317	\$ 56,617	\$ 57,955	\$ 59,334	\$ 60,754	\$ 289,976
Co- Director	55,317	56,617	57,955	59,334	60,754	289,976
Administrative Assistant	16,080	17,400	18,600	19,800	21,000	92,880
Secretary	16,800	18,120	19,320	20,520	21,720	96,480
Faculty/Researchers	30,000	30,000	30,000	30,000	30,000	150,000
Editor and Translation	20,000	20,000	20,000	20,000	20,000	100,000
Technical Services Coordinator	20,040	21,360	22,160	22,960	23,760	110,280
Graduate Student, Assistantship	13,000	13,500	14,000	14,500	15,000	70,000
<i>Total Salaries</i>	\$ 226,554	\$233,613	\$239,990	\$246,447	\$ 252,987	\$ 1,199,592
Fringe Benefits	44,372	45,932	47,334	48,754	50,194	236,585
<i>Total Salaries & Fringe Benefits</i>	\$ 270,926	\$279,545	\$287,324	\$295,201	\$ 303,181	\$ 1,436,177
Travel	50,000	50,000	50,000	50,000	50,000	250,000
Equipment & Furniture						
Office and Learning Center Furniture	\$ 40,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 48,000
Acoustics	30,000	1,000	1,000	1,000	1,000	34,000
Copier	5,100	5,100	5,100	5,100	5,100	25,500
Fax	720	720	720	720	720	3,600
Personal Computers (4)	8,000	-	-	-	-	8,000
Portable Wireless Laptop Labs (30)	40,000	-	-	-	-	40,000
Color Laser Printer	3,500	-	-	-	-	3,500
Video Conference, Audiovisual and Picture tel equipment	30,000	-	-	-	-	30,000
Office Remodeling	110,000	-	-	-	-	110,000
<i>Total Equipment & Furniture Cost</i>	\$ 267,320	\$ 8,820	\$ 8,820	\$ 8,820	\$ 8,820	\$ 302,600
Rent	44,573	44,573	44,573	44,573	44,573	222,863
Materials & Maintenance						
General office supplies	\$ 18,000	\$ 18,000	\$ 18,000	\$ 18,000	\$ 18,000	\$ 90,000
Equipment Maintenance	-	17,000	17,000	17,000	17,000	68,000
Software & videos	15,000	15,000	15,000	15,000	15,000	75,000
Web CT license	16,000	16,000	16,000	16,000	16,000	80,000
Promotion material (web based & print)	60,000	40,000	40,000	20,000	20,000	180,000
Other incidental expenses	10,000	10,000	10,000	10,000	10,000	50,000
<i>Total Materials & Maintenance Cost</i>	\$ 119,000	\$116,000	\$116,000	\$ 96,000	\$ 96,000	\$ 543,000
Total Direct Costs	\$ 751,819	\$498,937	\$506,716	\$494,594	\$ 502,573	\$ 2,754,639
Indirect costs (26%)	81,690	82,318	83,483	79,448	80,613	407,552
Total Direct Costs & Indirect Costs	\$ 833,508	\$581,256	\$590,199	\$574,042	\$ 583,186	\$ 3,162,191

Operational Budget Explanatory Notes

1. Salaries

Director and Co-Director

The responsibilities of the Director and Co-Director includes administering and organizing the educational activities and seminars as well as the fund raising efforts proposed. The University of Puerto Rico at Mayagüez (UPRM) will contribute with 75% of their time for the project. The in kind contribution was calculated based on 75% of an annual salary of \$57,756 for both of them for a total of \$109,736 for the first year. An estimate of \$471,934 for the next four years including the increase in salary per year which will be provided in kind.

Administrative Assistant, Secretary, Editor and Translation

An administrative assistant and a secretary will be needed in a full time basis to provide administrative support to the Food Safety Institute director and co-director. The amount of \$20,000.00 will be assigned for translation and edition services when needed.

Technical Services Coordinator

A technical services coordinator will be hired for the amount of \$20,040. This person will be in charge of the web page, support for the video conferencing and distance learning, among other duties. The total amount for the five years period is \$137,850

Faculty /Researchers

An estimate of \$30,000 will be assigned recruit faculty providing services to the Food Safety Institute in part time basis. This faculty will be in charge of developing new courses, modifying existing ones, presenting conferences, etc. This faculty will be members of the University of Puerto Rico, invited speakers from the industry, other universities and experts in the matter.

Graduate Student

A graduate assistantship will be assign to a graduate student from the Food Science and Technology program to help conducting the seminars. An estimate of a \$13,000 will be assigned the first year and an increase of \$500 is estimated for the additional four years. The total amount for the five years period is \$75,355

2. Fringe Benefits

The fringe benefits for each personnel have been calculated at the present rate and could vary each year.

3. Travel

The travel money requested (\$50,000 per year) was estimated for approximately 16 trips per year for the Director, Co-director and Faculty/Researchers to attend meetings, delivery of courses, presentations, etc. These expenses include mileage, per diem and any other expenses related to travel. The cost is estimated at \$3,125 per trip for approximately 16 trips per year. Cost will vary with the location and purpose of the trip.

4. Equipment & Furniture

Two conferences room will be prepared with the latest technology available for course delivery. The University is providing \$110,000 in the first year to remodel the space. The total of \$192,600 if for acquiring 30 laptops wireless computers, 4 Desk top computers for the Center Office, 2 LC Projectors, Picture tel equipment for video conferencing and others audiovisual equipment, copier, fax and acoustic.

5. Rent

Represents rental equivalent at prevailing market rates of \$15.00 per square feet per annum for the 2,971 square feet the Food Safety Institute occupies. The on campus laboratories facilities as well as the closely Biotechnology Training Laboratory will be available for laboratories trainings.

6. Materials and Maintenance

Includes \$119,000.00 for the first year for educational & office materials, videos, promotion, and web based courses supplies and WEB CT yearly licensee. The total amount for the five years period is \$463,000.

7. Indirect Charges

Indirect cost agreement rates established with the Department of Health & Human Services are 48.8% on campus and 26% off campus of total direct costs excluding equipment. In this case considering that funds will be used for training and education the 26% was used to keep inside the cap of this budget item. The total allocated for the first year is \$81,690. For years two and three a total of \$82,318 and \$83,483 respectively is estimated and \$79,448 for year four and \$80,613 for the fifth year.

Revenue Projections

The following table summarizes the activities undertaken during 2002 within the framework of the existing MOU and at a much lesser scale than the proposed FSIA.

Summary of Food Safety Educational Activities & Participants (2002)

Activity	Date	Participants
Good Agricultural Practices Course	March 11-15, 2002	48 persons participated: 30 from the Cooperative Extension Service, 9 professors and researchers and 9 from the State Department of Agriculture
Basic Food Microbiology Short Course: Regulatory Science: Critical thinking in Analytical Laboratory Procedures for Food Microbiologists	March 18-22, 2002	25 participants, 12 from English speaking countries: Aruba, Granada, Guyana, St. Kitts, Dominica, Suriname, St. Lucia, Jamaica, Barbados, Virgin Island, Trinidad & Tobago, Chile, Mexico, and 5 from Puerto Rico,
Spanish Language International Government Officials Course –	May 19-31, 2002	35 participants from 13 different countries: Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Panamá, Paraguay, Perú, Uruguay, Puerto Rico, Spain
Better Process Control School	June 3-6, 2002	42 persons participated, 7 FDA Inspectors, 35 participants from industry, professors and several students.
First Spanish Animal and Egg Production Food Safety Conference	July 9-11, 2002	Approximately 250 persons attended 23 presentations in Spanish with simultaneous translations for English Audience
Basic Food Microbiology Short Course: Regulatory Science: Critical thinking in Analytical Laboratory Procedures for Food Microbiologists	August 5-10,2002	23 participants from Spanish Speaking countries, The 16 countries that participated were: Argentina, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Nicaragua, Panamá, Paraguay, El Salvador, Perú, Uruguay, and Venezuela.
HACCP workshop for Retail Disadvantage Establishments	April, June, August, November, 2002	Nearly 135 persons have participated
Food Safety Fight Bac Campaign	All year round	N/A
Good Agricultural Practices Course	July 15-20, 2002	50 participants from Dominican Republic
		Total Participants: 608

N/A: Not Available

Source: FSIA, Project Team.

The diversity and number of attendees to previous activities coupled with market data reflects the potential and need for a much more comprehensive effort in food safety and hygiene education throughout the Americas. In this regard, the following table summarizes the projections of participants for the various educational services of the FSIA which amounts to 8,000 during the five year period.

FSIA Participants

Year 1	Year 2	Year 3	Year 4	Year 5	Total
800	1,200	1,500	2,000	2,600	8,000

FSIA project team and the EDUC used past year experience as reference to forecast revenues at the increased level of activities as the FSIA concept entails, considering the ample market potential for such an endeavor while implementing a pricing strategy to facilitate access to its services for Latin American clients. During the first year the FSIA may generate funds through fees for the various seminars, workshops or short courses on food safety related topics, the sale of publications and through complementary proposals. On year two web based products or services developed by the staff will be available and in an increasing manner thereafter. On year three, after appropriate planning and development, the endowment fund concept (explained later on) and a master degree in food safety are also expected to generate revenue streams for the FSIA. Within this context, revenues projections developed in consultation with FSIA project team are shown in the following table.

Yearly Revenues Projections

Yearly Revenues Projections by Source	Year 1	Year 2	Year 3	Year 4	Year 5
Seminars/Conferences	\$ 19,750	\$ 21,725	\$ 22,775	\$ 25,000	\$ 30,250
Courses	39,425	49,600	60,775	62,150	74,200
Publications	5,000	8,000	10,000	15,000	20,000
Complementary Proposals	104,000	136,000	136,000	140,000	145,000
Web based Services	-	4,000	8,000	16,000	32,000
Indirect Costs Re-Allocation	45,950	46,304	46,959	44,689	45,345
Endowment Fund	-	-	25,000	50,000	100,000
Master Degree in Food Safety	-	-	9,000	18,000	36,000
Total Yearly Revenues	<u>\$ 214,125</u>	<u>\$ 265,629</u>	<u>\$ 318,509</u>	<u>\$ 370,839</u>	<u>\$ 482,795</u>
Accrued Revenues	-	<u>\$ 479,754</u>	<u>\$ 798,263</u>	<u>\$ 1,169,102</u>	<u>\$ 1,651,897</u>

Notes

Conferences/Seminars:

The FSIA will expand its offering of HACCP Comprehensive and Meat & Poultry for the Industry Seminars as well as its joint efforts with the Agricultural Extension Service Food Safety workshops for Spanish speaking persons to held at least one workshop/seminars per month with between 20 to 30 participants each at cost that varies from \$125 to \$500 with duration from 1 to 3 days. It will also organize at least one major international conference on food safety and hygiene topics and issues.

Courses:

The FSIA plans to offer short courses bi-monthly for government officials and industry in regulatory science, food microbiology, good agricultural practices, and better process control, among others with an average of 25 participants each at a cost that varies from \$75 to \$500 with duration from 1 to 5 days.

Publications:

FSIA project team foresees the development of comprehensive publications on food safety and hygiene topics to be used as texts and for sale.

Web based services:

Refers to web-based courses & materials that the FSIA staff & faculty intend to develop during the first year to be launched during year 2.

Complementary proposals:

Proposals to complement budgeted funds will be submitted to potential supporters from the private and public sector besides Johnson Diversey. The amount forecasted is based on past experience of FSIA project team.

Indirect Costs Allocation:

A compromise to reallocate a substantial proportion (56.25%) of indirect charges to the Food Safety Institute to help establish the FSIA sustainability has been requested by the FSIA project team to cognizant university authorities.

Endowment fund:

The university will study the feasibility and appropriate manner to establish an endowment fund from contributions of other private and/or public entities concerned with food safety. The proceeds from the fund will help finance FSIA related activities. The financial effect of this proposed endowment could occur starting in year 3. Projections assumed a yield of 5% for the fund with a principal of \$500,000 in year 3, \$1,000,000 in year 4, and \$2,000,000 in year 5. The University will consider capitalizing initially the fund with \$500,000 from the accrued revenues account to entice other contributions.

Master degree in Food Safety:

FSIA project team has as a priority goal to offer a master degree of 36 credits. Revenues for this initiative have been computed at \$150 per credit with an average of 10 enrolled full time students per graduating class, with 12 credits each, starting on year 3. It is assumed that 50% of revenues associated with this degree will be allocated to the FSIA budget.

Accrued Revenues:

It is assumed that the FSIA will be subsidized during its first five years of operation and that revenues will accrue during this period. These monies could be deposited in a separate interest bearing FSIA account to the extent possible by applicable regulations governing the sources of funds. These funds will be used to: 1) cover budget deficits in subsequent years; 2) to capitalize initially the endowment fund; 3) establish a fellowship program to facilitate professional and/or graduate degree studies of Latin American practitioners and academicians that could eventually serve as hosts or resources for FSIA sponsored educational efforts in their home countries; 4) finance other complementary worthy initiatives related to food safety & hygiene; in that order of priority.

FSIA Sustainability Potential

Revenue projections based on FSIA project team past experience supported by relevant market data reflect that a fund of around \$1,651,897 could accrue during the FSIA first five years. Assuming the safeguard provided by this fund, the FSIA could achieve break even between year 5 and 6 given an operational budget of \$502,573 as reflected on the following table.

**Food Safety Institute of the Americas
Break Even Analysis**

	Year 6
Revenues ¹	\$ 531,074
Expenses ²	<u>502,573</u>
Budget Surplus (Deficit)	28,501

1. Revenues computed for the year five are projected to grow at a rate of 10% for year 6.
2. Expenses will be maintained within the budgeted amount for year 5, at least for two years thereafter.

Based on the preceding financial analysis, it is reasonable to conclude that the FSIA could become financially self-sustainable by the sixth year of operation. This conclusion assumes that the request to Johnson Diversey is granted and that revenues accumulated from previous years will be dedicated to the FSIA and related activities from year 6 and thereafter as previously indicated. Nevertheless, early in the implementation process, a detailed financial plan would be appropriate so that revenues & expenses projections could materialize without material deviations. The Economic Development University Center, if necessary, could assist the FSIA project team in developing this plan.

EXHIBITS

EXHIBIT 1

DRAFT 12-4-02

International Food Safety University Charter for the Board of Directors

Article I: Purpose.

In December 2000, The Food Safety and Inspection Service, USDA; the Food and Drug Administration, DHHS; and the University of Puerto Rico entered into a Memorandum of Understanding (MOU) to work collaboratively on training and education designed for Spanish-speaking populations. Subsequently, a Cooperative Agreement was effected calling for the establishment of an International Food Safety University (IFSU). The IFSU is intended to bring together a diverse body of food safety education and information resources under a single source. The IFSU will be directed by a multi-organization Board of Directors.

This Charter provides the basis for collaboration among the members of the Board in carrying out its responsibilities.

Article II: Membership

The following organizations will be members of the Board:

? University of Puerto Rico, Mayaguez	(2 members)
? Food Safety and Inspection Service, USDA	(2 members)
? Food and Drug Administration,	(2 members)
? Cooperative State Research Education and Extension Service,	(1 member)
? Foreign Agriculture Service,	(1 member)
? Center for Hemispherical Cooperation in Research and Education in Engineering And Applied Sciences (Cohemis)	(1 member)
? Inter-American Institute for Cooperation In Agriculture (IICA)	(1 member)
? Pan American Institute for Food Safety (PAHO)	(1 member)
? United States Meat Export Federation	(1 member)
? United States Poultry and Egg Export Council	(1 member)
? Industry Association representing FDA products	(1 member)

Each member may designate a senior employee to serve as an alternate representative to perform the duties of the Board member. Either the Board member or alternate must participate in the meetings. Participation may not be further delegated.

Article III: Co-Chairs

The Board will have one co-chair permanently designated for the University of Puerto Rico.

A co-chair will also be designated by the Board from its other member organizations. The co-chairs will serve a term of one year but may be extended for an additional year at the discretion of the other members.

The co-chairs will provide leadership and direction to the Board, and coordinate the formation and schedule of standing committees. Each meeting will be led by one co-chair, and this responsibility will rotate quarterly among the co-chairs.

Article IV: Staff Support Services

Staff support services for the activities of the Board will be provided through a Secretariat that will initially consist of a senior Federal employee. During the first year of the Cooperative Agreement, the Department of Agriculture's Food Safety and Inspection Service (FSIS) will provide that service.

The role of the Secretariat will be rotated annually from FSIS to the Department of Health and Human Services' Food and Drug Administration in the second year, and the University of Puerto Rico, Mayaguez in the third. Other members may provide additional staff support services, as necessary. The Secretariat will facilitate planning, coordination, and communication among Board members.

Article V: Meetings

The Board will meet at least monthly in the initial phase of the development of the International Food Safety University at a time and location chosen by the co-chairs. Additional meetings may be held at the call of the co-chairs or at the request of a majority of the members.

A majority of the Board membership will constitute a quorum for the transaction of business. All decisions made by the Board at the meetings will be by consensus defined as substantial agreement as determined by the co-chairs.

The Secretariat will prepare updates of the Board's activities and make the information available to the Board members as soon as possible after the conclusion of a meeting.

The Board will prepare a strategic plan for the IFSU for submission to Executive Committee of the UPR-MOU by July 1, 2003. The plan will contain, at a minimum, a description of the development priorities and planned activities for the coming year including specific goals and objectives as well as recommendations for making progress made toward accomplishing those objectives.

Article VI: Duties and Responsibilities

The specific responsibilities of the Board are to:

1. Develop and periodically update a comprehensive strategic plan that will lead to the long-term growth and success of the IFSU. The planning process will consider both short-term and long-term goals and objectives.
2. Set priorities, improve coordination and efficiency, identify gaps in the current system and ways to fill those gaps, enhance and strengthen prevention and intervention strategies, and identify reliable measures to indicate progress.
3. Seek to engage a broad, collaboration among other universities, producers, industry, food service providers, retailers, health professionals, and State and local governments as necessary in the planning process as well as the development of the IFSU as a whole.
4. Determine the nature and priority for establishing colleges within the university system consistent with the strategic plan. These colleges will represent key areas of food safety training and education. The Board will also recommend technical personnel who will serve to identify the specific curricula required and oversee the identification of the curriculum, existing programs, and gaps requiring further development.
5. Establish policy that may be needed to ensure the overall effectiveness and efficiency of IFSU management. Additionally, the Board will make recommendations on appropriate funding mechanisms and partnerships that may be needed for program development and to make the IFSU self-sustaining.

Note: Adoption of the recommendations and the obligation of any funds must be approved by appropriate officials within the specific agencies and organizations rather than the IFSU Board itself. Decisions will be based on availability of funds in any fiscal year.

6. Evaluate and report to the Executive Committee of the UPR-MOU on the activities and progress on the Cooperative Agreement by September 1, 2003

Article VII: Committees

The co-chairs, after consultation with Board members, will establish committees of Board members or their designees, as they deem necessary, to facilitate and carry out effectively the responsibilities of the Board. These may include committees such as exploring certification programs and granting Continuing Education Units and selection of uniform software for internet based courses. Committees will report to the Board at intervals determined by the Board.

Article VIII: Web Site

Consistent with the plan developed by the Board, the University of Puerto Rico, Mayaguez will establish an IFSU Web site by September 1, 2003. The University of Puerto Rico will be the system owner of the web site and will be responsible for maintaining it. The Board will provide oversight, policies, and approval of any content incorporated on the Web sites as the IFSU and individual colleges are developed.

Article IX: Effective Date

The Charter will be effective on January ____, 2003.

EXHIBIT 2

ORGANIZATIONAL STRUCTURE

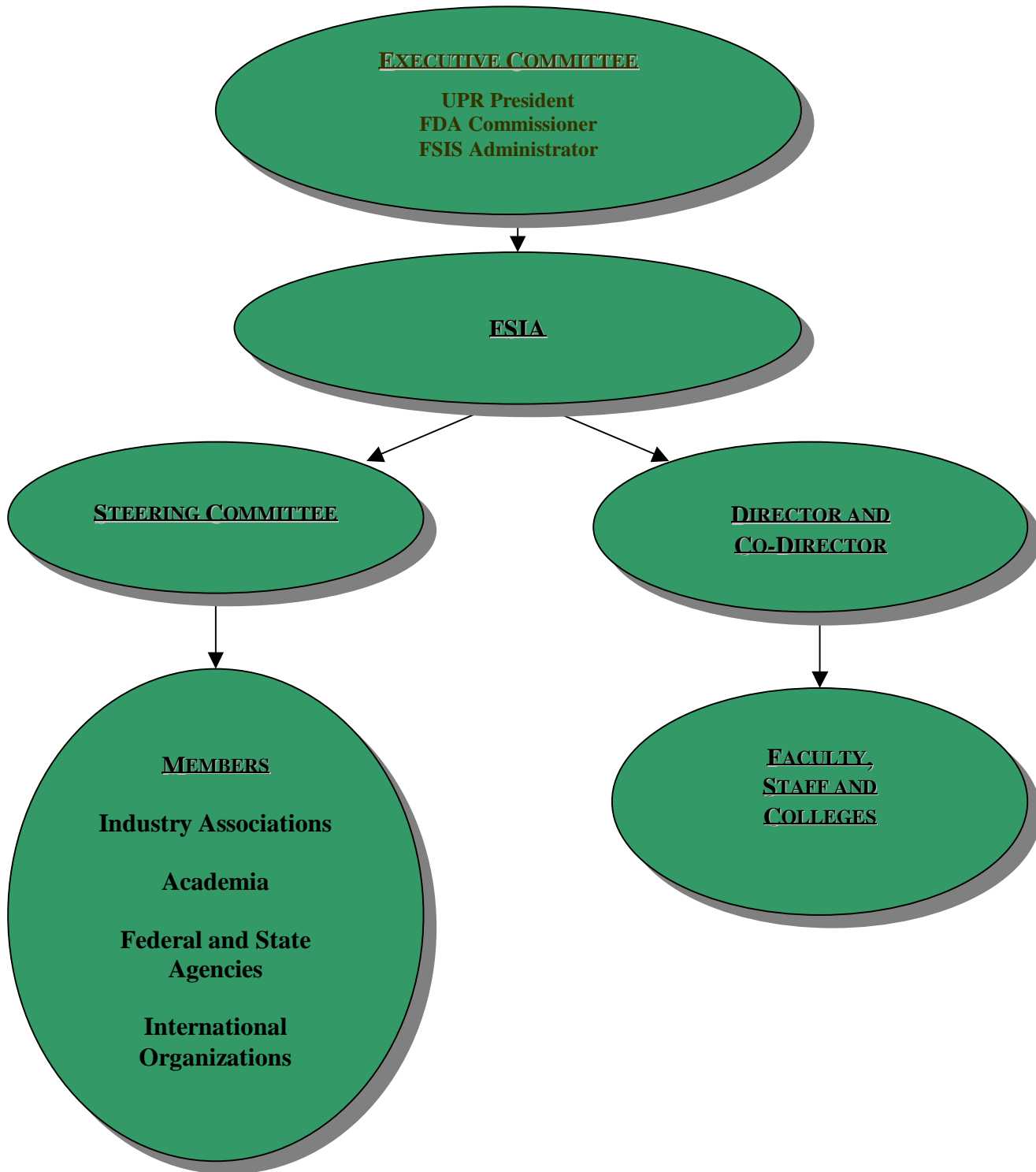


EXHIBIT 3

RESUMES OF INSTITUTE'S DIRECTORS

Edna Negrón, PhD
Professor

Food Science and Technology Program, College of Agricultural Sciences, University of Puerto Rico, Mayagüez Campus, P.O. Box 9030, Mayagüez, P.R. 00681-9030 Telephone and Fax (787)265-5410,
e_mail: ed_negron@rumad.uprm.edu

ACADEMIC AND PROFESSIONAL EXPERIENCE

- 2002 Certified Food Safety Manager and Serve Safe Certified
- 1999- present Assistant to the Dean i/c of Food Science and Tech. Program, Full Professor
- 1997-1999 Associate Dean of Academic Affairs and Coordinator of the Food Science and Technology Program
- 1995-1997 Special Assistant to the Dean of College of Agricultural Sciences and Coordinator of the Food Science and Technology Program
- 1994-1995 Full Professor, Acting Head of the Department of Horticulture and Coordinator of the Food Science and Technology Program.
- 1991 - 1994 Associate Professor, Coordinator of the Food Science and Technology Program, Faculty of Agriculture, University of Puerto Rico, Mayagüez Campus.
- 1986 – 1991 Assistant Professor, Department of Horticulture, College of Agricultural Sciences
- 1982 - 1986 Study leave for Ph.D. at the Pennsylvania State University, Teaching Assistant at the Pennsylvania State University
- 1976 - 1982 Research Assistant, Research Center, Faculty of Engineering, University of Puerto Rico, Mayagüez Campus
- 1974 - 1976 Quality Control Specialist, Quality Control Center, Food Laboratory, of the Economic Development Administration.

EDUCATION

- Ph. D. Food Science. The Pennsylvania State University, University Park, PA. May 1987.
M. S. Chemistry. University of Puerto Rico, Mayaguez Campus, Mayaguez, P. R. May 1980.
B. S. Chemistry. University of Puerto Rico, Mayaguez Campus, Mayaguez, P. R. May 1973.

PUBLICATIONS

- Negrón de Bravo, E., 1980. Chemical Composition of the Breadfruit at Different Stages of Maturity. Thesis Dissertation.
- Graham, H. and Negrón de Bravo, E. 1981. Composition of the Breadfruit. J. Food Sci. 46(2): 535-539.
- Negrón de Bravo, E., Graham, H., and Padovani, M. 1983. Composition of the Breadnut (seeded breadfruit). Carib. J. Sci. 19(3-4): 27-32.
- Graham, H., and Negrón de Bravo, E. 1985. Chemical Composition of the Seeds, Leaves and Pods of *Canavalia Maritima*. Carib., J. Sci. 21(3-4):163-167.
- Negrón de Bravo, E., 1987. Effect of Blending on the Structure and Functional Properties of Soybean Major Storage Proteins. PhD Dissertation

ACKNOWLEDGMENTS

2002 USDA Special Recognition for Outstanding Work in Developing the First Spanish Workshop for the International Meat and Poultry Government Officials
1995 Alpha Delta Kappa - Honorary Sorority of Women in Education of PR - Teaching award recognition
1994 Teaching award by the Gamma Sigma Delta
1994 Student Association for the Establishment of the Graduate Program in Food Science and Technology
1988-1991 - Senate Member

PROFESSIONAL MEMBERSHIP

Institute of Food Technologist
Gamma Sigma Delta, Honor Society of Agriculture
ACTA-PR Asociación para la Ciencia y Tecnología de Alimentos de Puerto Rico
AFDO – Association of Food And Drug Officials

SEMINARS/CONFERENCES/WORKSHOPS/SHORT COURSES (Last 5 years)

"Institute of Institutional Research" by AIR , Mayagüez, PR	February, 1997
Middle State Association Annual Meeting, Philadelphia, PA	December, 1997
"Walt Disney World Educator's Forum" Orlando, Florida	January, 1998
"Train the Trainer HACCP Course " FPI, Chicago, Illinois	February, 1998
Distance Learning by Middle State Association	March, 1998
Council on Research Policy and Graduate Education, Rio Mar, PR	June, 1998
Good Agricultural Practices in Fruits and Vegetables	March, 2002
Regulatory Sciences: Critical Thinking in a Food Microbiology Lab.	March 2002
First Spanish Animal and Egg Food Safety Production Conference	July 2002
Validation and Verification, Advanced Course	January 2003

PROPOSALS

1992 - JCT-92-10- The Establishment of an Aquaculture Research Center: Canning and Smoking of Tilapia.
1993 - Innovative Training Program for Food Managers and Handlers in Puerto Rico. ES-USDA
1994 - Innovative Training Program for Food Managers and Handlers in SJ, Puerto Rico. ES-USDA
2001 - 2003 HACCP for Small and Disadvantaged Retail Establishments Meat and Poultry at Retail
2002 - 2003 Awarded a Non-Assistance Cooperative Agreement #FSIS in the amount of \$22,951.00 to Develop an International Food Safety Institute
2002- 2003 Awarded a Non-Assistance Cooperative Agreement #FSIS in the amount of \$50,000.00 for the HACCP Comprehensive Course for the Industry
2002- 2003 Awarded a Non- Assistance Cooperative Agreement for the amount of \$10,182.00 for developing a Meat and Poultry Inspection Seminar for the Industry.

COURSES

CITA 6601	Food Processing
CITA 6603	Laboratory of Food Technology
HORT 4037	Preservations of Fruits and Vegetables
QUIM 6335	Food Analysis
INPE 5357	Meat Science and Technology
QUIM 5085	Food Chemistry

JOSÉ R. LATORRE, Ph.D.
PROFESSOR

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Campus, P.O. Box 9030, Mayagüez PR 00981-9030
Telephone (787) 265-3854, Fax (787) 265-5410, E mail: jlatorre@uprm.edu

ACADEMIC AND PROFESSIONAL EXPERIENCE

Professor. Department of Animal Science, College of Agricultural Sciences, University of Puerto Rico – Mayagüez.
Sept. 1997 to present.

Dean of Academic Affairs. University of Puerto Rico - Mayagüez. December 1994 to September 1997.

Acting Director. Department of Animal Science, College of Agricultural Sciences, University of Puerto Rico -
Mayagüez. (January 1994 - December 1994).

Associate Professor. Department of Animal Science, College of Agricultural Sciences, University of Puerto Rico –
Mayagüez. (1991 – 1997).

Assistant Professor. Department of Animal Science, College of Agricultural Sciences, University of Puerto Rico –
Mayagüez. (1986 – 1990).

Teaching Assistant. Department of Animal Sciences, University of Arkansas (1983-1986)

Research Assistant. Department of Animal Industry, U.P.R. at Mayagüez (1977-1981)

EDUCATION

Institution and Location	Degree	Year Conferred	Field of Study
University of Puerto Rico	BS	1976	Animal Science
University of Arkansas	MS	1983	Animal Physiology, Environmental. Management
University of Arkansas	Ph.D.	1986	Avian Physiology and Reproduction

PUBLICATIONS

1. Abstracts

Harris, Jr., G. C., Spreen, S. W., **Latorre, J. R.**, and Macy, L. B. 1988. An “*in vitro*” method for evaluating the reaction between glycerolized fowl spermatozoa and oviductal tissues at body temperature (41°C). 11th International Congress on Reproduction and Artificial Insemination. Belfield Campus, University College Dublin, Dublin, Ireland.

Latorre, J. R., G. C. Harris, T. S. Nelson. 1984. Effects of dietary acid-base balance on semen quality of aging broiler breeder cockerels and its relationship to some blood parameters. Poultry Science Association, 1984.

Latorre, J. R., G. C. Harris, and S. W. Spreen. 1986. Effect of the storage container and frequency of insemination of frozen-thawed broiler breeder semen on fertility. 75th. Annual Meeting of the Poultry Science Association, North Carolina State University, Raleigh.

Sexton, K., G. C. Harris, and **J. R. Latorre**. 1985. Effects of Tryptophane on semen volume and quality of broiler breeders in a hot climate at different humidities. Poultry Science, 64:180.

Spreen, S. W., G. C. Harris, and **J. R. Latorre**. 1986. The “*in vitro*” evaluation in oviduct tissue cultures of glycerolated and non-glycerolated broiler breeder semen. 75th. Annual Meeting of the Poultry Science Association, North Carolina State University, Raleigh.

2. Articles in Scientific Journals

Harris, Jr., G. C.; Spreen, S. W., **Latorre, J. R.**; and Macy, L. B. 1988. An “in vitro” method for evaluating the reaction between glycerolized fowl spermatozoa and oviductal tissues at body temperature (41°). 11th. International Congress on Animal Reproduction and Artificial Insemination. University College Dublin, Belfield, Dublin 4, Ireland, Vol. 3:252.

Latorre, J. R., G. C., Harris, T. S. Nelson, and K. J. Sexton. 1986. Effects of adding acid or base to the diet on semen of heat stressed, aging broiler breeder males. Poultry Science, 65:589.

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ACKNOWLEDGMENTS

2002 - USDA Special Recognition for Outstanding Work in the Development of the First Spanish Language Workshop for the Meat and Poultry Inspection Seminar for International Government Officials.

PROFESSIONAL MEMBERSHIP

1. Professional Associations
Poultry Science Association
Latin American Association of Animal Production (ALPA)
Puerto Rico Association of Animal Production (APRIPA)
Sociedad Puertorriqueña de Ciencias Agrícolas (SOPCA)
Association for Supervision and Curriculum Development.
2. Honor Societies
Alpha Zeta Fraternity
Gamma Sigma Delta (University of Puerto Rico Chapter, Secretary-Treasurer 1989-90)
Phi Kappa Phi (University of Arkansas Chapter)
3. Honors
Seminar Award, University of Arkansas Graduate Association
Samuel Bacherov Scholarship 1981-1986

SEMINARS, CONFERENCES, WORKSHOPS, SHORT COURSES (LAST 7 YEARS)

August, 1995 Academic Strategic Planning Workshop. Rio Piedras, PR
September, 1995 Teaching for Success. Raleigh, NC.
November, 1995 Congreso Educativo Interuniversitario de Alerta al Alcohol y otras Drogas. Ponce, PR
November, 1995 Academic Assessment for Higher Education Workshop. Boston, MA.
December, 1995 “Developing a Comprehensive Faculty Evaluation System” Workshop.
Mayagüez, PR
January, 1996 Teaching Effectiveness Workshop. Mayagüez, PR
February, 1996 Breakthroughs in Student Retention Practice. San Juan, PR
February, 1996 Total Quality Management. Rio Piedras, PR
April, 1996 How to Lead a Team, San Juan, PR
May, 1996 Institutional Research Forum, Albuquerque, NM
February, 1997 Institutional Research Workshop. Association of Institutional Research, Mayagüez, PR
February, 1998 “Importancia del Prontuario”. CEP-UPRM
March, 1998 Distance Learning by Middle State Association
June, 1999 Train the Trainer Food Code Course. FDA, Mayagüez, PR
February, 2002 Meat and Poultry Inspection Seminar for International Government Officials, College
Station, Texas.
June, 2002 Better Process Control School. FDA.
August, 2002 Regulatory Sciences: Critical Thinking in a Food Microbiology Lab. FDA, USDA/FSIS
July, 2002 First Spanish Animal and Egg Food Safety Production Conference

PROPOSALS

2001-2003 - HACCP for Small and Disadvantaged Retail Establishments, Meat and Poultry at Retail \$\$\$ USDA/FSIS

2002 – Development of an International Food Safety Institute. \$22,951.00. Non-Assistance Cooperative Agreement USDA/FSIS.

2002 – Develop HACCP Comprehensive Course for the Industry. \$50,000.00. Non-Assistance Cooperative Agreement USDA/FSIS

2002 – Development of a Meat and Poultry Inspection Seminar for the Industry. \$10,182.00. Non-Assistance Cooperative Agreement USDA/FSIS

1994 - Organic Waste Disposal utilizing earthworms. \$225,000.00. The Office of Economic Development Administration, Government of Puerto Rico / Science and Technology Board. 3 years

COURSES

INPE 3005 - Introduction to Animal Science

INPE 4017 – Poultry Production

INPE 4037 – Undergraduate Seminar in Animal Science

INPE 5357 - Meat Science and Technology

INPE 6614 - Advanced Poultry Production

INPE 6637 - Advanced Animal Physiology (Renal, Respiratory & Digestive)

CITA 6655 – Graduate Seminar in Food Science & Technology