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THE ROLE AND SCOPE OF INTERNATIONAL AGENCIES PROVIDING TECHNICAL COOPERATION ON ANIMAL HEALTH IN LATIN AMERICA AND THE CARIBBEAN

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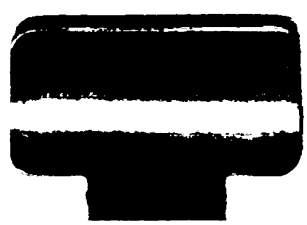

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THE ROLE AND SCOPE OF INTERNATIONAL AGENCIES PROVIDING TECHNICAL COOPERATION ON ANIMAL HEALTH IN LATIN AMERICA AND THE CARIBBEAN

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Executive Summary

Animals have virtually the same spectrum of diseases as those which afflict man. Some are directly transmissable to man and therefore constitute a menace to public health. Others produce economic losses, including trade barriers among nations. Infections, parasitic, nutritional and toxicologic diseases of food producing animals and beasts of burden exact an enormous toll.

Several international agencies offer technical cooperation to deal with these problems. Each has a somewhat different mandate and access to different resources for action programs.

The Inter-American Board of Agriculture of the Inter-American Institute for Cooperation on Agriculture, (IICA) approved a resolution (Resolution 18) at its first regular meeting in August 1981. That resolution called for a study by a Commission appointed by the Director General of IICA to study IICA's program budgets and those of other International Organizations in order to evaluate how these programs can operate as effectively as possible, avoiding duplication of effort and covering those diseases and problems which have maximum economic importance and public health ramifications in the countries of the Hemisphere.

In compliance with that directive, the Director-General and the Director of the Program of Animal Health invited Dr. George C. Poppensiek of Cornell University and Dr. Pedro N. Acha, Special Advisor to the Director-General to prepare a working document for the Commission.

In the introduction to the document attention is given to the socio-economic impact of animal diseases upon the vitality of nations. Animal disease caused an estimated 150 million tons of meat, milk, cereal and eggs to be wasted in the world in 1970. Monetary losses are measured in the billions of dollars, but attention must not be focused on monetary losses alone. It also must be focused on bioenergy diversion. Saprophytic microorganisms are the only immediate benefactors of energy from a dead animal which, in its growth, has consumed an enormous amount of vegetation-derived energy.

On a worldwide basis, plant sources provide 70 percent of the protein in man's diet, with animal products supplying 30 percent. Taking into account the new high-lysine varieties of some grains, it is possible to obtain all essential dietary protein from plant resources. But to do so requires the right variety of plants that have the necessary amino acids in acceptable levels; it requires specialized knowledge to select and grow them; it requires capital and technology to process them so that they are in palatable form for infants and adults. And, most importantly, it requires the incentive to eat adequate amounts of them. To obtain the proper amount of protein from high-lysine corn alone, a person would have to eat 1 kg (2.2 lbs.) per day; from beef alone, only 7 ounces.

A section of the document provides background historical data on the development of international agencies which provide technical cooperation services to the agricultural economies of western hemisphere nations.

In this historical overview of technical cooperation in Animal health programs within Latin American and the Caribbean nations, focus is placed on an assessment of major animal diseases, as of 1979, including serious parasitisms. Priorities among actions to deal with these problems are cited.

Then, as the document continues, public international organizations functioning in Latin America and the Caribbean are identified. These include international and subregional organizations active in fields of endeavor directly or indirectly related to animal health and animal production. Further, international agencies related to the agricultural sector are listed by function, citing their objectives and financial support.

Special attention is given to the evolution and missions of four major international agencies functioning in the field of animal health. These are: (1) The Pan-American Health Organization (PAHO), (2) El Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA), (3) The Food and Agriculture Organization of the United Nations (FAO), and (4) The Inter-American Institute for Cooperation on Agriculture (IICA). Included in the narrative are special topics such as "animal health and food deficits", "development of a regional emergency programme in Central America, Mexico and Panama", and focus on specific projects and funding.

The document includes a section on the evolution of primary funding agencies serving Latin America and the Caribbean nations, notably the Inter-American Development Bank (IDB) the World Bank, also known as the International Bank for Reconstruction and Development (IBRD), and the United Nations Development Programme (UNDP).

Contemporary financial commitment to projects in animal health for these funding agencies is cited.

A section of the document then deals with comparative funding programs and trends for the immediate future, particularly relative to FAO, PAHO, IICA and OIRSA. In all these agencies, the distribution of funds supports four essential types of programs:

(1) institutional development
(2) training
(3) service programs
(4) research

Each of these is examined and essential trends, strengths and weaknesses are identified. Success or failure is dependent upon the supportive commitment of individual nations.

There follows a section on evaluating the effectiveness of the international agency programs, accenting the multiplier effect of organized

training programs and the importance of institutional linkages, especially with producer groups. And an important caveat is cited. One of the findings in many of the projects studied was that, in the absence of appropriate salary and career incentives provided by governments, national experts tend, on completion of their training, to seek more rewarding employment elsewhere.

It was hoped that a substantive review could be made of bilateral programs in animal health. However, information was not obtainable except from major agencies of the United States and Canada. Programs and budgets of these agencies are cited.

Finally, a section on projection of future program needs, long-range planning, calls attention to the fact that success in resolving the major animal health needs for Latin America and the Caribbean is likely to be inversely proportional to the proliferation of small independent projects and programs. The document concludes with recommendation that there be established an Interamerican Commission on Animal Health with coordinating authority. This conclusion is predecated upon the visionary remarks in an address given before the OAS in November, 1981 by the Honorable Luis Herrera Campins, President of Venezuela.

"The immediate need is to bring about the coordination of the organizations active in Latin America; coordination to obtain efficient and articulated action which will avoid duplication and maximize the efforts and resources. Because of the lack of coordination, there have been subeffective responses from existing organizations in resolving different existing problems. The disorganization has caused some to pretend that these can be resolved by creation and proliferation of new organizations. The enlarged constellation still cries for coordination; a great need indeed..."

Foreword

In compliance with recommendations of The IICA Advisory Commission on International Cooperation in Animal Health, established by the Director General under provisions of Resolution 18 issued by the Inter-American Board of Agriculture of the Inter-American Institute for Cooperation on Agriculture, and given at a meeting held in Panamá City, Panama, in April 1982, this document prepared for the Panama City meeting. Also, information has been updated on the basis of data provided by the agencies or, as appropriate, taken from published literature. References for quotations appear at the end of the report.

The general recommendations of the Advisory Commission are given on page 14 of a Report of the Advisory Commission on International Cooperation in Animal Health, 14 May 1982, appearing as Annex 1 to this document. The Advisory Commission in its proposal for the establishment of a coordinating mechanism for technical cooperation in the area of animal health recommended to the Inter-American Agricultural Board the creation of a Permanent Animal Health Commission, composed of the Director Generals of Animal Health in the countries of the Hemisphere.

Annex 2 cites Resolution 15, action taken by the Inter-American Board of Agriculture at its second special meeting held on October 28, 1982, regarding the report of the Advisory Commission on International Cooperation in Animal Health and the recommendations of the Director General of IICA. The Board resolved to accept the Report of the Advisory Commission and to accept the views of the Director General for the establishment of the proposed Permanent Animal Health Commission.

Animal health officials in Latin America and Caribben countries were encouraged to prepare and sent to IICA a summary of the Animal Health Programs being implemented in their countries, providing concrete information on the human and financial resources available for these purposes and the programs underway with the support and participation of international agencies. Those summary statements which were provided appear as Annex 3.

Preface

This document represents a response to action taken by the Director General of the Inter-American Institute for Cooperation on Agriculture relative to a resolution put forth by the Inter-American Board of Agriculture on August 13, 1981, calling for a study of program-budgets of international organizations offering technical cooperation in animal health in Latin America and the Caribbean. The document has been prepared for use by a Commission appointed by the Director General for evaluating the most effective ways in which these international agency programs can operate.

The document begins with a presentation of the aforementioned resolution, designated as Resolution XVIII, and a statement indicating the procedure for compliance by the Director General.

The text of the document then is presented in seven sections, entitled as follows:

Section I: Introduction: Animal Health and Human Nutrition.

Section II: Background Information.

- (A) Some pertinent historical facts relating to technical cooperation in animal health programs, Latin America and the Caribbean.
- (B) Assessment of animal health in Latin America and the Caribbean.
- (C) Demographics, zoographics and food-animal productivity indicators.

Section III: Public International Organizations, Latin America and the Caribbean.

Section IV: The Evolution and Missions of International Agencies Functioning in Latin America in the Field of Animal Health.

Section V: Evolution of Primary Funding Agencies Serving Latin America and the Caribbean.

Section VI: Comparative Funding Programs and Trends for the Immediate Future

Section VII: Evaluation of Effectiveness of International Agency Support Programs, Projecting future Needs and Long Range Planning, and Conclusions.

RESOLUTION XVIII

INTERNATIONAL COOPERATION IN ANIMAL HEALTH

The INTER-AMERICAN BOARD OF AGRICULTURE OF THE INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE, at its First Regular Meeting,

CONSIDERING:

That the Board of Directors of IICA, at its 1979 meeting, resolved that the Institute should incorporate animal health into its programs;

That considerable resources are already being negotiated for animal health programs and that, in the future, new needs will be arising; as a consequence, it is necessary to improve existing programs and create new ones;

That at its meeting in Buenos Aires, from August 5 to 8, 1981, REDISA III* recommended that IICA increase funds for these programs and that it initiate contact with international funding agencies in order to channel funds toward the control of animal disease; and

That resources for animal health programs are currently being administered by several international organizations, and there is no mechanism for coordinating them to prevent duplication of activities and ensure that only those programs and projects that are of high priority for the countries will be undertaken.

RESOLVES:

1. That the Director General of IICA take the responsibility for setting up a Commission to study IICA's program-budgets and those of other International Organizations in order to evaluate how these programs can operate as effectively as possible, avoiding duplication of effort and covering those diseases and problems which have maximum economic importance and public health ramifications in the countries of the Hemisphere; for this purpose, the Director General will require the cooperation of representatives of the Ministries of Agriculture in at least one country in each of the zones into which the Institute's action is divided.

2. That this Commission submit its recommendations to the next regular meeting of the Executive Committee.

3. That the Director General allocate financial, technical and secretarial support for the operation of this Commission.

(Approved at the last plenary session, 1st. Regular Meeting of the Inter-American Agricultural Board, 13 August 1981, Buenos Aires, Argentina.)

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* Third Interamerican Meeting of Directors of Animal Health.

Compliance with the Directive, Resolution XVIII

(IICA/IBA Resolution XVIII; Development of a Working Document)

In accordance with the objective of IICA/IBA Resolution XVIII, the Director General of the Institute asked the director of the Program of Animal Health to engage consultants acquainted with international organizations functioning in Latin America and the Caribbean and familiar with animal health problems in Latin America, to prepare a working document for the objectives cited in this Resolution. Dr. José Emilio G. Araujo, Director General of IICA and Dr. Francis J. Mulhern, Director of the Program of Animal Health, invited Dr. George C. Poppensiek and Dr. Pedro N. Acha to prepare the working document. Dr. Poppensiek is The James Law Professor of Comparative Medicine and former Dean of the College of Veterinary Medicine, Cornell University. Dr. Acha is Special Advisor to the Director General, IICA. The invitation was accepted in November 1981. Dr. Poppensiek initially spent several weeks in personal consultations with key leaders in several institutions that have international collaborative programs, and some having bilateral programs, in Latin America. Subsequent to that time several weeks were spent in reviewing agency publications, conferring again with agency representatives and in preparing the structure of the working document. Several concentrated planning meetings and document review meetings were held between Dr. Pedro N. Acha and Dr. George C. Proppensiek.

Pertinent institutional resource documents were provided by those consulted, and these people visited or contacted by mail are listed as follows:

Name	Title	Organization
Fernandez, Dr. Mario V.	Chief, Special Program of Animal Health	Pan American Health Organization Washington, D.C.
Mulhern, Dr. Francis J.	Director, Animal Health Program	Inter-American Institute for Cooperation on Agriculture San José, Costa Rica
Glenn, Dr. John C.	Livestock Specialist	International Bank for Reconstruction and Development Washington, D.C.
Atwell, Dr. John K.	Deputy Administrator, Veterinary Services	Animal & Plant Health Inspection Service, United States Department of Agriculture Washington, D.C.
McGowan, Dr. John E.	Assistant Deputy Administrator	Health of Animals Branch Agriculture Canada Ottawa, Ontario

Mussman, Dr. Harry C.	Administrator	Animal & Plant Health Inspection Service United States Department of Agriculture Washington, D.C.
Meyer, A., Dr. Carlos M.	Director Ejecutivo	Organismo Internacional Regional de Sanidad Agropecuario (OIRSA) San Salvador, El Salvador
Hatcher, Dr. Gordon	Program Director	Heifer Project International Little Rock, Arkansas
Griffiths, Dr. Reginald B.	Director, Animal Production	Food and Agriculture Organization of the United Nations Rome, Italy
Peritz, Dr. Franz J.	Regional Animal Production and Health Officer	Food and Agriculture Organization of the United Nations Santiago, Chile
Mead, Dr. Arthur	Senior Economist	Food and Agriculture Organization of the United Nations Washington, D.C.
Pino, Dr. John A.	Director, Agricultural Sciences	The Rockefeller Foundation New York, New York
Hunt, Ms. Elizabeth Jean	Program Analyst, Development Programs, Latin American Bureau	Agency for International Development, U.S. Department of State, Washington, D.C.
Warren, Dr. Phillip	Assistant Agricultural Development Officer, Latin American Bureau	Agency for International Development, U.S. Department of State Washington, D.C.
Haynes, Mr. Charles	Manager, Ruminant CRSP (Collaborative Research Support Program)	Agency for International Development U.S. Department of State Washington, D.C.
De Martini, Dr. James C.	Principal Investigator, Small Ruminants, Department of Pathology	College of Veterinary Medicine, Colorado State University Fort Collins, Colorado

Butchart, Dr. Douglas	Livestock Advisor, Science and Technology	Agency for International Development U.S. Department of State Washington, D.C.
McGowan, Dr. Blaine	Professor	Department of Medicine, School of Veterinary Medicine, University of California Davis, California
Vandemaele, Dr. Frank P.	Senior Technical Advisor	United Nations Development Programme New York, New York
Arce, Dr. Abraham A.	Project Specialist	Inter-American Development Bank Washington, D.C.

Section I

INTRODUCTION

Animal Health and Human Nutrition

"Predictions of world populations reaching 8-10 billion hungry people by the year 2000 with food supplies falling far short were commonplace only a few years ago. Pessimistic attitudes about man's capability to deal with these problems were heard worldwide. 1/

"However, the most recent predictions are reflecting subtle changes in realities. The growth rate of the world's populations, while still high, is lower than earlier predictions. It now appears that when we reach the magical millenium, planet Earth will be populated by fewer than 7 billion citizens.

"The question still remains how we will feed ourselves. The High Technology Green Revolution of the 1970's has provided great new technologies and advances for some of the world's people, but not for all. These new technologies are not the panacea some would espouse. Especially in these times of unstable supplies of fossil fuels at exploding prices, Green Revolution expertise may be less applicable in most of the world...

Throughout the world there is tremendous variability in the potential of land to produce crops. Two-thirds of the world's land is too rough, dry or infertile for growing food crops. But it is useful for permanent grazing lands, meadows, and pastures. Animals are capable of converting the vegetation on these lands into usable food products, thus providing humans with usable protein and calories. Moreover, animals can utilize many wastes and by-products of other processes for food, thereby both eliminating a potential disposal problem and supplying needed nutrients in our diets. New and unconvential feed sources are being developed to increase further our capacity to feed animals without their competing for foodstuffs directly consumable by man...

"Much of the research that has been undertaken for improving world food production and utilization has been in efforts to increase productivity of plants. Promising new hybrids and disease-resistant, high yielding varieties (HYV) have been developed. Unfortunately, their widespread adoption has been limited because these varieties require more ideal conditions; proper fertilization, the right amount of water in controlled frequencies, with the necessary application of pesticides and herbicides. Many require specialized farming methods to be successful. All these conditions are frequently lacking or unavailable in the developing countries...

"On the worldwide basis, plant sources provide 70 percent of the protein in a man's diet, with animal products supplying 30 percent. Taking into account the new high-lysine varieties of some grains, it is possible to obtain all essential dietary protein from plant sources. But to do so requires the right variety of plants that have the necessary amino acids in acceptable

levels; it requires specialized knowledge to select and grow them; it requires capital and technology to process them so that they are in palatable form for infants and adults. And, most importantly, it requires the incentive to eat adequate amounts of them. Frequently, all these conditions cannot be met. To obtain the proper amount of protein from high-lysine corn alone, an average person would have to eat 1 kg. (2.2 lbs.) per day; from beef alone, only 7 ounces...

"Humans are not the only creatures who suffer from malnutrition. Animals experience similar hazards. While a starving person cannot direct a plow, a severely undernourished animal cannot pull it either. Often a starving animal lacks the energy it needs to forage, preventing it from taking in enough nutrients to sustain life. And the transfer of energy from the forage consumed by the animal before death is diverted from life-sustaining use in man to microbial decomposition of animal carcasses, returning that energy to the soil for recycling through the plant-to-animal cycle.

"Malnutrition is only one problem that affects animals and prevents them from fully carrying out their roles in food production. The most damaging factors in limiting food resources are the ravages of diseases and pests.

"Potential production of animal products in the developing countries is cut by 50 percent due to diseases and pests. Animals are smaller, develop more slowly, and suffer much greater growth and reproductive losses than healthy animals in the developed countries. Carcass yield in developing countries is, on the average, one-sixth that of beef in the United States. Africa has more cattle than the United States, yet it imports more beef than it exports.

"In Latin America, losses from foot-and-mouth disease, hog cholera, piroplasmosis, and Newcastle disease annually amount to 11,700 metric tons of red meat, milk and eggs. Losses from the newly introduced African swine fever and from indigenous diseases such as tuberculosis, brucellosis, respiratory and enteric virus diseases and hemoprotozoan diseases other than piroplasmosis, which produce insidious losses in carcass and by-product quality, are incalculable.

"Until major diseases can be controlled, there is little incentive for livestock breeders to engage in any large effort toward improvement. The expense in time, labor and feed can be quickly negated by an outbreak of disease. The prevalence of established diseases often effectively blocks the importation of new and improved breeding stock which has not been exposed to disease indigenous to the area." Such diseases often limit world export markets.

"Animal disease caused an estimated 150 million tons of meat, milk, cereal, and eggs to be wasted in the world in 1970. Monetary losses are measured in the billions of dollars, but attention must not be focused on monetary losses. It must be focused on bioenergy diversion. Saprophytic microorganisms are the only immediate benefactors of energy from a dead animal which, in its growth, has consumed an enormous amount of vegetation-derived bioenergy...

"The economic losses and the energy dissipation from animal diseases and pests are so enormous that intensive efforts must be made to control them. Costs for control and eradication are discouraging. However, in retrospect, the evidences of success show that in the long run, they represent saving investments. Texas fever cost the United States $40 million in losses every year before it was eradicated. This eradication cost $40 million, paying for itself in only 1 year's gain in savings. Prior to virtual eradication, losses from bovine tuberculosis in the United States were estimated at about $150 million per year. By controlling that disease, that amount or more is saved every year. Hog cholera, once the most costly and deadly swine disease in the United States, was eradicated in 1978 at a cost of $140 million. But, as recently as the 1960's, the disease was costing hog farmers $50 million per year.

"When foot-and-mouth disease is eradicated from Latin America, we will see an increase in production levels of at least 350,000 tons of meat and 500,000 tons of milk from an equivalent population of cattle.

"But eradication may not be the only recourse for all diseases. In these days of rapid inflation, the dollar costs of control programe has risen tremendously. This has given rise to new ways of analyzing disease control methods. Computerized record systems are available to examine and compare the benefits and costs of disease control versus eradiction. In 1975, using these methods, Carpenter and Heron were able to determine that for some areas, it would be a wiser expenditure to control brucellosis rather than to eradicate it. Similar economic estimators and predictors are used for pest control in plants." 1/

"The economic losses and waste of energy caused by animal pests and diseases are so enourmous that intensive control efforts must be made. Obviously, for purposes of socioeconomic development, it is imperative to reduce the risks, reverse the disease trends, and maximize the area's livestock potential. 2/

"Besides posing a major obstacle to increased productivity, animal diseases also create a major barrier to international trade in livestock products. They thus constitute a key negative factor in the socioeconomic development of Latin America.

"Meanwhile, the productivity of US agriculture and livestock products depends partly on heavy expenditures of energy resources. That is, the US consumes 10-15 petroleum calories to produce a calorie of food. From the point of view of energy requirements, this is the least efficient of all systems of production. Consequently, in a world suffering critical and ever-accelerating shortages of energy as well as food, increased productivity in developing countries, where few energy resources are used in meat production, will prove both economically sound and essential for world trade.

"In this vein, it should be kept in mind that ruminants and other food producing animals can convert the bioenergy of crop-harvest waste directly into food and fiber for the welfare of humanity. And if Latin America's livestock output could be raised merely to the level of Australia's, while the

number of head increased only 5 percent each year, total production would double within 5 years.

"Latin America today provides one-fourth of the world trade in meat products, but its share has been declining due to animal diseases that could be spread by international movements of animals and animal products. For example, before World War II Argentina accounted for 14 percent of the mutton and lamb in the world market and 53 percent of the beef exports; today the corresponding rates are 4 and 19 percent. The leadership role has been assumed by Australia with 32 per cent of the exports trade. Although the United States has emerged as the world's leading meat importer since World War II, Latin America has not been able to capture this neighboring market because of the barriers raised to thwart animal diseases.

"Despite these circumstances, however, Latin America's livestock industry plays a critical role in development. Besides providing a source of employment and food for local populations, it still yields important amounts of the foreign currency needed for economic development." 2/

Latin America and the Caribbean represent an area blessed with favorable climates; "but on the approximately 500 million hectares of agricultural land, 80 percent are suitable only for pastures and livestock raising. Thus Latin America and the Caribbean, with roughly the same amount of agricultural land as the United States (55 per cent of which is used for pasture), have more than twice the head of livestock (448 million food animals versus 192 million). In 1978 the nations of the Americas, excepting Canada and the United States, had 247 million cattle, 109 million sheep, 63 million pigs, and 29 million goats. Even considering differences in prices and slaughter cycles, this represents about US$45 billion in cattle alone.

However, the herd is constantly at risk from disease - both those endemic to the Hemisphere and exotic diseases. The livestock industry's productivity is only 67 per cent of what it is in Australia and 32 per cent of what it is in the United States. It follows that the United States, with only half the livestock, produces almost twice the supply of meat and meat products. Moreover, animals in developing countries generally grow more slowly, mature later, and produce less than animals in developed areas. Nevertheless, notwithstanding the risks and reduced potential, such animals still represent an economically important agricultural product and a major source of income, in both local and international trade." 2/

Section II

BACKGROUND INFORMATION

(A) Some pertinent historical facts relating to technical cooperation in animal health programs. Latin America and the Caribbean.

Immediately after cessation of hostilities in World War II international cooperation in the agricultural sector came into being. An agency called "The United Nations Rehabilitation Administration (UNRA)" was established. This agency introduced the first world-wide veterinary technical cooperation services. For example, mules from Brazil were shipped to Italy and veterinarians were engaged to participate in maintaining the health of these animals at collecting points, during their shipment and their relocation in the country. Horses, mules and other animals were sent from the United States to Europe. Animals were needed not only for food production but to provide work power. In today's world, 75 per cent of the people live in areas where oxen and buffalo provide the power for plowing and cultivating, and for cartage of material on and off the farm.

Out of this came a renewed awareness that diseases move with animals in mass populations and a new spirit of cooperation developed between countries in the planning and execution of disease control programs. One good example is the collaboration between the United States and Mexico in the eradication of foot-and-mouth disease from Mexico between the period 1947 through 1954. The collaboration showed the effectiveness of putting together binational technical and economic resources.

In the late 40's when the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) were established under the aegis of the United Nations, assistance for animal disease control was provided in the structure of the new organization. For Europe, Africa, and Asia, FAO was the principal agency for animal health programs. These focused on disease prevention and control regulations for the movement of animals and animal products within and around contaminated areas. Also, they focused upon laboratory diagnosis, and upon production of vaccines, and proper storage and administration of the vaccines.

In the Americas a pioneering health-serving organization had existed for decades before the United Nations were chartered. That splendid organization created in 1902, until 1958 was called the Pan-American Sanitary Bureau (PASB); today better known as the Pan-American Health Organization (PAHO). Even before FAO assigned veterinarians to the Americas, PASB created a veterinary medical program (1949).

As a consequence of the outbreak of foot-and-mouth disease in Mexico in 1947 and the introduction of foot-and mouth disease virus to Colombia and Venezuela in 1950, the Organization of American States (OAS) decided to establish a Foot-and-Mouth Disease Center for diagnosis, surveillance, virus-typing and training of personnel to deal with that disease. The only international agency at that time having the infrastructure to organize and

administer the Center was the Pan-American Sanitary Bureau. Consequently, during a conference in Santo Domingo in 1950, the Directing Council of PASB accepted the responsibility for establishing the Pan-American Foot-and-Mouth Disease Center (PANAFTOSA). The government of Brazil offered land and facilities to house the Center in Duque de Caxias, Sao Bento, near Rio de Janeiro. The Center opened there officially in 1951. This was the first regional-scale international type of program in animal health in Latin America. The Center was administered by PASB but totally financed by OAS from 1951-1967.

Thus a new era of international collaboration began for animal health. Assistance was provided simultaneously by the Rockefeller Foundation principally by appropriating funds for training and teaching in veterinary medicine. Countries which benefited particularly from this Rockefeller Foundation support were Brazil, Chile, Paraguay, Colombia and Peru. The Schools of Veterinary Medicine at San Marcos University, Lima, Peru, and at the Rural University of Minas Gerais, Belo Horizonte, Brazil, benefited substantially. From the development of these two faculties in veterinary medicine other similar institutions advanced through collaborative efforts, and ways to deal with serious problems of animal health began to unfurl.

FAO began to provide assistance for livestock development and animal health projects in Latin America by assigning a veterinarian to Santiago, Chile, in 1950. This was done primarily to offer assistance for quarantine and meat inspection services. However, the assignment of only one veterinarian for that purpose for all the Latin American countries was extremely limiting. FAO also assigned veterinarians to the Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA) in Central America in the 1950's.

The U.S. Inter-American Cooperative Program (predecessor of today's USAID) provided technical cooperation in animal health through the "Servicios Cooperativos" established in most of the Latin American countries. Several U.S. veterinarians were stationed in Central and South America during the 1950's as advisors to the governments on animal health matters. These veterinarians were attached to the "Servicios Cooperativos" both in the field of agriculture and health.

In 1956 the Government of Argentina offered the facilities to provide an operational base for establishing the Pan-American Zoonoses Center (CEPANZO, Centro Pan-Americano de Zoonoses). CEPANZO was organized through the efforts of the Government of Argentina and the Pan-American Sanitary Bureau. Even though the Center was established to provide research and training in the control of animal diseases transmissable to man, initially hydatidosis, and the rabies, brucellosis, bovine tuberculosis and leptospirosis, it nonetheless has played an important role in the agricultural economy of the Latin American nations because many of the zoonotic diseases of animals occur in animals of economic importance. For example, brucellosis, tuberculosis, paralytic rabies in cattle, and leptospirosis, are diseases which affect food-producing animals. The Center was officially opened in Azul, Argentina in 1956, even though it was not officially inaugurated until 1959.

In 1966 an epochal milestone was established in the history of animal health activities in the Americas. In that year, the Inter-American Development Bank, (IDB) which had been created in 1950, began to consider loans for conducting animal health control and eradication campaigns, especially foot-and-mouth disease. Then PAHO began to assist countries in developing projects for funding by IDB; projects designed for the ultimate eradication of foot-and-mouth disease. Governments committed funds for the eradication of this disease, complementing them with financial assistance provided by the Bank.

In preparing loan requests, a new element was added in that the requests had to include plans focusing on administrative management and cost-benefit analyses. Cost-benefit analyses were and still are required by the Bank. Following such requests, loans were made; not grants. These loans were made to governments, not to agencies or individuals. Therefore the project had to show convincing evidence that there would be a rate of return; evidence of planning for cost efficiency. And that required a reporting system to assess benefit.

PAHO sponsored a large international conference in Washington, D.C. in 1966, a conference organized especially to develop guidelines for preparing foot-and-mouth disease eradication projects. The guidelines which were formulated were distributed to all the Latin American countries where foot-and-mouth disease was found to occur. Based on these guidelines, the countries first began to prepare a rational system for the diagnosis, control and eradication of foot-and-mouth disease, followed by other selected animal diseases of public health and economic importance. The Pan-American Zoonoses Center then developed guidelines for preparing brucellosis and bovine tuberculosis disease control and eradication programs. The preparation of such guidelines involved the services of economists, veterinarians, statisticians, communications experts, lawyers, and other specialists, all of whom had considerable input in the development of the guidelines. For example, questions were raised about how much the countries were losing from animal diseases in terms of direct and indirect costs. Response to that type of question required interdisciplinary input.

In 1962 the United States-Argentine Commission on Foot-and-Mouth Disease was established on the request of President Arturo Frondizi of Argentina. In the labors of that Joint Commission, the Pan-American Foot-and-Mouth Disease Center in Brazil played a vital role. For example, it was instrumental in conducting a serological survey of a statistically important random sampling of animals on Tierra del Fuego; a survey designed to determine whether or not evidence of the disease could be found on that small but politically important island. Further, a multinational collaborative research project was designed and implemented to develop good statistical data on the presence or absence of foot-and-mouth disease virus in chilled salt-cured meat. Ultimately, research also was conducted on ways to treat meat products so that residual foot-and-mouth disease virus could be destroyed while retaining the palatability and edibility of the product. These studies contributed to the process of planning foot-and-mouth disease eradication programs in collaboration with international banks; principally IDB. The first loan request received by IDB was in 1967, from Chile.

Loans to all South American countries soon followed.

Some of the loans which were developed later, in countries like Colombia and Bolivia for example, were expanded to include not only foot-and-mouth disease but also brucellosis, rabies, and other highly transmissable diseases.

Consequently, in the 1970's IDB expanded its policy beyond the support of programs to eradicate foot-and-mouth disease to other aspects of animal health. Further, loans were provided to countries beyond the foot-and-mouth virus infected area of South America; for example, to the Caribbean nations and Central America.

In the evolution of these loans and programs, it can be stated in general terms that for each dollar which the bank provides, the countries will have invested four. This shows the recognition of the importance of animal health projects within the various countries of Latin America and it also shows the degree of commitment that the countries have been willing to make.

In the decades of the 1950's and 60's, Latin American countries did not have statistically useful information on incidence or prevalence in animal diseases, did not know exactly how many animals they had; therefore did not know how much disease was extant in the various countries. So, in 1970, the Pan-American Health Organization with the participation of the two Pan-American Centers PANAFTOSA and CEPANZO, established the first international training course on Planning in Animal Health Programs. Within the last decade, that course has provided training for over 300 veterinarians in planning and administration as well as in appropriate and statistical and epidemiological methodology. Through these efforts, and under the leadership of the Pan-American FMD Center, surveillance of vesicular diseases in the Americas was developed. This has had a strong influence on the modernization of animal health in Latin America, especially in determining priorities and in providing data for cost-benefit analyses; also in assessing the effectiveness of on-going control and eradication campaigns.

To effect the development of good data showing incidence and prevalence of transmissable diseases, to monitor success or failure in eradication programs and to exercise surveillance on the flow patterns of diseases in geographic areas, diagnostic laboratory back-up is essential. Regretably, a severe deficiency remains; a deficiency in diagnostic laboratory services. Diagnostic laboratory service and research has not progressed in pace with the campaigns to deal with eradication of diseases. In fact, there appears to have been a regression in this vital service.

Early in the 1950's there was a positive development in upgrading laboratory diagnostic services. It became apparent early that the training of people in diagnostic laboratory procedures requires an academic milieu. Candidates are offered the best training programs by universities. However, the governments have not given priority to the role of diagnostic laboratories, and training has suffered. This has been reflected in a recent study made for IICA by preeminent consultants such as by Dr. Vaughn A. Seaton, of Iowa, Dr. Julius F. Frank of Ontario, Dr. Carlos A. Palacios, of Venezuela,

Dr. Carlos Arellano, of Mexico and Drs. Pedro N. Acha and Thomas G. Murnane of IICA, revealing an alarming deficiency in diagnostic laboratory services in Latin America.

It is unfortunate that funding agencies have substantially decreased the amount of money for training and fellowships; a reflection of deficiency in total planning by nations needing upgraded services. Also, regretably, trained people apparently have had difficulty in finding attractive jobs with career incentives. Some jobs for specialized laboratory services have been said to pay no more than clerical positions.

The effectiveness of major disease-eradicating campaigns in the United States reflects careful and systematic long-term governmental commitment to building of an infrastructure; institutions staffed by professionally and technologically educated people who are attracted to the carrer ladder organizational structure of governmental regulatory agencies.

The tick eradication campaign and concurrent eradication of bovine babesiosis, the campaign to eradicate contagious bovine pleuropneumonia and those campaigns for eradication of vesicular diseases, hog cholera, bovine tuberculosis, and brucellosis established the infrastructure of food-animal health programs and the working philosophy of the Animal and Plant Health Inspection Service, USDA.

Hog cholera eradication in the U.S. cost $140 million but the annual cost of vaccination for hog cholera was $50 million. Thus, 3 years without the need for vaccination paid for the campaign.

In Chile, foot-and-mouth disease has been eradicated. Now that government is working on the eradication of hog cholera. These successful campaigns have established credibility. They are eliminating diseases and eliminating the need for vaccination. They are providing for the opening of world food markets.

In the last 20 to 30 years the methods developed for assuring good diagnostic techniques, assuring production of potent and safe vaccines and assuring the establishment of effective quarantine and eradication procedures have collectively established an effective working philosophy for animal disease control and eradication. These benefit procedures and consumers alike. And all these impinge directly on good cost-benefit analyses.

The methodology to control rabies is available. Uruguay decided to effect a good rabies campaign and the disease was eradicated. This is true also of Guyana and Jamaica. Government commitment was the key to successul accomplishment of goals. But elsewhere in the hemisphere there have been many instances where commitment is token-like and ineffective. Eradication demands a major commitment and the infrastructure to implement a well-orchestrated campaign. Small campaigns do nothing for the effective control of disease.

Diseases like babesiosis and anaplasmosis, hemoprotozoan diseases for which there are neither effective vaccines nor therapeutic substances, are examples of diseases where there is serious deficiency in control and eradication methodology.

It is essential to recognize that animal disease control measures are costly, and the results are sometimes unpredictable. In recognition of these verities, national animal health programs are likely to be expensive. They require long-range planning, and a staff of highly-trained veterinarians, qualified animal scientists, and an array of assistants. Expensive technology is often needed to make biological and chemical products for disease diagnosis, prevention, and treatment. And sophisticated diagnostic facilities are required for accurate monitoring of specific diseases. Clearly, such programs must be founded upon a political commitment to provide appropriate financing and resources. 5/

In light of this need for planning and long-term commitment, conferences were organized in Latin America and the Caribbean to explore the dimensions of need and to assess resources.

The First Hemispheric Meeting on Foot-and-Mouth Disease and International Trade of Animals and Animal Products was held in November, 1978 in Buenos Aires. It was organized jointly by the Organization of American States (OAS), and the Pan-American Health Organization (PAHO) in accordance with a resolution adopted at the IXth RICAZ meeting held previously in Caracas, Venezuela.

Among the resolutions adopted at the meeting in Buenos Aires was one (Resolution XII) requesting the Secretary General of the Organization of American States (OAS), in consultation with the Director of the Pan-American Sanitary Bureau (PASB) and the Director General of the United Nations Food and Agriculture Organization (FAO), to appoint a Commission at the highest level to formulate a project for the creation of an Inter-American Institute or Organization for Animal Health. 4/ The role and scope of that Institute was delineated in the resolution.

The Secretary General of the OAS commissioned the Under-Secretary, Sr. Gilmario Raposso, to contact the international organizations PAHO/WHO, FAO and IICA (which had expressed interest in this resolution) as well as the governments of certain countries which had strongly supported Resolution XII for advice and counsel. In the first quarter of 1979, two meetings were held at the OAS headquarters in Washington, DC with participation of representatives of the OAS, PAHO/WHO, FAO, IICA and the US (USDA). An analysis of the resolution was made and the U.S. delegation and some of the representatives of the international organizations expressed their doubts about the need to create a "new international body" into the Pan-American System. It was agreed that a meeting with a large representation of governments was necessary, in which the international agencies should present a statement of their activities on animal health in the Hemisphere and their views about the wisdom of creating an Inter-American Institute or Organization for Animal Health in the Americas. Unfortunately due to structural changes in the OAS, the arrangements for this meeting were postponed and no action has been taken by the OAS.

Animal, Health PAHO and IICA; Pertinent Actions of 1978/79

In April, 1979, the XIIth Inter-American Meeting, at the Ministerial Level, on Foot-and-Mouth Disease and Zoonoses Control (RICAZ XII), noted that

the role and scope of its objectives had evolved from its initial concern (only foot-and-mouth disease) into one embracing the broad field of animal health in relation to its impact upon human health. Noting that the PASB had established a Special Program on Animal Health to meet country needs for international technical cooperation, a decision was reached to designate this meeting and other similar meetings which would follow as: Inter-American Meetings, at the Ministerial Level, on Animal Health (RIMSA). It was decided that these meetings will continue to be governed, as in the past, by the Rules and Procedures of the directing Council of PAHO. Consequently, the First Inter-American Meeting at the Ministerial Level (Ministers of Agriculture) on Animal Health (RIMSA I) was held in 1980; and the second (RIMSA II) in 1981; both in Washington DC.

Also, in 1979, on request of the VII Inter-American Conference of Ministers of Agriculture that took place in Tegucigalpa, Honduras, in 1978 under the auspices of the OAS, the Board of Directors of the Inter-American Institute for Cooperation on Agriculture (IICA) at its meeting in La Paz, Bolivia, in May 1979 resolved to establish an Animal Health Program within the structure of the Institute. This action was stimulated by the appearance of African swine fever in Brazil, The Dominican Republic and Haiti, (1978). Funds were allotted in the budget of IICA for 79-80 to begin actions immediately.

First Inter-American Meeting of director of Animal Health of the Americas, IICA, (REDISA I) San José, Costa Rica, 1979

In September 1979, the Director General of IICA, following the mandate of the Board of Directors of the Institute, organized the first REDISA meeting. That was attended by representatives of all the member governments and observers of PAHO/WHO, FAO, OIRSA, and IDB. At this meeting the government representatives expressed their satisfaction with the prompt actions taken by IICA to begin organizing animal health activities under the umbrella of the regional agricultural organization. It was decided that in order to avoid duplication with other international organizations which are already providing assistance in this field, IICA's animal health activities should be oriented toward those diseases of social and economic importance for which there was not much international cooperation. The participants selected those diseases and animal health problems that they considered the top priorities in their countries following the above mentioned criteria. These recommendations have served as "reference benchmarks" for developing the Animal Health Program of IICA, which is being evaluated annually in the REDISA meetings.

Pertinent actions of 1981, IICA and PAHO

In August, 1981, the Inter-American Board of Agriculture of IICA, at its first ordinary meeting, held in Buenos Aires, Argentina, approved a resolution (Resolution 18) that authorized the Director General of IICA to establish a Commission for the study of IICA's animal health program-budgets and those of other international organizations. The principal objective of that study will have been to evaluate how these programs might be operated synergistically and as effectively as possible, avoiding duplication of effort and covering the diseases and problems which have maximum economic importance and public health ramifications in the countries of the Hemisphere.

In September-October, 1981, at a meeting of the Directing Council of the Pan-American Health Organization (PAHO) in Washington, DC, a resolution (Resolution XXXI) was presented and adopted at the fifteenth plenary session. This authorized the Director of PAHO to convene the III RIMSA meeting in 1983 and every other year thereafter, since PAHO's program and budget are now biennial. Further, taking into consideration the common interests of Ministers of Health and Ministers of Agriculture and continuing their successful cooperation in programs aimed at the prevention and control of zoonoses and foot-and-mouth disease, a resolution was adopted to recommend to the Ministers of Agriculture that special emphasis be placed on the joint analysis of animal health programs and budgets of PAHO and IICA, in order to avoid duplications. 6/

In August 1981, the REDISA III adopted a recommendation to convene the REDISA IV meeting in 1983 and every other year thereafter and to organize the subregional meetings (RESANORTE, RESASUR, RESANTILLES and RESANDINA) in alternate years. This recommendation was based on the fact that IICA's program and budget are now biennial, similar to, and in the same years as PAHO/WHO.

(B) Assessment of Animal Health in Latin America and the Caribbean Nations

The transformation of renewable natural resources into nutritious animal proteins through the rearing of various food-animal species, is an extremely efficient system adaptable to a wide variety of climates and soils. However, this transformation capacity has been handicapped because of various health and nutritional problems.

In spite of heavy losses incurred in meat, egg and wool production as a result of animal disease in Latin America and the Caribbean, no systematic and scientifically indisputable studies have been carried out to assess the magnitude of the problem although, according to estimates, losses from animal diseases in these countries amount to 35% of potential production.

One of the most important diseases is foot-and-mouth disease. This disease has been enzootic in some South American countries since the beginning of the twentieth century. For many years it has represented one of the infections resulting in the heaviest economic losses. It has been estimated that in the region these losses amount to approximately US$400 million per year. At present, it persists throughout South America, with the exception of Chile, Guyana, Surinam and French Guyana. Table 17 gives an idea of the annual economic impact of this disease in the affected area, taking into account physical losses, cost of control programmes and commercial restrictions.

With respect to other animal diseases, the region is fortunate in that it is free from contagious bovine pleuropneumonia and rinderpest. It is equally free from goat pleuropneumonia and contagious agalactia. However, other problems exist. Bovine brucellosis and bovine tuberculosis also affect the milk-producing animal population. Both diseases reduce productivity and both are zoonoses. They are sufficiently widespread to cause the public and animal health services of several countries to conduct control programmes currently

underway. These have been made possible by loans from the Interamerican Development Bank.

Paralytic rabies in herbivores probably constitutes the zoonosis which has the greatest insalubrious and social impact in the hemisphere. From an economic point of view, the losses that this disease causes in cattle herds in the tropical areas situated between Argentina and Mexico are enormous. Twelve countries in the region are affected by this disease. It is estimated that the losses caused by it in seven of twelve countries have amounted to as much as US$50 million per year.

The incidence and prevalence of bovine mastitis are cause for concern in several countries. Affected animals are commonly treated individually but national surveillance and control campaigns are limited. The disease leads to alarming reductions in milk production. Its control is made difficult by deficiencies in hygienic practices and correct herd management.

There is a wide range of other diseases of bacterial origin. The importance of anthraz, blackleg, enterotoxaemia and other diseases is recognized. Susceptible animals are vaccinated against them in large scale preventive efforts. There is a low incidence of pasteurelloses (haemorrhagic septicaemia of cattle, and fowl plague), although four countries carry out vaccination programmes against them. The incidence and magnitude of prevalence for other bacterial diseases, such as paratuberculosis, caseous lymphadenitis and listeriosis, for example, must be assessed.

Throughout Latin America, internal and external parasites constitute major causes of losses in livestock operations. Although such losses have not been calculated economically in many countries of the region, they nevertheless are recognized as being considerable and consist of: (a) direct losses resulting from fatal acute forms of parasitic disease, or condemnation of slaughtered animals, entire or in parts, during meat inspection; (b) indirect losses resulting from a decline in the quality and quantity of the meat, milk and wool. Chronic losses which are frequently undetected, are seriously important insidious causes of economic loss.

The most important internal parasites, from an economic point of view, in cattle and sheep, are those which cause parasitic gastroenteritis, hepatic facioliasis and parasitic pneumonia. Control of these diseases is often made difficult by the absence of an appropriate diagnosis and paucity of services for the supply and distribution of anthelmintics to stockbreeders, particularly small stockfarmers. Bovine and porcine cysticercosis are present notably in the region. Further, there is a high prevalence of hydatidosis, particularly in sheep, in the area of the southern cone of South America. Internal parasitism is probably the health problem which leads to the heaviest economic losses for the continent's livestock population. Unfortunately, in view of the epidemiological characteristics of these diseases, an adequate infrastructure has not been developed to implement control programmes. Limited controls have been established in some animal-rearing units. A more detailed study of the biologic and epidemiologic propensities of parasitisms adapted to various ecological conditions of this region are needed. Also the development of more effective parasiticides is a priority task for the future.

External parasites constitute a serious problem throughout Latin America and the Caribbean. Sarcoptic and psoroptic mange cause extensive wool loss in sheep. Larvae of the screwworm fly cochliomyia hominivorax, which causes cutaneous myiasis, is a most important external parasite, especially for cattle. In Mexico, an eradication programme has been implemented with considerable financial aid from the United States Department of Agriculture. Larvae of another fly Dermatobia hominis, cause subcutaneous cyst formation, a problem in both man and animals and is responsible for considerable losses in the leather industry in Central and South America.

Among the external parasites, ticks cause the heaviest losses among cattle. Approximately 85% of the cattle population of Latin America and the Caribbean is infested by ticks. These blood-sucking parasites are very important not only because of the direct effects of damage to the skin, loss of blood and shrinkage in meat and milk production, but also as a result of their role as carriers of various pathogenic microorganisms. In Latin America, the importance of diseases transmitted by ticks is widely recognized and their control has been included in animal health programmes in several countries. Mexico is currently carrying out a national eradication programme with the financial help of the Inter-American Development Bank.

The resistance of cattle ticks to acaricides is very troublesome, particularly resistance to halogenated and organophosphorous compounds. Acaricide-resistant ticks cause special anxiety if they also are transmitters of babesiosis and anaplasmosis, serious hemoprotozoan diseases of cattle in Latin America and the Caribbean. Babesiosis, also is known as piroplasmosis and occurs in other species of animals. The presence of piroploasmosis in horses seriously interferes with export trade in the equine industry.

Cattle trypanosomiasis caused by Trypanosoma vivax and also T, evansi is important at the subregional level, particularly in Venezuela and neighboring countries.

Low animal reproductive efficiency in Latin America and the Caribbean constitutes one of the most serious limitations affecting the productivity of meat and milk in the region. Reproductive diseases which have the heaviest economic repercussions in these countries appear to be brucellosis, trichomoniasis and vibriosis. Other diseases, such as leptospirosis, infectious bovine rhinotracheitis and parainfluenza III infection are known to occur in the region. The magnitude of their importance needs evaluation and assessment by statistically valid random sampling for frequency rates. The frequency rates of these diseases may have serious impact upon the low levels of fecundity observed in herds in Latin America and the Caribbean and they should be assessed with other factors affecting reproductive efficiency, including genetic, nutritional, endocrinological and herd management parameters.

Only fragmentary information is available concerning diseases affecting swine. Porcine cysticercosis represents a serious economic and public health problem in several countries. Classical swine fever (hog cholera) is very widespread in South America, in Central American countries and Mexico. Certain countries such as Chile and Uruguay have set up eradication programmes and in general all countries conduct intensive control campaigns.

African swine fever appeared for the first time in the western hemisphere in Cuba in 1971, where it was necessary to slaughter almost 500,000 pigs in order to achieve the eradication of the disease. Outbreaks occurred in Brazil, Haiti and The Dominican Republic in 1978. While it was not deemed appropriate to carry out mass slaughter of infected and exposed swine in Brazil, pork exports in general were seriously affected. In The Dominican Republic almost 1.5 million pigs had to be slaughtered during a campaign to eradicate the disease. This represented practically the entire domestic hog population of the country. In 1980, a new epizootic appeared in Cuba, and almost 200,000 pigs had to be slaughtered to achieve its eradication. In 1982, Haiti implemented an eradication programme directed toward the slaughter of the entire domestic pig population.

Among those diseases affecting horses, several virus-induced forms of equine encephalomyelitis, principally Venezuelan, cause huge economic losses and, in addition, represent a serious public health problem. Infectious equine anaemia has been diagnosed in recent years in some South American countries, notably Argentina, Brazil, Chile, Paraguay and Peru. That disease has prejudiced the development of the equine industry and has seriously limited the sale of horses, particularly in international trade.

The South American camelidae (llama, alpaca, huanaco and vicuña) constitute important food and fibre animal resources, especially in Bolivia and Peru. Among the principal diseases identified in these species are enterotoxaemia caused by Clostridium perfringens, types A and C, alpaca fever caused by Streptococcus pyogenes, gastro-intestinal parasitims, facioliasis, verminous bronchitis, and sarcoptic and psoroptic mange. In recent surveys, the incidence and prevalence of coccidiosis in these animals appear to be more important than was originally thought.

Production of poultry meat in Latin America was raised to the exceptional average annual rate of 9.5% during the period from 1970 to 1978. Intensified production methods, however, increased the threat of those diseases affecting domestic poultry confined to reduced rearing space, particularly diseases of viral origin such as Newcastle disease or infectious bronchitis. The control of these diseases has required a major effort on the part of the private industry sector, complemented to a limited extent by the public sector through government-provided animal health services. Although information on other poultry disease problems is incomplete, it is known that chronic respiratory disease has a high incidence and prevalence in certain countries. Additional information concerning frequency rates which assess incidence and prevalence of diseases affecting domestic poultry in Latin America and the Caribbean is needed and economic impact of these diseases must be assessed so that priorities for control and eradication can be determined.

Certain additional animal health problems due to mineral deficiencies, mycotoxicoses and toxic plants should also be mentioned because preliminary assessments suggest that they are very important in Latin America and in the Caribbean nations.

Because of deficiencies in the mineral content of some soils, particularly those in the Andean and tropical regions of the continent, deficiency diseases

in those areas are frequent in cattle and cause insidious or overt low levels of productivity. When obvious, such deficiency requires that the soil and supplementary cattle feed be artificially enriched with appropriate mineral salts. Diseases due to deficiencies in phosphorous, copper, cobalt and iodine have been found to occur in the region. Phosphorous deficiency in particular appears in vast areas of several countries, and it is responsible for animal reproduction failures and clinical aphosphorosis. Iodine deficiency is also very widespread and leads to the death of foetuses and to weakness in young animals.

Mineral intoxications on the other hand, caused, for example, by excesses of fluoride, manganese, selenium or molybdenum, and intoxication by poisonous plants, are also very important debilitating problems. "Enteque seco" produced by Solanum malacoxylon, a potato-family plant, is widespread. A variety of leafy plant and mycotic toxins cause serious losses, especially when they induce hepatotoxicosis, or neurotoxicosis.

The foregoing citations are not intended to constitute and exhaustive list of animal diseases in Latin America and the Caribbean, but rather to show something about the breadth and diversity of animal diseases which have negative effect upon the agricultural economy or the public health. They indicate the amplitude of the problems facing the stock-breeder, requiring the attention of the veterinary profession. A large number of diseases, under proper management, could be prevented. Improved control would no doubt result in a considerable increase in production and an improved animal-agriculture economy.

Apart from African Swine fever which, while being exotic in most American countries but no longer exotic on the South American continent, there are other important diseases which have not appeared in this region to date. The risk of their being introduced increases with diversity and speed of commerce. The growth of foreign trade has transformed many food-animal diseases and diseases of beasts of burden from local to international problems. The extensive replacement of sea transportation of appreciable numbers of cattle, swine, poultry, horses, and other animals by air transportation means that animals which are infected shortly before enbarkation can arrive at their country of destination showing no signs of illness and yet incubating transmissable diseases which can threaten highly susceptible animals with which they subsequently come in contact.

Development and Strengthening of Human Resources

The afore-mentioned health problems not only affect the production capacity of animals in Latin America and the Caribbean, but also represent serious obstacles in international trade in animals and animal products. Animal health organizations must be strengthened and centres to provide training in specific animal disease diagnosis, surveillance and control are greatly needed at a post-university level and at a technical and auxiliary-support level. The priority requirements can be summarized as follows:

a) General strengthening of the infrastructure for veterinary services, to assure stability and continuity, especially for long-range projects.

b) Strengthening and expansion of diagnostic laboratories (including facilities and personnel to diagnose exotic as well as indigenous diseases), with research facilities and personnel to handle epidemiological problems relating to the diseases which are diagnosed.
c) Training of personnel at all levels; professional, technical, strategic, economic, supportive.
d) Improvement of epidemiological surveillance systems and of activities relating to diagnostic and quarantine measures.
e) Providing extension methodology for transfer of technology and information to professionals, growers, produceers and political decision-makers, relative to organization of diverse activities which have impact upon the systematic control of diseases of high priority for allocation of resources.
f) Encouragement and coordination of applied research focusing on the main problems encountered in the field. Particular attention must be given to cost-benefit and cost-effectiveness studies which relate to control campaigns; programmes carried out by organized animal health services.

The fundamental scaffolding in the infrastructure essential to effective animal health efforts is that provided by organized veterinary medicine; the veterinary medical profession. Differential diagnosis, understanding of pathogenesis, consideration of options for effective surveillance, disease control and eradication are elements of education in veterinary medical curricula. Understanding the selection of methods of prevention, and knowledge about selection of appropriate epidemiologic methods to measure frequency rates for determining incidence, prevalence and flow patterns of diseases also are components of veterinary medical education. Further knowledge about vectors, reservoirs and susceptible populations are part of the professional armamentarium of veterinarians.

But talents of other specialists must be brought to bear on the animal health problems, as needed. Economists, entomologists, animal scientists, biometricians, ornithologists, wildlife conservationists, and other professionals with biological backgrounds should be considered when the infrastructure for animal health programs is being designed and activated. Veterinary medicine must serve the needs and aspirations of the human community. In the context of measures designed to integrate national economies in a broad-based Latin American common market, it is imperative to establish basic procedures in animal health programmes so that the effectiveness of veterinary disease-control measures can be implemented through regional and subregional cooperation. The ultimate objective is to facilitate and protect inter-regional and international trade in wholesome animals and animal products.

An important socio-economic aspect of such programmes is that of increasing preventive and clinical veterinary medical assistance to small producers. For Latin America, under present circumstances, this objective is of prime importance for the success of agrarian reform programmes. Economic losses caused by prolonged morbidity, sterility, and loss of productive efficiency and poor feed-conversion due to insidious or overt animal disease

may be economically manageable by the owners of large herds, but inevitably unbearable by small farm owners whose livelihood is dependent upon a few animals only.

The Role of Funding Agencies and International Organizations

In this short description of the status of animal health prevailing in Latin America and the Caribbean, recognition must be given to the continuous efforts of the governments of the region to promote better animal health for the welfare of the people that they serve. Recognition also must be given for the support provided in the form of technical and financial assitance by certain international organizations, especially the United Nations Development Programme, the Interamerican Regional Animal Health Organization (IRAHO), the Pan-American Health Organization, the Interamerican Development Bank, the Central-American Bank for Economic Integration, the Food and Agriculture Organization (FAO) and, more recently, the Interamerican Institute for Cooperation on Agriculture (IICA).

C. Demographics, zoographics and food-animal productivity indicators

A series of tables and graphic illustrations taken from a paper by P.N. Acha and L.V. Melendez 7/ are included in this report to show the importance of the livestock and poultry industries in Latin America and the Caribbean nations, and also to show the importance of animal health in the economic well-being of these industries.

Tables 1, 2 and 3 show that the human population of Latin America and the Caribbean nations collectively exceeded that of the United States and Canada at the beginning of the 1980 decade. Further, predictors indicate that by the year 2000, there will be twice as many people in the southern half of the western hemisphere as in the northern half.

Socio-economic indicators in table 2 show an escalated growth rate in the human population in Latin America at three times that of North America during the 1970 decade. Yet the life expectancy in North American people exceeded that of Latin America by almost 10 years, and infant and child mortality rates in Latin America were double and triple that respectively for North America. Nutritional deficiencies are often major causes of infant and child mortality.

Table 3 shows that livestock and poultry populations in Latin America and the Caribbean nations exceeded those for comparable species in North America and 1979, in all instances. Table 6 shows the distribution of the various species among the nations. These zoographic data indicate that the livestock and poultry industries constitute important resources of the gross national product of the South American and Caribbean nations. However, tables 7 and 8 indicate that meat and milk production in Latin America and the Caribbean is far below that in North America or Western Europe. These data, and those in table 9 point up lesser efficiency in meat, milk and egg production for Latin America and the Caribbean than for North America or the rest of the world collectively. Table 10 provides further striking data to illustrate the great difference in productivity efficiency between North America and Latin America. Obviously there are many factors which must be considered in

explaining these differences, including animal nutrition, agronomic quality, livestock and poultry management practices, trade incentives or trade barriers, capital availability for land and stock improvement and usefulness of improved technology. Also, it is essential to recognize that overt or insidious diseases are constant threats to animal populations, and the seriousness of disease problems frequently is directly proportional to the population density of the animals raised or maintained. Sick, dying or debilitated animals suffering from the ravages of disease are not efficient producers of calories intended for the nutritional welfare of humans.

Table 10 illustrates the great difference between daily calorie production by livestock in North America and Latin America and underscores the great potential in Latin American animal-agriculture enterprise. Table 5 adds importance to that potential by indicating that animal homogeneous units for Latin America and the Caribbean nations far exceed those of any of the developing nations and the major areas of the world wherein developed nations are located. These data indicate that Latin America and the Caribbean nations offer evidence and potential for being the outstanding world resource of the immediate future the animal protein to feed a hungry world. These nations must not be denied appropriate technology, incentives, and protection to realize their livestock and poultry potentials. Protection includes overt and insidious disease prevention and control.

In their informative study of important factors having influence in the economic development of livestock production in Latin American countries, 7/ Acha and Meléndez have noted that "in general, the protection and control of foodstuffs in Latin America and the Caribbean (a task which falls to the veterinary services) have not developed at the same rate as the food industry and techniques. In fact, the responsibilities of the administrative sectors competent for the protection of foodstuffs have not been defined, resulting in considerable gaps and certain duplication in these activities: the institutional infrastructure is very weak, samples are collected sporadically, the laboratory results are often questionable and there is no systematic information on the implementation of measures for the control of foodstuffs.

"It has been estimated that the effective control and eradication of animal disease would make it possible to achieve a 35% increase in the amount necessary proteins without unduly increasing the animal population.

"It also has been estimated that the contamination of foodstuffs leads to losses of some 30% of all foodstuffs destined for consumption in Latin America and the Caribbean. The principal causes of this situation lie in the preparation, processing and handling of foodstuffs, the limited storage capacity, the possible absence of a cold chain for perishable foodstuffs, the lack of hygiene during transportation and a legislation either inadequate or at best, only partially applied." 7/

These observations are considerably less enthusiastic than some inferences in reports cited elsewhere in this role and scope review. Though not contradictory, they seem to caution against overly optimistic inference of success in a plethora of programs which provide technical assistance.

Perhaps they draw attention to a need, not to question intent, but rather to assess the effectiveness of program methodologies against a background of economic realities which paralyze the greatest possible catalytic efect of efforts with limited resources. Internal government policies, balance of trade, national tariff policies, interest rates, oil prices and other economic barriers can overwhelm the benefits of short-term pallitive technical assistance programs. In some agencies there has been an enormous increase in processing and procedural steps involved in program development and execution; procedural "clutter" which has reduced the effectiveness of development aid.

Further, in examining the long-term impact of short-term consultants engaged to provide technical assistance, it would appear that other modalities of program assistance may be needed, including institutional linkages, which will provide sustained action for sustained effectiveness. This is addressed later in this report.

Tables 11-16 provide comparative data among Latin American and Caribbean nations which show trends in production of foods of animal origin and trends in important export trade on a continental and world basis. These data point up trends which illustrate the contemporary vitality of the livestock and poultry industries in Latin America and the Caribbean and, when compared with the indicators cited in other accompanying tables in this series, give clear evidence of the vital role of animal agriculture to the economic well-being and world leadership of the region for feeding world population in the future.

Table 16 shows a precipitous decline in income from meat production during the second half of the 1970 decade, indicating that the industry faced one or more serious obstacles during that 5-year period. Table 17 is included to show the impact of one disease on the economic vitality of the livestock industry; foot-and-mouth disease, a disease which can be controlled and eradicated (as has been done in Chile) with modern technology.

Part of the modern technology essential to identifying and monitoring animal disease incidence, prevalance and flow patterns is the service which can be offered by good diagnostic laboratories. A table showing the distribution of animal disease diagnostic laboratories in Latin America and the Caribbean area is included in this report. The table does not indicate the need for updating the breadth and degree of sophistication in the services available from many of these laboratories. That concern is expressed clearly in the PAHO publication cited as the reference for the data in the table. Well operated efficient diagnostic laboratories can provide essential back-up for assessing incidence and prevalence and for developing coefficients in epidemiologic surveillance of specific diseases monitored by random sampling of an animal population at risk. Such coefficients are enormously useful in mathematical modelling for establishing estimators and predictors of flow patterns of these diseases and are extremely useful in assessing the economic impact of the diseases. Only with such information can the effectiveness of vaccination, control and eradication campaign be determined.

A graphic illustration of PAHO animal health and veterinary public health projects and activities in Latin America and the Caribbean is included in this series of illustrations to show the extent of effort during a 15-year period

between 1965 and 1979. This reflects a recognition of need and a determination among nations in the southern half of the western hemisphere to deal with a number of serious animal health problems which affect the social and economic well being of the people of those nations.

Figures 1 through 5 are illustrative of the growth and distribution of the veterinary medical profession in Latin America and the Caribbean in the last decade. The data reflect an encouraging response to the need for animal disease diagnosis, control and eradication by providing educational and career opportunities for professionals especially qualified to deal with the great variety of insidious threats to the health and vitality of food-producing animals and animals which may harbor diseases transmissable to humans.

While Figure 5 shows an increase of 45 new veterinary medical schools during the decade 1972 to 1982, concern has been expressed that minimal standards of excellence must be developed within the schools in the various Latin American and Caribbean nations so that students are assured of an educational experience not deficient in one or more of the essential disciplines.

TABLE 1

POPULATION OF THE AMERICAS, 1970-2000

POPULATION		1970	1980	1990	2000
POPULATION (IN MILLIONS)	REGION	509.1	614.8	748.9	897.7
	LATIN AMERICA AND CARIBBEAN*	(282.7)	(368.5)	(478.4)	(608.1)
	UNITED STATES AND CANADA	(226.4)	(246.3)	(270.5)	(289.6)
PERCENTAGE OF WORLD POPULATION	REGION	13,9	13,9	14,2	14,5
	LATIN AMERICA AND CARIBBEAN*	(7,7)	(8,3)	(9,1)	(9,8)
	UNITED STATES AND CANADA	(6,2)	(5,6)	(5,1)	(4,7)

SOURCE: "WORLD POPULATION TRENDS AND PROSPECTS BY COUNTRY, 1950-2000, SUMMARY REPORT OF THE 1978 ASSESSMENT," U.N., ST/ESA/SER.R/33, New York, 1979.

* LATIN AMERICA INCLUDES ALL THE SPANISH-SPEAKING COUNTRIES AND TERRITORIES OF THE REGION, BRAZIL AND HAITI. THE CARIBBEAN COMPRISES ALL ISLAND COUNTRIES AND TERRITORIES IN THE CARIBBEAN SEA (WITH THE EXCEPTION OF HAITI) AND THOSE ENGLISH, FRENCH AND DUTCH-SPEAKING IN THE NORTHEAST OF SOUTH AMERICA.

TABLE 2

SOCIAL ECONOMIC INDICATORS IN THE AMERICAS

ITEM	NORTH AMERICA	LATIN AMERICA
% POPULATION (1980)	40	59
% GROWTH RATE (1970-80)	0.8	2.7
% POPULATION LESS 15 YEARS OLD (1980)	22	41
LIFE EXPECTANCY AT BIRTH IN YEARS (1975-80)	73	64
INFANT MORTALITY PER 1000 LIVE BIRTHS (1980)	20	40
1-4 YEARS OLD MORTALITY (1000 X) (1980)	1.3	3.9
MILK CONSUMPTION No. GLASSES/DAILY/PER CAPITA	2-3	1
MEAT CONSUMPTION KGS/ANNUAL/PER CAPITA	109	36
GNP US$ PER CAPITA (1978)	9,660	1,300

TABLE 3

HUMAN AND LIVESTOCK POPULATIONS IN THE AMERICAS, 1979

	LATIN AMERICA AND CARIBBEAN	UNITED STATES AND CANADA
IN MILLIONS:		
HUMAN POPULATION	358.8	244.0
BOVINE AND BUFFALOS	267.3	123.2
OVINE AND CAPRINE	145.6	14.0
PORCINE	74.4	68.1
EQUINE	37.3	10.4
POULTRY	812.9	447.1
PERCENTAGE AT WORLD LEVEL:		
HUMAN POPULATION	8,2	5,6
BOVINE AND BUFFALOS	19,9	9,2
OVINE AND CAPRINE	9,5	0,9
PORCINE	9,7	8,9
EQUINE	32,1	8,9
POULTRY	11,7	7,1

SOURCE: FAO, ANNUAL PRODUCTION BOOK, 1980.

TABLE 4

TOTAL FARMING LAND IN LATIN AMERICA AND THE CARIBBEAN,
PER GROUPS OF COUNTRIES, 1979

COUNTRIES	POPULATION (PERCENTAGE)	FARMING LANDS (IN MILLIONS OF HECTS) FARMING	PASTURE	TOTAL	HECTS, PER INHABITANT
LATIN AMERICA AND CARIBBEAN	100.0	160.7	538.6	699.3	1.95
ARG., BOL., PAR., URU.	11.0	41.5	199.4	240.9	6.34
BR., COL., CHILE, PERU, VEN., HOND., MEX., NIC.	75.0	79.4	244.1	323.8	1.69
PANAMA, CARIBBEAN, CENTRAL AMERICA (EXCLUDING HONDURAS, NICARAGUA) AND ECUADOR	14.0	11.6	12.4	24.0	0.49

SOURCE: FAO, ANNUAL PRODUCTION BOOK 1980, VOL. 34.

TABLE 5

ANIMAL HOMOGENEOUS UNITS (AHU) TOTALS AND PER INHABITANT FIGURES IN LATIN AMERICA AND THE CARIBBEAN AND SELECTED GROUPS OF COUNTRIES, 1979

COUNTRIES	AHU (1) (IN MILLIONS)	AHU/INHAB.
DEVELOPING	756.1	0.24
LATIN AMERICA AND CARIBBEAN	229.2	0.64
INDIA	151.1	0.22
CHINA	157.2	0.17
OTHERS	218.1	0.18
DEVELOPED	395.3	0.34
UNITED STATES AND CANADA	98.0	0.40
WESTERN EUROPE	114.6	0.31
SOVIET UNION AND EASTERN EUROPE	171.6	0.46
OTHERS	61.1	0.38

(1) AHU, ACCORDING TO FAO RECOMMENDATIONS THE FOLLOWING EQUIVALENCIES ARE USED: MILKING COWS = 1,0, OTHER BOVINE AND BUFFALOS +0.5; PORCINE = 0.2; OVINE AND CAPRINE = 0.1; CAMELIDA = 1.0; EQUINE = 1.0; AND POULTRY 0.01.

TABLE 6

LIVESTOCK POPULATION BY SPECIES IN LATIN AMERICA AND THE CARIBBEAN, 1979
(IN MILLIONS)

COUNTRIES	BOVINE	OVINE AND CAPRINE	PORCINE	EQUINE	CAMELIDES	POULTRY
LATIN AMERICA AND CARIBBEAN	263,3	144,7	74,1	36,9	5,0	938,7
ARGENTINA	56,8	38,2	3,6	3,2	-	38,0
BRASIL	90,4	25,4	36,0	9,1	-	441,8
COLOMBIA	24,3	3,0	1,9	2,8	-	32,8
MEXICO	29,9	16,0	12,6	12,9	-	165,7
URUGUAY	10,3	17,0	0,4	0,5	-	7,8
VENEZUELA	10,4	1,7	2,2	1,0	-	37,0
OTHERS IN SOUTH AMERICA	19,4	38,7	9,1	4,1	5,0	116,9
OTHERS	21,8	4,9	8,3	3,3	-	98,7

SOURCE: FAO, ANNUAL PRODUCTION BOOK 1980, VOL. 34.

TABLE 7

MEAT AND MILK PRODUCTION, TOTALS AND PER INHABITANT IN LATIN AMERICA AND THE CARIBBEAN, UNITED STATES AND CANADA AND WESTERN EUROPE, 1979

REGIONS	MEAT PRODUCTION		MILK PRODUCTION	
	MILLION MT	KILO PER INHAB.	MILLION MT	KILO PER INHAB.
LATIN AMERICA AND CARIBBEAN	13,9	38,3	33,4	93,2
UNITED STATES AND CANADA	28,1	115,0	63,1	258,5
WESTERN EUROPE	28,0	75,5	136,4	368,0

SOURCE: FAO, ANNUAL PRODUCTION BOOK 1980, VOL. 34.

TABLE 8

MEAT, MILK AND EGGS PRODUCTION IN THE AMERICAS AND THE REST OF THE WORLD, 1979

	LATIN AMERICA AND CARIBBEAN	UNITED STATES AND CANADA	REST OF THE WORLD
TOTAL MEAT	13909	28057	97058
BOVINE AND BUFFALOS	(8147)	(10871)	(28192)
PORCINES	(2335)	(7758)	(43203)
POULTRY	(2778)	(8960)	(15872)
OTHER SPECIES	(649)	(468)	(9791)
MILK	33422	63073	367625
EGGS	2237	4398	20503

SOURCE: FAO, ANNUAL PRODUCTION BOOK, 1980.

TABLE 9

BOVINE, PORCINE AND POULTRY HERDS AND PRODUCTION OF MEAT, MILK AND EGGS IN THE AMERICAS AND THE REST OF THE WORLD, 1979

		LATIN AMERICA AND CARIBBEAN	UNITED STATES AND CANADA	REST OF THE WORLD
BOVINE:	TOTAL HERD	19,9	9,2	70,9
	MEAT	17,2	23,0	59,8
	MILK	7,2	13,6	77,9
PORCINE:	TOTAL HERD	9,7	8,9	81,4
	MEAT	4,4	14,6	81,0
POULTRY:	TOTAL HERD	11,7	7,1	80,2
	MEAT	10,0	32,4	57,6
	EGGS	8,2	16,2	75,6

SOURCE: FAO ANNUAL PRODUCTION BOOK, 1980.

TABLE 10

LIVESTOCK PRODUCTIVITY INDICATORS IN THE AMERICAS

INDICATORS	NORTH AMERICA	LATIN AMERICA
% CATTLE POPULATION (1980)	32	68
CATTLE/PER CAPITA (1980)	0.53	0.78
BEEF CATTLE PRODUCTION		
KG/PER HEAD IN STOCK (1978)	97	33
MILK PRODUCTION		
KG/ANNUAL/PER COW (1978)	5,098	970
BEEF CATTLE PRODUCTION		
KG/ANNUAL/PER CAPITA (1978)	52	26
MILK PRODUCTION		
KG/ANNUAL/PER CAPITA (1978)	253	99
MEATS PRODUCTION		
KG/HECTARE/ANNUAL (1979)	56.2	20.0
MILK PRODUCTION		
KG/HECTARE/ANNUAL (1979)	126.5	47.8
CALORIES PRODUCTION		
PER CAPITA/DAILY	10,800	2,250
CATTLE EFFICIENCY	59	16
EXTRACTION RATE (%)	34	13
PROCREATION RATE (%)	80	40
CALVES PRODUCTION/10 YEARS COW	7-8	2-3
CALVE MORTALITY (%)	7	35

TABLE 11

INTERNAL AVAILABILITY OF MEAT IN LATIN AMERICA AND THE CARIBBEAN, 1970

COUNTRY	POPULATION A/ (IN THOUSANDS)	PRODUCTION	IMPORT	EXPORT	TOTAL AVAILABILITY	AVAILABILITY PER CAPITA KILOS
		(IN THOUSANDS OF MT)				
ARGENTINA	26,723	3,936	9	476	3,469	129.8
BRAZIL	122,879	4,725	122	122	4,725	38.5
COLOMBIA	26,253	837	-	15	825	31.3
MEXICO	67,676	1,534	28	20	1,542	22.8
URUGUAY	2,905	337	-	66	271	93.3
VENEZUELA	14,437	624	56	-	680	47.1
OTHERS	97,913	1,916	158	152	1,922	19.6
LATIN AMERICA AND CARIBBEAN	358,786	13,909	373	851	13,431	37.4

A/ PRODUCTION INCLUDES MEAT FROM ANIMALS IMPORTED ALIVE AND KILLED IN THE IMPORTING COUNTRY.

SOURCES: FAO PRODUCTION ANNUARY VOL. 34, 1980.
FAO EXTERNAL TRAVE ANNUARY VOL. 33, 1979.

TABLE 12

TOTAL MEAT AND MILK PRODUCTION, AND PER INHABITANT IN LATIN AMERICA AND THE CARIBBEAN, BY COUNTRY, 1979

REGIONS AND COUNTRIES	MEAT PRODUCTION MILLION MT	MEAT PRODUCTION KGS/PER INHAB.	MILK PRODUCTION MILLION MT	MILK PRODUCTION KGS/PER INHAB.
LATIN AMERICA AND CARIBBEAN	13,9	38,8	33,4	93,2
ARGENTINA	3,9	147,3	5,3	200,2
BRAZIL	4,2	28,4	10,2	82,9
COLOMBIA	0,8	31,9	2,4	91,2
MEXICO	1,5	22,7	7,1	104,5
URUGUAY	0,3	116,0	0,8	270,0
VENEZUELA	0,6	43,2	1,3	90,2
OTHERS	2,6	24,8	6,3	64,5

SOURCE: FAO, ANNUAL PRODUCTION BOOK 1980, VOL. 34.

TABLE 13

EXPORTS AND IMPORTS OF CATTLE BY GROUPS OF COUNTRIES IN LATIN AMERICA AND THE CARIBBEAN, ANNUAL AVERAGE 1978-1980

(BY THOUSANDS OF HEADS)

REGION AND COUNTRIES	EXPORTS	IMPORTS
LATIN AMERICA AND CARIBBEAN	1370	719
CENTRAL AMERICA AND MEXICO	823	219
- GUATEMALA	(23)	(70)
- HONDURAS	(70)	(120)
- MEXICO	(610)	(29)
- NICARAGUA	(120)	(--)
COLOMBIA - VENEZUELA	243	237
- COLOMBIA	(243)	(--)
- VENEZUELA	(--)	(237)
PLATA RIVER BASIN AND BRAZIL	249	243
- ARGENTINA	(42)	(1)
- BOLIVIA	(63)	(-)
- BRAZIL	(101)	(121)
- PARAGUAY	(22)	(121)
- URUGUAY	(21)	(1)
OTHERS	55	20

SOURCE: FAO, COMMERCE TRADE BOOK 1980, VOL. 34.

TABLE 14

REGIONAL PARTICIPATION (%) OF FRESH, CHILLED AND FROZEN CATTLE MEAT EXPORTS. 1967-1978

REGION	YEAR (%)				
	1967	1970	1973	1975	1978
NORTH AMERICA	2.10	4.09	3.73	2.33	4.00
LATIN AMERICA	21.48	26.66	24.90	9.03	13.66
WESTERN EUROPE	37.26	35.01	34.40	62.00	53.43
EASTERN EUROPE	-	-	6.06	6.67	5.22
OCEANIA	22.33	26.32	27.45	17.37	20.72
AFRICA	2.21	1.50	1.62	1.35	1.50
ASIA	13.53	5.34	0.07	0.08	0.60

SOURCES: FAO TRADE YEARBOOK, ROME, 1972 to 1978.
CIAT LATIN AMERICA: TREND HIGHLIGHTS FOR CIAT COMMODITIES, ECON 1.5, CALI, 1980

TABLE 15

LATIN AMERICA AND CARIBBEAN MEAT EXPORTS BY COUNTRIES, 1978-1980
(IN MILLIONS OF US DOLLARS)

COUNTRIES	TOTAL 1978	1979	1980
LATIN AMERICA AND CARIBBEAN	1491,0	2012,3	1981,9
ARGENTINA	794,3	1219,9	960,3
BRAZIL	235,1	290,1	534,0
CENTRAL AMERICA	189,4	285,0	221,5
- COSTA RICA	(62,7)	(83,9)	(72,4)
- GUATEMALA	(17,3)	(48,1)	(27,4)
- HONDURAS	(38,9)	(61,1)	(54,7)
- NICARAGUA	(70,6)	(95,6)	(67,3)
COLOMBIA	33,8	28,2	33,0
PARAGUAY	23,6	5,4	4,7
URUGUAY	103,6	111,8	169,7
OTHERS	111,2	71,6	91,7

SOURCE: FAO, TRADE YEARBOOK 1980, VOL. 34.

TABLE 16

LATIN AMERICA: PROPORTION OF INCOME FROM THE 13 MAIN BASIC LATIN AMERICAN EXPORT PRODUCTS IN THE TOTAL VALUE OF EXPORTS. AVERAGES 1970-74 AND 1975-79.

PRODUCT	AVERAGE 1970-74	AVERAGE 1975-79
MEAT	3.3	1.6
CORN	1.9	1.2
BANANAS	1.8	1.2
SUGAR	5.6	2.9
COFFEE	9.9	11.2
COCOA	1.1	1.7
FISH	1.1	1.0
SOY BEANS	2.1	3.6
COTTON	2.5	1.8
SUBTOTAL	28.2	26.2
IRON	2.5	3.0
BAUXITE	1.7	0.7
COPPER	4.8	3.4
OIL	15.4	17.2
SUBTOTAL	24.4	24.3
TOTAL	53.7	50.5

SOURCE: IDB, ECONOMIC AND SOCIAL PROGRESS IN LATIN AMERICA 1980-81.

TABLE 17

ANNUAL ECONOMIC IMPACT OF FOOT-AND-MOUTH DISEASE ON THE DEVELOPMENT OF SOUTH AMERICAN COUNTRIES

ITEM	US$	%
PHYSICAL LOSSES	102,374,859	27
MILK PRODUCTION	11,063,230	
MEAT PRODUCTION	24,402,070	
LIVESTOCK EFFICIENCY	66,909,559	
CONTROL PROGRAM COST (I)	105,804,881	28
TRADE RESTRICTIONS (II)	170,000,000	45
PRICE DIFFERENTIAL MEAT		
- WITH AND WITHOUT FMD MARKETS	40,000,000	
- FRESH AND CANNED MEAT	100,000,000	
PRICE DIFFERENTIAL MILK	30,000,000	
TOTAL LOSSES	378,197,740	100

SOURCES: (I) CPFA. INFORMES DE LOS PROGRAMAS NACIONALES A COSALFA IX.

(II) PAGES, W.H. IMPORTANCIA DE LAS AREAS LIBRES DE FIEBRE AFTOSA PARA PAISES EXPORTADORES DE PRODUCTOS AGROPECUARIOS. SEMINARIO CENTRO PANAMERICANO DE FIEBRE AFTOSA, 1982.

TABLE 18

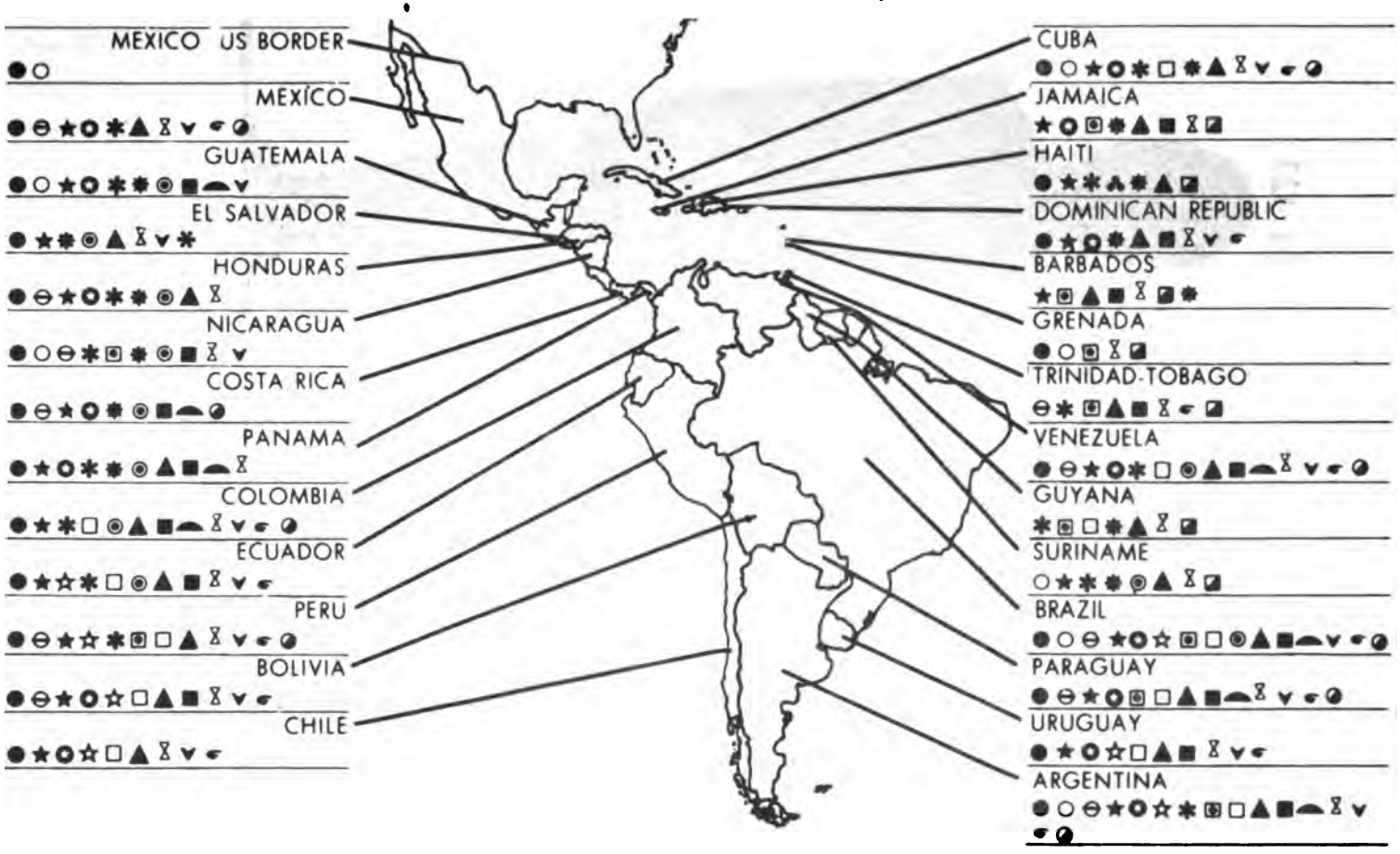
THE DISTRIBUTION OF ANIMAL DISEASE DIAGNOSTIC LABORATORIES IN LATIN AMERICA AND THE CARIBBEAN AREA AND THE TYPES OF AGENCIES RESPONSIBLE FOR THEIR ADMINISTRATION, 1978

Country	No. of Laboratories	No. of laboratories under different types of agencies							
		Agriculture Ministries		Autonomous Laboratories	Health Ministries	Universities	Private Organizations	Municipal Agencies	The armed Forces
		Operate at National Level	Operate at State Level						
ARGENTINA	11	12	7	7	-	3	-	1	1
BARBADOS	1	1	-	-	-	-	-	-	-
BOLIVIA	4	4	-	-	-	-	-	-	-
BRAZIL	29	11	10	-	-	-	-	-	-
CHILE	10	4	-	-	1	3	2	-	-
COLOMBIA	26	-	-	26	-	-	-	-	-
COSTA RICA	1	1	-	-	-	-	-	-	-
CUBA	10	3	6		1	-	-	-	-
DOMINICAN REPUBLIC	14	8	-	-	1	1	4	-	-
ECUADOR	8	3	1	-	2	2	-	-	-
EL SALVADOR	4	3	-	-	-	-	1	-	-
GRENADA	1	1	-	-	-	-	-	-	-
GUATEMALA	4	1	-	-	1	1	1	-	-
GUYANA	1	1	-	-	-	-	-	-	-
HAITI	-	-	-	-	-	-	-	-	-
HONDURAS	2	2	-	-	-	-	-	-	-
JAMAICA	1	1	-	-	-	-	-	-	-
MEXICO	62	62	-	-	-	-	-	-	-
NICARAGUA	1	1	-	-	-	-	-	-	-
PANAMA	10	10	-	-	-	-	-	-	-
PARAGUAY	6	2	-	-	1	1	2	-	-
PERU	13	3	-	-	2	7	1	-	-
SURINAME	1	1	-	-	-	-	-	-	-
TRINIDAD AND TOBAGO	1	1	-	-	-	-	-	-	-
URUGUAY	4	2	-	-	1	1	-	-	-
VENEZUELA	13	10	-	-	1	-	2	-	-
TOTAL	258	148	32	33	11	19	13	1	1
PER CENT	100	57.3	12.4	12.8	4.3	7.4	5.0	0.4	0.4

SOURCE: DIAGNOSTIC OF THE ANIMAL HEALTH SITUATION IN THE AMERICAS, VOL. 2. PAN AMERICAN HEALTH ORGANIZATION, 1978 (1)

TABLE XX

P.A.H.O. animal health and veterinary public health projects and activities in Latin America and the Caribbean, 1965-1979



Projects and/or activities :

- ● Urban rabies
- ○ Wildlife rabies
- ⊖ Paralytic rabies in cattle
- ★ Brucellosis
- ◉ Bovine tuberculosis
- ☆ Hydatidosis
- ✱ Equine encephalitides
- ■ Leptospirosis
- ♣ Anthrax
- □ Foot and mouth disease control
- ✹ Foot and mouth disease prevention
- ● Vesicular stomatitis
- ▲ Food protection training
- ■ Food protection programmes
- ⌓ Food protection laboratories
- ⧖ Diagnostic laboratories
- ▼ Vaccine production (Rabies, FMD, Bru)
- ☛ Veterinary education
- ◪ Animal health assistants training
- ◔ Laboratory animal medicine

Source : P.A.H.O. Bulletin, 1980, 14 (4), 356-375.

FIG. 1
INCREASE IN THE NUMBER OF VETERINARIANS
IN LATIN AMERICA AND THE CARIBBEAN, 1972-1982

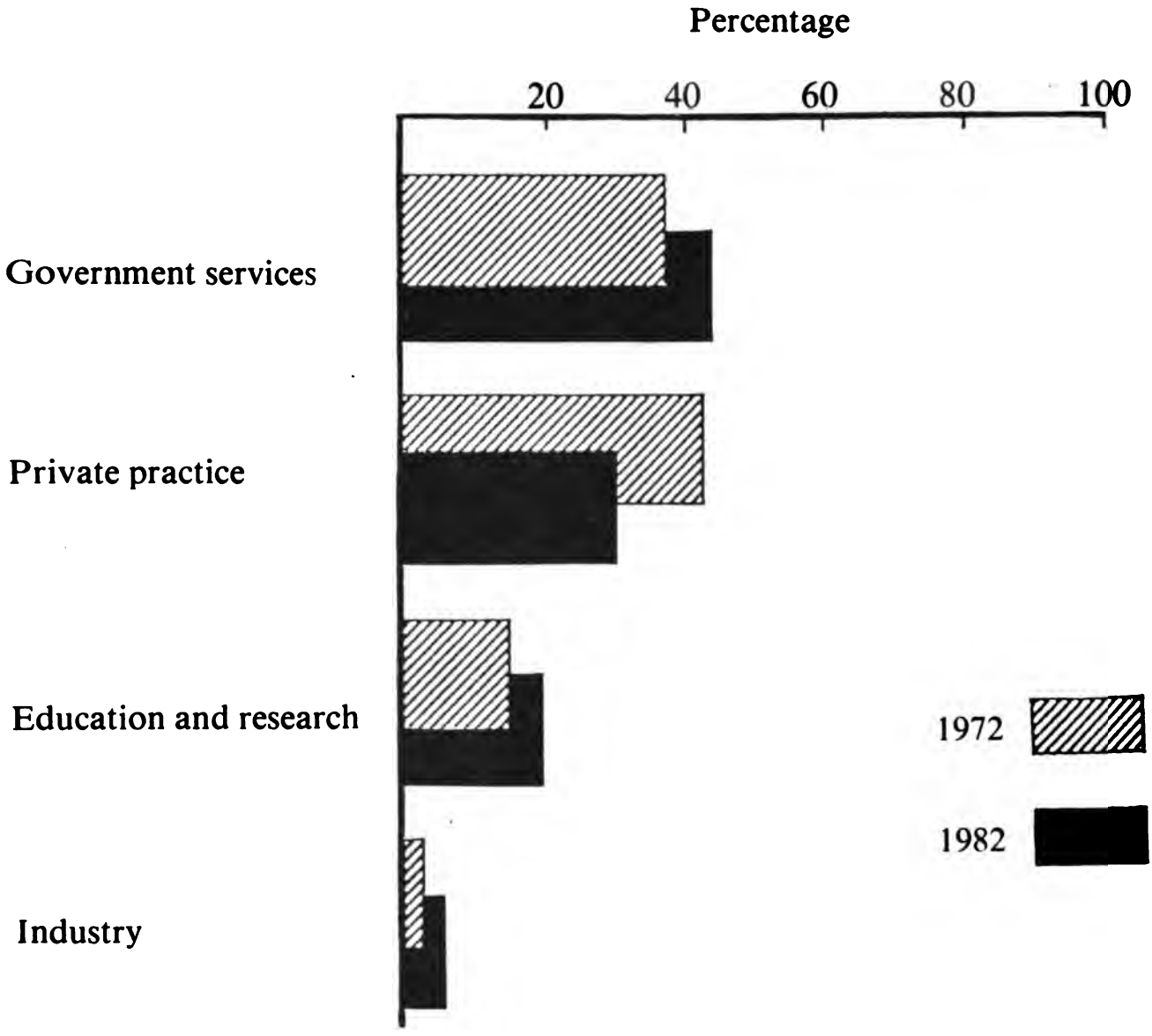


FIG. 2
PERCENTAGES OF VETERINARIANS IN LATIN AMERICA AND THE CARIBBEAN, ACCORDING TO THEIR OCCUPATION, 1972 AND 1982

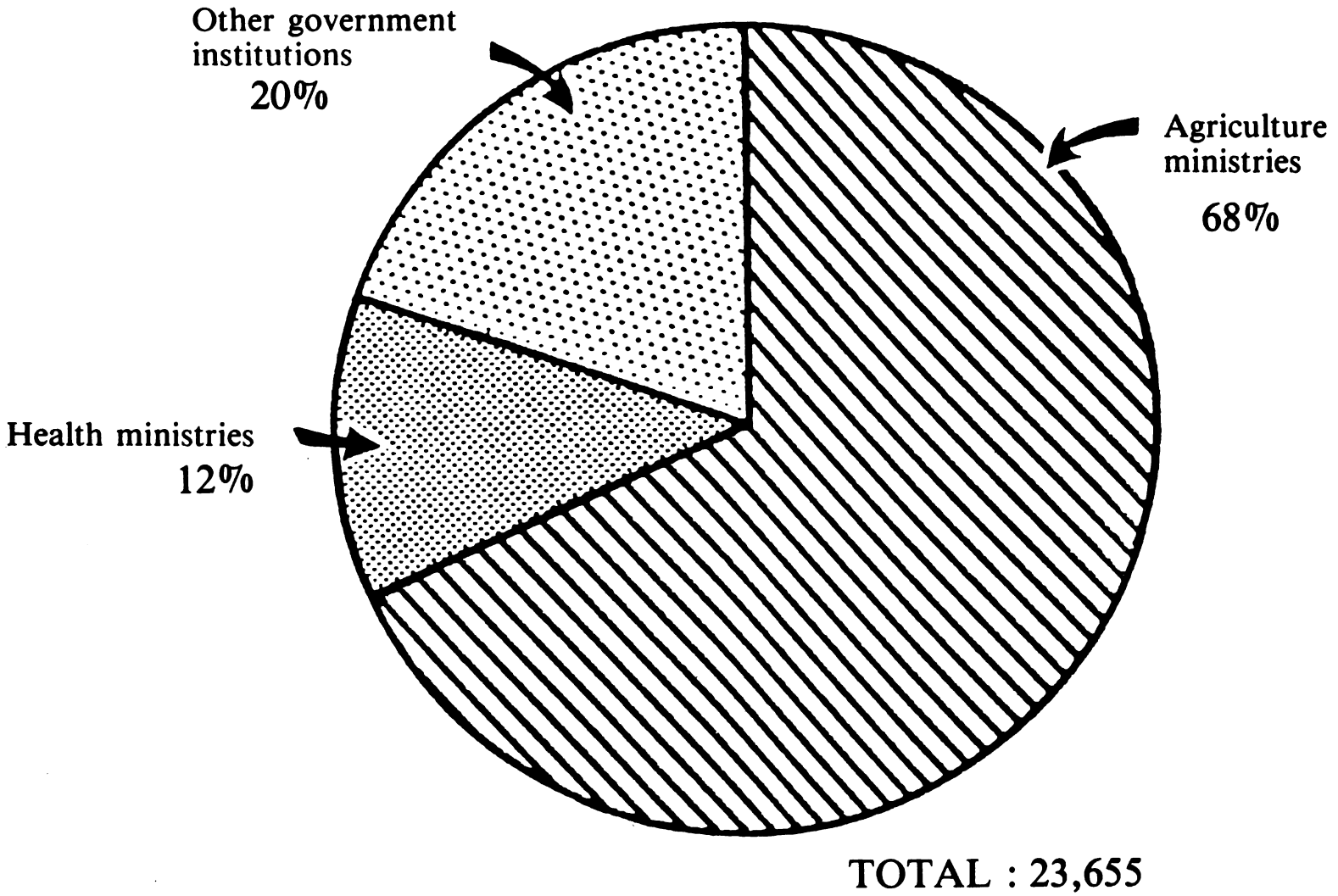


FIG. 3
PERCENTAGE OF VETERINARIANS IN LATIN AMERICA AND THE CARIBBEAN WORKING FOR GOVERNMENT SERVICES, 1982

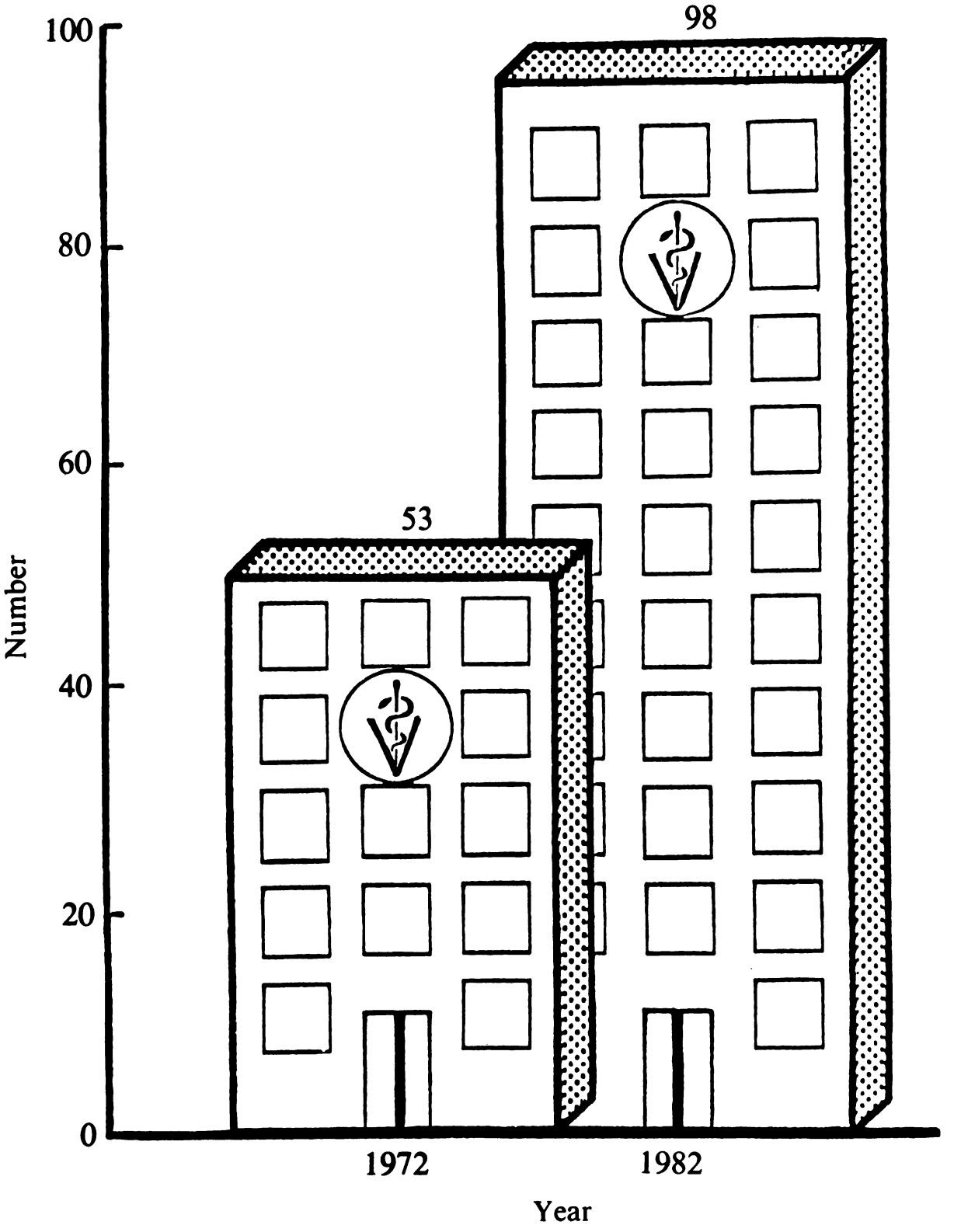


FIG. 5
NUMBER OF VETERINARY MEDICINE SCHOOLS
IN LATIN AMERICA AND THE CARIBBEAN, 1972-1982

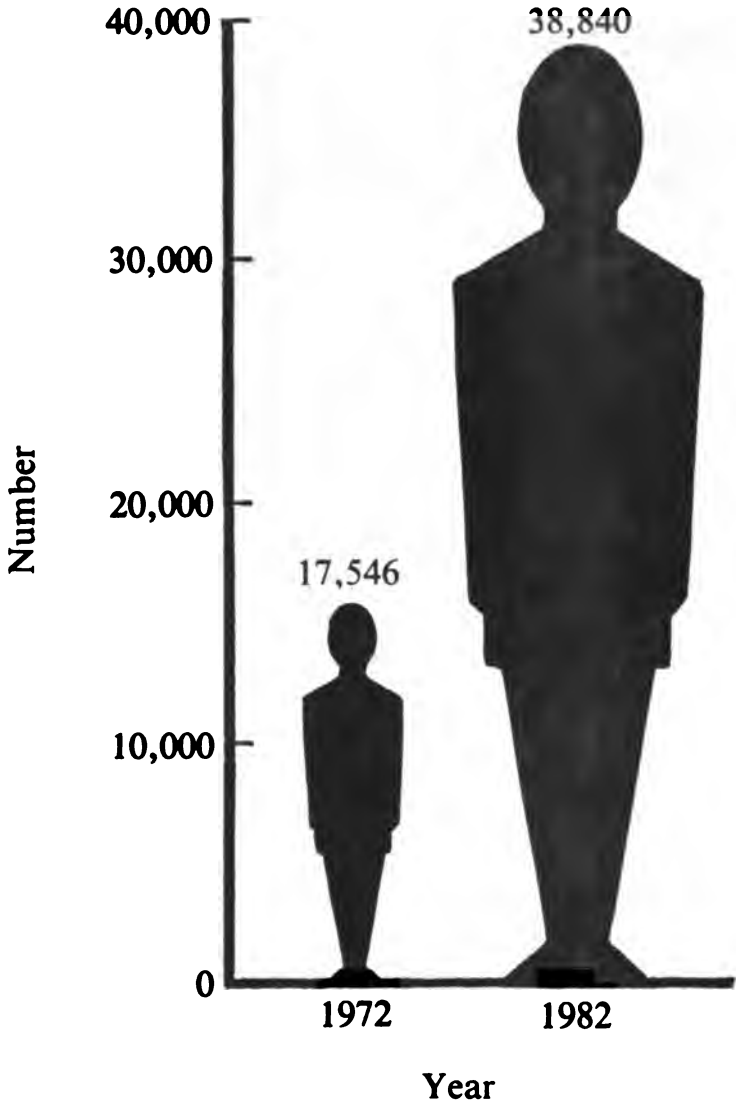


FIG. 4*a*
VETERINARY MEDICINE STUDENTS
IN LATIN AMERICA AND THE CARIBBEAN,
1972-1982

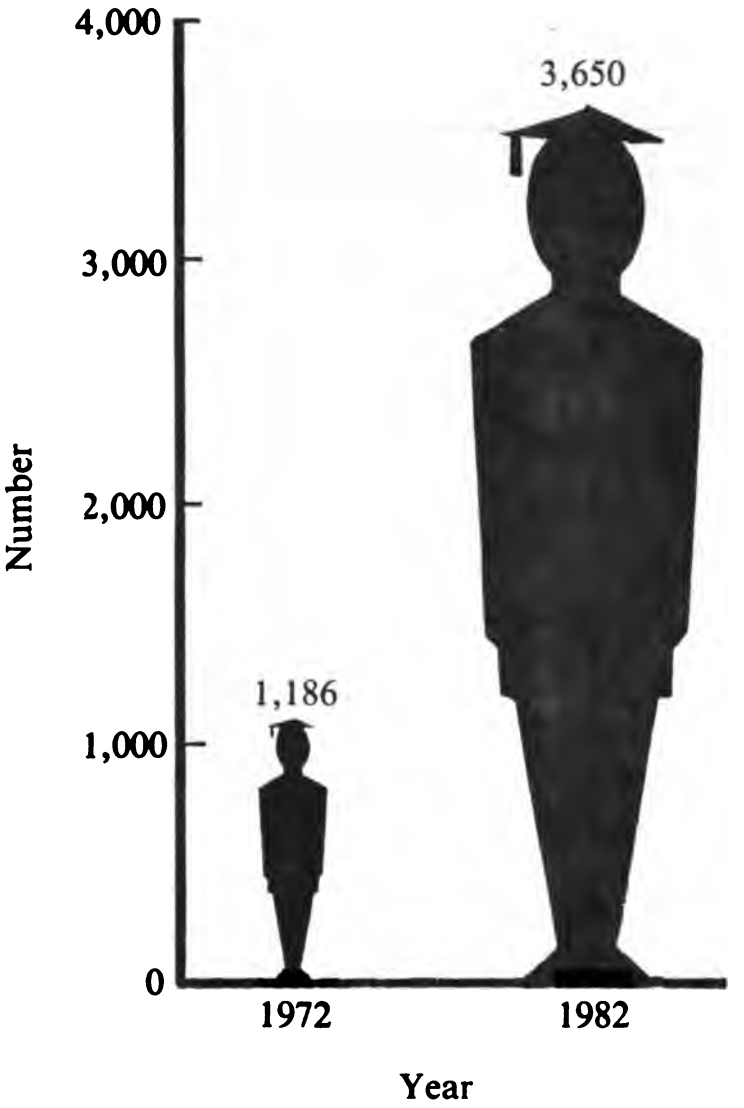


FIG. 4*b*
GRADUATING STUDENTS PER YEAR
IN VETERINARY MEDICINE SCHOOLS
OF LATIN AMERICA AND THE CARIBBEAN,
1972-1982

Section III

PUBLIC INTERNATIONAL ORGANIZATIONS, LATIN AMERICA AND THE CARIBBEAN*

A. The United Nations System

The following organizations and specialized agencies of the United Nations provide direct services to or for Latin American and Caribbean countries.

UNCTAD United Nations Conference on Trade and Development.
UNICEF United Nations International Children's Fund.
UNHCR United Nations Court of Human Rights.
UNITAR United Nations Institute for Training and Research.
UNDP United Nations Development Program.
UNIDO United Nations Industrial Development Organization.
UNEPA United Nations Environmental Protection Agencies.
UNU United Nations University.
WFC World Food Council.

The following organizations are specialized agencies and autonomous organizations within the UN system which also give direct services to or provide for Latin American and Caribbean countries:

IAEA International Atomic Energy Agency.
GATT General Agreement on Tariffs and Trade.
ILO Internatinal Labor Office.
FAO Food and Agriculture Organization.
UNESCO United Nations Education, Science and Culture Organization.
WHO World Health Organization.
IDA International Development Association.
IBRD World Bank.
IFC International Finance Corporation.
IMF International Monetary Fund.
ICAO International Civil Aviation Organization.
ITU International Telecommunications Union.
WMO World Meteorological Organization.
IMCO Inter-Governmental Maritime Consultative Organization.
WIPO World Intellectual Property Organization.
UPU Universal Postal Union.

United Nations bodies exclusively working in and for Latin America and the Caribbean:

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* Adapted from a working document presented at the Meridian House, International Govenance in the Western Hemisphere Project, October 27, 1981.

CEPAL (ECLA) Economic Commission for Latin America.
ILPES Latin American Institute for Economic and Social Planning.

Other Public Sector World-wide Organizations which operate in Latin America and the Caribbean:

WTO World Tourism Organization.
ICM Inter-Governmental Commission on Migration.
IPC International Center for Agricultural Research on the Potato.
CIDIAT International Center for Tropical Agriculture.
CIMMYT International Maize and Wheat Improvement Center.

B. Organization of American States

Specialized Organizations:

Inter-American Commission on Human Rights (IAHRC).
Inter-American Economic and Social Council (CIES).
Inter-American Council on Education, Science and Culture (CIECC).
Inter-American Defense Board (IADB).
Inter-American Commission of Women (CIM).
Inter-American Indian Institute (IIAI).
Inter-American Institute for Cooperation on Agriculture (IICA).
Inter-American Children's Institute (IACI).
Pan-American Institute of Geography and History (PAIGH).
Pan-American Health Organization (PAHO).

Other Mechanisms:

Inter-American Statistical Institute (IASI).
Inter-American Statistical Conference (IASC).
Inter-American Nuclear Energy Commission (IANEC).
Inter-American Conference on Social Security (CISS).
Pan-American Railway Congress Association (ACPF).
Inter-American Telecommunications Conference (CITEL).
Pan-American Highway Congress (COPACA).
Inter-American Travel Congress (ITC).
Committee for Consultation and Negotiation on Trade (CECON).
Inter-American Conference of Labor Ministers.
Inter-American Ports and Harbor Conference (CPI).
Inter-American Research and Documentation Center (CINTERFOR).

Interamerican Development Bank (IDB).
Interamerican Court of Human Rights (IACHR).

C. Sub-Regional Organizations

Andean Region:

JUNAC Commission of the Cartagena Agreement.
FAR Andean Reserve Fund.
CAF Andean Development Corporation.

Amazon Region:

Amazon Pact (no formal structure yet defined, only periodic meetings of signatories).

Caribbean Region:

CARICOM Caribbean Community.
CDB Caribbean Development Bank.
ECCA East Caribbean Currency Authority.
CFNI Caribbean Food and Nutrition Institute.

Central American Region:

ODECA Organization of Central American States.
SIECA General Treaty on Central American Economic Integrity.
CABEI Central American Bank for Economic Integration.
CMCA Central American Monetary Council.
INCAP Institute of Nutrition of Central America and Panama.
ICAP Central American Institution of Public Administration.
ICAITI Central American Research Institute for Industry.
COCAAP Central American Commission of Port Authority.
COCENSA Central American Air Safety Service Corporation.
FUPAC Federation of Private Universities of Central America.
CATIE Tropical Agriculture Research and Training Center.
CSUCA Supreme Council of Central American Universities.
OIRSA Regional International Organization of Plant Protection and Animal Health in Central America, Mexico and Panama.

Rio de la Plata Region:

FONPLATA Fondo Financiero para el Desarrollo de la Cuenca del Plata.

Inter-American Organizations:

CEMLA Center for Latin American Monetary Studies.
COTAL Latin American Confederation of Tourist Organizations.
ALIDE Latin American Association of Development Financing Institutions.
ALADI Latin American Association for Integration.
SELA Latin American Economic System.
OLADE Latin American Energy Organization.
BLADEX Banco Latinoamericano de Exportaciones.
ALAP Latin American Railways Association.

D. Principal international (world-wide and regional) and subregional organizations active in fields directly or indirectly related to animal health and production

Trade

UNCTAD and the UN itself have been the forums for major North-South debates on end search for a New International Economic Order.

SELA is the principal vehicle for preparing common Latin American - Caribbean positions on trade and development for the North-South debates.

CECON (OAS) is the only Inter-American forum for discussion of U.S. trade practices as they affect Latin America and the Caribbean.

CEPAL provides Latin American and Caribbean countries with planning and macro-economic advice on trade, while the OAS/CIES provides micro-level technical assistance for helping countries to increase trade.

BLADEX finances non-traditional exports while IDB and IBRD make loans for investments required to develop export industries.

The subregional groups (SIECA, JUNAC, CARICOM, ALADI) stimulate planning for economic growth and export development for their respective member states.

Science and Technology

The UNESCO and OAS/CIECC are the major sources of technical assistance in this area while SELA and CEPAL are primary sources of policy guidance for member countries in promoting science and technology.

Subregional bodies such as ICAITI, and INCAP (and there are many more) are being strengthened as subregional centers for promoting and adapting science and technology to the development needs of specific subregions.

IDB and IBRD provide loan funds for national projects.

Agriculture and Rural-Development

UNDP, FAO, IICA and OAS/CIES are the primary sources of technical assistance for countries. The International Agricultural Research Programs (IPC, CIAT, CIMMYT) provide a supporting network on production. The IBRD and IDB together with the subregional banks (CDB, CABIE, CAF) provide capital inputs for the section. Policy guidance comes from SELA, CEPAL, JUNAC, CARICOM, SIECA. Subregional specialized expertise for selected geographic and ecological areas is being developed at institutions such as CATIE, CFNI and OIRSA. PAHO has an active program in animal health.

Transportation and Communication

Policy guidance is developed through the ITU, ICAO, CITEL, CEPAL, CPI and COPACA. Financing of infrastructure is primarily through the IDB and IBRD and subregional banks (CABEI, CDB, CAF, FONPLATA). Technical regional and sub-regional assistance is provided through the UNDP, CITEL, CPI, COPACA and ICAO.

Health

WHO is the central policy and assistance agency for this field; PAHO serves as its office for the western hemisphere. UNICEF provides aid in funding programs for children. IDB, IBRD and subregional banks (CDB, CABEI and CAF) provide loan funds for specific projects.

Sub-regional groups like JUNAC and CARICOM provide specialized assistance in selected technical areas, usually having close ties to WHO/PAHO.

Industrial Policy

The primary advisers to Latin American and the Caribbean government in this area are CEPAL, UNIDO, SELA and OAS/CIES. The subregional bodies (CARICOM, SIECA, JUNAC) play a major role with their member countries in the design of policies and programs for industrial development. The IBRD, IDB, IDA and IFC are the major funding agencies of industrial projects, with CABEI, CDB and CAF playing a significant financial role at the sub-regional level.

Education

UNESCO and OAS/CIECC are the two primary international organizations operating in this field. Specialized education is provided by the others listed. IBRD and IDB are the major funding agencies in this area with sub-regional financial institutions (CDP, CAF and CABEI) also providing loans for national and sub-regional projects.

Environment

UNDP, UNEP, OAS/CIES and OAS/CIECC are the primary sources of technical assistance. IBRD and IDB provide loans for national projects.

E. Technical Assistance

One of the major functions of the organizations listed on the preceding pages is to provide technical assistance in the field of their respective competence. Therefore, all are sources of such assistance. However, the most important on a hemisphere-wide basis are:

The United Nations System. Each specialized agency, organ and associated organization has some funds in its separate budget for technical assistance. Yet, the major source of funding is the United Nations Development Programme (UNDP), whose 1977-1981 5 Year Program budgeted $594.4 million for Latin America and the Caribbean. This represents about 16% of its world-wide budget for this 1977-1981 period; 16% of $3,681.4 million.

The World Bank (IBRD). It loaned $10,544.0 million to Latin American and Caribbean member countries from 1961-1980, about 50% of which went to Argentina, Brazil, Mexico and Venezuela. Many of these loans contained technical assistance components.

The Inter-American System. Technical assistance is provided primarily through the Economic and Social Council (OAS/CIES), whose 1980-1981 Program-Budget was $40.11 million, and the Inter-American Council for Education, Science and Culture (OAS/CIECC), whose 1980-1981 Program-Budget was $44.3 million.

The Inter-American Development Bank (IDB). In 1980, it loaned $2,309 million. Many loans had a technical assistance component. In 1980, the IDB also made grants of $32 million for technical assistance.

The Pan American Health Organization (PAHO/WHO), whose 1982/83 biennial Program-Budget was $181.9 million.

The Inter-American Institute for Cooperation on Agriculture (IICA). Its' 1982/83 biennial Program-Budget was $82.6 million.

The Economic System for Latin America (SELA). One of its primary functions is to provide policy assistance to member countries in the analysis and solution of critical handicaps to development. (No information on its budget has been found).

The Latin American Association for Integration (ALADI), which is the evolving organization from the reform of the Latin American Free Trade Association (LAFTA), gives priority to technical assistance for horizontal cooperation among member states. The treaty reforming LAFTA and establishing ALADI is now being ratified by the member states.

F. International Agencies Related to the Agriculture Sector.

OIRSA - Regional International Organization of Plant Protection and Animal Health.

Objectives: To recommend and coordinate among member countries improved methods of investigation, prevention and control of plant and animal diseases and of epidemic having international implications.

Finance: Ordinary quota per member country is $30,000 per annum; extraordinary quota per member country includes $15,000 for protection against foot-and-mouth disease and other exotic diseases.

CATIE - Tropical Agriculture Research and Training Center

Objectives: To carry out, promote and stimulate research and training in agriculture, forestry and animal husbandry to benefit the American tropics, particularly Costa Rica and other Central American countries.

Finance: From grants from national governments and other sources. Budget 1974-75: £1,264,069.

UNDP - United Nations Development Programme.

Objectives: To collaborate with the United Nations in serving over 150 developing countries in every sector of the development effort.

Finance: 1977-1981 budget cycle allocated $594.4 for Latin America and the Caribbean.

CDB - Caribbean Development Bank.

Objectives: To contribute to the harmonious economic growth and development of member countries in the Caribbean, to promote economic cooperation and integration among members, with specific attention to the lesser developed countries of the region.

Finance: Authorized ordinary capital: $233.5 million, of which $66.6 million has been paid and $166.9 million is callable. IMF* authorized capital: $233.5 million.
Also many loans, grants and other financial assistance is available from US AID, the World Bank, and IDA.

CEPAL - Comisión Económica para Latinoamerica.

Objectives: Economic development, including agricultural, industrial, international trade, other development in the areas of politics, natural resources and energy, population studies, science and technology, transportation, and social and human development.

Finance: 1980-81 budget: $5,516,000.

IPC - International Potato Center.

Objectives: Contribute to the development of research to improve the nutritional quality and production of the potato for the tropics and sub-tropics.

Finance: Donations, legacies, inheritances and other contributions. Budget 1980: $2,594,000.

WFC - World Food Council.

Objectives: Coordinating body which reports to the General Assembly of the UN through ECOSOC on policies concerning production, nutrition, food security, trade in food and food aid.

CFNI - Caribbean Food and Nutrition Institute.

Objectives: To work with and augment existing national and international efforts in the area toward the betterment of the food and nutritional situation. The three main functions are training, technical services, and information and field investigations; to disseminate ideas and information.

Finance: Include in the PAHO/WHO regular budget; also grants from UNICEF, Commonwealth Caribbean governments and the Ford Foundation.

IDB - Inter-American Development Bank.

Objectives: Contribute to the acceleration of the process of economic development of member states; grant or guarantee loans without requiring a guarantee of the government concerned; provide technical assistance and advice in various field of activity.

* IMF = International Monetary Fund.

Finance: Contributions from all member countries. Ordinary capital: £5,964,957,000 of which £893,037,000 is paid in, and the remainder is callable.

FAO - Food and Agriculture Organization of the United Nations.

Objectives: To increase the levels of nutrition and standards of living of peoples under respective jurisdiction of member governments to secure improvements in efforts of production of food and agricultural products.

Finance: Contributions from member nations for implementation of regular work programs based on per capita income. Budget 1976-77: £167 million.

IICA - Inter-American Institute for Cooperation on Agriculture.

Objectives: To promote economic and social development through graduate teaching, research, technical assistance, consultation services and communications in the fields of agriculture and rural life; to improve the welfare of rural populations through technical assistance to national institutions.

Finance: Quotas of contracting states, based on a system used by the General Secretariat of the OAS; specific contracts and grants, supplemented by commercial operations. 1981 Budget: $35.0 million.

JUNAC - Commission of the Cartagena Agreement.

Objectives: Achieve balanced and coordinated development of member countries by means of economic integration; work to establish favorable conditions for the development of a Latin American Free Trade Association (LAFTA) common market; work for the continual rise in the standard of living of inhabitants of the region.

CARICOM - Caribbean Community.

Objectives: Provide for the establishment of common external tariffs and a common protectionist policy for trade with outside countries; adopt a scheme for harmonization of fiscal incentives to industry and of double taxation arrangements; coordinate economic policies and development planning; set up a special regime for the less developed countries of the community.

Finance: From government contributions.

CIAT - International Center for Tropical Agriculture.

Objectives: To assist countries of tropical Latin America to increase the quantity and quality of food for their rural and urban people; to increase general living conditions of rural people through the development of international agricultural research and to develop networks designed to strengthen national research and production systems.

Finance: Budget 1981: $17,488,000

SELA - Latin American Economic System.

Objectives: Provide a forum for all Latin American countries; reinforce regional industrial cooperation; foster Latin American multinational companies.

SIECA - General Treaty of Central American Economic Integration.

Objectives: Promote the integration of the Central American economy and coordinate the economic policies of contracting states; initiate efforts to develop a Central American common market.

CIMMYT - International Maize and Wheat Improvement Center.

Objectives: To develop and disseminate superior germ-plasm for improved and stable yields and higher nutritional quality of wheat and maize.

Finance: budget 1980: $16,249,000

OAS/CIES - Economic and Social Council, OAS.

Objectives: To provide an Inter-American forum for analyzing critical development problems; to offer technical assistance to member states in trade, development financing, social development, energy and tourism;and to provide training at Inter-American centers of trade, taxation, statistics, public administration, tourism, regional planning; water resources management.

Finance: Budget for 1980 was $19.8 million and for 1981, $20.3 million.

IBRD - World Bank.

Objectives: to promote the economic development of member countries by making loans to governments, or with a government guarantee, at conventional rates of interest for high priority productive projects in cases where capital is not available from other sources at reasonable terms; to

provide member countries with technical assistance on matters relating to their economic development; to increase the effects of the international development effort by fostering cooperation with and among other donors of financial and technical assistance.

Finance: Voting power is proportionate to capital subscriptions. Budget, 30 June 1972: Authorized Capital £27,000 million. Debt: £6,937 million. Reserves: £1,546 million. Fiscal year 1972 earnings: £183 million.

CAF - Andean Development Corporation.

Objectives: To assist in correcting payment imbalances through short-term loans and guarantees extended to members to coordinate their monetary exchange and financial policies and to promote liberalization of trade and payments in the Andean subregion.

Finance: Authorized capital: $240 million, $30 million from Bolivia and Ecuador and $60 million each from Colombia, Peru and Venezuela.

CABEI - Central American Bank for Economic Integration.

Objectives: Promote economic integrity of member states and balanced economic development between countries; finance projects which will further these aims and develop trade in a Central American common market.

Finance: Capital £60 million.

G. Other International Agricultural Research Programs

The International Rice Research Institute (IRRI), Manila, Philippines.
The International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), India.
The International Institute of Tropical Agriculture (IITA), Nigeria.
The International Center for Agriculture Research in Dry Areas (ICARDA), Lebanon, Syria.
The International Livestock Center for Africa (ILCA), Ethiopia.
The International Laboratory for Research on Animal Diseases (ILRAD), Nairobi Kenya.
The International Board for Plant Genetic Resources (IBPGR), FAO, Rome.
The West Africa Rice Development Association (WARDA), Liberia.
The International Service for National Agricultural Research (ISNAR), Netherlands.
The International Food Policy Research Institute (IFPRI), Washington,DC

Section IV

The Evolution and the Missions of International Agencies Functioning in Latin America in the Field of Animal Health

There are four essential multinational agencies with programs in Animal Health in Latin America.

A. Pan-American Health Organization (PAHO).
B. Organismo Internacional Regional de Sanidad Agropecuaria (OIRSA).
C. Food and Agriculture Organization of the United Nations (FAO).
D. Inter-American Institute for Cooperation on Agriculture (IICA).

A. The Pan-American Health Organization *

The Pan-American Health Organization (PAHO) has been cooperating with its member states since 1949 in the planning, development, implementation and evaluation of veterinary public health and animal health programs. The PAHO Special Animal Health Program provides cooperation through regional, area and national advisers, and through the laboratories and scientific personnel of the Pan-American Foot-and-Mouth Disease Center (PANAFTOSA) and the Pan-American Zoonoses Center (CEPANZO).

PANAFTOSA was established in 1951 under project 39 of the Technical Assistance Program of the Organization of American States (OAS). The OAS identified PAHO as the international organization that would establish its structure and directs its operations. From 1951 to 1967, PANAFTOSA appeared as a separate item in the PAHO budget financed by the OAS. In 1967, it became part of the regular PAHO budget.

CEPANZO began operations in Azul, in the province of Buenos Aires, Argentina in 1956, and since 1966, has been operating out of the Professor Alejandro Posadas National Hospital in Ramos Mejía. The Center will be transferred in mid-1983 to one of the buildings that the Argentine Government acquired from Squibb Laboratories. These new laboratories will enable CEPANZO to improve its support to the countries, and to expand its research work and its activities as the Regional Reference Center for the principal zoonoses.

PAHO's animal health and veterinary public health program and budget are examined at the Inter-American Meetings, at the Ministerial Level on Animal Health (RIMSA), which are convened by the Director of the Pan-American Sanitary Bureau pursuant to Resolution XIX (Official PAHO Document No. 82 (1968), 26-28) adopted by the PAHO Directing Council at its XVII Meeting. In 1983, these Inter-American Meetings, which have been convened every year since

* The text of this report on PAHO was provided through the courtesy of Dr. Mario V. Fernándes, Head, Special Programs of Animal Health, PAHO, Washington,DC

1963, will begin to be held every two years, pursuant to Resolution XXXI adopted by the PAHO Directing Council at its XXVIII Meeting (Official PAHO Document No. 180 (1982), 93-94).

Recommendations by RIMSA are submitted to the PAHO Directing Council for approval.

The objectives established over the years for the special Animal Health Program are to reduce the frequency of foot-and-mouth disease and of the major zoonoses found in the Americas; expand the areas declared free of those diseases; promote and strengthen animal health and veterinary public health services; strengthen the surveillance systems; improve diagnostic methods; help in establishing new laboratories; increase the production and supply of vaccines; develop new and effective immunizing agents; increase the number and technical capacity of the veterinary medical service personnel.

Since one of the main obstacles to improved animal health and veterinary public health services in the Americas and the Caribbean has been the shortage of skilled personnel at all levels, PAHO has been paying particular attention to training veterinarians and other experts responsible for activities related to the planning and execution of animal disease control programs, epidemiology and statistics, surveillance and information systems, diagnosis of animal diseases, care of laboratory animals, and food safeguards.

PAHO is currently conducting an animal health training program for Latin American (PROASA), with Inter-American Development Bank Funds. This extensive program, which has a budget of US$1.8 million, began in PANAFTOSA in May 1982, and will end at the beginning of 1985.

Using world-renowned consultants and committees of scientific experts, the PAHO Animal Health Program has been able to expand its sphere of activities, and keep abreast of scientific knowledge while it deals with the practical problems of the developing world. PAHO was also able to start some programs that are unique in Latin America, including programs in the field of veterinary education and personnel development, epidemiological control, vaccine production methods, food safeguards and laboratory animal medicine.

The main source of assistance that the PAHO Animal Health Program has been able to provide countries with animal health planning has been national programs with an adequate infrastructure for field work and laboratory services.

PAHO technical cooperation is financed out of its regular budget and through contributions from various national organizations, countries, and other international organizations.

During the course of the deliberations of the XXVI Meeting of the (PAHO) Directing Council, concern was expressed over the effect that inflation would have on the budget situation of the Pan-American Foot-and-Mouth Disease Center and the Pan-American Zoonoses Center (PANAFTOSA and CEPANZO), and its relationship to the levels of the technical cooperation programs and the health priorities. For that reason the Directing Council appoved a

supplementary budget of US$1.2 million for PANAFTOSA and CEPANZO for 1980, and in Resolution XXVII the Director was instructed to give top priority to conducting a comprehensive external evaluation of CEPANZO and PANAFTOSA. The Director therefore appointed a four-member external evaluation team to evaluate the activities and financing of the two Centers. The external evaluation team completed its work in April 1980, and its report was submitted to the XXVII Meeting of the Directing Council in September-October 1980.

In its report, the external evaluation team cited the international importance of the zoonoses and foot-and-mouth disease programs conducted by CEPANZO and PANAFTOSA, and pointed up the need to develop an appropriate mechanism to assure continuing financial commitments to their activities for a period of years. However, the request by the Director of the PASB for supplementary budget for these Centers was rejected by the XXVII Directing Council (Official PAHO Document No. 180, 25-26).

PAHO prepared a document entitled "Proposal for a five-year program for the control and eradication of zoonoses and foot-and-mouth disease in Latin America and the Caribbean", on the basis of the external evaluation team's recommendations. It was intended to provide a basis for attracting funding for technical cooperation activities in Latin America in the fields of animal health and veterinary public health that would be more dependable and stable over the long term. This proposal was approved by RIMSA II, held in Washington, D.C. in March 1981, and by the XXVIII Directing Council, which met in September-October of the same year (Official PAHO Document No. 180).

At the thirteenth plenary session of the XX Pan-American Sanitary Conference held in St. George's, Grenada, a resolution was adopted on October 3, 1978 (Official PAHO Document No. 162, 25) in which the Director was requested to examine, in consultation with competent agencies in whatever field may be necessary, the possibility of transferring the responsibility for the Pan-American Foot-and-Mouth Disease Center, now in the hands of PAHO, to some international agency with closer links to agriculture, taking care to ensure that the transfer would be effected without detriment to the valuable work it has been doing thus far.

One international agency of the United Nations family that operates in Latin America and that has the same salary structure, benefits program and tax policies as PAHO/WHO is FAO, which serves the interests of agriculture. However, in 1950, when PANAFTOSA was conceived, and again in 1967, when OAS financial support ceased, FAO declined the invitation to take on responsibility for its operations. IICA has a similar salary structure, but different benefits and tax policies. These issues must be taken into consideration if the possible transfer of staff who have accumulated a series of benefits over the years is contemplated.

One year later, at the fourteenth plenary session, the XXVI PAHO Directing Council adopted a resolution (Resolution XXVI) presented by the Directing Council in favor of maintaining the Pan-American Foot-and-Mouth Disease Center as a regular PAHO program (Official PAHO Document No. 167). The resolution instructed the Director to bear this favorable opinion in mind during the study in reference, and to mention it in his report to the next Pan-American Sanitary Conference.

Likewise, at the XII Inter-American Meeting, at the Ministerial level, on the Control of Foot-and-Mouth Disease and Other Zoonoses, held in April 1979, the Ministers of Agriculture or their representatives adopted Resolution III recommending that the Pan-American Foot-and-Mouth Disease Center continue to operate as a regular program of the Organization.

As of the date of writing, IICA is the only agency that has shown interest, both in writing to the Director, and verbally to the governing bodies, in the transfer of PANAFTOSA. However, IICA has indicated that the funds of the governments that finance the Center should also be transferred to IICA. As has already been indicated, there are a number of administrative questions that need to be examined with care before proceeding with any transfer, so that the Center's future and its valuable work can be protected.

Program

The PAHO Animal Health and Veterinary Public Health Program is an integral part of the Plan of Action to carry out the regional strategies to achieve the goal of health for all by the year 2000 (Official PAHO Document No. 179).

Its objectives include a reduction in human morbidity caused by zoonoses; a contribution to improving human nutrition by increasing the availability of proteins of animal origin, and a reduction in the socio-economic losses caused by the principal zoonoses and by foot-and-mouth disease.

The main strategies for achieving these goals include strengthening inter-sectoral cooperation, particularly between agriculture and health, in the campaign against zoonoses; establishment of more effective inter-country cooperation mechanisms; community participating in solving problems related to veterinary public health and animal health, and the application of appropriate technology.

The areas for action, approved by Resolution XI of the XXVIII PAHO Directing Council in September 1981 (Official PAHO Document No. 180) are:

A. Zoonoses Control and Eradication.
   1. Evaluation of the problems of zoonoses, and determination of priorities based on socio-economic analysis methods.
   2. Control and eradication of the principal zoonoses, particularly rabies, brucellosis, tuberculosis, hydatidosis, leptospirosis, food-transmitted zoonoses, and equine encephalitis.
   3. Control of stray dogs, and a campaign against rodents and other wild animals which live in close association with humans.

B. Promotion of and cooperation in the control, eradication and prevention of foot-and-mouth disease and other economically important animal diseases.
   1. Expansion of the control programs, and mass administration of vaccines, such as oil-adjuvant vaccines, against FMD.
   2. Transfer of the technology for the production and control of vaccines, such as the oil-adjuvant FMD vaccine.

3. Enactment of sanitary regulations for the international trade of animals, animal products and by-products.
4. Strengthening the measures to prevent the introduction of exotic animal diseases.
5. Development of plans for nationwide and inter-country emergency action to contain and eradicate exotic animal diseases.

C. Institutional strengthening of veterinary public health programs.
1. Cooperation in the evaluation of the national veterinary public health and animal health infrastructure, and determination of the institutions' priority needs.
2. Strengthening of the veterinary public health functions of the Ministries of Health.

D. Strengthening the means of laboratory support and diagnosis.
1. Evaluation of the laboratories available for veterinary public health and animal health programs, and identification of their principal needs.
2. Integration of the animal health laboratories into primary health care services in rural areas where laboratories for the diagnosis of diseases in humans are not available.
3. Strengthening and development of the laboratory means for the diagnosis of rabies, tuberculosis, brucellosis, hydatidosis, leptospirosis, and other viral, bacterial and parasitic zoonoses.
4. Improvement and expansion of the laboratory means for the preparation and assessment of vaccines and other biologicals related to foot-and-mouth disease and zoonoses.
5. Raising and assuring their adequate distribution of non-human primates and other laboratory animals for medical research.
6. Establishment of guidelines on appropriate use of laboratory animals.

E. Human resources development.
1. Strengthening the teaching of veterinary public health and animal health in veterinary, medical and public health schools.
2. Training veterinarians in the management of epidemiological control or prevention programs, quarantine procedures and communication of zoonoses and foot-and-mouth disease.
3. Training of auxiliary personnel.

PAHO has 42 projects under way, thirty of which are national projects (17 financed out of the regular budget, and 13 by contractual grants), and 12 regional or subregional projects (7 financed out of the regular budget funds, and 5 through contractual grants).

In the Latin American and Caribbean area, the major diseases threatening animal health, the economic well-being, and public health of the nations are rabies, brucellosis, bovine tuberculosis, hydatidosis, equine encephalitis, leptospirosis, anthrax, foot-and-mouth disease and vesicular stomatitis. The PAHO program has been dealing with all of these. The PAHO projects have also dealt with the safeguarding of foodstuffs against food-contaminating organisms such as those causing salmonellosis, staphylococcal food poisoning and botulism. The principal diseases were examined in detail during the XXVIII Meeting of PAHO. Special programs were analyzed in PAHO report No. 177.

Budget

A table relating to the Special Animal Health Program in Annex 5 of Official PAHO Document No. 169 shows that the regular funds budgeted by PAHO/WHO for the 1980-1981 biennium totalled US$11,699,200 (including the supplementary amount of US$1,200,000 approved for 1980 by the XXVI Directing Council); with US$11,274,300 for the 1982-83 biennium, and US$13,051,600 for 1984-85.

Since this document was prepared at the beginning of 1981 so that it could be submitted to the Executive Committee in advance of its meeting in June of that year, as required by PAHO regulations, it does not contain all the extrabudgetary contributions (grants and contractual agreements) made during the 1980-81 biennium. And inasmuch as most of these contributions are not included in the 1982-83 or 1984-85 bienniums, it is impossible to do a comparative analysis of the total budgets for those periods, taking the figures given in the abovementioned table as the basis.

Table No. 19 shows, in a breakdown of the origin of funds, the actual total of the 1980-81 budget (US$26,471,266), and the estimated total for 1982-83 (US$24,307,314), not considering the extrabudgetary contributions for 1983 for projects budgeted by their donors on an annual basis (even though there are commitments extending to the end of 1985). For the 1984-85 biennium, the total shown (US$20,393,515) does not include any extrabudgetary funds, except for the Argentine Government's contribution for operation of the Pan-American Zoonoses Center.

An analysis of the current budgetary situation as compared with previous years, and of the budget projections for the PAHO Special Animal Health Program would require a separate analysis of the regular funds and of the funds coming from grants and contractual agreements.

Table No. 20 shows the totals of the regular funds for 1980-81, 1982-83 and 1984-85, and the annual grant contractual agreement funds from 1978 through 1982. Analysis of these funds shows that there was a 7.6% increase in 1982-83 in the regular funds over 1980-81, and that funds for 1984-85 are estimated to increase by 15.7% in relation to 1982-83.

The fund from grants and contractual agreements rose 23% in 1979 over the 1978 level, and in 1980, 1981 and 1982 increased by 30%, 37% and 12% respectively over the preceding year.

TABLE 19

BUDGET FOR THE SPECIAL ANIMAL HEALTH PROGRAM (U.S. $)

BREAKDOWN OF FUNDS	1980 - 1981	1982 - 1983	1983 - 1984
Regular PAHO Budget	$10,466,400*	$10,102,800	$11,656,900
Contractual Subsidies and Agreements	13,379,190	12,185,891**	7,316,915***
Assistance Cost Program	48,164	-	-
Special Fund for Animal Health Research	124,741	66,225	-
Regular WHO Contribution	1,208,900	1,171,500	1,394,700
United Nations Development Programme	1,243,871	782,898	26,000
TOTAL	$26,471,266	$24,309,314	$20,393,515

* Includes the supplementary amount of US$1,200,000 approved by the XXVI Directing Council in 1980.

** This total does not include the 1983 extrabudgetary funds for projects financed on an annual basis by the respective donors, even though commitments have been made up to the end of 1985.

*** This figure represents only the Argentine Government's subsidy for CEPANZO for 1984-1985. It does not include any other budgetary funds.

TABLE 20

REGULAR PAHO/WHO OPERATING FUNDS FOR ANIMAL HEALTH

1980-1981	1982-1983	Increase (%)	1984-1985	Increase (%)
10,475,300 *	11,274,300	7.6	13,051,415	15.7

* Does not include the supplementary amount of US$1,200,000 approved by the XXVI Directing Council in 1980.

CONTRACTUAL SUBSIDIES AND AGREEMENTS FOR THE PAHO ANIMAL HEALTH PROGRAM

1978	1979	(%) Increase	1980	(%) Increase	1981	(%) Increase	1982	(%) Increase
3,541,599	4,340,680	23	5,642,207	30	7,736,983	37	8,688,146	12

The PANAFTOSA and CEPANZO budgets represent 76 percent of the regular funds of the Special Animal Health Program for the 1980-81, and 1982-83 and 1984-85 biennniums, as shown in Table III. In the 1980-81 biennium, this represented 58 per cent of the total budgets for the Centers and the Program (US$15,298,386 and US$26,570,958 respectively); for the 1982-83 biennium, it was 61 per cent (US$14,941,045 and US$24,309,314 respectively), not including in the total Program budget the extrabudgetary funds for 1983 for projects funded by the donors on an annual basis.

TABLE 21

REGULAR BUDGETS FOR PANAFTOSA AND CEPANZO AS A PERCENTAGE OF THE REGULAR BUDGET OF THE SPECIAL ANIMAL HEALTH PROGRAM

Year	Total Regular Budgets for PANAFTOSA & CEPANZO	Total Regular Budgets for the Special Animal Health Program	%
1980-81	$8,917,600 *	$11,675,300 *	76
1982-83	8,540,500	11,274,300	76
1984-85	9,913,900	13,051,600	76

* Includes the supplementary amount of US$1,200,000 approved by the XXVI Directing Council in 1980.

Human Resources

The PAHO Special Animal Health Program currently employs a total of 65 international professionals, 52 of whom are veterinarians, 12 are microbiologists, biochemists and administrators, and one is a physician. The Program also has 197 general services personnel and 87 staff members financed by special grants from certain Governments.

The Program employs about one hundred short-term consultants per year in its technical cooperation activities in the countries.

The Pan-American Zoonoses Center has experienced a reduction in the number of its professional staff in recent years, going from 31 in 1972 to 12 in 1982. The reasons were the end of the special contribution to CEPANZO from the United Nations Development Programme (UNDP), and the problems of inflation in Argentina, combines with a progressive devaluation of the Argentine peso in relation to the U.S. dollar. A request by the Director of PAHO for a supplementary budget of about US$1,500,000 to pay these extraordinarily high salaries was rejected by the XXVIII Directing Council of PAHO, and it was thus necessary to reduce or eliminate some of the Center's programs and the staff working on them.

However, with these financial problems solved in 1981, prospects will have been better for greater technical cooperation by the Center with the countries in the area of zoonoses, through the appointment of some consultants in the specialties of epidemiology, statistics and control programs.

There was also a cut in the number of professional staff working at the Pan-American Foot-and-Mouth Disease Center in recent years, from 29 to 22. At present, there are only three PANAFTOSA professionals in the field (Colombia, Ecuador and Paraguay), as compared with five several years ago. The terms of employment of some other professionals in the Special Animal Health Program in the countries were expanded to include active cooperation in the foot-and-mouth disease programs.

B. The Food and Agriculture Organization of the United Nations*

The Food and Agriculture Organization of the United Nations (FAO) which will complete 38 years of consecutive service in October, 1983, was established in 1945 for the purpose of: "raising the level of nutrition and standard of living of the people, securing improvements in the efficiency of the production distribution of all food and agricultural products, bettering the condition of rural populations, and thus contributing toward an expanding world economy and ensuring humanity's freedom from hunger". 8/

* The text of this report on FAO operations was provided through the courtesy of Dr. Franz J. Peritz, Regional Office, FAO, Santiago, Chile.

During the years 1945 to 1950, FAO promoted and developed international awareness, and set the bases for agricultural development. Further it was during these years that great efforts were devoted to the collection, study, analysis, interpretation and dissemination of available information on food, nutrition and agriculture. From 1950 with the establishment of the United Nations Expanded Programme for Technical Assistance, FAO initiated its field programme providing technical assistance to member countries.

In October 1950 the FAO and the Inter-American Institute for Agricultural Science organized one of the first Latin American Regional Livestock Meetings in Turrialba. A larger FAO sponsored International Livestock Conference (150 participants from 19 countries) was held in Bauru, Brazil, in December 1952. It was recognized at this Conference that regional cooperation would develop first in connection with the control and prevention of animal disease, of which the most important was foot-and-mouth disease (FMD). It was therefore recommended that FAO, the International Office for Epizootics (IOE) and the Pan-American Foot-and-Mouth Disease Center (PFMDC) explore the possibility of cooperative work for the control and ultimate eradication of this disease from the region. Earlier, in 1951, the Central American countries, Mexico and Panamá which are all free of FMD, met under the auspices of FAO and the Organization of American States (OAS) in Panama for the purpose of keeping FMD out of their territories or eradicating it rapidly in case an introduction should occur. Consequently two FAO veterinary advisers were assigned to Panama and the Central American Countries. 9/

By 1954 the following technical assistance had been provided at the country level. Brazil had been provided with the services of experts in brucellosis and parasite control. Ecuador initiated a livestock development programme led by an FAO adviser accompanied by two others to improve the sheep industry and develop improved veterinary services. Uruguay was provided with assistance in parasite control. In Bogota, Colombia, one of the outstanding FAO projects was the establishment of a cattle virus disease diagnostic laboratory, with emphasis on FMD, consequent to the spread of this disease from Venezuela. Three experts collaborated in this project.

In Chile and Mexico activities concentrated on pasture improvement. In Honduras FAO assisted in setting up a Bureau of Animal Industries, including a diagnostic laboratory. Further, there FAO assisted in drafting the OIRSA convention. In El Salvador assistance was provided to the dairy industry and in Nicaragua to livestock disease control and slaughterhouse hygiene. 10/

The IV FAO Regional Conference for Latin America held in Santiago, Chile, in November 1956, reviewed the recommendations of the Third (FAO) Inter-American Meeting on Livestock Production which was held in Buenos Aires in April 1955. The recommendation that FAO appoint an officer to take charge of the regional coordination of livestock activities was adopted. Consequently a Regional Animal Production and Health Officer was assigned in early 1957 to FAO's Regional Office for Latin America, located in Santiago, Chile.

An animal health programme involving specific disease control projects was developed. An expert on slaughterhouse hygiene and zoonoses control was assigned to the Pan-American Zoonosis Centre, then located in Azul, Argentina. Also, veterinarians were assigned to Paraguay, Venezuela, Mexico, Bolivia and Brazil to provide assistance in the dissemination of improved disease control measures, production of biologics, and articifial insemination. 11/

A survey of veterinary educational facilities in the region was carried out and assistance to OIRSA continued. 11/ Consequent to the resolutions concerning (a) the need for veterinary technical cooperation, (b) animal health in relation to diversification of livestock production and (c) research in and control of sterility in cattle, adopted by the Joint V. Inter-American Conference on Agriculture and VI FAO Regional Conference for Latin America a second officer exclusively for animal health was assigned to FAO's Regional Office early 1961.

FAO's Animal Health Programme was carried out during the 1960's and 1970's with resources originating, (in addition to those from its Regular Programme), from the United Nations Development Programme (UNDP) formerly the United Nations Special Fund for Economic Development (SF), and various funds in trust with FAO and the World Food Programme. The Programme focused on:

(a) provision of specialist animal health experts to national veterinary services of member countries,

(b) promotion of veterinary education through the strengthening of selected faculties of veterinary medicine and the organization of special training courses,

(c) strengthening national veterinary services through the improvement or establishment of veterinary diagnostic facilities, and

(d) provision of technical collaboration in emergency disease situations.

The most outstanding major FAO animal health projects and animal production projects with animal health components, (projects of more than 3 years duration) carried out during the past 20 years in Latin America are cited as follows:

Country	Project Symbol	Title
Argentina	ARG/60/508	Estudio de las enfermedades y deficiencias nutricionales del ganado vacuno.
	ARG/65/514	Investigación sobre producción ovina en la Patagonia.
	ARG/68/527	Intensificación de la producción animal (Balcarce-Anguil).
	ARG/75/023	Sanidad animal en la región subtropical del noroeste Argentino.
Bolivia	BOL/68/519	Programa de sanidad animal.
	BOL/72/007	Sanidad animal en el oriente.
	BOL/73/012	Programa de sanidad animal.
Brazil	BRA/68/532	Mogiana agricultural diversification.
	BRA/69/533	Agricultural education and research at the Federal University of Santa Maria.

Colombia	COL/65/518	Facultad de medicina veterinaria y zootecnica, Universidad Nacional de Bogotá.
	COL/72/007	Facultad de Medicina Veterinaria y Zootecnia, Universidad Nacional e ICA, Bogotá.
Costa Rica	COS/73/001	Sanidad animal - control de parasitos.
Dom. Republic	DOM/65/503	Producción animal y educación veterinaria, Universidad Autónoma de Santo Domingo.
	DOM/73/002	Entrenamiento y demostración en sanidad y producción animal.
Ecuador	ECU/62/52	Facultad de ingeniería agronomica y medicina veterinaria de la Universidad Central de Quito.
Guatemala	GUA/72/021	Mejoramiento de la producción ovina.
Haiti	HAI/61/2	Demostración de crianza de ganado, Plaine de Cayes.
Mexico	MEX/64/507	Educación veterinaria en la Universidad Nacional Autónoma, Mexico.
	MEX/66/512	La enseñanza, investigación y extensión de la ciencia animal en la Escuela de Agricultura y Ganadería ITESM de Monterrey.
	MEX/67/516	Proyecto de investigación sobre la rabia paralitica (Derriengue); medidas de lucha.
Peru	PER/63/12	Instituto Veterinario de Investigación Tropicales y de Altura.
	PER/68/53	Producción ganaderia y sanidad animal en la Sierra y en la Selva.
Uruguay	URU/72/004	Asistencia al Centro de Investigaciones Veterinarias "Miguel C. Rubino".
	URU/72/012	Fortalecimiento del Centro de Investigaciones Veterinarias, Montevideo.
Venezuela	VEN/68/517	Productividad animal (leche y carne).

As can be seen from the following list of current projects, FAO's Animal Health Programme in Latin America continues to focus on:

(1) strengthening national animal health services as requested by member countries;
(2) African swine fever (prevention, control and eradication);
(3) tick control and the diagnosis and control of diseases transmitted by them;
(4) prevention of introduction and dissemination of exotic diseases;
(5) meat and milk production, including hygiene aspects;
(6) animal health elements within regional and national animal production projects;
(7) human resource development.

Animal Health and Animal Production Projects With Animal Health Elements and Missions Operational and/or Carried Out from Mid. - 1980 to Mid - 1982

Country	Project	Project Title	Source of finance
Argentina	ARG/75/023	Investigación en patología en la región sub-tropical Noreste.	UNDP

Country	Project	Project Title	Source of finance
	TCP/ARG/0002	Examen del Programa Nacional de Lucha contra la Fiebre Aftosa.	TCP/FAO/RP
Bahamas	BHA/80/0001	Support to the National Mutton Production Scheme.	UNDP
Barbados	TCP/BAR/0001	Breeding of dairy cattle.	TCP/FAO/RP
	TCP/BAR/8902	Supply of Veterinary Equipment to the Agricultural Society of Barbados.	TCP/FAO/RP
Bolivia	TCP/BOL/8803	Preventive Measures Against African Swine Fever.	TCP/FAO/RP
	TCP/BOL/003	Vaccination of Cattle Affected by Floods in the Beni.	TCP/FAO/RP
	TCP/BOL/0106	Control de la Salmonelosis Aviar.	TCP/FAO/RP
	WFP	Desarrollo Lechero en Sucre, Tarija y Santa Cruz.	World Food Progr.
Brazil	BRA/71/552	Livestock Development in the North East.	UNDP
	BRA/79/010	Advisory Service in Dairy Cattle Research.	UNDP
	TCP/BRA/0105	Assistance for the Eradication of African Swine Fever	TCP/FAO/RP
Chile	TCP/CHI/8902	Medidas contra las Enfermedades Exoticas de los Animales, con Enfasis en la Peste Porcina Africana.	TCP/FAO/RP
	CHI/80/001	Carnes Rojas.	UNDP
	GCP/RLA/012	Cursos Nacionales en Producción Lechera.	FAO/Denmark Coop. Programme
Colombia	TCP/COL/8802	Medidas Preventivas contra la Peste Porcina Africana.	TCP/FAO/RP
	TCP/COL/8906	Control de la Vacuna contra la Fiebre Aftosa.	TCP/FAO/RP
Costa Rica	TCP/COS/0001	Control de las Garrapatas y Enfermedades Transmitidas por Ellas.	TCP/FAO/RP
Cuba	GCP/CUB/002/SWE	Instituto de Desarrollo de la Industria de Carne.	FAO/Sweden Coop. Programme
	GCP/CUB/004/DEN	Instituto de Desarrollo Lechero.	FAO/Denmark Coop. Programme
	TCP/CUB/2202	Estación Experimental de Investigación sobre las Garrapatas y Enfermedades Transmitidas por Ellas.	TCP/FAO/RP
Dominica	TCP/DMI/002	Assistance to Small Livestock Farmers after Hurricane Allen.	TCP/FAO/RP
Dominica	DOM/79/013	Fiebre Porcina Africana.	UNDP
Republic	GCP/RLA/012/DEN	IV Curso Nacional en Producción Lechera.	FAO/Denmark Coop. Programme

Ecuador	TCP/ECU/8802	Medidas Preventivas contra la Peste Porcina Africana.	TCP/FAO/RP
	TCP/ECU/0005	Capacitación en Metodos de Inseminación Artificial.	TCP/FAO/RDP
Guyana	WFP	Pilot Project for Dairy Development.	World Bank Progr.
Haiti	HAI/78/003	Consolidation of Livestock and Veterinary Services.	UNDP
	TCP/HAI/0105	Establishment of a Diagnostic Laboratory for ASF.	TCP/FAO/RD
Honduras	TCP/HON/0105	Fomento de Producción Porcina.	TCP/FAO/RP
	TCP/HON/0107	Medidas Preventivas contra la Peste Porcina Africana.	TCP/FAO/RP
Jamaica	OSRO	Emergency Animal Health Care	Special Relief Progr
Mexico	MEX/78/015	Producción Lechera en el Area Tropical.	UNDP
	MEX/82/004	Enseñanza e Investigación y Extensión en Ganadería Tropical	UNDP
Nicaragua	NIC/80/05	Apoyo al Programa de Inseminación Artificial.	UNDP
	WFP	Promoción del Desarrolo Lechero.	World Food Prog.
Peru	TCP/PER/0106	Asistencia del Instituto de Zoonosis (Fiebre Aftosa).	TCP/FAO/RP
Trinidad/ Tobago	TRI/74/007	Institute in Farm Management, Dairy Husbandry and Pasture Management.	UNDP
Uruguay	URU/78/008	Desarrollo del Centro de Investigaciones Veterinarias "Miguel C. Rubino".	UNDP

Regional Projects

RLA/78/045	Capacitación para el Control de Enfermedades Exóticas con Enfasis a la PPA.	UNDP
RLA/79/065	Colaboración con la Junta del Acuerdo de Cartagena en el Sector Agropecuario.	UNDP
GCP/RLA/012/DEN	Regional Daity Training and Development Team.	FAO/Denmark Coop. Programme

FAO's Manpower Resources Funded by the Regular Programme:

In addition to the two officers assigned to the Regional Office for Latin America, other animal production and health manpower personnel resources funded by the Regular Programme at FAO Headquarters include 41 professionals, of which 20 are veterinarians, the remainder being animal production scientists. They provide technical support worldwide, including Latin America. The services of 6 Country Projects Officers and 8 Operation Assistants provide administrative support to the specialists assigned to country level and regional projects in Latin American.

FAO's global applied research oriented programmes in the field of animal health, of interest to Latin America, are in the application of isotopes for parasitic diseases and nutritional studies; the standardization of the ELISA African swine fever (ASF) diagnostic technique; research in the immunology of ASF, provided through meetings and grants. The development of an Acaricide Resistance-Monitoring Centre and reference laboratories for ASF, hog cholera and arboviruses are in the process of official designation.

The 1982 training programme includes:

(a) 2 regional seminar/stimulation exercises on major exotic diseases and emergency disease response for 54 participants from 16 countries; and
(b) a FAO/SIDA (Sweden) follow-up seminar on animal reproduction, for 25 participants.

Funding

Approximately $23.6 million have been projected by FAO for its animal production and health programme in Latin America for the 1982/83 biennium. Of this sum, US$1.7 million correspond to FAO's Regular Programme which is derived from the quotas of its member countries, and US$21.9 million from extra-budgetary resources. Extra-budgetary resources are those provided by the United Nations Development Programme, FAO/Governments Cooperative Programme (Denmark, Sweden, Finland, Netherlands, Italy and others depositing funds in trust with FAO), the Freedom from Hunger Campaign, and World Food Programme Office for Special Relief Operations (OSRO), and others for the execution of projects. An Italian contribution of $4.5 million has been tentatively earmarked, inter alia, for equipment, supplies, fellowships, training, emergency task forces and strengthening veterinary services in cooperation with the member countries of the Agreement of Cartagena.

The FAO Programme of Work and Budget for 1982/83 totals US$368 million. Of this, the Livestock Programme 2.1.3. comprises nine sub-programmes, four of which have a direct input into the animal health activities.

1982 - 83 Estimate by Subprogramme, Regular Programme Funds.

Sub-programme		World $ US Thousands	Latin America
2.1.3.2.	Animal Health	3,082.0	616.4
2.1.3.7.	Regional Office	2,354.0	294.6
2.1.3.8.	Field Programme support	1,851.0	61.7
2.1.3.9.	Program Management	563.0	18.7
		7,853.0	991.4

In addition to the global research projects already mentioned, there are, as has been cited, 3 regional projects of which 2 are financed by UNDP and 1 through the FAO/Government Cooperative Programme.

Of 39 country level projects, 14 are financed by UNDP, 19 by FAO's Technical Cooperation Programme (TCP), 5 through the FAO/Government Cooperative Programme, 3 by the World Food Programme and 1 by other special FAO programmes.

C. OIRSA (Organismo Internacional Regional de Sanidad Agropecuaria)

In 1954 OIRSA was established by the Central American countries, (Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica); also Mexico and Panama. 12/ Its purpose was to protect these countries from "pests" which affect crops and livestock. OIRSA was a continuation of CICLA (International Committee for Coordination of Locust Control). CICLA was established in 1947. It's objectives were accomplished successfully. CICLA was discontinued and OIRSA then was established as an agency to control pest damage in crops.

OIRSA began to work in animal health in 1953 by establishing in Panama a Department for the Control of Foot-and-Mouth Disease. In 1961 a Department of Animal Health was established to prevent Foot-and-Mouth Disease and other exotic diseases from entry to Central America, Panama and Mexico.

One of the main programs of this Department of Animal Health has been a cooperative program between OIRSA and Panama for the prevention of foot-and-mouth disease at the frontier of Colombia and Panama. Subsequently, PANAFTOSA, with U.S.D.A. participation, joined this program. At present there is a special agreement between the United States and Panama which also has reinforced the program through a Technical Commission between these two governments for the prevention of foot-and-mouth disease. OIRSA is participating fully and an OIRSA veterinarian has been assigned to a new Vesicular Disease Diagnostic Laboratory in Panama.

In establishing its program for the prevention of exotic diseases, OIRSA has deployed a veterinarian to each Central American country. The five Central American countries, plus Panama and Mexico, provide the entire core budget for OIRSA. The purpose of the veterinarians deployed to the countries is to gather information, provide training and professional aid at the technical level, to serve jointly with the country counterparts in establishing emergency plans, to motivate the livestock people, to notify appropriate authorities about any unusual lesions, and to organize an infrastructure for action that will control, contain and eradicate foot-and-mouth disease or other exotic diseases, should they be introduced.

Parenthetically, in the 1970's APHIS, USDA, became concerned about the spread of diseases in Latin America and was anxious to strengthen protection against foot-and-mouth disease and other exotic diseases. The agency, therefore, established bilateral agreements with Panama and Central American countries. Also, a U.S. - Mexican Commission for the Prevention of Foot-and-Mouth Disease has existed since 1954 - 1955. New bilateral agreements were a continuation of these actions and the APHIS/USDA activities in this region are closely coordinated with OIRSA.

Among its activities, OIRSA has developed a Regional Programme for the Prevention of Exotic Diseases. 13/ Pertinent paragraphs from a report on the programme made by J.A. Ferrer, are included in this working document to focus attention on OIRSA's careful planning.

The report "outlines a strategy for cattle protection consisting of four basic items: prevention, detection, containment and eradication. These principles are applied to animal health by well-trained quarantine inspectors and a detailed plan of action is devised for each item.

"An important finding of studies made in the OIRSA area: the average time between reporting of a vesicular disease and effective action in the field to eradicate it, is 26.9 days as determined by the critical path method. 13/

"In the case of foot-and-mouth disease this would allow the disease to spread throughout the region. Some suggestions for coping with these alarming findings were: to standardize health legislation regionwide, and to establish a laboratory specialized in the diagnosis of vesicular diseases. The laboratory will have been built in Panama with the assistance of the Panamanian Government, the United States Department of Agriculture and OIRSA.

"There are also major social communications and health education programmes in each country, aimed at making cattle-raisers and authorities aware of the importance of these sanitary problems.

Lastly, the report points out the need for each country to have an organization specialized in programmes to control and eradicate exotic diseases. The organization is called the GEPE (Grupo Ejecutor de Programas de Emergencia - Emergency Programmes Executing Group), and is made up of four basic units: administration, epidemiology, field operations, and communications and training. Each basic unit has the necessary staff, and the manuals describing the methodology for dealing with an outbreak of exotic disease. A description of this methodology is given in a Plan Alpha operating manual. It illustrates the participants in the decision-making process from the President of the Republic and his Cabinet right down to the municipal authorities.

"Development of a Regional Emergency Programme

Increasing world trade in products and by-products of animal origin, increased travel and the swiftness of today's transport facilities have a negative effect on the animal health status of all countries.

Add to this problem the gaps in preventive arrangements at ports of entry, airports and frontiers; the lack of a well-organized defense system in each country to combat the possible introduction of an exotic disease; and the lack of back-up facilities for a correct, prompt diagnosis. The animal health status picture thus presented is an alarming one. It should spur the animal health services in all countries to carefully consider the eventual social, political and economic repercussions that an outbreak of exotic diseases would have on their overall development.

"Why a region-wide emergency programme to combat exotic diseases is necessary:

One of the first experiments in this field is now being made by OIRSA. Member countries are Mexico, Panama and the Central American countries, which have similar animal health status. The developing cattle industry in the region is currently under strong pressure to produce more basic food for human subsistence. Sizeable population increases in the next few years will make necessary greater supplies of commodities of animal origin such as meat, milk, eggs, hides, and the like. Logically, increased production will be possible insofar as optimum conditions for animal health are met. The introduction of such truly calamitous exotic diseases as foot-and-mouth disease, rinderpest, African swine fever, etc. would have considerable impact on the current livestock situation, diminishing hoped-for increases. Such adverse conditions would mean serious problems for the region, should they appear in any one country of the area. This is because to protect a country from the introduction of exotic diseases good preventive health structures at ports of entry, airports and frontiers and good veterinary services are not enough; protection is also largely dependent on whether these same measures are adopted in orderly, coordinated fashion by neighbouring countries and by countries with which close trading relations are maintained. This is why regionwide protection is an important concept.

"The livestock protection strategy is based on sheer logic. It could, from the animal disease standpoint, be summarized as follows: prevention, detection, containment, and eradication of these diseases. A strategy of this sort includes integrated action aimed at avoiding the introduction of animal diseases exotic to any country of the region and thus avoiding the ensuing losses to livestock raising and related activities.

"Prevention activities are now underway in the OIRSA countries with the participation of inspectors, agricultural experts, agronomists and veterinarians all working together in a joint effort. The failure of any component of this system could wipe out the entire collective effort.

"An interpretation of this system follows a logical sequence: the quanrantine services constitute the first but nonetheless important barrier. The system rests on an institutional framework (legal context) and operates a spectrum of technical control operations inspection confiscation, disposal and disinfection. The risk of introduction of infectious agents depends on how effectively this first level operates. When the first level fails, and the agent is actually introduced, it may very possibly come in contact with a susceptible host, which, once infected, will very probably fall ill. At this point the process known as epidemiological control enters into operation. Its purpose is to detect the presence of the causal agent through specific laboratory tests. This activates a third level which we could call the Emergency Task Force Eradication Activities.

"The development of a regionwide emergency programme cannot be confined to the creation of a special task force to combat a disease. A study must also be made of the point at which the whole system broke down, allowing the causal agent to be introduced. OIRSA made a Central American-wide network study of this, using the critical path method to determine what, under present

conditions, would be the average time elapsed between the reporting of a vesicular disease and the point at which effective action could be taken to eradicate it in the field. The study found an average lapse of 26.9 days, during which time in our view the disease could spread throughout the region. Through this study, it was possible to pinpoint why so much time elapsed and to propose program solutions with specific objectives, strategies and targets.

"Another factor which has to be taken into account in implementing a regional emergency programme is standardization of health legislation. This is why OIRSA annually updates regional regulations covering inspection and quarantine of animals and animal products and by-products, general regulations covering animal health policy, and veterinary service standards.

"Another very important point is the training of technical staff employed at ports of entry, airports and frontiers. OIRSA has prepared a paper on this called "Considerations on strengthening joint ministerial level action to prevent foot-and-mouth disease in Central America and Panama." The content is applicable to all exotic diseases, as it illustrates the full prevention procedure for combating these diseases at every entry point for vessels, airplanes, and land vehicles in the region. It covers staff training, age, experience, material resources for pest interception, etc. The Organization then prepared a technical and economic feasibility project for stregthening regional system for prevention and control of exotic diseases in Mexico, Central America and Panama. It was presented to governments in the region for soliciting non-reimbursable funds from the Inter-American Development Bank (IDB) for training livestock quarantine inspectors. The project is now in the process of being approved.

"Another very important problem to consider in setting up an emergency regional programme to control exotic animal diseases is lack of reliable diagnoses. The Republic of Mexico has a laboratory, belonging to the Mexican-American Commission to Prevent Foot-and-Mouth Disease, which accepts samples for diagnosis only from Mexico. But Panama and the Central American countries are obliged to sent their samples to the Panamerican Foot-and-Mouth Disease Centre in Rio de Janeiro, Brazil. Here a number of factors - infrequent flights, problems of lost samples, and the like - intervene to delay diagnoses.

"To cope with this problem OIRSA held the Fourth Meeting of Animal Health Divisions in the OIRSA area in 1975 for the purpose of examining the possibility of setting up a regional laboratory for diagnosing vesicular diseases. The laboratory would offer diagnostic services to Central American countries and Panama. The upshot was that the said laboratory will be opened this year (1980) in Panama with economic and technical assistance from the Panama - U.S. Technical Committee for the Prevention of Foot-and-Mouth Disease (COPFA) and OIRSA. Its services will be available as of this year, 1980, thus facilitating the process of diagnosing vesicular stomatitis and, perhaps, foot-and-mouth disease.

"Another major need is a good social communication and sanitary education programme for the livestock-raising community. These are the people who will be directly benefited or not by the programme and, in either case, if the community is to collaborate with the programme it has to be aware of its advantages.

"Once a country or region has complied with the above-described points, it can then begin to think of setting up a national or regional emergency programme to combat exotic animal diseases. OIRSA has all the basic data from each country of the region at the level of the very smallest geo-political unit (cantons, municipalities, etc.)., compiled by veterinarians from the Regional Programme to Prevent Exotic Diseases (PRPEE), seconded to each Central American country by the Department of Animal Health of OIRSA. The data covers over 70 separate items such as: livestock census, density per km2 population, most important livestock-raisers, community leaders, most important transport routes and freight vehicles, highway systems, supplies of machinery and equipment, mean temperature, etc. It will be very useful if a health emergency arises.

"The Plan and Operation Alpha were also created, discussed and approved. The Plan covers all activities having to do with official policy, including the establishment of a national emergency committee against exotic diseases. This would include representatives of decision-makers at all levels, with a chain of command running from the President of the Republic down to the lowest ranking authority directly or indirectly involved in the process of making decisions in the case of an eventual outbreak. The point is for everyone to be alerted to the problem by his immediate superior and then cooperate in technical decisions on how to control the outbreak. The respective decrees were also drawn up, ready for presidential signature, declaring control and eradication of the specific epizootic to be in the public interest.

"Operation Alpha involves the implementation of Plan Alpha. It has an Executory Group for Emergency Programmes (GEPE) headed by a director belonging to the National Emergency Committee on Exotic Diseases, is advised by the international organizations, and receives legal and military support from the Division of Livestock Quarantine and the Division of Inspection of Products of Animal Origin. The GEPE has four basic units to control an epizootic: administration, epidemiology, field operations and communications and training.

"Each of the four units has specific manuals. These outline the activities to be followed by each member of the unit. The point is to standardize criteria for regionawide action so that countries can cooperate quickly in the case of epizootics. It is now thought that this staff should receive special training. It is recommended that at least three persons be trained for each activity because of the rapid staff turnover in the region and the need for the organization to be fully organized at all times to be able to cope with any emergency.

"Specific manuals describing the methods to follow for each exotic disease threatening cattle in the region are available to the Organization.

"An organization of this type must be set up in each country of the region and its effectiveness tested by computer simulation. Only in this fashion can we ensure the success of livestock development programmes now underway in the different countries of the region and others still in the planning stages."

The funds assigned to the Animal Health Program of OIRSA ($235,739) are subdivided into several projects and activities related to administration

operations, prevention of foot-and-mouth disease, prevention of exotic diseases, training of personnel and training activities. Obviously, the funds allocated for these enterprises in the countries of OIRSA subregions are extremely modest and appear inadequate for expectation of substantial results. As a matter of fact, the largest proportion of these funds are absorbed in salaries for personnel, leaving very little for operational expense support.

D. Instituto Interamericano de Cooperación Para La Agricultura (Inter-American Institute for Cooperation on Agriculture, IICA)

Objectives

The Inter-American Institute for Cooperation on Agriculture, IICA, was founded in 1942 as the Inter-American Institute of Agricultural Sciences. A new Convention was opened to the signature of the Organization of American States on Mar. 6, 1976, and it went into effect on December 8, 1980, altering the organizational structure, expanding its sphere of action and giving the Institute its new name.

IICA is the organization of the Inter-American System that specializes in agriculture. It was established by the Governments of the Americas to stimulate, promote and support the efforts of the Member States to bring about agricultural development and enhance well-being in the rural sector.

Functions

The actions to achieve these objectives seek specifically to: a) increase agricultural production and productivity; b) enlarge the capacity for generating employment in the rural sector; and c) expand the participation of the rural population in the development process.

IICA seeks to achieve its goals within the Hemispheric and Humanistic Projection that characterizes its working policies, and it carries out the following functions: a) to promote the reinforcement of national instutitions for training, research and rural development, enabling them to expand their contributions to rural progress; b) to formulate and implement actions in accordance with the dictates of the Governments of the Member States, so as to contribute to the implementation of their policies and programs for agricultural development and rural well-being; c) to establish and maintain relations of cooperation and coordination with organizations, entities or programs that pursue similar objectives; and d) to act as an organism for consultation, technical implementation and administration of programs and projects in the agricultural sector by means of agreements with national and international organizations.

Organization

IICA is an international autonomous inter-governmental agency, guided by a Board of Directors and an Executive Committee. It is governed by its own Convention and works through a General Directorate which is headquartered in San José, Costa Rica and has offices in the 27 member countries.

Governing Bodies

a) The Inter-American Board of Agriculture

The maximum authority of the Inter-American Institute for Cooperation on Agriculture, IICA, rests with the Inter-American Board of Agriculture, JIA*. The Governments of all the Member States are represented by their Ministers of Agriculture or high-level delegates involved in the agricultural and rural development of their countries.

b) Executive Committee

Twelve Member States, elected for two-year terms according to the criteria of partial rotation and equitable geographic distribution, make up the Executive Committee, which is directly responsible to the JIA.

Observer Countries

The Meeting for the Installation of the Inter-American Board of Agriculture approved the admission of Korea as the twelfth observer country actively cooperating in the official and technical activities of the institution.

IICA's corps of observer countries now includes: Austria, Belgium, Egypt, France, Germany, Italy, Israel, Korea, Japan, the Netherlands, Portugal and Spain.

Offices in the Countries

The recent admission of Surinam and Grenada to IICA raised the number of IICA member countries to 27.

The Institute maintains permanent offices in all the countries, staffed by resident specialists and national support personnel who are able to respond immediately to Member States requests for technical cooperation.

The General Directorate with headquarters in San José, Costa Rica, operates through the following principal offices to conduct its administrative affairs and provide activities to support country-level actions:

(a) Public Information and Communication.
(b) Conferences and Meetings.
(c) Human Resouces.
(d) Inter-American Agricultural Documentation and Information Center, CIDIA.
(e) Simon Bolivar Fund.
(f) Multizonal Projects.
(g) Animal Health.

* Junta Interamericana Agricultura (Interamerican Agricultural Board).

(h) Plant Protection.
(i) Policy Analysis.
(j) Planning.
(k) Evaluation.
(l) External Funding and Projects.
(m) International Relations.
(n) Finance.
(o) Administration.
(p) Agricultural Science.
(q) Human Sciences.
(r) The Tropical Agricultural Research and Training Center, CATIE, and associated agency located in Turrialba, Costa Rica.

Area Offices:

Area Norte or Area I (of IICA's Offices in Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama).
Area Antilles or Area II (of IICA's Offices in Barbados, Grenada, Guyana, Haiti, Jamaica, Trinidad & Tobago and Surinam).
Area Andina or Area III (of IICA's Offices in Bolivia, Colombia, Ecuador, Peru and Venezuela.
Area Sur or Area IV (of IICA's Offices in Argentina, Brazil, Chile, Paraguay and Uruguay).

Characteristics of IICA's Activities

All of IICA's activities take place within ten programs. The characteristics which these activities have in common determine the most basic requirements of the Institute's objectives.

All of IICA's actions are multinational, and their work is useful to more than one country; complementary, whenever the Member States request technical assistance to train personnel who will subsequently assume responsibility for the activities; temporary, and as such, should be reevaluated after objectives and time limits are met and before other action can begin; supportive, reinforcing the national agencies working for agricultural development; specific; focusing on concrete programs; receptive and flexible, in accordance with the needs of the Member States; and finally, innovative, contributing new ideas, methods, models and practices for the development of viable alternatives.

Technical Cooperation

IICA's technical cooperation focuses on four principal elements:

Institution building, or helping the agricultural institutional systems acquire the expertise for planning and implementing development actions consistent with their goals, objectives and capabilities.

Country-level actions, establishing each national office as the Institute's basic operating unit.

Operational decentralization, with 85 percent of the Institute's human and material resources assigned to the country offices.

Participatory technical cooperation, a new dimension in international technical cooperation, whereby IICA's efforts are combined with the countries' own skills in a context of mutual collaboration and support.

Instruments

In the pursuit of Program Action policies, IICA embraces the following instruments for technical cooperation:

Education and Training, which seek primarily to equip individuals with administrative and technical skills.

Reciprocal Training, which brings personnel of national agencies into contact with similar agencies in other countries.

Research and Study, which developed new knowledge that can be used for improving the quality of technical cooperation.

Direct Consultation, which uses existing methods, models and knowledge to resolve specific problems.

Permanent Groups or Commissions, whose primary function is to find joint solutions to specific problems, or to generate and multiply the process of change.

Supporting Professional Associations by helping them develop the skills necessary for achieving their objectives.

IICA's working areas and animal-health projects sponsored by IICA in those areas 14/

I. Northern Area (Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, Panama and Mexico)

Projects

(a) Tick control program

Following the recommendations of REDISA I, IICA is providing assistance in tick control programs. Training of field and laboratory personnel has been conducted in 1981. At present there is a new National Laboratory of Parasitology in Cuernavaca, Mexico. Mexico and Costa Rica are involved in tick control projects. Costa Rica obtained financial support from the Central American Development Bank and Mexico from IDB.

(b) Screwworm eradication program

A feasibility study for the Central American countries has been carried out by IICA consultants. A profile of a project has been prepared. In 1982 negotiations will have begun preparatory to implementing specific programs for each country. This will be an extension of the program currently in effect in Mexico with the cooperation of the United States.

(c) An area project to strengthen laboratory capacity

An evaluation of all laboratories has been completed for all countries in the area. Based on the recommendations prepared as a consequence of the evaluation, work will now be carried out in specific activities, mostly in providing reagents and training of laboratory personnel.

(d) Diagnosis and assessment of incidence, prevalence and trends in hemoprotozoan diseases; namely, babesiosis and anaplasmosis. At present, only Mexico and Costa Rica have laboratories suitable for diagnoses and for supervising the epidemilogical evolution of these diseases. 3/

II. Andean Region (Bolivia, Colombia, Ecuador, Peru and Venezuela

Projects

(a) Bolivia

Bolivia's diagnostic laboratories have been evaluated. IICA is assisting in a survey of the general animal health services for the country; a survey which will be useful for planning purposes.

(b) Colombia

(1) Determine the prevalence of hog cholera and prepare a plan for eradication.

(2) Determine the prevalence of babasiosis and anaplasmosis in the northern and central parts of the country. Assistance was provided through special consultants from the College of Veterinary Medicine, University of Missouri, and the Veterinary Research Institute of Palo Alto, Mexico.

(3) Implement "cold chain technology"; keeping vaccines refrigerated while in storage, in transit and during field use. This will be done through CINDR (Centro-Investigaciones Nacional (para) Desarrollo de Recursos, the National Investigational Center for Development of Resources). Vaccine costs never exceed 3% of the cost of a campaign (aimed at eradication) but that 3% is critical. If the vaccine becomes damaged by exposure to heat, the entire project become damaged.

(4) Assist the Ministries of Health and Agriculture in the execution of the National Rabies Control Program.

(c) Ecuador

(1) Determine prevalence and trends in babesiosis and anaplasmosis.

(2) Assisting the Ministry of Agriculture in conducting a survey of the general animal health services of the country.

(d) Peru

(1) Planning and execution of the program for paralytic rabies control in cattle.

(2) Organization of an animal health information system. IICA is in the process of signing an agreement with the Ministry of Agriculture of Peru to assist in animal health activities.

(e) Venezuela

One major project: assisting in the brucellosis control and erradication program. IICA has provided two special consultants.

III. Southern area (Argentina, Brazil, Chile, Paraguay and Uruguay)

Projects

(a) Argentina

IICA will provide technical assistance in three large projects under consideration for external financial suppport.

(1) Development of a foot-and-mouth disease virus research and meat technology research institute in Castellar. This project will have a budget in excess of $100 million for a period of five years.

(2) Establishment of a graduate center for training specialists in animal health; this to be established at the School of Veterinary Medicine, National University of La Plata, Argentina. This program will be patterned after programs in Schools of Public Health. It will provide graduate education not only for veterinarians but also for economists, statisticians, and epidemiologists.

(3) Providing technical assistance to strengthen the animal health programs currently existant in Argentina, notably:

(a) an advisor in brucellosis;
(b) an advisor in animal health planning and administration;
(c) an advisor in laboratory services; and
(d) an advisor in foot-and-mouth disease field operations.

All 4 are located in the National Animal Health Service (SENASA) headquarters in Buenos Aires.

(b) Brazil

(1) IICA is preparing, with the Ministry of Agriculture of Brazil, an agreement and plan of operations to assist in the diagnosis and surveillance for incidence and prevalence frequency rates (and trends) of African swine fever and hog cholera. Included in this agreement is a large project to enhance the development of the National Animal Disease Diagnostic Laboratory in Pedro Leopoldo, Belo Horizonte, Minas Gerais.

(2) Provide assistance in developing a plan to determine frequency distribution (incidence and prevalence frequency rates) for babesiosis and in developing a tick control program to bring that infestation under control.

(3) Provide assistance in developing a plan to determine incidence and prevalence frequency rates for bovine leukosis.

(c) Chile

IICA will provide technical assistance for 3 projects in Chile:

(1) Developing a national eradication program for hog cholera. The project has been approved; will have begun in January, 1982.

(2) Implementing a technical evaluation of the ongoing brucellosis eradication program.

(3) Organizing a diagnostic laboratory for hog cholera and African swine fever, essential to the ultimate objective of eradication of these diseases.

(d) Paraguay

IICA has signed an agreement with the Ministry of Agriculture wherein IICA will provide fellowships for training and counsultantships relative to the control of three primary diseases:

(1) Newcastle disease in poultry.

(2) Hog cholera.

(3) Equine infectious anemia.

(e) Uruguay

IICA will provide technical assistance for the development of a cooperative program to strengthen the central animal disease diagnostic laboratory at the Rubino Institute, Pando, Uruguay.

IV. Antilles - Caribbean area (Barbados, Grenada, Guyana, Haiti, Jamaica, Trinidad/Tobago and Surinam

Projects

(1) IICA is assisting all the countries in this area by providing technical assistance in training activities (such as seminars and short courses) in:

(a) animal health planning and epidemiology.
(b) diagnosis, prevention and control of exotic transmissable diseases.
(c) use, maintenance, and standardization of laboratory equipment.

(2) IICA will provide technical assistance for a survey of Caribbean nations for bluetongue. Also in cooperation with the USDA and PAHO, will assist the survey for heartwater and other tick-borne diseases in the Eastern Caribbean countries and territories.

(3) Establishing a system of determining frequency rates for incidence and prevalence of transmissable animal diseases.

(4) Evaluating diagnostic laboratory services.

(5) Strengthening diagnostic laboratory services.

(6) Diagnosis and determination of incidence and prevalence of eastern equine encephalomyelitis in Guyana.

(7) Eradication of African swine fever from Haiti.

IICA has established "Area Meetings" of the Directors of Animal Health for the coordination of sub-regional programs and the planning of research and training activities at the executive level. The first meeting of this nature were organized in 1981 at Mexico City (RESANORTE), Buenos Aires (RESASUR), Barbados (RESANTILLAS), and Bogotá (RESANDINA).

Attention has been called to programs developed by IICA for assisting Latin-American and Caribbean countries in the control and eradication of several specific, serious and costly animal disease problems, especially tick control, for reducing the incidence and prevalence of babesiosis, anaplasmosis and other hemoprotozoan diseases. Also the diagnosis, control and eradication of hog cholera and African swine fever, equine encephalitides, and equine infectiuous anemia have been given priority. Bovine leukosis (malignant lymphoma), bovine brucellosis, and Newcastle disease in poultry also have been cited as economically devastating diseases.

In all of this, and in future planning relative to other diseases which directly and indirectly threaten the economy and welfare of the citizens of the Latin American and Caribbean nations, IICA has cited four primary objectives:

1. To collaborate with the governments in establishing effective programs for controlling or eradicating diseases and pests of domestic animals that will have the greatest economic benefits to the countries.

2. To provide an inventory of information on animal health for the countries of the Hemisphere and for others that may need it.

3. To establish coordination between existing laboratories in order to create a network of diagnostic and veterinary research facilities throughout the Hemisphere.

4. To assist the governments in modifying regulations in order to maximize the prevention, control and eradication of disease while minimizing restrictions on the commercial exchange of livestock and products from them.

Technical Cooperation versus Technical Assistance

A fundamental philosophy described in IICA's Annual Report for 1980 seems so essential for successful ventures in technical assistance that it is cited in this working document.

"The process of deepending and expanding our thoughts on development has not pursued a balanced course in all its fields. Notorious differences exist between the approaches to development in different countries of a same region, as well as between the strategies chosen by each country to achieve its goals. Likewise, similar incongruencies can be observed in the creation and improvement of technical and political instruments that should encourage the development process.

"We have been able, for example, to produce significant technological advances that let us believe for a time in the "green revolution". We failed, however, to adapt and organize these advances in such a way as to make them useful to samll-scale farmers; those farmer organizations which have abundant human resources, but limited access to capital. The evolution of the concept of technical cooperation shows similar contradictions. For a while, "technical assistance" as it is frequently called sought primarily to provide "underdeveloped" countries with scientific and technological input and even certain institutional models that had proven to be useful in the developed countries. The basic assumption that was their massive adoption in the under developed countries would reproduce the process which had taken place in the developed nations. Technical assistance in this case was the transfer vehicle for achieving this goal.

"To these ends, the agencies providing the assistance would need to have a profund understanding of the productive structure and institutional organization of the developed countries, and their technical staff should also be professionals renowned for their ability to understand these aspects and to implement them.

"The basic problem of this outlook was that the models being implemented were, for the most part, inoperative because they were inadequate and, similarly, the science and technology being disseminated are not always the most appropriate and useful. Our experience confirms that this occurred because of the insufficient knowledge, on the part of the agencies and their technical staff, of the different conditions and stages of development in which certain preconceived "prescriptions" were to be applied.

"This is really not so surprising if we accept that, as in so many cases, not very much can be transferred directly from one society or culture to another. We might even go on to state that, in terms of the science and technology necessary for maintaining high levels of agricultural development, the possibilities of absolute transfer are nil.

"In this vein, we would do well to mention, for example, that the possibility of having a few international research centers replace similar national institutions has been rejected since it has become evident that they will have tremendous difficulties in transferring the technology they generate to the users in the countries unless national institutional capability is at least capable of carrying out adaptive-type experimentation, and is also organized into a consistent and harmonious system that will facilitate the adoption of the technology being transferred."

"In its strategy for implementing these objectives, IICA has called attention to the need to establish an animal health data bank, meaningful data showing valid frequency rates for troublesome diseases. 15/

Several paragraphs dealing with the justification for the program in animal health are noteworthy:

"The expansion of commercial traffic among the countries of the Hemisphere has increased the need for closer relations between them in order to improve the understanding of problems relating to animal health. Technology must be applied as it develops, or else the technological gap will increase, and with it, the problems of international relations.

"As the more developed countries progressively eliminate animal diseases, they begin to apply measures to reduce the danger of re-infection; this in many case affects commercial relations between the countries, since such measures are frequently interpreted as economic barriers. Whatever the principal cause or motivation, this means that a country must either observe these provisions or endanger its commercial relations, although in many cases, the country suffers, greater economic damage from the restrictions than from the disease itself.

"Another factor is that new diseases periodically enter the Hemisphere, with the possibility of spreading from one country to another. Obviously, it is necessary to mount a common defensive for preventing the introduction of diseases and pests; and once they appear a defensive mechanism is needed to fight them immediately.

"Most countries have sought to protect their interests, but these efforts have not been very satisfactory from the national, regional or hemispheric points of view, given the limited resources of most of the countries. Consequently, animal pests and diseases have spread despite efforts to control them.

"While most of the larger countries have established diagnostic laboratories of varying quality, the smaller countries have not been able to do so, notwithstanding the need for much equipment. Many countries lack of true understanding of the implications of the pests and diseases that affect them. Most of the existing veterinary facilities must be improved and must receive more resources for carrying out effective programs.

"The number of head of cattle in Latin America and the Caribbean has been estimated at 270 million, representing 22 per cent of the world cattle population. At current prices, their value is US$45 billion, not counting the value of the sheep, poultry and swine populations. The losses that disease and pests cause to this immense productive capital is great and will grow to the degree that the countries fail to adopt effective measures for controlling and fighting the communicable ailments that affect them.

"In view of these circumstances, IICA, as the OAS entity specialized in agriculture, has a well-justified concern with the problem of animal health and is eager to help the member countries in their efforts in this field. 15/

"For this reason, since we feel the same way about how IICA's action should benefit the countries, we have attempted, we believe successfully, to change this traditional technical assistance. We call our approach "technical cooperation"' which implies not only a change in name, but also a fundamental change in tactics. Our basic action strategy is to strengthen national institutions, as they are the key to ensuring that the processes to accelerate the development of the countries will take place in a self-sustained fashion, and with better possibilities of success. This proposition suggests that eventually each country will define its own level of self-sufficiency, taking into consideration its stage of development, size and availability of resources.

"This becomes even more important when we consider that in general, the principal functions of the international technical cooperation agencies are frequently affected by the political circumstances and different expectations of the countries.

"For this reason, and because the countries have moved from a position of passivity to awareness, and from awareness to reaction in order to carry out effective work in Latin America and the Caribbean, the international agencies will have to adjust their programs of action and their characteristics to the new approaches to problems which have been adopted by our countries...

"It must also be recognized that for international technical cooperation to be effective, it must stimulate national efforts, because only in this manner will the changes or progress be instutionalized. Cooperation cannot and should not be a "crutch" hindering independence and self-sufficiency of the individual countries...

"Technical cooperation is based on the fact that, for various reasons, differences exist between and within the countries and their institutions in relation to the knowledge and experience which have been acquired. This creates the possibility of exchanging or disseminating the knowledge and experience of the countries or institutions with others, and even within each of them." 16/

Budget

IICA derives its budgetary support for its regular budget, planned along specific programs, 16/ from quotas assessed among member countries. Also, support is sought from financial resources organizations, including in-country governmental resources. Such funds as are provided are considered as extra-quota funds. Among such resources, for example are the Simon Bolivar Fund and the international banks.

The regular budget for Animal Health for 1982 was established at U.S. $930,140 and for 1983 at U.S. $1,025,725.* The area distributions of these operating dollars appears in IICA's Program and Budget for 1982 and 1983. 17/

Examples of Extra-budgetary Funding

In addition to the regular IICA budget for animal health programs in the Southern area action programs, there is a project in Argentina in which the Argentine government is providing $135,000 for 1981, $150,000 for 1982 and $160,000 for 1983. This is to provide money for consultants to strengthen the animal health services.

In another project, the government of Brazil is providing a grant of $155,000 for one year to assist in the development of a national diagnostic laboratory in Belo Horizonte and for a Hog-Cholera-African Swine Fever Eradication Program.

Further, an agreement was signed with Paraguay in which the government agreed to provide $35,000 for technical cooperation with IICA involving 3 programs; (a) hog cholera (b) Newcastle disease (c) infectious equine anemia.

In addition, IICA has been designated as the supervising agency for the program to eradicate African swine fever (ASF) from Haiti. Toward that end, the United States and Mexico have agreed to provide financial support in the amounts of U.S. $14.2 million and U.S. $2.3 million respectively. Further, Canada is considering active financial participation at approximately U.S. $7 million. 28/ For the repopulation of the swine industry in Haiti, after ASF is eradicated, it is estimated that U.S. $11 million will be needed. IDB and the U.S. Agency for International Development (USAID) are considering active financial participation in this phase of the program.

* Other budgetary resources from extra-quota contributions amount to U.S. $10,540,000 in 1982 and $4,855,000 in 1983. The total 82/83 biennial budget for the program of Animal Health including all funds is US$17,351,865.

Section V

EVOLUTION OF PRIMARY FUNDING AGENCIES SERVING LATIN AMERICA AND THE CARIBBEAN

In Section III of this document, attention has been directed to the international agencies which provide technical cooperation and financial assistance. As described, the primary function of some of these agencies is that of funding developmental programs. Some of these agencies, principally the International Development Bank (IDB), the World Bank (WB), and the United Nations Development Programme (UNDP) have had significant impact upon the development of animal health and livestock production programs. Therefore, the evolution of these primary international funding agencies appears in the following paragraphs.

A. The Inter-American Development Bank (IDB)

IDB was established in 1950 by the government of the Americas. It is a western hemisphere bank. 18/ New member countries become members through the Organization of American States (OAS).

Each member country is represented on the Board of Governors which meets once a year. The Board of Governors elects the President who conducts the day-to-day business and also serves as the legal representative and Chief of the Staff of the Bank. The Board of Directors, (a permanent Board at the IDB headquarters) has 12 members: 7 elected by the Latin American countries, 1 by Canada, 3 by non-regional member countries, and one designated by the United States of America. The Board of Directors meets regularly to authorize loans and grants for technical cooperation proposals submitted by member countries to the President, to interpret policy, and to consider and adopt the annual operating budget. Each director has voting power proportional to the capital commitment of the country or group of countries which he represents.

Many IDB loans contain funds for staff training. IDB carries out programs on agricultural projects prepared jointly with the Inter-American Institute for Cooperation on Agriculture (IICA) and, for agricultural industries, with the Economic Development Institute of the World Bank.

In 1967, IDB became involved in animal health programs. At that time the first request for a loan for eradication of foot-and-mouth disease came from Chile. In subsequent years, the Bank has provided money for loans for foot-and-mouth disease eradication programs to Paraguay, Brazil, Argentina, Venezuela, Colombia, Bolivia, Peru; Ecuador; virtually every country in South America. The philosophy of the Bank is that FMD must be controlled on a continental basis; it is not likely to be accomplished on a geo-political basis. Subsequently, the role of the Bank was expanded to other animal health activities such as control of brucellosis; bovine rabies; to institutional development; laboratory development; and training of human resources.

"The nature of Animal Health programs, including public responsibility or the execution of them necessarily requires that all country loans be made to government entities closely connected with Ministries of Agriculture. In general, Bank funds are reserved for infrastructure and institutional building. Funding of research, feasibility surveys, and technical assistance (T.A.) has been provided through cooperative agreements with specialized international agencies, primarily PAHO, IICA and OIRSA.

"The majority of funding of projects in Animal Health has been from the Bank's Fund for Special Operations (FSO). However, in the case of loans to Mexico, El Salvador, Panama, and Costa Rica partial financing has been provided from Ordinary Capital Resources. Interest and other charges vary over time, but the loans now carry an interest charge in excess of 9% except where national currencies are re-loaned to the host country.

"Technical assistance funding, as distinct from project funding, orginates as grants, the majority of which are ultimately reimbursed from follow-on loans. As of 1978, of 27 such grants, only 7 were non-loan related, amounting to $1.3 million of a total $5.5 million.

"T.A. funding depends on the relative development classification of countries and/or the objectives of the project. Thus, project funding of the least developed countries do not generally require reimbursement. These include, among other, Honduras, Bolivia, and Paraguay. Training of professional personnel is eligible for non-reimbursable funding. This was authorized for part of the funding for Costa Rica. Project preparation and costs of non-training consultants are normally reimbursable, even in the lesser developed countries. Project funding in advanced countries, such as Brazil, is generally reimbursable.

"In many T.A. project grants, funding is recuperable from a follow-on loan. If a successful project loan proposal is later authorized, the T.A. funding is reimbursed from the loan.

"In a small number of grants utilizing "preinvestment funds" for feasibility studies, such funding is always reimbursed.

"In summary, country economic classification, the objectives of the funding (training), follow-on loan authorization (contingency funding), and the source of funds are determining factors of reimbursement. Particular disease control and/or eradication is not a determining factor. 19/

Of the three major western hemisphere funding agencies, IDB has supplied 90% of the specialized infrastructure financing in Animal Health. This reflects relative specialization of IDB in this field, accompanied by informal cooperation with IBRD and AID which have invested considerably more than IDB in livestock development and related projects. 19/

"The Bank has cooperative service or technical agreements with PAHO, FAO, IICA, and USDA. Reflecting its specialization and experience in foot-and-mouth disease, PAHO has received most of the T.A. contracts in Animal Health." 19/

Since technical cooperation is a major objective in the Programs in Animal Health supported by IDB, and training a major component in technical cooperation, the following data are cited to illustrate some of the budgetary allocations (financial commitments) of IDB which have had impact upon technical assistance and training in Animal Health projects in Latin America. 20/

Reimbursable grants linked to loans:

Country	Purpose	Appropriation	Allocation
Chile	Prevention and control, aftosa.	U.S.$140,000	$ 140,000
Paraguay	Prevention and control, aftosa.	125,000	125,000
Brazil	Prevention and control, aftosa.	739,000	946,000
Dominican Republic	Animal health.	416,000	416,000
Peru	Prevention and control, aftosa.	250,000	250,000
Ecuador	Prevention and control, aftosa.	417,000	443,000
Costa Rica	Animal health.	160,000	160,000
El Salvador	Animal health, training of quarantine inspectors.	498,000	-
Regional	Courses, and seminars in animal health.	380,000	-
	Subtotal	US$3,125,000	$ 2,480,000
Non-reimbursable grants			
Honduras	Consultants, animal health.	420,000	420,000
Paraguay	Consultants, aftosa campaign.	310,000	310,000
Bolivia	Consultants, for the prvention and control of aftosa, rabies and brucellosis.	550,000	550,000
Costa Rica	Training in animal health.	95,000	95,000
	Subtotal	US$1,375,000	$ 1,375,000
Preparation of projects			
Paraguay	Plan to combat aftosa.	15,000	15,000
Ecuador	Plan to combat aftosa.	12,000	12,000
Costa Rica	Project to control brucellosis and bovine tuberculosis.	22,000	Cancelled
El Salvador	Animal Health project.	37,365	37,365
Honduras	Project to control brucellosis and bovine tuberculosis.	17,000	17,000
Paraguay	Consultants, animal health.	75,000	75,000
Nicaragua	Program for control of brucellosis and tuberculosis.	47,000	47,000
Panama	Animal health project.	49,000	49,000
Guatemala	Project for the control of brucellosis and bovine tuberculosis.	47,000	47,000
	Subtotal	US$ 321,625	$ 299,625

Other technical cooperation

Uruguay	To develop a future loan request, projects in animal health.	100,000	100,000
Peru	Program to involve peasants and ranchers in prevention and control of zoonoses.	340,000	-
	Subtotal	$440,000	$100,000
	Total country projects	US$5,261,625	$4,254,625

Regional Programs

I. Studies

Region			
Andean Pact Countries, FAO	Control of livestock diseases.	US$ 50,000	45,816
PAHO, regional	Strategy for aftosa.	20,000	15,816
Souther region, GIDAL	Inter-American program for studies of aftosa virus in meat and meat products (PIPECA) (Programa Interamericano para el Estudio de Carnes y Fiebre Aftosa).	23,800	23,800
	Subtotal	$556,800	552,616

II. Training

PAHO, regional	Production and control, anti-aftosa vaccine.	300,000	287,455
PAHO, regional	Seminars on aftosa.	21,400	17,965
PAHO, regional	Communications relative to control of animal diseases in Central America & Panama.	400,000	400,000
PAHO, regional	Courses on prevention and control, African swine fever	49,600	49,600
		US$771,000	755,000
	Total IDB sponsored projects	$6,589,425	5,562,261

Training, current projects

PAHO, regional	Training of Veterinarians in Animal Health (Epidemiology, Administration, Communications, and Meat Protection).	$1,860,000	1,860,000
OIRSA, Subregional	Training of Quarantine Inspectors for Animal Health and Plant Protection.	340,000	340,000

"The bank has three procedures for supplying loans and grants for qualified "member-country" applications:

1) Short-term loans at high interest rates. These are provided from the Ordinary Capital Resources including monies borrowed in the financial markets.
2) Long-term, low interest loans, so-called "soft loans". These are provided from the Fund for Special Operations (FSO) monies contributed by member countries.
3) Grants (non-reimbursable investments) are provided as part of technical development; usually are linked to loans that have been provided upon request of a government. For example, a grant was provided by the IDB for the Pan-American FMD Center. The grant was made to PAHO. The grant provided for training of personnel in the production and quality control of good vaccine. Another grant was provided to PAHO for training in communication systems for Central America and Panama.

Being a developmental bank undergirded by direct appropriations from member countries (which own the Bank), IDB was asked by the governments to set aside a block of money for technical cooperation grants, especially for the lesser developed countries. The government of the country interested in receiving a grant must provide the Bank with adequate justification in support of the request.

B. World Bank

Also known as the International Bank for Reconstruction and Development (IBRD), it was conceived at the Bretton Woods Conference, July 1944, and began operations in June 1946. Its purpose is to provide funds and technical assistance to facilitate economic development in its lesser-developed member countries. It is the largest single source of external financial aid for agriculture in developing countries.

The bank obtains its funds from several sources: capital subscribed by member countries; sales of its own securities; sales of parts of its loans; repayments; and net earnings. The bank is self supporting. 21/

In the Americas the IBRD has not acted directly to supply loans for animal health. However, it has been supporting animal health indirectly because it has been Bank policy that loans for livestock development must contain a component in animal health. The Bank has never provided money for campaigns against foot-and-mouth disease, but it has supplied money for enterprises like the construction of a foot-and-mouth disease vaccine laboratory in Paraguay.

The World Bank provided money for the building construction in Guyana for the program in Animal Health Technology. The Bank also participates in the financing of the International Agricultural Research Programs in several regions of the world as previously cited in this report. In this endeavor, it acts as a collaborating agency with private Foundations such as Rockefeller, Ford, and Kellogg.

The World Bank has not as yet provided direct assistance for animal health such as has IDB.

Within the Structure of the IBRD are two separately-functioning units: (1) The International Development Association, (IDA) which can provide "soft loans" (low-interest, long-term concessionary loans) to countries where the average per capita income does not exceed $400.00 per year. Most of these loans are made to African or Asian countries. In the western hemisphere, only Haiti has qualified for such a loan. IDA credits bear no interest charges but have a service charge of 0.75% per year, with a repayment period up to 50 years. (2) The International Finance Corporation (IDFC) the private financing unit of the Bank. This unit can become an equity partner with non-governmental business enterprises (in contrast to the IDA which contracts with governmental agencies only). IDA is called "the soft loan window" of the World Bank, IDFC is the "hard loan window".

Project loans and credits may include funds earmarked for feasibility studies, consultant services, and training programs. Many borrowers also look to the bank for assistance in identifying, preparing, designing, and carrying out projects, and for assistance in strengthening national institutions with economic development responsibilities.

Loans made through IDFC bear interest rates slightly higher than the rates which the Bank must pay for money which it borrows from money markets in the financial industry.

The World Bank has no formal publications citing its loan commitments to Latin American and the Caribbean nations. While it has no funds identified specifically for the support of projects in animal health, it does provide loans for livestock production enterprises. In qualifying for these loans, government or private industry seeking financial help must give assurances that the health of the livestock will be safeguarded. 22/

C. The United Nations Deveopment Programme (UNDP)

This Programme, founded in 1965 was formed as a result of a vote by the General Assembly of the United Nations to merge two existing development operations: The Expanded Programme of Technical Assistance and the Special Fund.

UNDP offers low-income countries a broad spectrum of assistance services to enable them to make more fully productive use of their human and natural resources". It cooperates with governments of developing countries, at their request, in carrying out high priority "pre-investment" and technical assistance projects. It makes available experts and consultants, specialized equipment and contract services. Currently, it is assisting in more than 8,000 large and smaller-scale projects in 150 countries and territories.

It carries out surveys of natural resources; supports large-scale vocational and professional training activities; promotes adaptation and transfer of technology; assists governments in economic and social planning. helps stimulate development investments. 23/

UNDP is the primary financial resources organization for FAO. However, its resources are available also to other agencies, particularly WHO, which like FAO and UNDP itself, is a functional unit of the United Nations. PAHO is the Western Regional Organization of WHO and therefore eligible for UNDP funding considerations.

Projects are proposed by member governments. All projects submitted for consideration must have a technical cooperation component. Usually the projects are designed for 5 year periods.

For preparation of the project proposal, international agencies frequently are invited to assist the governments. PAHO and FAO are often used as such agencies. When the project is approved, UNDP allocates funds directly to the government requesting the developmental assistance.

IICA as an international agency has not been able to execute UNDP projects because IICA is not part of the United Nations System. However, negotiations have been started between IICA and the UNDP to examine the future possibilities wherein the Institute might act as an executing agency for agricultural projects.

UNDP-Supported Projects in Animal Health, Latin-America and Caribbean* 1982

Collaborating Agency	Project Title	UNDP Contribution	Estimated Completion Date
WHO** Argentina	Vaccine Against Aftosa	US$ 567,847	1983?
WHO Colombia	Zoonoses Control	194,352	1982
FAO Dominican Rep.	Swine Disease Laboratory	112,466	1982
WHO Guyana	Support of Veterinary Ser.	650,230	1984
WHO Regional	Animal Health Assistants Education	1,224,863	1982
FAO Regional	Control, Hog Cholera	470,097	1983
WHO Regional	Vesicular Diseases	496,650	1985
FAO Argentina	Animal Health	1,582,812	1984?
WHO Surinam	Veterinary Services	326,242	1982
DPOPE*** Uruguay	Viral Inactivating Methods	12,479	1982
FAO Bolivia	Animal Health	1,142,304	1982
WHO Regional	Vesicular Disease Lab.	769	1982
FAO Uruguay	Centro de Invest. Vet.	650,797	1983?

* These data obtained from computer print-outs, Programme and Project Management on-Line Enquiry Facility, Project Status Reports, supplied through courtesy of Dr. Frank P. Vandemeale, Senior Technical Advisor, UNDP.
** For Latin America and the Caribbean, PAHO is the WHO Regional Representative.
*** (U.N.) Development Program Office of Projects Execution.
(?) This list includes projects that are in the "pipeline" of UNDP but not yet implemented.

FAO Argentina	Animal Health	1,618,862	198?
WHO Colombia	Zoonoses	394,352	198?
FAO Ecuador	Faculty Agron. & Vet. Med.	75,983	198?
FAO St. Lucia	Veterinary Training	42,019	198?
WHO Barbados	Animal and Human Health	676,753	1982
WHO Caribb.	Vet. Mobile Lab. Services	160,994	1982
FAO Haiti	Consolid. Breed Ser. & Vet. Med:	1,973,827	198?
FAO Regional	Strength. Field Ser. PANAFTOSA	378,584	1982
	TOTAL	US$12,754,092	

Section VI

COMPARATIVE FUNDING PROGRAMS AND TRENDS FOR THE IMMEDIATE FUTURE

Among the four international agencies which provide financial support to the developing nations of Latin America and the Caribbean, the following trends in financial commitment seem to be apparent for the immediate future.

A. The Food and Agriculture Organization of the United Nations

With UNDP funds available for development projects in animal health *in* Latin America diminishing, FAO has developed other extrabudgetary resources in recent years.

An International Scheme for the Coordination of Dairy Development (ISCDD) and an International Meat Development Scheme (IMDS) have been designed to attract funds in trust from bilateral donor agencies. The schemes have been designed to assist governments in planning dairy and meat production development and attract investment assistance which will enable countries to implement the projects identified and formulated. In these schemes, all segments of the Animal Production and Health Division of FAO are involved. All aspects of animal health, animal production, and meat and dairy product processing are covered.

The countries supporting these schemes also make available highly specialized consultants so that the best international expertise is available to recipient countries.

The FAO Artificial Insemination and Breeding Development Programme (AIBDP) is supported by a Trust fund and by contributions of frozen semen from a number of donor countries. The programme holds seminars and courses, and provides fellowships for infrastructure development.

New Scheme for Emergency Disease Control

FAO has provisions for meeting emergency requests under its Technical Cooperation Programme (TCP). This Programme which was launched in 1976 is financed entirely from FAO's Regular Programme Budget. TCP funds are limited and are sufficient only for initial action in animal disease emergencies. The duration of support for any single project cannot exceed one year and the maximum funding for this preriod is limited to US$250,000.

This Programme has been used in connection with the outbreaks of African swine fever in Latin America in 1978. It is designed to respond within days to a request from a government in an emergency disease situation. The form of assistance provided varies but may include the immediate dispatch of consultants and material assistance in the form of equipment, vaccines, drugs or reagents and when necessary, in the organization of donor meetings. 24/

The FAO/Governments' Cooperative Programme through which bilateral nors establish funds in trust with FAO for the execution of projects development areas and countries of interest to the donor is being opened to imal health and animal production projects. Amongst the projects for which nds are being actively sought is one for strengthening the veterinary rvices in the countries under the Agreement of Cartagena.

B. Panamerican Health Organization

An analysis of the regular PAHO funds for the Special Animal Health rogram shows an increase similar to that experienced in the funds for its ther programs: a 7.6% increase in the 1982-83 biennium over 1980-81, and a rojected increase of 15.7% for 1984-85 over the 1982-83 biennium.

Extrabudgetary funds must be examined on an annual basis, because of he way in which the countries and some national and international rganizations assign funds to PAHO. PAHO has been making extraordinary efforts to secure this type of contractual subsidy and agreement to support echnical cooperation programs in the field of animal health and veterinary ublic health in the countries. The rise in these subsidies has been substantial in recent years, as shown below:

Year	Contribution in US$	Percentage increase
1978	3,541,599	
1979	4,340,680	23
1980	5,642,207	30
1981	7,736,983	37
1982	8,688,146	12

Around two-thirds of the regular funds of the Special Animal Health Program are for support to PANAFTOSA and CEPANZO, because of the fact that a large part of PAHO's technical cooperation with the countries in the area of veterinary public health and animal health is conducted through their laboratories and with their technical personnel, in an integrated program designed to provide maximum financial and human resources.

C. Inter-American Institute for Cooperation on Agriculture

IICA's involvement in programs in animal health is less than 3 years old, having been instituted in 1979. Its program vitality has been described in Section IV of this report. Its' current regular operating budget for animal health is modest:

1982: U.S.$ 936,140
1983: U.S. 1,026,725

However, extra-budgetary support is significant. There are noteworthy actions which represent tacit evidence of confidence in IICA's capacity and potential. For example in-country support of IICA sponsored projects is cited below:

Argentina:	
1981:	U.S.$135,000.
1982:	150,000.
1983:	160,000.
Brazil:	
1982:	$155,000.
Paraguay:	
1982:	$ 35,000.
Haiti:	
1982:	$10,500,000.
1983:	6,000,000.

D. OIRSA - Organismo Internacional Regional de Sanidad Agropecuaria

The appropriation in the OIRSA operating budget for 1982 for programs in animal health is approximately U.S. $236,000. Extra-budgetary support for animal health programs under OIRSA supervision in Central America, Panama and Mexico, derived from IDB resources is approximately U.S. $340,000.

E. Bilateral programs in animal health

1. U.S. in Latin America

In the United States, two agencies of government have had active programs in binational collaboration, with special focus on agriculture, for many years. These two are the United States Department of Agriculture and the Agency for International Development, U.S. Department of State.

(a) USDA

The following projects, described in letters of November 6 and December 15, 1981 from the Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service, USDA, to the Director, Animal Health Program, Inter-American Institute for Cooperation on Agriculture are quoted accordingly:

"Mexico

The United States participates in a cooperative program designed to keep foot-and-mouth disease (FMD) out of Mexico and thereby out of the United States. Veterinary Services (VS) of the Animal and Plant Health Inspection Services (APHIS), USDA, maintains a staff of four veterinarians and one administrative officer in Mexico as the U.S. Section of the Mexico-United States Commission for the Prevention of FMD. The Commission is involved in a wide range of activities designed to prevent entry of FMD into Mexico, diagnos any suspicious vesicular conditions, and mobilize resources to eradicate the disease if it were to enter.

The FY 1981 budgeted amounts:

U.S. Personnel Support	$287,918
Joint Commission Expenses	132,982
Program & Administrative Overhead	54,000
Total	$474,900

The United States and Mexico are participating in the eradication of screwworms in Mexico down to the Isthmus of Tehauntepec. The program is jointly funded and managed by both countries through a Commission. A sterile fly production facility was built in southern Mexico, and sterile fly dispersal sites were provided throughout the country. Following eradication to the Isthmus, a barrier of sterile flies will be maintained at the Isthmus to prevent reinfestation of northern Mexico and the United States.

The FY 1981 budgeted amounts:

Joint Commission Expenses	$23,130,000
U.S. Personnel Support	2,760,000
Program and Administrative Overhead	1,820,000
Total	$27,710,000

Panama

Activities are carried out through the Panama-U.S. Commission for the Prevention of FMD and Rinderpest. VS* maintains a staff of two veterinarians and one administrative officer. Activities are carried out in the Darien Province and San Blas Island and include inspection of susceptible animals on a monthly basis, control of animal movement, and investigation of suspicious cases. The newly constructed Vesicular Disease Diagnostic Laboratory in Panama will provide diagnostic services for vesicular diseases for Panama and Central American countries.

VS personnel in Panama also have technical and administrative responsibility and similar foot-and-mouth disease programs in Honduras, Guatemala, Costa Rica, and Colombia.

The FY 1981 budgeted amounts:

U.S. Personnel Support	$180,000
Joint Commission Expenses	500,000
Unilateral Contribution for Construction and Purchase of Laboratory Equipment	135,000
Program and Administrative Overhead	78,900
Total	$894,700

Colombia

In 1973, USDA entered into an agreement with Colombia to develop and cooperate in a program designed to control and accelerate eradication of FMD in the region of Uraba, known as program Areas I and II.

* Veterinary Services, APHIS, USDA.

The activities involve inspection of animals, investigation and diagnosis of suspicious cases, control of animal movement, and maintaining a census in both areas as well as vaccination of all bovines against FMD on a periodical basis in Area II.

VS maintains a staff of two veterinarians and one administrative officer.

The FY 1981 budgeted amounts:

U.S. Personnel Support	$ 300,389
Joint Program Support	900,000
Program & Administrative Overhead	116,100
Total	$1,316,489

Guatemala, Honduras, Costa Rica

The activities in these countries include surveillance and investigation of suspicious cases of vesicular and other exotic diseases, collecting diagnostic specimens for shipment to appropriate laboratories, and educating the local livestock owners in the importance of disease prevention.

VS maintains a staff of three veterinarians, one in each of the three countries. They are under the technical and administrative supervision of the staff in Panama City, Panama. The staff provides, upon request, assistance to animal health officials in El Salvador, Nicaragua, and Belize.

The FY 1981 budgeted amounts:

U.S. Personnel Support	$ 168,250
Program & Administrative Overhead	21,600
	$ 189,850

(b) U.S.A.I.D.

Conversations with staff officers in U.S.A.I.D. disclosed that there apparently is no direct support of projects exclusively for animal health at the present time. However, there are projects in which universities and private organizations are involved in animal health in Latin America and wherein U.S.A.I.D. is collaborating.

For example, Colorado State University does have a U.S.A.I.D. funded research program in cooperation with faculty at San Marcos University in Lima, Peru. The project is entitled "An Investigation of Small Ruminant Health Problems", funded at U.S. $175,000 per year for a 5-year period. 25/

Another projects, for illustrative purposes, in which USAID is a supporting collaborating agency, involves the University of California. The School of Veterinary Medicine of the University has a cooperative project in Sobral, Ceara, Brazil, at the National Sheep and Goat Research Center. The title of the project is "Small Ruminant Flock/Herd Health Programs in Small Holder Systems" and is funded at $175,000 per year for 5 years. 26/

Heifer Project International (H.P.I.) also works collaboratively with U.S.A.I.D. in addition to soliciting financial support from churches and private citizens. The role of H.P.I. is to assist poor families in rural areas to produce more food and income for themselves with improved livestock. H.P.I. provides superior animals adaptive to area circumstances, plus the essential training in animal care and management for recipients to ensure the health and productivity of their new animals and the success of their projects.

In each project, participants "pass on the gift" by sharing an offspring from the original animal or their skills in animal care with others in the community. 27/

2. Canada in Latin America and the Caribbean

In Canada, the Agency involved in bilateral collaborative programs with Latin-American and Caribbean nations is the Canadian International Development Agency (CIDA). That Agency currently is administering five projects as follows:

Jamaica	Development of Improved Breeding Practice, Extension Services, and Marketing Method Programs, Pig Industry.	$ 195,000
Jamaica	Improve the Reproductive Efficiency of Jamaican Cattle by Establishing a Fertility Examination Service, Establishing a Reproductive Disease Diagnostic Laboratory, and Improve Artificial Insemination.	376,700
Dominican Republic	Dairy Production; Establishing a Special Village for Milk Production, a Milk Treatment Plant, a Feed Manufacturing Facility and a Farm for Producing Dairy Cattle.	3,400,000
Peru	Milk Production, assisting the National Institute of Agricultural Investigation	1,000,000
Haiti	African Swine Fever Eradication *	2,750,000 (eradication phase) 7,000,000 (repopulation phase)

3. Bilalateral programs, other countries with Latin American and Caribbean nations

From time to time other countries have developed bilateral programs with Latin American and Caribbean nations. West Germany, France, Holland, Japan, Italy, Great Britain and others have entered into collaborative

* While CIDA is administering the Canadian input in all 5 projects, Agriculture Canada took the lead role in becoming involved with IICA in the Haitian Swine Fever Project. 28/

agreements with western hemisphere nations. Data are not available to show the full extent of bilateral programs.

F. General Comments

In an overall perspective, it should be mentioned that in all these agencies, the distribution of funds supports four essential types of programs:

(a) institutional development
(b) training
(c) service programs
(d) research

In institutional development, there is a critical need for a newwork of collaborating diagnostic laboratories and research institutions which deal with animal health problem-oriented well-planned programs. Training of qualified laboratory, field and administrative personnel for the institutions and the service programs representing their out-reach must interdigitate in the planning.

Training

Since none of the other three types of programs can be accomplished without training, it seems appropriate to give special address to this important segment of the interdigitting components of development programs.

FAO, in a report of an evaluation of agricultural training has cited the multiplier effect of effective training programs and the importance of institutional linkages. 29/ Various types of training have been offered through the resources of all the international agencies. Courses, seminars and conferences, on-the-job transfer of technology through participative learning, are among these. Further, the importance of sending bright and eager young nationals to foreign universities which offer advanced education in disciplines and professions that need development in their home countries has been recognized. And the importance of having career incentives available in the home countries has been addressed. 29/

Accordingly, a report on international educational exchange was examined. 30/ Of all foreign students matriculated in universities in the United States during the decade of the 1970's, 18 per cent were from Latin America.

In 1980/81, Venezuela had the greatest number of students, followed by Mexico; then Brazil and Colombia. All other Latin American countries had less than 2000 students each in universities of the United States.

Of the major disciplines and professions represented, the distribution of students in 1980/81 was as follows:

Engineering 25.8%

Business and Management 17.4%
Health Professions 3.6%
Agriculture 2.8%

The percentage of all foreign students enrolled for the bachelor's degree in 1980/81 was 47.8; 24 percent for graduate degree.

Master's 16.1%
Doctorate 7.6%
Professional degrees 0.9%

Financial support for foreign students in U.S. universities was cited as follows:

Personal and Family 67.4%
Home government 12.9%
Foreign private sponsors 2.8%
College or university funds 8.6%
Employment 2.3%
U.S. government 2.3%
U.S. private sponsors 1.7%
Other 2.0.%

These data indicate a rather modest enrollment of Latin American students in U.S. universities, and of that modest enrollment, only a few are preparing for careers in agriculture and the health professions.

The distribution of financial resources to assist the foreign students matriculated in U.S. universities shows modest support from home governments. This could raise questions about the degree of commitment of governments to training bright minds, especially at advanced degree levels, and particularly in the agricultural sciences and health professions. One must recognize that these data, of course, relate to education of foreign nationals in U.S. universities. They do not reflect trends in Latin American national universities, and they must not overlook the national language differences and financial exchange rates which do have impact upon the selection of universities for tertiary or more advanced education.

Institutional Development

Campaigns for the control and ultimate eradication of transmissable animal diseases of economic or public health importance have given noteworthy benefit to developing nations, provided that they have been undergirded by political and financial commitment from the government of the country in which they have been waged. Well-organized and adequately funded, they provide infrastructure for long-range effectiveness.

For example, campaigns designed for the control and eradication of foot-and-mouth disease in South America led the way for establishing infrastruture in Latin America for programs in bovine tuberculosis and brucellosis control and eradication programs.

In this type of institutional development secure positions for professional staff and supportive staff have established career

opportunities. And, most importantly they have provided visibility as organizational structures in which the livestock industry has been able to find help for management of disease problems. Further, laboratories established through institutional development programs, when well equipped and staffed for diagnostic purposes and for monitoring frequency rates of diseases in populations of animals at risk, provide the backup resources essential to surveillance. And surveillance shows the effectiveness of field programs.

Without long-term commitment for support of institutional development from the government in which the infrastructure is being developed and refined, heroic efforts in programs to control costly transmissable diseases are likely to be unproductive and disillusioning exercises in frustration. With such commitment, however, cost-benefit ratios can be calculated and evaluated for impact upon the economic well-being of the nation.

Service Programs

Technologic services are essential for monitoring animal disease field-control programs already in existence; essential in providing direction for field efforts and for assessing success in field campaigns. For example, diagnostic services provided by PANAFTOSA and CEPANZO not only are helpful in ascertaining the nature of causative agents and their distribution but also helpful in surveillance of flow patterns in disease outbreaks and in assessing the effectiveness of vaccination and other control methods. They also are useful in preparing, standardizing, and testing reagents used in laboratory diagnostic methods. And they provide resources for in-service training of technologists and assistants, and serve as resource centers for consultants for agencies which need specialized advisory talent.

Usually the sophisticated technology of diagnostic laboratories requires personnel with scientific training and expertise in interpretive judgment. To attract well-disciplined and skillful scientific and supporting technical staff, positions must be available which assure salaries and secure career inducements commensurate with the scientific and technologic demands of the positions.

While international agencies may be receptive to short-term developmental support of skilled technologic service programs, service programs usually require long term resources for definitive diagnoses and for laboratory testing services essential to assessment of incidence and prevalence of transmissable diseases, and for vector monitoring. Therefore, long-term support commitment becomes government responsibility, requiring on-going appropriation of public funds for the support of service programs.

Research

Research in animal health, as for research in other aspects of agricultural science must be primarily problem-oriented. Therefore, it is assumed that it should be directed toward solving problems that are of special importance to the country in which it is being done.

Formerly, the most prestigious institutes for research in tropical medicine were located in the developed countries, notably those which had colonies located in the tropics. But the world political scene has changed and few countries can claim to have colonies or territories in distant lands.

Therefore, problems associated with tropical environments are not being studied in temperate zone countries, except occasionally on a small scale. Tax dollars which support research must be spent in an accountable manner for problem-solving relevant to the needs of the country which is providing the financial support.

Unless there is an infrastructure and institutional support of research on hemoprotozoan diseases, like anaplasmosis, babesiosis and trypanosomiasis, for example, in countries where these are serious problems, it is unlikely that they will be studied.

International agencies which provide technical assistance may provide start-up funds for some research projects, but their budgets, which are supported by public funds, are limited and intended for institutional development, not for the long-term support of research.

There appears to be only three likely sources of funds for the support of research: government appropriations, international foundations, and national foundations.

It has been surprising to find that in countries where the gross national product is derived principally from agriculture, very little money is invested in agriculturally-related research projects. This includes animal health. Further, except for the support of specific research centers, International Foundations rarely invest in research in animal health. Some support is derived from corporations which produce vaccines and chemotherapeutics against animal diseases but even that is scant and not useful for long range planning. Quid-pro-quo financing of self-serving research is unlikely to benefit major problems in animal health which would be given high priority in unbiased evaluations.

The question about whether money should be invested in support of promising research programs that deal with the animal health problems <u>within developing countries</u> or whether it should be used for support of projects in preeminent research institutions extant in <u>developed</u> countries is a philosophical question.

Suffice it to say that developing countries may appear as being satisfied to be dependent and complacent rather than to be anxious to develop their own expertise within their own land. Without having their own capability, they have no decision-making authority which can set priorities, review research projects, establish controllable standards of performance and demand accountability for the use of public funds invested in research efforts. Such dependent nations are likely to have no control over the resolution of animal disease problems which beset their own national economy.

Section VII

EVALUATING THE EFFECTIVENESS OF THE INTERNATIONAL AGENCY SUPPORT PROGRAMS

The international agencies have, as part of their mandate, evaluation procedures for justification of the expenditures or as indices for changes in priorities or changes in program support.

Laboratories can be evaluated because facilities can be inspected and the accuracy, sophistication and productivity of service can be compared with any given set of standards accepted as the base-line for comparison. However, it is difficult to evaluate the effectiveness of training programs unless there are active methods of assessing on-the-job performance and to evaluate career incentives which will attract those trained to positions wherein the training is utilized.

In the FAO "Report of an Evaluation Study" 29/ there is a disconcerting statement that: "One of the findings in many of the projects studied was that, in the absence of appropriate salary and career incentives provided by governments, national experts tend, on completion of their training, to seek more rewarding employment elsewhere....."

The report continues: "...It should also be pointed out that national staff ..... remaining at the Centre have not received promotions commensurate with the rich and diversified experience they received during three phases of technical assistance. This has led to the departure of a number of them and to a progressive demoralization of those remaining...."

Attention is called to the multiplier effect of dynamic training programs. A relatively small number of national experts and technicians will spread their knowledge directly to farmers or other national staff who in turn work with farmers. But this is conditional upon gainful employment by the nationals who are given the opportunity of training.

Further, the report discusses institutional linkages. "It has been observed that the multiplier effect of training cannot be realized unless trainess are incorporated into an institutional system that links up with producers. A necessary prerequisite for rural development is the existence of institutions to provide economic and social services, particularly extension services involved directly with small farmers or other groups of the rural poor. Unless training directly or indirectly contributes to strengthening these institutions it cannot be expected to have a significant impact at the level of the primary producers." 29/

Policy for IDB was described in a letter from Abraham A. Arce, Project Specialist: "Country proposals, to achieve authorization from the Bank for funding, must result in the production of specific intermediate out-puts and reach ultimate objectives. These are set forth in agreements and subagreements between the country and the Bank. Effectiveness is measured by minimum institutional requirements during the early stages of a project and differ widely by all countries. In general, effectiveness criteria are set forth in the country proposals." 19/

For PAHO, there is a procedural system called "the Programming and Evaluation System," AMPES, which controls the execution of programs for technical cooperation, evaluates the results, and makes adjustments accordingly. 31/

UNDP has a Division for Programme Development, Support and Evaluation (DPDSE) and the Bureau of Programme Policy and Evaluation (BPPE). In July, 1978 the Division was approached by the FAO Regional Bureau for Latin America (RBLA) with a view to seeking the participation of a member of this Division in a mission designed to evaluate the results of a Regional Training Programme for Animal Assistants (REPAHA) in the Caribbean Region.

The Mission established a methodology to be used in interviews in seven participating countries and territories from which the majority of trainees were matriculated. The criteria were as follows:

1. Availability of and future needs for animal health assistants.
2. Employment and Deployment of Animal Health Assistants.
3. Adequacy of the Training Programme and Quality of Performance of the REPAHA Diplomates.
4. Working facilities at the disposal of the animal health assistants.
5. Status of REPAHA - trained animal health assistants.
6. Needs for continued and/or additional training. 32/

These self-studies indicate that the supportive agencies are concerned about the effectiveness of the programs. However, if an agency without vested interest were to conduct an evaluation, the investing agencies would be under no criticism of bias and both successes and deficiencies could be identified without risk of embarrassment to the receiver nor solicitousness to the provider, or vice versa.

Projection of Future Program Needs: Long Range Planning

It is almost axiomatic that the success in resolving the major animal health needs for Latin America and the Caribbean is likely to be inversely proportional to the proliferation of small independent and isolated projects and programs. That is to suggest, therefore, that coordination among the agencies mentioned may be extremely beneficial to establish priorities, encourage collaboration among agencies with different strengths (and weaknesses), avoid duplication and provide stability for effective programs which under the nuances of political winds may be threatened not with surgical excision but with more subtle demise by slow financial strangulation.

It is extremely difficult to project future needs if one must address the operational mandate of each international agency independently, especially when bilateral agreements between countries are unpredictable. Also it is difficult to project future program needs on geo-political bases. The socio-economic problems of nations or regions influence priorities. External indebtedness, deficiencies in production or accessible markets and internal movement of the labor force to loci where jobs are more plentiful and income more attractive are factors which impinge upon the relative importance of animal health.

In the Alliance for Progress, a thrust of the decade of the 1960's, there was a proliferation of organizations and agencies. Many of these external groups acted without coordination and with little efficiency. Recalling this, the President of Venezuela, the Honorable Luis Herrera Campins, addressed the OAS in November 1981 and concluded that "the immediate need is to bring about a coordination of the organizations active in Latin America; coordination to obtain efficient and articulated action which will avoid duplication and maximize the efforts and resources. Because of the lack of coordination there has been subeffective responses from existing organizations in resolving different existing problems. The disorganization has caused some to pretend that these can be resolved by creation and proliferation of new organizations. The enlarged constellation still cries for coordination; a great need indeed..."

The dilema is compounded by the fact that the international agencies are financed by quotas among the various governments; quotas that are unlikely to be increased. The real question is how do the countries see the expressed needs for animal health programs in terms of their own individual priorities.

Despite sincere efforts by several leading international agencies which have provided technical cooperation in animal health for Latin America and the Caribbean and their record of instituting programs for animal disease control and eradication, it has been made clear that the economic losses and waste of energy caused by animal pests and diseases are still so enormous that intensive control efforts must be made.

"Vampire bat-transmitted bovine rabies affects some 500,000 cattle per year in Latin America and causes losses up to US$50 million annually. Canine rabies also poses serious problems. Though progress has been made in the latter, it continue to be widespread in the Americas.

"Brucellosis continues to be one of the world's most prevalent zoonoses. In Latin America, estimated economic losses caused by brucellosis run as high as US$600 million per year. Relatively few deloping countries have been able to control the infection and fewer still have managed to eradicate it. Those countries reporting the greatest progress in Latin America are Cuba and Uruguay.

"Bovine tuberculosis, endemic and widespread in most of the countries has been known to afflict as many as 4.7 percent of the 4 million animals slaughtered by one country in a single year. The highest prevalence rates occur in South America dairy sheds, where positive reactions to the tuberculine test have been as high as 30% in some herds.

"Besides its implication for human health, hydatidosis has a major economic impact because of the large number of condemned viscera involved. Large dog and sheep populations, together with unsanitary free disposal of parasite infected wastes, uncontrolled home slaughter, uninspected commercial slaughterhouses, and inadequate dog control, have contributed to the maintenance of the disease cycle.

"Three types of equine encephalitides are present in the Americas in epizoodemic and cyclical forms; these are eastern equine encephalitis, western equine encephalitis and Venezuelan equine encephalitis. The diseases pose major problems for human health and livestosk raising in the affected countries.

"More than 50 leptospira serovars from 15 serotype have been isolated in Latin America and the Caribbean. Several of these serovars are autochthonus and have not been described in other geographic areas. Little is known about the distribution and importance of these serovars, owing to shortage of data, diagnostic facilities and personnel trained to diagnose the disease." 2/

"One of the most important diseases is foot-and-mouth disease. This disease has been enzootic in some South American countries since the beginning of the century; for many years it has been one of the conditions causing the heaviest losses and it is estimated that these losses amount in the region to approximately US$400 million per year. At present it persists in South America, with the exception of Chile, Guyana, Surinam and French Guyana." 7/ The presence of this disease in South America severely affects exports trade.

External parasites are a serious problem throughout Latin America and the Caribbean. Sarcoptic and psoroptic mange occurs in sheep. Cutaneous myiasis or screwworm infestation is most important for all livestock in the region.

"Ticks are the parasites which certainly cause the heaviest losses among bovines. Approximately 85% of the cattle population of Latin America and the Caribbean are infested by ticks. The resistance of cattle ticks to acaricides is very worrying. The resistance developed in certain countries to chlorinated hydrocarbon and organophosphorus acaricides is already well known. Among diseases transmitted by ticks, babesiosis and anaplasmosis are very important cattle diseases in Latin America and the Caribbean. Babesiosis also affects other species. Its occurence in horses seriously interferes with export trade.

"Cattle trypanosomiasis is important at a sub-regional level, in Venezuela and certain neighboring countries." 7/

Despite the inputs of technical assistance by international agencies, incidence and prevalence rates appear to be alarmingly disturbing for these diseases cited and for others, too, such as African swine fever and hog cholera where information about their frequency rates is only fragmentary.

There are organized foot-and-mouth disease control and eradication programs in South America, screwworm and tick control and eradication programs in Mexico, and African Swine Fever eradication programs in the Dominican Republic, Haiti, and Brazil. Chile has a national hog cholera eradication program. Argentina, Chile, Peru and Paraguay have national campaigns to eradicate equine infectious anemia. Where there is government commitment to animal disease control and eradication programs there is sustained activity which can be assessed for effectiveness. Without such commitment, ventures in technical cooperation may have little long-range effectiveness. Transmissable diseases and parasitisms, which do not recognize political boundaries, must be addressed on a continental or hemispheric basis. Independent international agencies with limited resources, may find it almost as difficult to deal with this approach as sovereign nations. Campaigns to erradicate transmissable animal diseases are costly, must show benefit which justifies the expenditure of funds for eradication and, above all, require long-term commitment of the governments.

There appears to be no coordination and meaningful communication among the existing agencies. Because of that, there has been duplication of effort and development of information without awareness of such duplication. Redundancy is not always undesirable, such as in confirming or refuting conclusions of research. But it can be extremely wasteful, especially in applied technology. There appears to be confusion within and among countries because of misunderstandings relative to communication.

A coordinating agency or group may bridge the limitations of each and pool operational resources through mutual consent. Also it may be helpful in developing a consensus for establishing priorities in long-range planning, with sub-set priorities on regional or national bases.

Conclusions

This report shows that there is an extensive web of national and international agencies and organizations providing technical cooperation on animal health in Latin America and the Caribbean. In preparation of this document it became apparent that there is some redundancy in effort and inadequate attention to some animal health problems. Deficiencies in laboratory diagnostic services, professional infrastructure for field monitoring and control programs and career incentive programs for placing and advancing well-trained specialists were noted. Misunderstandings have occurred because of problem in communication.

Therefore, it is recommended that an Interamerican Commission on Animal Health be created, and supported under long-term commitment by cooperating governments. This Commission should assess and coordinate the interests and financial commitments of collaborating international and national organizations, and, in agreement with participating governments, establish and evaluate priorities in animal health which have international implications.

References

1. Bilogical Energy and the Plant-Animal Trade-Off, Poppensiek, G.C. and K.T. Marash, Animal Health in the Americas, 1980. Proceedings of the I Inter-American Meeting, At the Ministerial Level, on Animal Health, Scientific Publication No. 414, Pan-American Health Organization, Washington, D.C., 1981, 45-63.

2. From Concepts to Programs: Three Decades of Progress for Veterinary Public Health and Animal Health in Latin America and the Caribbean, Acha, P.N., Bull. Pan. Am. Health Organ. 14 (4), 1980, 356-375.

3. An Assessment of Veterinary Diagnostic Laboratory Services in the Americas, Technical Publication on Animal Health, No. 2, IICA, San José, Costa Rica, 1982.

4. Resolution No. 12, Appointment of a Commission to Study the Establishment of an Inter-American Institute for Animal Health, Doc. FACIA/37, The First Hemisphere Meeting on Foot-and-Mouth Disease and International Trade of Animals and Animal Products, November, 1979, Buenos Aires, Argentina.

5. From Concepts to Programs: Three Decades of Progress for Veterinary Public Health and Animal Health in Latin America and the Caribbean, Acha, P.N., Bull. Pan. Am. Health Organ. 14(4) 1980, 362.

6. Resolution No. 31, Report on the II Inter-American Meeting, at the Ministerial Level, on Animal Health (RIMSA II), 1981, CD28/FR (Eng.), pages 40, 41.

7. The Role of Veterinary Medicine in Animal Production and Health: Its Impact on the Socio-Economic Development of the Latin American and Caribbean Countires, Pacha, P.N. and L.V. Meléndez, Rev. Sci. Tech. Off. Int. Epiz, 1983,2 (1) 101-104.

8. Preamble to the Constitution; Basic Texts of the FAO Vol. I, 1980 Edition.

9. The Story of FAO, Gove Hambidge, D. Van Nostrand, Co. Inc., publisher.

10. FAO Activities in Latin America LA/3/3; FAO/54/8/4514 in 1953/54.

11. Report of V Regional FAO Conference for Latin America (1958).

12. El OIRSA y Su Programa de Salud Animal (y CIRSA, Comité Internacional Regional de Sanidad Agropecuaria), RESIDA I, IICA, September, 1980, San José, Costa Rica.

13. Development of Emergency Programmes at Regional Level (OIRSA), Ferrer, J.A., in a Report of the FAO Expert Consultation on Emergency Disease Control, AGA-801, Food and Agriculture Organization of the United Nations, 17-19 November 1980, (published in 1981), 27-30.

14. Report on the Activities of the Animal Health and Production Program of IICA, III Interamerican Meeting of Directors of Animal Health (REDISA III, 31 July, 1981) Buenos Aires, Argentina, Aug. 5-8, 1981.

15. Animal Health Program, Program and Budget Document of IICA, 1982-83, page 47.

16. Annual Report, 1980, Inter-American Institute for Cooperation on Agriculture (IICA), pages 24, 25.

17. Annual Report, 1980, Inter-American Institute for Cooperation on Agriculture, (IICA) page 129.

18. Información Básica sobre el Banco Interamericano de Desarrollo, Octubre, 1981, pg. 1.

19. Communication with Dr. Abraham A. Arce, Project Specialist, Inter-American Development Bank, 808 17th. St., Washington, D.C. 20577.

20. Informe de Evaluación Sobre los Prestamos del Banco al Subsector de Sanidad Animal, Preparado por el Grupo de Contralores del Sistema de Revisión y Evaluación, Banco Interamericano de Desarrollo, Julio, 1979, (Anexo II, Acción del Banco en el campo de la Sanidad Animal, 1982).

21. The Stateman's Year Book, 1979-80, edited by John Paxton and published by MacMillan Press Ltd., Little Essex St., London WC2R, 3LF, England.

22. Communication with Dr. John C. Glenn, Livestock Specialist, International Bank for Reconstruction and Development, 1818 H St. N.W., Washington, D.C. 20433.

23. Encyclopedia of Associations, Nancy Yakes and Denise Akey, Co-Editors, 13th Edition, Volume I, Gale Research Company, Book Tower, Detroit, Michigan 48226, page 910.

24. Report of the FAO Expert Consultation on Emergency Disease Control, Rome 1980.

25. An Investigation of Small Ruminant Health Problems, James C. Demartini, Principal Investigator, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colorado 80523.

26. Small Ruminant Flock/Herd Health Programs in Small Holder Systems, Blaine McGowan, Principal Investigator, Department of Medicine, School of Veterinary Medicine, University of California, Davis, California, 95616.

27. Communications with Gordon Hatcher, Program Director, Heifer Project International, P.O. Box 808, 825 West Third St., Little Rock, Arkansas 72203.

28. Canadian Animal Health Projects in the Caribbean and Latin America, communication with J.E. McGowan, Assistant Deputy Minister, Agriculture Canada, Food Production and Inspection Branch, Ottawa, K1A, OC5, Canada.

29. Agricultural Training, Report of an Evaluation Study, Food and Agriculture Organization of the United Nations, 1980, page 35.

30. Open Doors: 1980/81, Report on International Educational Exchange, Institute of International Education, 809 United Nations Plaza, New York, N.Y. 10017.

31. Proposed Program and Budget, Pan-American Health Organization, 1982-83, Introduction, Pan-American Health Organization, Pan-American Sanitary Bureau, Regional Office of the World Health Organization, 525 23rd. St. N.W. Washington, D.C. 20037, page vii.

32. UNDP/FAO Evaluation Study on Agricultural Training, Frank P. Vandemaele, Senior Technical Advisor, UNDP, 28 June 1979.

ANNEX I

REPORT OF THE ADVISORY COMMISSION ON INTERNATIONAL COOPERATION IN ANIMAL HEALTH

ANNEX 1

REPORT OF THE ADVISORY COMMISSION ON INTERNATIONAL COOPERATION IN ANIMAL HEALTH 1/

1. INTRODUCTION

In compliance with the provisions of Resolution 18 issued by the Inter-American Board of Agriculture, of the Inter-American Institute for Cooperation on Agriculture, at its first regular meeting (Buenos Aires, Argentina, August 1981), the Director General of IICA convened the meeting of the Advisory Commission in Panama City, from April 14-17, 1982.

The Commission was composed of the following members:

Dr. Emilio Gimeno
Director General, National Animal Health Services
Argentina

Dr. Ubiratan Mendes Serrao
National Secretary for Agricultural Protection
Brazil

Dr. W.S. Bulmer
Associate Director for disease Control, Agriculture
Canada

Dr. Miguel Reyes Gómez
Advisor to the Minister of Agriculture
Colombia

Dr. Norvan L. Meyer
Assistant Deputy Administrator, International Programs
USDA/APHIS
United States of America

Dr. Patrick McKenzie
Deputy Chief Agriculture Officer
Guyana

1/ Report of the Director General to IICA's Executive Committee, in compliance with the request of the Inter-American Board of Agriculture make in Resolution IICA/JIA/Res.18 (I-0/81), approved at its First Regular Meeting held in Buenos Aires, Argentina, in August, 1981.

Dr. Juan Vega B.
National Director for Livestock Production
Panama

Dr. Augusto Esteva
Director General for Livestock Development
Venezuela

Representatives of the following international organizations also attended the meeting:

Inter-American Development Bank (IDB)
Pan-American Health Organization (PAHO/WHO)
United Nations Food and Agriculture Organization (FAO)
Regional International Organization of Plant Protection and Animal Health Care (OIRSA)
United Nations Development Programme (UNDP)
Inter-American Institute for Cooperation on Agriculture (IICA)

The leaders of IICA's Animal Health Program were in charge of the Secretariat of the meeting.

The following were elected Officers of the meeting at its first working session: Dr. Emilio Gimeno, Chairperson, and Dr. Miguel Reyes Gómez and Dr. Patrick Mckenzie, Rapporteurs. IICA's Associate Deputy Director General for Rural Development, a.i., José Alberto Torres, welcomed the members and the participants of the Advisory Committee on behalf of Dr. Francisco Morillo, Director General of IICA. Mr. Torres discussed the Institute's development in the field of animal health which he said, reflected an institutional decision of the representatives of the Member States to focus more attention on the problems affecting livestock throughout the continent which were not being targeted by other international agencies or that are only partially served by public health programs.

He also stressed that when IICA's Board of Directors, and later its Inter-American Board of Agriculture, took this significant step, they also voiced their recognition of the very important work by the agencies of international cooperation in the area of animal health. Special attention was made of the Pan American Health Organization (PAHO/WHO) and the United Nations Food and Agriculture Organization (FAO); international funding agencies like the Inter-American Development Bank (IDB); the United Nations Development Programme (UNDP) and the World Bank (IBRD); and subregional agencies like the Regional International Organization of Plant Protection and Animal Health Care (OIRSA) and the Board of the Cartagena Agreement (JUNAC).

He added that, in line with these criteria, the Inter-American Board of Agriculture, at its First Regular Meeting held in Buenos Aires, Argentina in August 1981, approved a Resolution calling on the Director General to set up a Commission to study IICA's program-budgets, and those of other international agencies working with animal health in the hemisphere, for evaluating the most effective manner for these programs and budgets to operate, in order to avoid duplication of efforts and to tackle the economically most important diseases

and problems, and their effects on public health in the countries of the Americas. In addition, the Board requested the Director General to ensure than this Commission be made up of representatives of the Ministries of Agriculture from at least one country from each of IICA's zones of action.

Mr. Torres mentioned that, in compliance with this Resolution, the Director General had invited the Ministers of Agriculture of Argentina, Brazil, Canada, Colombia, Guatemala, Guyana, Panama, United States of America, and Venezuela to sit on this Commission; at the Board Meeting in Buenos Aires, there countries indicated their interest in participating, appointing the above mentioned officials as their representatives.

Mr. Torres indicated that the advisory nature of the meeting carried with it the expectation that its recommendations would be submitted to the next Regular Meeting of IICA's Executive Committee, and subsequently to the Inter-American Board of Agriculture, in accordance with the provisions of Resolution 18.

He also added that the international agencies providing technical cooperation and financial support in the area of animal health in the Americas had been invited to participate because of the experience and information they could share with the group. He was confident that this type of help would enhance the discussion of the different topics of this meeting, and would contribute to making the conclusions and recommendations of the Commission on international cooperation in animal health more practical and realistic.

Finally, Mr. Torres indicated that the Director General, Dr. Francisco Morillo, had requested him to convey his feelings of satisfaction about how the decision of the Inter-American Board of Agriculture was being complied with, and that he sent his sincere thanks to the members of the Commission and the participating representatives of the international agencies, for their invaluable cooperation in this important work. Mr. Torres also mentioned the Director General's wish to reiterate the importance he gives to the Animal Health Program and to the role played by Veterinarians at IICA, as well as his decision to cooperate and work more closely with all the agencies of the Inter-American system of the United Nations, and all regional agencies. This is a fundamental aspect of the Director General's policy for action, which he described in his inaugural message on January 15, 1982.

Mr. Torres concluded his speech by offering his best wishes for the success of the meeting, in the hopes that its results would serve to strengthen the actions in favor of the hemisphere's Animal Health Programs.

Next, Dr. Pedro N. Acha made a brief presentation of the objectives of the Advisory Meeting, emphasizing the mandate established in the operative part of Resolution 18, which indicates the subjects to be covered by the Commission. These were included in the meeting's working agenda, which was reviewed and approved by the Commission.

To open the discussion of the agenda items, the Chair gave the floor to Dr. George Poppensiek, who submitted the working document entitled "The Role and Scope of International Agencies Providing Technical Cooperation on Animal Health in Latin America and the Caribbean."

This document was written jointly by Dr. Poppensiek and Dr. Acha, at the request of the Director General, in order to facilitate the work of the Advisory Commission, and contains information on:

a. The evolution of technical cooperation in the field of animal health in Latin America and the Caribbean.

b. An analysis of the status of animal health in the countries of the hemisphere.

c. International public agencies in the Americas.

d. The evolution and activities of the international agencies in the area of animal health.

e. The evolution of the principal international funding agencies.

f. Comparative funding of international cooperation programs in animal health.

g. Bilateral assistance programs.

h. Projection of future needs.

Following an analysis of the document, the Commission voiced its recognition of the contributions made by the international agencies in relation to animal health programs and activities in the hemisphere. Data showed that important progress had been achieved in all the countries during the past three decades, with the support of these agencies.

The leadership and resources provided to all the countries by the Pan American Health Organization have produced significant results, many of which are due to the work of the staff of the Pan American Foot-and-Mouth Disease Center and the Pan American Zoonosis Center.

FAO's work over the years had supplemented PAHO's work in this area, and the training, evaluation and veterinarian assistance it has provided to the countries has been of great value.

IICA's Animal Health Program has been in existence for only two years and already, its efforts to help Haiti eradicate African Swine Fever are establishing a precedent that may give a new dimension to the control of diseases and pests in our countries during the eighties.

IICA's first efforts in this area reflect a greater interest of the Ministers and Secretaries of Agriculture and Livestock in the subject of animal health. They themselves, or their representatives, make up the Inter-American Board of Agriculture, and through it are increasing their support to the Institute's Animal Health Program and consequently to the actions taking place in the countries.

OIRSA's role with the countries of Mexico, Central America and Panama, under the guidance of the Ministers of that area, and with the support of international funding agencies, has been highly positive, especially in view

of the outcome of its activities to prevent the spread of exotic diseases. Its efforts are largely responsible for the fact that the area has kept free of foot-and-mouth diseases and other animal diseases that to date have not affected these countries.

The Commission agreed that the working document, which was provided as an information guide, should be modified and expanded to more suitably reflect the work of the international entities, based on documents and publications containing greater detail on their activities. It was felt that this type of document would be of great value to the countries. It should also provide an up-dated description of all the international activities taking place in the hemisphere in the area of animal health, and their impact on livestock development. This would increase the value of the document to the Ministers of Agriculture, and especially to the professionals in charge of animal health activities in the countries.

A suggestion was made that each international organization provide clear and detailed information on its activities, its current efforts and its projections for the future, especially in regards to the prevention, control and eradication of disease.

It proved impossible to obtain and include in this working document all the information necessary for making a precise evaluation of whether the activities of these agencies were being duplicated or not, but it was agreed that this would have to be done at a later date. It is obvious that if the present world economic situation continues, the cooperation of the international agencies will be curtailed in the future, and the countries will have to make use of this assistance through priority areas which produce the greatest benefits, and through effective and coordinated national and international action.

The working document indicates that it would be important for each country to establish a general agreement between the directors of animal health activities and the representatives of the international agencies working in support of animal health, in order to coordinate international technical cooperation. It also indicates that there is some doubt as to how the activities conducted by each international agency, and the resources invested, are being used to solve the most important problems faced by the countries in the field of animal health.

Looking to the future, the document indicates that increased commercial trade and travel between the countries of the region has increased the potential for the spread of animal diseases and pests, and effective coordination will be necessary for providing greater protection and for enabling animal health officials in the countries and functionaries of the international agencies to take rapid and effective action.

Finally, in the section on the outlook for the program and long-term planning needs of the future, the document indicates that the success achieved in meeting the main animal health needs of Latin America and the Caribbean will be inversely proportional to the proliferation of small, independent and isolated projects and programs. Thus, it recommends cooperation between international organizations for purposes of establishing priorities,

encouraging cooperation between agencies that have different strengths (and weaknesses), avoiding duplications and providing stability for effective programs that may be threatened with financial problems caused by the fluctuations of political life.

It will be very difficult to project future needs if the mandates of each international agency, and its available resources, are considered independently of one another. It will also be difficult to project future program needs on the basis of geopolitical considerations, since the socioeconomic problems of the nations or regions affect the order of priority. Factors having an impact on the relative importance of animal health include the growth of the foreign debt, production shortages, access to foreign markets, and the domestic movement of the labor force in search of better opportunities and higher incomes.

The Alliance for Progress was the moving force during the sixties, and it resulted in a proliferation of organizations and agencies. Many of these external groups worked without any coordination and with little efficiency. Looking back over this period, the President of Venezuela, His Excellency Luis Herrera Campins, stated in a speach to the OAS in November 1981 that: "The immediate need is to coordinate the agencies that are active in Latin America; coordination is needed for ensuring efficient and interrelated action, averting a duplication of efforts, and maximizing the use of the resources. Because of this lack of coordination, the existing agencies have developed ineffective solutions to the different problems we all face today, and this has lead some to believe that the problems can be solved by creating an array of new entities. This proliferation of organizations still clamors for coordination: it really is very necessary..."

The Commission ratified the excellent informative value of the working document prepared by Dr. Poppensiek and Dr. Acha, and drew up a specific recommendation to IICA regarding its publication in the future. In addition, it was agreed to give a vote of thanks and recognition to the international funding organizations, especially the Inter-American Development Bank (IDB) and the United Nations Development Programme (UNDP), without whose contributions it would have been impossible to achieve the level of development attained to date by the animal health programs in Latin America and the Caribbean.

II. RESOURCES AND PROGRAMS OF INTERNATIONAL TECHNICAL COOPERATION IN THE AREA OF ANIMAL HEALTH

The Advisory Commission studied and analyzed the information presented by the different international organizations in the working document, and the adaptations and additions provided by their representatives at the meeting, which are included in Appendix 1 of this report.

The analysis focused primarily on two points specifically mentioned in Resolution 18 of the Inter-American Board of Agriculture, for studying the program-budget and evaluating the manner in which to ensure:

a. greater program effectiveness, avoiding a duplication of efforts, and

b. that the principal diseases and problems of the region be dealt with.

On the basis of this analysis, the following observations were made:

1. Overall figures allocated for Animal Health Programs in 1982 by technical cooperation agencies.

   a. PAHO: Its regular budget for the 1982-1983 biennium is US$11 274 300, of which about US$5 500 00 is estimated for use in 1982. The funds from extra-budgetary grants and contractual agreements total US$8 688 000 for this year, which brings the 1982 grand total to approximately US$14 168 000.

   b. FAO: Although it was impossible to identify the total amount of funds earmarked for animal health in the region, it was established that FAO Includes these resources as part of its cooperation to livestock production programs. Nineteen of its projects with the livestock sector include points specific to animal health, involving an estimated total of US$991 000 of the regular budget. In addition, the extra-budgetary quota corresponding to animal health activities should also be included, which brings the total to about US$17 000 000 for the livestock sector in Latin America.

   c. IICA: The regular approved budget for 1982 is US$936 140, to which must be added the extra-quota funds for specific actions that IICA receives from the countries for projects it supervises or manages, and which total about US$11 000 000 for this year. This brings the grand total to US$11 936 140 for 1982.

   d. OIRSA: The resources available for its different programs exceed US$400 000 for 1982.

2. Program contents

In regard to the contents of the different programs carried out by the respective agencies, and in reference to the possibility of identical, supplementary or overlapping actions, it should be noted that in some areas, two or more agencies are dealing with similar subjects. Nevertheless, it would be necessary to make a deeper analysis to determine whether these activities or programs are actually duplicated, or whether they cover special needs of the countries in a single subject area. In any event, no fluid mechanism exists between the agencies for intercommunication for solving problems of overlaps or discontinuity.

The titles of the principal officials or programs of the agencies show that they deal with the following subject matters:

a. PAHO: In general, its main actions focus on the following points, within which the different programs operate:

a.1 Evaluation and control of zoonostic problems.

a.2 Eradication and prevention of foot-and-mouth disease with special emphasis on producing and controlling vaccines, epidemiological monitoring and health regulations.

a.3 Development of veterinary public health programs in the countries, with special emphasis on diagnostic laboratories.

a.4 Development of human resources.

a.5 Support to the functions of reference diagnoses, production and control of biologics, and pertinent technology transfer.

Sixty-five professionals and 284 general services employees (laboratory, administration and secretarial) provide support to these programs. Eighty-seven of the general services employees are paid through special funds from several countries, and most work with the Pan American Foot-and-Mouth Disease and Zoonosis Centers.

b. FAO: Its programs deal mainly with animal production plans, where animal health is included in specific programs on:

b.1 Foot-and-mouth disease (control, vaccines, and studies on virus survival in meat).

b.2 African Swine Fever (prevention, control and eradication).

b.3 Tick control and the diagnosis of hemoparasitic diseases transmitted by ticks.

b.4 Exotic disease prevention.

b.5 Meat and diary production (health aspects).

b.6 Other regional animal production programs by country (health aspects).

b.7 Development of human resources.

Staff resources of FAO's regular program in support of these activities, in addition to two professionals assigned to the Regional Office for Latin America, involve 41 official professionals of whom 20 are veterinarians (12 of them are specialists), and who provide technical assistance throughout the world, including in Latin America. The services of 6 country-level project officials and 8 operational assistants are available for facilitating administrative support to the specialists assigned to projects in Latin America.

c. IICA: IICA's most important actions in this field take place in its programs on:

c.1 Control of ticks and of diseases caused by hematozoans.

c.2 Eradication of the screwworm in cattle (C. hornivorax).

c.3 Upgrading animal health diagnostic laboratories.

c.4 Eradication of African Swine Fever.

c.5 Control and eradication of classic swine fever.

c.6 Control and preservation of biologies for veterinary use.

c.7 Control of bovine paralytic rabies.

c.8 Programming and evaluation for the control of Brucellosis.

c.9 Studies on the prevalence of bovine leucosis.

c.10 Eradication of equine infectious anemia.

c.11 Prevention of exotic diseases.

c.12 Research into blue tongue.

c.13 Training human resources in animal health.

c.14 Programming and managing health campaigns.

For developing these activities, IICA's Animal Health Program has 20 professionals of whom 16 are veterinarians, the others specializing in communications, laboratory work and administration. Some 100 employees work to support and implement activities, financed with regular funds and special funds from specific countries. Most work with the Project to Eradicate African Swine Fever in Haiti.

d. OIRSA: The main activities carried out by OIRSA are:

d.1 Prevention of exotic diseases, with special attention to foot-and-mouth disease, through support to diagnostic laboratories and preventive plans for the region.

d.2 Preparation of human resources at the professional and technical levels.

d.3 Program of communication and dissemination through the public and private sectors.

OIRSA has 7 veterinarians, as well as technical and administrative support personnel working on these activities.

It is the opinion of the Commission that, although no definite areas have yet been identified where two or more international organizations are duplicating efforts in animal health programs, it is very clear that a lack of communication and coordination does exist between international organizations. This can be counterproductive and detrimental if any agency

leading the efforts to control a particular disease is not sufficiently informed of the intention of another international entity to participate in the same field of activity.

To illustrate this problem, we can say, for example, that PAHO exercises "leadership" in programs to control and eradicate foot-and-mouth disease; IICA leads in the eradication of African Swine Fever in Haiti, and FAO leads in programs of animal nutrition and genetics.

If, for example, FAO should consider it appropriate and necessary to develop activities to control or eradicate foot-and-mouth disease in the hemisphere, it should coordinate its activities with PAHO, the "leading agency". And if PAHO, for example, finds it necessary or appropriate to participate in activities involving African Swine Fever in Haiti, or in any other part of the hemisphere it should coordinate its activities with IICA, since IICA has been considered the leading agency.

Note that this recommended coordination and communication is above and beyond that which is obviously the responsibility of each country soliciting assistance.

In virtue of the above, the following recommendation is made:

- That the agencies of international technical cooperation develop better mechanisms of intercommunication, for establishing ties that will enhance cooperative and complementary efforts with animal health programs in Latin America and the Caribbean, in order to avert duplication of efforts and the eventual uncoordinated objectives and implementation of these programs, to the detriment of the countries of the region.

III. MAIN CONTRIBUTIONS OF INTERNATIONAL OR BILATERAL FUNDING AGENCIES

The Commission established that:

a. The principal multi- and bilateral sources of funding for animal health program projects in Latin America and the Caribbean are the following: IDB, UNDP, USAID, CIDA, USDA/APHIS, USA/IDB Trust Fund, EEC and some Central European governments.

b. The countries of the region determine the priorities at the national and/or subregional and regional levels.

c. Animal health officials must identify where these priorities are established, and the forms and channels to be followed when soliciting funding.

d. Emphasis should be placed on the fact that these inputs of human, financial and material resources are temporary in nature and that the governments are expected to assume both technical and financial responsibilities at a later date.

IV. MOST IMPORTANT DISEASES AND PROBLEMS IN THE AREA OF ANIMAL HEALTH IN LATIN AMERICA AND THE CARIBBEAN

Following the study of the reference documents, it was established that the diseases affecting domestic animals in the region had been broadly recognized, and there was a clear awareness of the importance and effect they had for production and productivity in the livestock economy. A clear and objective definition was therefore needed of the elements and producing the changes that would generate more significant contributions to overcoming the basic problem of feeding the inhabitants of these countries.

Many governments have made great efforts to establish and upgrade animal health institutions, and they have been assisted by the technical cooperation agencies with the economic support of the funding agencies. Nevertheless, the progress that has been made is not consistent, and some countries operate these services with relative efficiency, while other countries still lack the most basic elements.

The prevalence of the diseases affecting the region determine, in many cases, the action, structure and function of the animal health services. Thus, for example, while in some parts of South America, foot-and-mouth disease is epizootic, North and Central America and the Caribbean are not affected. This is also the case with other diseases, which causes veterinary services to target different activities. Some are oriented to fight existing diseases, while others seek to prevent their introduction. The development of laboratories, quarantine stations and inspection services at ports and airports clearly reflects these concerns, with different degrees of success. In general, the idea is to control and eradicate existing problems and to prevent the introduction of exotic diseases.

For economic, political and social reasons, foot-and-mouth disease has been the target of most concern and attention, and the progress made with this disease is evident. Nevertheless, this did not occur until the creation of the Pan American Foot-and-Mouth Disease Center, which indicate each of the measures and strategies to be used for controlling and orienting the campaigns in the countries.

This example demostrates the advantage of designing similar mechanisms for achieving positive results, and unifying criteria and resources behind a single multinational objective of controlling and/or eradicating a disease.

It was clear that the difficulty in defining common problems and relating them to socio-political priorities lay fundamentally in the importance given by each country to livestock production within its general development programs.

Another health-related problem has to do with the ever more stringent requirements of the meat and meat product markets, in terms of the structures of the processing industries, their equipment, working systems, laboratory and control procedures; these require coordination between the countries, with the support of international organizations.

Despite these drawbacks, the Commission recommended that the international agencies working with animal health focus their attention and assistance on the following areas of action:

a. Preventing, controlling and eradicating emerging exotic diseases.

b. Cooperating in controlling diseases present in the countries, for which the technical elements necessary for eradication already exist; especially those demanding the joint action of the countries, as with screwworm.

c. Providing training to personnel in preventing and controlling animal diseases and in programming and managing health campaigns.

d. Supporting the updating of regional or sub-regional legislation on the commercial exchange of animals, meat products and meat products derivations.

e. Supporting the mechanisms and actions necessary for involving national and inter-regional livestock trade groups in the decisions, organization and funding of animal health programs.

f. Supporting national and regional institutions which carry out research on animal production and health, especially in regard to economic studies on the losses produced by animal disease.

g. Promoting and coordinating an information system on the status of animal health and the animal population of the region.

h. Studying and developing the phase of international coordination aimed at unifying health criteria and the procedures for marketing animals and their products.

The problems involved with eradicating diseases that know no political borders such as the screwfly, ticks, anaplasmosis, babesiosis, African swine fever, hog cholera, foot-and-mouth disease, brucellosis, tuberculosis and other transmittable and parasitic diseases must be tackled on a continental or hemispheric basis. This job may be too complex for the governments and for the international agencies because of resource limitations. Campaigns to eradicate animal diseases are very demanding, and must show results that justify the investments made, and above all, require the long-term commitment of the governments.

V. PROPOSAL FOR THE ESTABLISHMENT OF A COORDINATING MECHANISM FOR TECHNICAL COOPERATION IN THE AREA OF ANIMAL HEALTH.

The actual contributions being made through technical cooperation for animal health are very small in comparison with the magnitude of the problems and the investments made by the countries in developing animal health programs.

The importance and value of the livestock industry to the countries, and its critical role in the nutritional health of our populations, require that international cooperation aim to solve the great problems pinpointed at

this meeting. Technical and financial support should be directed to well-defined programs which solve the high-priority needs and problems of the countries.

This cooperation should be defined and coordinated primarily at the national level, and mechanisms should then be developed for achieving coordination at the multinational level.

This multinational coordination, carried out jointly by the national animal health officials with the participation of international agencies of cooperation and support, would improve the orientation and maximize the use of resources earmarked for international cooperation. In addition, it would ensure the continuity of and completion of program actions developed for solving the national, sub-regional or regional problems identified by the countries.

To this end, the Advisory Commission, in compliance with the mandate of Resolution 18 of the Inter-American Board of Agriculture, recommends to the Board that consideration be given to the creation of a Permanent Animal Health Commission, composed of the Directors General of Animal Health in the countries of the hemisphere, and which would have the following main functions:

a. To serve as the technical organ of the Inter-American Board of Agriculture, in the field of Animal Health.

b. To periodically identify the main Animal Health problems affecting livestock in the countries of the hemisphere, assigning priority to the programs that should be developed for solving them.

c. To procure and orient resources of international cooperation at the multinational level, based on the analysis of the problem affecting livestock development.

d. To establish, together with the international agencies of technical cooperation and financial support, a system of coordination for planning and designing the programs and actions of international cooperation.

e. To develop and coordinate the information systems dealing with the subject of animal health in cooperation with pertinent national services and the international agencies involved in this type of activity in the sector.

VI. GENERAL RECOMMENDATIONS

The Commission thanked Dr. Poppensiek and Dr. Acha for their work in preparing the document on "The Role and Scope of International Agencies Providing Technical Cooperation on Animal Health in Latin America and the Caribbean", which needed to be enriched with more extensive and specific information on the current status of animal health in the countries, and with the additions and modifications to international programs as proposed by the international agencies themselves.

Therefore, it was requested that IICA's Animal Health Program encourage the Animal Health officials in the countries to prepare and send, prior to the meeting of the Inter-American Board of Agriculture, a summary of the Animal Health Program being implemented in their countries, with concrete information on the human and financial resources available for these purposes, and the programs underway with the support and participation of international agencies.

The Commission thanked the Director General of IICA, and the Staff of IICA's Animal Health Program, for their excellent work in organizing this event, and for all the help they had provided during the meeting.

APPENDIX 1

OF ANNEX 1

SUMMARY OF THE PROGRAMS AND BUDGETS OF THE INTERNATIONAL AGENCIES OF TECHNICAL COOPERATION IN THE AREA OF ANIMAL HEALTH PRESENTED BY THE REPRESENTATIVES OF PAHO/WHO, FAO, OIRSA AND IICA

FAO'S ACTIVITIES IN THE AREA OF ANIMAL HEALTH

Dr. F.J. Peritz

All of FAO's incoming funds are included in its regular program, which consists of the quotas paid by its member countries, and additional (extra-budgetary) resources made available to the member countries through other institutions.

As indicated earlier, a total of US$19 083 000 is projected by FAO for its Latin American and Caribbean programs on livestock production and animal health for the 1982/83 biennium.

Of these, US$1 741 000 correspond to the regular program and US$17 342 000 are extra-budgetary.

The livestock program (2.1.3) of the P.W.B. includes 9 sub-programs of which 4 have a direct impact on animal health. These are 2.1.3.2 animal health; 2.1.3.4. regional offices; 2.1.3.8 field programs; and 2.1.3.9. program management.

The sum of US$1 741 000 (from FAO's regular program for animal health in Latin America) must be prorated. However, the results are only approximate since calculations were based on the fact that FAO has 150 member countries in the world, of which 30 are in Latin America.

		Thousands US$	
		WORLD	LATIN AMERICA
2.1.3.2	Animal Health	3082	616.4
2.1.3.7	Regional Office	2357	294.6
2.1.3.8	Field Programs	1851	61.7
2.1.3.9	Program Management	563	18.7
		7853	991.4

2.1.3.2 Funds are apportioned by country.
2.1.3.7 Funds are divided between four regional offices, each with responsibilities in the area of animal health.
2.1.3.8 Provides support to 6 sub-programs, prorated between the Latin American member countries.
2.1.3.9 Same as 2.1.3.8.

Extra-budgetary funds come from the UNDP and cooperative programs between FAO and governments, for example: FAO: Denmark, Sweden, Holland, Finland and many others. Donations are received for the Freedom for Hunger campaign, the World Food Programme, PAHEA, USRO.

The overall total for Latin American is US$17 342 000. I cannot say how much of this is earmarked for animal health and how much for animal production programs.

I would like to mention the programs that operate with special funds, like the ISCDD, IMDS, AIBDF (Reproduction and Artificial Insemination Program), which are described in the document we submitted to IICA. These have significant impact on animal health and were not mentioned in the Working Document.

We will make an effort in the future to give a value to inputs for animal health. These will be included in the document to be sumitted to IICA, as we agreed yesterday.

FAO's Technical Cooperation Program tackles emergency situations and responds to urgent requests by its member countries. Therefore, we cannot make projections of inputs to specific objectives within FAO's terms of reference.

We will however, provide you with a description of this program that is mentioned in your working document.

I hope I have been of help to you, despite the limitations that are beyond my control, and that I will be able to assist you in preparing the document that has been entrusted to this Commission.

Following is a list of the projects which have been implemented or that are currently underway at FAO for the period of mid-1980 to mid-1982. They are national and regional projects implemented in Latin America and the Caribbean, which receive funding from UNDP, PET/PR and FAO/Government agreements.

PROGRAMS IN ANIMAL HEALTH AND LIVESTOCK PRODUCTION CARRIED OUT FROM MID-1980 TO MID-1982

(Reference: FAO Project Catalogue, August)

COUNTRY	PROJECT DESCRIPTION	SOURCE OF FUNDS
Argentina	Research on animal pathology in the subtropical region of northeastern Argentina.	UNDP
	Agricultural development in the northeast	UNDP
	Study of the National Campaign against Foot-and-Mouth Disease	TCP/FAO R.P.
Bahamas	Support to the national nutrition and goat production scheme	UNDP
Bolivia	Preventive measures against African swine fever	TCP/FAO R.P.

COUNTRY	PROJECT DESCRIPTION	SOURCE OF FUNDS
	Milk Development in Sucre, Tarija and Santa Cruz	World Food Prog.
	Vaccination of livestock affected by floods in Beni	TCP/FAO R.P.
	Control of Salmonelosis avier in the Department of Cochabamba	TCP/FAO R.P.
Brazil	Livestock Development in the northeast	UNDP
	Advisory service in dairy cattle reasearch	UNDP
	Assistance in the eradication of African swine fever	TCP/FAO R.P.
Chile	Red meats	UNDP
	National Courses on Livestock Production	FAO/DENMARK Coop. Prog.
Colombia	Preventive measures against African swine fever	TCP/FAO R.P.
	Vaccine control against foot-and-mouth disease	TCP/FAO R.P.
	Formulation of a system to evaluate livestock populations and forecast agricultural production	TCP/FAO R.P.
Costa Rica	Control of ticks and tick-transmitted diseases	TCP/FAO R.P.
Cuba	Meat Industry Development Institute	FAO/SWEDEN
	Diary Development Institute	FAO/SWEDEN Coop. Prog.
	Experimental station for research on ticks and tick-transmitted diseases	TCP/FAO R.P.
Dominica	Assistance to small livestock farmers after Hurricane Allen	TCP/FAO R.P.
Dominican Republic	Livestock and pasture development	UNDP
	African swine fever	UNDP
	IV Nastional Course on Dairy Production	FAO/DENMARK Coop. Prog.

COUNTRY	PROJECT DESCRIPTION	SOURCE OF FUNDS
Ecuador	Training in methods of artificial insemination	TCP/FAO R.P.
	Preventive measures against African swine fever	TCP/FAO R.P.
Guyana	Pilot project for dairy development	World Food Prog.
Haiti	Consolidation of livestock services	UNDP
	Establishment of the ASF diagnostic laboratory	TCP/FAO R.P.
Honduras	Livestock development and marketing for small-scale farmers	TCP/FAO R.P.
	Pasture improvement and management	TCP/FAO R.P.
	Fostering hog production	TCP/FAO R.P.
	Preventive measures against African swine fever	TCP/FAO R.P.
Jamaica	Emergency animal health care	FAO Special Relief Prog.
Mexico	Dairy production in tropical areas	UNDP
Nicaragua	Support to the artificial insemination program	UNDP
	Industrial preparation of milk and diary products	TCP/FAO R.P.
	Promoting dairy development	World Food Prog.
Peru	Assistance to the Zoonosis Institute (Foot-and-Mouth disease)	TCP/FAO R.P.
Trinidad and Tobago	Animal production and marketing systems	UNDP
Uruguay	Development of the M.C. Rubino Veterinary Research Center	UNDP
	Research on the virus of foot-and-mouth disease in meat and in meat by-products	UNDP
	Assistance to the School of Veterinary Sciences	UNDP

COUNTRY	PROJECT DESCRIPTION	SOURCE OF FUNDS
	Training for the control of exotic diseases with an emphasis on the PPA	UNDP
	Cooperation with the Board of the Cartagena Agreement in the agricultural sector	UNDP
	Regional team to foster and provide training in diary farming in Latin America	FAO/DENMARK Coop. Prog.

PROGRAM AND BUDGET OF THE SPECIAL ANIMAL HEALTH PROGRAM OF THE PAN AMERICAN HEALTH ORGANIZATION

Dr. Mario V. Fernándes

I. PROGRAM

PAHO's animal Health and Veterinary Public Health Program form an integral part of its Plan of Action to implement regional stategies for reaching the goal of "Health for all by the year 2,000" (official document M.179).

Its objectives include reducing human morbidity caused by zoonosis; contributing to improving human nutrition by increasing animal protein availability, and reducing the socio-economic losses caused by the main zoonoses and foot-and-mouth disease.

The principal strategies pursued for achieving these goals include strengthening intersectoral cooperation in the fight against zoonosis especially between agriculture and health; establishing more effective mechanism of cooperation between countries involving the community in solving problems related to veterinary public health and animal health, and the application of appropriate technology.

The areas of action by Resolution XI of PAHO's XXVII Directors' Council of September 1981 are as follows:

A. Control and Eradication of Zoonosis

1. Evaluation of the problem of zoonosis and determination of priorities based on socio-economic studies.

2. Control and eradication of the main zoonoses, especially rabies, Brucellosis, tuberculosis, hydatidosis, leptospirosis, and zoonoses transmitted by food and equine encephalomyelitis.

3. Control of stray dogs and the fight against rodents and other carriers.

B. Promotion and Cooperation in the Control, Eradication and Prevention of Foot-and-Mouth Disease and other Economically Important Animal Diseases.

1. Expanding the Programs for the Control and Massive Application of vaccine against foot-and-mouth disease with oil adjuvant.

2. Technology transfer for the production and control of vaccine against foot-and-mouth disease with oil adjuvant.

3. Enacting health regulations to govern the international trade of animals, their products and by-products.

4. Strengthening the measures to prevent the introduction of exotic animal diseases.

5. Developing plans for dealing with emergencies of a national or international scope, to contain and eradicate exotic animal diseases.

C. Institutional Strengthening of Veterinary Public Health Programs

1. Cooperating in the evaluation of national infrastructure in the area of veterinary public health and animal health, and the determination of priority institutional needs.

2. Upgrading the functions of veterinary public health at the Ministries of Health.

D. Strengthening the support and diagnostic skills of Laboratories.

1. Evaluating the laboratories available for veterinary public health and animal health, and identifying their principal needs.

2. Integrating animal health laboratories, especially in rural zones where no laboratories exist for the diagnosis of human disease.

3. Strengthening and developing the laboratories' skills for dianosing rabies, tuberculosis, brucellosis, hydatidosis, leptospirosis and other viral, bacterial and parasitic zoonoses.

4. Improving and expanding laboratory skills for preparing and evaluating vaccines and other biologic products related to zoonosis and foot-and-mouth disease.

5. Breeding and distribution of non-human primates and other laboratory animals for medical research.

6. Establishing guidelines on the appropriate use of laboratory animals.

E. Upgrading Human Resources

1. Strengthen veterinary public health and zoonosis educational programs in veterinary, medical and public health schools.

2. Provide training to veterinarians in the management of programs on the control or prevention of epidemics, quarantine procedures and social communication of zoonoses and foot-and-mouth disease.

3. Provide training for auxiliary personnel.

II. BUDGET

The budget of regular funds for the 1982-1983 biennium are detailed in the attached table, and total US$11 274 300. For the 1984-1985 biennium, projections are for US$13 051 415.

The table also contains the resolutions and contractual agreements undertaken between 1978 and 1982, which total jUS$5 642 207 for 1980, US$7 736 983 for 1981, and US$8 688 146 for 1982.

III. HUMAN RESOURCES

The program includes a total of 65 veterinarians, of whom 52 are veterinarian doctors, 12 are microbiologists and biochemists, and one is a medical doctor. In addition, the Program has 197 general services employees and 86 employees paid with special donations from specific governments.

REGULAR OPERATING FUNDS OF PAHO/WHO FOR ANIMAL HEALTH

1980 - 1981	1982 - 1983	INCREASE (Percentage)	1984 - 1985	INCREASE (Percentage)
10 475 300 *	11 274 300	7.6	13 051 415	15.7

* Not including the supplementary sum of 1,200 dollars approved by the XXVI Directing Council

GRANTS OF CONTRACT AGREEMENTS FOR PAHO'S ANIMAL HEALTH PROGRAM

1978	1979	INCREASE %	1980	INCREASE %	1981	INCREASE %	1982	INCREAS %
3 541 599	4 340 680	23	5 642 207	30	7 736 938	37	8 686 146	12

PROJECTS WITH REGULAR FUNDS

DESIGNATION	FUNCTIONS	BUDGET 1980 - 81	BUDGET 1980 - 83
BOLIVIA -3100 Animal Health	1. Technical cooperation for the program to control foot-and-mouth disease, rabies and burcellosis		
	2. Conducting seminars	--	61 400
	3. Scholarships		
COLOMBIA -3100 Animal Health and Veterinary Public Health	1. Technical cooperation with the programs to control zoonoses, especially rabies and brucellosis		
	2. Scholarships	16 300	43 200
	3. Materials and Supplies		
COLOMBIA -3200 Control of foot-and-mouth disease	1. Technical Cooperation with the program to control foot-and-mouth disease	105 800	131 800
ECUADOR -3100 Animal Health and Veterinary Public Health	1. Technical Cooperation with zoonosis programs		
	2. Courses and seminars	18 600	31 700
	3. Scholarships		
	4. Equipment and supplies		

DESIGNATION	FUNCTIONS	BUDGET 1980 - 81	BUDGET 1980 - 83
ECUADOR -3200 Control of foot-and-mouth disease	1. Technical cooperation for the foot-and-mouth disease control program	105 000	120 600
GUYANA -3100 Veterinary Public Health and Animal Health	1. Technical cooperation in the fields of animal health and veterinary public health		
	2. Scholarships	25 200	33 200
	3. Materials and supplies		
HAITI -3100 Animal Health and Veterinary Public Health	1. Technical cooperation with zoonosis control programs	10 700	29 200
	2. Materials and supplies		
JAMAICA -3100 Veterinary Public Health	1. Technical cooperation with zoonosis control programs	14 400	9 800
MEXICO -3300 Zoonosis control	1. Technical cooperation in zoonosis control programs		
	2. Scholarships	40 900	40 600
	3. Materials and supplies		
MEXICO -3301 Rabies control	1. Technical cooperation with the Mexico-United States border program	134 600	163 600
PARAGUAY -3200 Foot-and-Mouth disease control	1. Technical cooperation with the foot-and-mouth disease control program	103 800	143 700

DESIGNATION	FUNCTIONS	BUDGET	
PERU -3300 Rabies control	1. Technical cooperation for the programs to control rabies, hydatidosis and brucellosis	26 500	24 000
PERU -3301 Hydatidosis control	2. Scholarships	19 100	23 600
	3. Courses and Seminars		
	4. Supplies and Equipment		
PERU -3302 Brucellosis control		15 500	19 700
SURINAME -3100 Animal Health and Veterinary Public Health	1. Technical cooperation with the animal health and veterinary public health programs	--	11 200
	2. Scholarships		
TRINIDAD -3100 Veterinary Public Health	1. Technical cooperation with the animal health and veterinary public health programs.	96 300	28 000
VENEZUELA - 3301 Production of rabies vaccines	1. Cooperation in the production and control of rabies vaccines	101 300	177 800

REGIONAL PROJECTS WITH REGULAR FUNDS

DESIGNATION	FUNCTIONS	BUDGET 1980 - 81	BUDGET 1982 -83
AMRO -3100 Central Office of the Special Animal Health Program	1. Promotion, planning and development of animal health and veterinary public health activities		
	2. Development of human resources in animal health and veterinary public health	499 200	586 200
	3. Coordination and supervision of general program activities		
AMRO -3110	1. Coordination of animal health and veterinary public health projects in the countries	143 100	186 100
AMRO -3120		130 300	166 300
AMRO -3130	2. Providing technical cooperation in planning and developing animal health and veterinary public health programs	142 200	140 000
AMRO -3140		115 600	145 300
BRAZIL -3100 Animal Health and Veterinary Public Health at PAHO area headquarters, Barbados, Mexico, Guatemala, Lima and Brasilia.		372 400	284 100
AMRO -3200	1. Technical cooperation with the programs to prevent and control foot-and-mouth disease in the countries	5 963 200	5 635 300

DESIGNATION	FUNCTIONS	BUDGET	
Pan American Foot-and-Mouth Disease Center	2. Technical cooperation in vaccine production and control, and diagnostic laboratories		
	3. Upgrading human resources		
	4. Research		
AMRO -3300 Pan American Zoonosis Center	1. Technical cooperation with zoonosis vaccination and control, and toxic-infectious food programs	2 954 200	2 905 200
	2. Technical cooperation for producing and controlling vaccines against the main zoonoses, and diagnostic laboratories		
	3. Training human resources		
	4. Promoting research.		
AMRO -3370 Rabies control	1. Technical cooperation to national rabies programs	21 900	35 200
	2. Purchase of equipment and supplies for emergencies		

BUDGET BY PROGRAM OF OIRSA'S ANIMAL HEALTH DEPARTMENT

JANUARY/DECEMBER, 1982 FISCAL YEAR*

82-03	Administrative Unit	Animal Health
82-03-1	Program:	Operations
82-03-1.2	Sub Program	Technical administrative services
	Amount allocated:	US$235 739

OBJECTIVES:

To coordinate regional animal health and quarantine activities and provide the direct technical assistance needed by the countries of the area through the regional program to prevent exotic diseases and the section to prevent foot-and-mouth disease, in close collaboration with respective animal health authorities and the bilateral agreements in effect with the United States Department of Agriculture, and the support of the Vesicular Disease Diagnostic Center, with headquarters in the Republic of Panama, in accordance with the Working Plan approved by OIRSA and within the scope of the objectives and general policy of the Organization.

82.03.1.2-01	Activity:	Technical guidance in Animal Health
	Executive Unit	Dept. of Animal Health
	Amount allocated	US$42 294
Income	01 Regular US$42 294	

DESCRIPTION

To assist OIRSA's member countries in designing, implementing and evaluating programs to prevent foot-and-mouth disease and other exotic diseases, and to control and/or evaluate the disease most economically damaging to regional livestock industry.

To provide assistance through epidemiological information systems for animal health services in the region.

To provide assistance in the diagnosis, description, distribution and determination to economically important animal diseases present in the region, and in the development of pertinent studies to diagnose the status of cattle screwworm in coordination and cooperation with IICA.

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* Sent by Dr. Carlos Meyer Arévalo, Director of OIRSA. January 1982.

To continue to provide technical assistance to animal health in general, particularly in matters of epidemiology, planning, health education and social communication.

GOALS:

Travel to the contries of the area to provide technical assistance and supervise OIRSA Programs: 12

International and regional meetings: 6

Provide technical advisory services: 70

Organize and develop courses on agricultural quarantine: 5

Publications: 2

ITEM	OF EXPENDITURE	1981	1982	FF
0	Personnel Services	15 070	30 294	
01	Salaries and wages	11 400	22 800	01
03	Bonuses and seniority	2 653	5 405	01
04	Compensation and Insurance Fund	1 017	2 089	01
1	General Expenses	7 000	12 000	
11	Operating expenses	3 000	4 000	01
22	Fares and per diem expenses	4 000	8 000	01
	TOTAL	22 070	42 294	

82.03-1.2.-02	Activity	Prevention of Foot-and-Mouth Disease
	Executive Unit	Foot-and-Mouth Disease Section
	Amount allocated	US$44 399
Income	01 Regular US$44 399	

DESCRIPTION:

The section to prevent foot-and-mouth disease has its headquarters in the Republic of Panama, and will continue to cooperate with the Panama/USDA Cooperative Program to Prevent Foot-and-Mouth Disease (COPFA). It also designs the activities for the regional program against foot-and-mouth disease.

In addition, it will continue to cooperate in the activities currently taking place jointly with the Republic of Panama to prevent exotic diseases and to serve as a liaison with the Panama/USDA Technical Commission for the Prevention of Foot-and-Mouth Disease (COPFA), and with the MIDA/Panama/USDA/ OIRSA Vesicular Disease Diagnostic Laboratory, which is located in Panama.

GOALS:

Participation in regional meetings: 2

Participation in developing courses on agricultural quarantine: 5

Participation in developing a seminar on exotic diseases: 1

On-site evaluation of animal quarantine stations: 35

Technical consultation services: 30

ITEM OF EXPENDITURE		1981	1982	FF
0	Personnel Services	19 111	37 899	01
01	Salaries and wages	9 440	18 880	01
03	Bonuses and seniority	5 634	10 825	01
04	Compensation and Insurance Fund	1 037	2 194	01
05	Payment to the Panamanian National Guard	3 000	6 000	01
1	General Expenses	4 900	6 500	
11	Operating expenses	2 000	2 500	01
12	Fares and perdiem expenses	2 000	2 500	01
13	Materials, supplies and equipment	900	1 500	01
	TOTAL	24 011	44 399	

82.03.1.2.-03 Activity: Prevention of Exotic Diseases
Executive Unit: Exotic Diseases
Amount allocated: US$121,939

Income: 01 Regular
US$121 938

DESCRIPTION:

The following activities will continue to take place through the Regional Program to Prevent Exotic Disease (PRPEE), in an effort to prevent the introduction of foot-and-mouth and other exotic diseases.

a. Conduct a survey on physical and human resources.
b. Social communication and health education and training.
c. Evaluation and advisory services on agricultural quarantine.
d. Special activities indicated by national veterinary services.
e. Coordination of the shipment of vesicular samples for diagnosis.
f. Collaboration in the distribution of biologic products.

In addition, OIRSA will collaborate and provide technical assistance to other aspects of animal health in general, and will participate actively in developing pertinent studies for dianosing the status of cattle screwworm.

GOALS:

Organization and development of National Seminars of Exotic Diseases: 6

Shipping epithelial samples for diagnosis: 350

Lectures on exotic diseases and screwworm: 160

On-site evaluations of animal quarantine services at ports and border stations: 530.

ITEM OF EXPENDITURE		1981	1982	FF
0	Personnel Services	53 757	105 739	
01	Salaries and Wages	37 700	74 400	01
03	Bonuses and seniority	13 137	24 232	01
04	Compensation and Insurance Fund	3 420	7 106	01
1	General Expenses	7 600	16 200	
11	Operating expenses	3 000	6 000	01
12	Fares and per diem expenses	3 000	6 000	01
13	Materials, supplies and equipment	1 600	4 200	01
	TOTAL	61 357	121 938	

82-03-1.2.-04 Activity: Diagnosis of Vesicular Diseases
Executive Unit: Diagnostic Laboratory
Amount allocated: US$27 108

Income: 01 Regular
US$27 108

DESCRIPTION:

OIRSA has been coordinating and financing the shipment of samples of vesicular diseases to CPFA in Rio de Janiero, Brazil. Because the cost of this service is so high, and the diagnostic results are so slow in arriving, the Organization promoted the establishment of the Panama/USDA/ORISA Regional Vesicular Disease Diagnostic Laboratory in Panama City. It is scheduled to begin operations in late 1982, with the direct participation of this agency.

ORISA will appoint a Veterinary Doctor to the Laboratory, in compliance with the agreement made previously with OIRSA, and will participate jointly with COPFA (MIDA/USDA) in the technical operation of the Laboratory.

In addition, OIRSA will help the countries of the region with problems related to the services provided by the Diagnostic Laboratory.

GOALS:

Diagnosis of samples: 350

Trips to the countries of the area to coordinate Diagnostic Laboratory activities: 6

Participation in courses on agricultural quarantine: 5

ITEM OF EXPENDITURE		1981	1982	FF
0	Personnel Services	10 870	21 708	
01	Salaries and wages	7 200	14 400	01
03	Bonuses and seniority	2 973	5 815	01
04	Compensation and Insurance fund	697	1 493	01
1	General Expenses	3 200	5 400	
11	Operating expenses	2 000	3 000	01
12	Fares and per diem expenses	500	1 000	01
13	Materials, supplies and equipment	700	1 400	01
	TOTAL	14 070	27 108	

PROGRAM AND BUDGET OF IICA'S ANIMAL HEALTH PROGRAM

Dr. Francis J. Mulhern

IICA's Animal Health Program began three years ago, but 1981 can be considered its first year of effective operation.

The founding philosophy of the Program focuses on strengthening national institutions either on an individual or joint basis, and equipping them to maintain a capability for effective action in the fight against animal disease. Its main objectives are:

a. To keep diseases important for economic and health reasons out of the geographic areas free of them.

b. To control and eradicate diseases important for economic and health reasons, in areas where they exist and where they may constitute a threat to other countries.

c. To ensure the appropriate use of the inputs necessary for preventing and fighting animal disease.

The strategy pursued by the Program for fulfilling the above objectives focuses on developing the following activities:

a. Upgrading national health institutions, and applying modern methods of systems analysis and management control.

b. Improving information and documentation services.

c. Establishing multidisciplinary groups for conducting special studies in order to determine animal health priorities.

d. Improving formal post-graduate studies programs in pathology and epidemiology at Latin American Universities and Research Centers.

e. Determining the impact of integrated development programs through regional or country-level projects.

f. Creating groups responsible for implementing national and regional-level emergency programs.

g. Cost-benefit analysis of investments made in health campaigns.

h. Improving the capabilities of diagnostic systems in the area of animal health.

ACTIVITIES UNDERWAY BY THE ANIMAL HEALTH PROGRAM IN LATIN AMERICA AND THE CARIBBEAN

NORTHER AREA: Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Dominican Republic

a. Project to control ticks and tick-transmitted diseases.

b. Project to eradicate cattle screwworm.

c. Upgrading the diagnostic capabilities of the Animal Health Laboratories.

d. Creating a Regional Emergency Program on Exotic Diseases.

ANDEAN AREA: Bolivia, Colombia, Ecuador, Peru, Venezuela

a. BOLIVIA: Planning and designing animal health projects.

b. COLOMBIA: Project to determine the incidence of hog cholera and design an eradication plan.

c. COLOMBIA AND ECUADOR: Project to determine the incidence of tick-transmitted disease.

d. PERU: Project to control paralytic rabies in cattle.

e. VENEZUELA: Cooperation with national programs to control and eradicate diseases like Brucellosis and leucosis.

SOUTHERN AREA: Argentina, Brazil, Chile, Paraguay, Uruguay

a. Argentina: Technology transfer projects like: upgrading the INTA Castelar Veterinary Research Center, and the Graduate Center at the University of La Plata for providing training to specialists in Animal Health.

b. BRAZIL AND URUGUAY: Project to upgrade national veterinary diagnostic centers.

c. CHILE AND PARAGUAY: Project to eradicate hog cholera.

d. BRAZIL: Project to control ticks and tick-transmitted diseases.

e. BRAZIL: Project to determine the incidence of bovine leucosis.

ANTILLEAN AREA: The Caribbean (Barbados, Grenada, Guyana, Haiti, Trinidad and Tobago, Suriname).

a. Animal health and epidemiology planning project.

b. Technical cooperation for the diagnosis, prevention and control of exotic disease.

c. Training in the maintenance of laboratory equipment.

d. Research projects on blue tongue and equine encephalomyelitis.

e. Program to improve the hog industry in Haiti.

EXTRA-QUOTA PROJECTS

Extra-quota projects are being conducted in Argentina, Brazil, Paraguay and Haiti, as national projects sponsored by IICA.

ARGENTINA:	Institutional strengthening in animal health:	
	1981	$135 000
	1982	150 000
	1983	160 000
BRAZIL:	Institutional strengthening in animal health:	
	1982	155 000
PARAGUAY:	Program to Control Newcastle, Hog Cholera and Equine Infectious Anemia:	
	1982	35 000
HAITI:	Eradication of African swine fever:	
	1982	10 500 000
	1983	6 000 000

PERSONNEL OF IICA'S ANIMAL HEALTH PROGRAM

As indicated in the 1982 Working Plan, IICA has the following professional personnel working with the Animal Health Program:

NORTHERN AREA:	2 Veterinary Doctors specializing in animal health.
ANDEAN AREA:	2 Veterinary Doctors specializing in animal health.
SOUTHERN AREA:	2 Veterinary Doctors specializing in animal health.
ARGENTINIAN PROJECT:	3 Veterinary Doctors specializing in animal health and 1 Laboratory Specialist.
ANTILLEAN AREA:	1 Veterinary Doctor specializing in animal health
HAITIAN PROJECT:	5 Veterinary Doctors, 3 professionals in laboratory management and communications
HEADQUARTERS:	2 Veterinary Doctors.

BUDGET:

IICA's budget for its Animal Health Progam totals US$936 140 for 1982, and US$ 1 026 725 for 1983.

APPENDIX II

OF ANNEX 1

LIST OF PARTICIPANTS

LIST OF PARTICIPANTS

Members of the Advisory Commission

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Dr. Herman Málaga
Panamerican Health Organization
Panamá, R.P.

APPENDIX III

OF ANNEX 1

WORKING PROGRAM

WORKING PROGRAM

Wednesday, April 14

08:30 A.M.	Registration and distribution of documents
09:00 A.M.	Election of Chairman and Rapporteurs of the Advisory Commission
09:30 A.M.	Opening Session - Address by the Representative of IICA Eng. José Alberto Torres - Objectives of the Advisory Meeting Dr. Pedro N. Acha
10:00 A.M.	Coffee
10:30 A.M.	"The Role and Scope of International Agencies Providing Technical Cooperation on Animal Health in Latin America and the Caribbean" Drs. G.C. Poppensiek and P.N. Acha
11:30 A.M.	Comments and Observations by the Members of the Advisory Commission
12:30 P.M.	Lunch
2:00 P.M.	Comments and Observations by the Representatives of International Agencies. - FAO Dr. F. Peritz - PAHO Dr. M. Férnandes - IDB Dr. A. Arce - OIRSA Dr. L. Jaen - UNDP Sr. L. Thais
4:00 P.M.	Coffee
4:15 P.M. to 5:30 P.M.	General Discussion

Thursday, April 15

08:30 A.M.	Diseases and problems of major importance on Animal Health in Latin America and the Caribbean From the point of view of: - Great economic importance - Technical feasibility for control and/or eradication - Administrative feasibility - Public health implications - Human and material resources
10:30 A.M.	Coffee
10:45 A.M.	Discussion and Recommendations
12:30 P.M.	Lunch
2:00 P.M.	Collaboration resources from the Technical Cooperation Agencies - FAO - PAHO - OIRSA - IICA
3:30 P.M.	Coffee
3:45 P.M.	Resources for economical assistance from the International Funding Agencies - IDB - UNDP
4:30 P.M.	Discussion and Recommendations

Friday, April 16

8:30 A.M.	International Technical Cooperation for Animal Health Programs in the Future; Options and Strategies According to: - Types of Countries - Subjects of Technical Cooperation - Research Capacity - Human Resources and Development - Functions and Mandates of the Technical Cooperation Agencies

10:30 A.M.	Coffee
10:45 A.M.	Discussion and Recommendations
12:30 P.M.	Lunch
2:00 P.M. to 6:00 P.M.	Preparation of the Report of the Advisory Commission for the Executive Committee of IICA

Saturday, April 17

9:00 A.M.	Presentation and discussion of the draft report and recommendations
10:30 A.M.	Coffee
11:00 A.M.	Other matters
11:30 A.M.	Closing session - Adoption of the Final Report - Address by the President of the Commission - Address by a Representative of IICA

ANNEX 2

RESOLUTION Nº 15

ANIMAL HEALTH COMMISSION

IICA/JIA/Res.15(II-E/82)
28 October 1982
Original: Spanish

RESOLUTION N° 15
ANIMAL HEALTH COMMISSION

The INTER-AMERICAN BOARD OF AGRICULTURE, at its Second Special Meeting,

HAVING SEEN:

The Report of the Director General on the Advisory Commission on International Cooperation in Animal Health (IICA/CE/Doc. 18(82)rev.), and the report of this Commission, attached to this document.

CONSIDERING:

That the Inter-American Board of Agriculture, in its First Regular Meeting, held in 1981, approved Resolution IICA/JIA/Res.18(I-0/81), charging the Director to establish a Commission to study the program budgets of IICA and of other international organizations active in Animal Health in the Hemisphere, and evaluate how these programs could operate as effectively as possible, preventing duplication of effort and importance and with repercussions on public health in the countries of the Hemisphere;

That IICA's Animal Health Program, established by the Board of Directors of the Inter-American Institute of Agricultural Sciences, has made outstanding efforts on the continent during its two years of operation, through the development of specific projects for the eradication and control of diseases, with decided support from the Governments of the Member States of the Institute, and

That the Advisory Commission recommended that a Permanent Animal Health Commission be established, and the Director General, in his report, indicates his belief that its objective should be to guide, advise and serve as a mechanism of consultation and concurrence for the Director General of the Institute's Animal Health Program, and to other international organizations active in the field of Animal Health in the Member States, while outlining the nature of the Commission, as he would like to see it.

RESOLVES:

1. To express its gratitude to the Governments and entities that took part in the consultative meeting held in Panama (April 14 to 17, 1982).

2. To accept the Report of the Advisory Commission on International Cooperation in Animal Health, and to accept the views of the Director General concerning the proposed Animal Health Commission.

3. To charge the Director General with preparing the biennial reports on the work of this Commission, for submission to the Executive Committee and the Inter-American Board of Agriculture.

ANNEX 3

INTERNATIONAL COOPERATION ON ANIMAL HEALTH IN LATIN AMERICA AND THE CARIBBEAN

FORM 1

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

PAIS ARGENTINA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
1. SELSA Servicio a cargo de los sistemas de lucha contra enfermedades animales en el campo y del relevamiento y vigilancia epidemiológica de las noxas animales existentes en el país así como de la prevención de las exóticas y emergentes.		
1.1. Fiebre Aftosa	Nacional	
1.2. Garrapata	Regional	
1.3. Brucelosis	Nacional	
1.4. Sarna Ovina y Bovina	Regional	
1.5. Anemia Infecciosa Equina	Regional	
1.6. Rabia Paresiante	Regional	
1.7. Salmonelosis de las aves	Nacional	
1.8. Peste Porcina Clásica	Regional	
1.9. Endoparasitarias	Nacional	
1.10. Tuberculosis	Nacional	
2. SIPA Servicio de Control de Alimentos de origen animal, comprendiendo la supervisión y vigilancia de los establecimientos procesadores e industrializadores, así como la inspección directa y la fiscalización del control sanitario de los productos animales que se producen y elaboran, actuando al mismo tiempo en coordinación con los servicios de campo en la información por áreas de cada enfermedad bajo control.		
2.1. Tráfico	Nacional	
2.2. Contralor	Nacional	
2.3. Establecimientos Industrializadores	Nacional	

PAIS ARGENTINA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
3. SELAB Servicio de control de los productos veterinarios que se aplican en el tratamiento y prevención de las enfermedades animales, como asi también el diagnóstico de las mismas en coordinación y apoyo de las campañas ejecutadas en el terreno, realizando paralela - mente actividades de investigación y referencia en apoyo de los laboratorios productores en la estandarización de los sistemas de producción.		
3.1. Bacteriologia	Nacional	
3.2. Parasitologia	Nacional	
3.3. Virologia	Nacional	
3.4. Plaguicidas	Nacional	
3.5. Diagnóstico	Nacional	
		$ 492,530,000,000
Observaciones: Equivalente al 1.1.82 (en 1 US$= 10,000)		US$ 49,253,000

PAIS BRASIL

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		Cr$ 1,000
- Plano Nacional de Combate de Fiebre Aftosa	Nacional	422,000
- Programa de Combate de Peste Porcina	Nacional	195,000
- Actividades de Enfermedades de Aves	Nacional	39,750
- Actividades de Rabia Bovina	Nacional	28,100
- Actividades de Brucelosis	Nacional	9,700
- Actividades de Anemia Infec - ciosa Equina	Nacional	30,450
- Actividades de Enfermedades Parasitárias y Carenciales	Nacional	25,990
- Actividades de Otras Enfermedades Infecto-Contagiosas	Nacional	2,800
- Actividades de Vigilancia Zoosanitaria	Nacional	18,890
- Actividades de Estación Cuarentenaria	Nacional	17,000
- Actividades de Control de Productos Veterinarios	Nacional	10,000

PAIS CHILE

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL		PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
			US$*
- Administración y Dirección del Subprograma Protección Pecuaria.	125,710		125,710
- Control de la Brucelosis Bovina	829,905		829,905
- Control de la Hidatidosis en la XI y XII Regiones.	145,983	215,146	361,129
- Erradicación de la Peste Porcina Clásica.	263,324		263,324
- Control de la Tuberculosis Bovina en la X Región.	19,249	23,666	42,915
- Diagnóstico y Estudios Pecuarios	340,415		340,415
- Defensa Pecuaria	863,619		863,619
- Laboratorios Pecuarios	489,802		489,802
TOTAL:	3,078,007	238,812	3,316,819

*US$1=46,48 Pesos Chilenos 5.7.82.

PAIS COLOMBIA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		$1,000
- Proyecto Sanitario ICA-USDA (Aftosa)	Regional	173,000
- Campañas Sanitarias 1/	Nacional	2,660
- Campaña Brucelosis Tuberculosis	Nacional	2,240
- Campaña Fiebre Aftosa	Nacional	83,358
- Convenio Colombo-Ecuatoriano (Aftosa)	Regional	3,519
- Convenio Sanitario Brasil-Colombia (Aftosa)	Regional	1,052
- Enfermedades Vesiculares 2/	Nacional	11,806
- Convenio Colombo-Aleman (Aftosa) 3/	Regional	6,770

1. Comprende los programas de: Rabia Bovina, Encefalitis Equina, Anemia Infecciosa Equina, Peste Porcina, Carbón Bacteridiano, Carbón Sintomático, Enfermedades Parasitarias, Enfermedades Aviares y Enfermedades de las Especies Menores.

2. Programa dedicado al diagnóstico y a la investigación de las Enfermedades Vesiculares.

3. Programa dedicado al estudio de modelos epidemiológicos en enfermedades animales con determinación del impacto económico y evaluación de la factibilidad con diferentes estrategias de control.

PAIS COSTA RICA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
- Campaña de Control y Erradicación de Brucelosis y Tuberculosis Bovina.	Nacional	¢ 17,349,772
- Campaña prevención de enfermedades exóticas	Nacional	
- Control cuarentenario para enfermedades de animales	Nacional	
- Programa inspección de carne	Nacional	

PAIS GUYANA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
- National Survey - Tuberculosis	National	Budget is not identified by Programme.
- National Survey - Brucellosis and Leptospirosis	National	
- National Survey - Bluetongue	Regional	
- Tuberculosis and Tuberculosis like diseases at the Georgetown Abattoir	National	
- Survey of pathogens in poultry incubators before and after incubation	National	
- Survey of the causative agents in piglet dianhoea	National	
- Survey of internal parasitisim of livestock in different locations	National	
- Foot and Mouth and African Swine Fever Diseases Prevention	National	
- Rabies Control	National	
- Screwworm Control	Regional	
- Establishment of a Veterinary Diagnostic Laboratory	Regional	

PAIS HONDURAS

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		LEMPIRAS
- Campaña Brucelosis	Nacional	
- Tuberculosis		
- Encefalitis Equina		4,569,139
- Cólera Porcino		2,284,368

PAIS MEXICO

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		$M.N.
1) Campaña Nacional contra la Brucelosis	Nacional	131,639,315
1) Campaña Nacional contra la Tuberculosis	Nacional	18,372,681
1) Campaña contra la Rabia Paralítica Bovina	Regional	71,154,680
1) Campaña Nacional contra la Encefalitis Equina Venezolana	Nacional	48,173,044
1) Campaña Nacional contra la Mastitis	Nacional	6,313,636
1) Campaña Nacional contra el Cólera Porcino	Nacional	285,565,765
1) Campaña Nacional contra la Pullorosis y Tif. Aviar	Nacional	26,201,590
1) Campaña contra el Aujeszky	Regional	6,692,455
1) Programa de Diagnóstico	Nacional	37,250,454
		Subtotal: 631,363,620
2) Campaña Nacional contra la Garrapata	Nacional	114,000,000
		Subtotal: 745,363,620
3) Comisión México Americana para la Erradicación del Gusano Barrenador del Ganado	Regional	341,351,000
		Subtotal: 1,086,714,620
4) Comisión México Americana para la prevención de la Fiebre Aftosa	Nacional	3,689,500
		TOTAL: 1,090,404,120

PAIS MEXICO

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
OBSERVACIONES: 1) Desarrollados por la Dirección General de Sanidad Animal. 2) Desarrollado por el Fideicomiso Campaña Nacional contra la Garrapata. 3) Desarrollo por la Comisión México-Americana para la Erradicación del Gusano Barrenador del Ganado. 4) Desarrollado por la Comisión México-Americana para la Prevención de la Fiebre Aftosa.		

PAIS NICARAGUA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		Cordobas
- Programa de Encuestas de Enfermedades: Rabia, Brucelosis, Tuberculosis, Garrapatas y Parasitosis Internas.	Nacional	9,149,589

PAIS PANAMA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
- Programa de Sanidad Animal MIDA-BID.	Nacional	US$ 1,238,710.83
- Comisión Panamá-Estados Unidos para prevención de Fiebre Aftosa.	Nacional	55,555.00
- Sección de Prevención de Fiebre Aftosa, OIRSA-PANAMA.	Nacional	45,000.00
- Vigilancia Epidemiológica de Enfermedades Vesiculares.	Nacional	848,000.00
- Programa de Adiestramiento en Sanidad Animal	Nacional	20,000.00

PAIS PARAGUAY

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
1. Programa de Control de la Peste Porcina Clásica, Anemia Infecciosa Equina, Newcastle y Prevención de Enfermedades Exóticas.	En la implantación progresiva a nivel Nacional para las actividades de vigilancia, Control focos, diagnósticos y Educación Sanitarias.	₲ 27,054,000.00 US$ 214,700
2. Investigación y Diagnóstico Veterinario	Nacional	₲ 61,279,000.00 US$ 486,340
3. Laboratorio Producción de Biológico.	Nacional	₲ 12,567,600.00 US$ 99,740

OBSERVACION:

La Dirección de Normas y Control Agropecuario y Forestal del Ministerio de Agricultura y Ganadería, de rutina se encarga del cumplimiento de las medidas de Policia Sanitaria (Ley Nº 494) y del Control Higiénico Sanitario de los productos animales (Ley Nº 269), como también se encarga de identificar e impulsar el fomento de la producción Pecuaria Nacional.

El desglose de su presupuesto para 1982, es como sigue:

- Dirección General	₲: 14,247,000.00	US$ 113,070.00
- Sanidad Animal	₲: 27,054,000.00	US$ 214,700.00
- Acción y Control Pecuario (Inspección Productos animales)	₲: 21,318,000.00	US$ 169,190.00
- Laboratorio Diagnóstico e Investigación	₲: 61,279,000.00	US$ 486,340.00
- Laboratorio Producción Biológicos	₲: 11,478,000.00	US$ 91,100.00
- Fomento Avícola	₲: 12,567,600.00	US$ 99,740.00
- Fomento Avícola	₲: 11,500,000.00	US$ 91,270.00
TOTAL:	₲: 159,443,600.00	US$1,265,410.00

PAIS PERU

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
- "Programa Nacional de Prevención y Erradicación de la Peste Porcina Africana".	Nacional	S/. 70,000,000
- "Programa Nacional de Prevención y Control de la Fiebre Aftosa".	Nacional	S/.285,000,000

PAIS REPUBLICA DOMINICANA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
- Proyecto Sanidad Animal (PIDAGRO)		
Control Brucelosis, Tuberculosis y Garrapatas*	Nacional	RD$ 404,675 Fondos Estado Dominicano
Laboratorio Enfermedades del Cerdo. (Fiebre Porcina Africana)	Nacional	RD$ 957,840 Comprende solamente laboratorio.

PAIS SURINAME

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
- Brucellosis	Regional	$. 150,000
- Tuberculosis	Regional	$. 100,000

PAIS TRINIDAD & TOBAGO

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		$T.T.
1) Rabies Programme		
(i) Vampire Bat Control	National	674,816.00
(ii) Vaccination	National	260,000.00
2) Poultry Surveillance		
(i) Broiler Farms	National	
(ii) Hatcheries	National	
(iii) Breeder Farms	National	380,839.89
3) T.B. Testing & Eradication	National	80,000.00
4) Brucella Testing	Regional	5,000.00

PAIS URUGUAY

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
CAMPAÑAS		
- Garrapata (Boophilus microplus)	Nacional	Servicios no personales, materiales varios, repuestos, transferencias asignaciones varias. N$ 6,099,271.00 * US$ 469,174.70
- Piojo y Sarna Ovina	Nacional	
- Tuberculosis Bovina	Nacional	
- Brucelosis Bovina	Nacional	
- Producción de Leche Higiénica	Nacional	
- Anemia Infecciosa Equina	Nacional	Contratados Anuales Zafrales Anual N$ 28,734,663.24 US$ 2,210,358.71
- Peste Porcina Clásica	Nacional	
- Salmonelosis y Enf. de Newcastle	Nacional	Servicios personales, no personales materiales de consumo, combustibles. N$ 2,534,009.25 US$ 194,923.78
- Carbunco Bacteridiano	Nacional	
- Sarna Bovina	Nacional	
- Rabia	Nacional	
- Fiebre Aftosa	Nacional	Contratados Anual Zafrales Anual N$ 8,116,208.28 US$ 624,323.71

*Cotizacion 1 US$ X N$13.00.

PAIS VENEZUELA

COUNTRY

PROGRAMAS DE SALUD ANIMAL PARA EL CONTROL Y/O ERRADICACION DE ENFERMEDADES

ANIMAL HEALTH PROGRAMS FOR CONTROL AND/OR ERADICATION OF DISEASES

TITULO DEL PROGRAMA PROGRAM TITLE	NACIONAL/REGIONAL NATIONAL/REGIONAL	PRESUPUESTO NACIONAL 1982 NATIONAL BUDGET FOR 1982
		Bs
- Control Puertos y Aeropuertos	Nacional	2,352,558
- Diagnósticos Sanitarios	Nacional	2,063,230
- Campañas Especiales	Nacional	2,975,389
- Campaña Aftosa	Nacional	9,335,024
- Campaña Brucelosis y Tuberculosis	Nacional	4,936,481
- Control Movilización	Nacional	1,892,972
- Estación Cuarentenaria	Nacional	717,926

FORM 2

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

PAIS BRASIL

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Programa de capacitación de personal para la instalación y funcionamiento del Laboratorio Nacional de Referencia Animal - LANARA.	OPS/OMS	Recursos del Ministerio de Agricultura con valor de: Cr$ 70,000,000.00
- Programa de Transferencia de Tecnología de Producción de vacuna antiaftosa, con adyuvante oleoso.	OPS/OMS	Recursos del Ministerio de Agricultura con valor de: Cr$ 70,000,000.00
- Programa de Asistencia Técnica para acelerar la implantación de la Red LANARA.	IICA	Recursos del Ministerio de Agricultura con valor de: Cr$ 20,000,000.00

PAIS CHILE

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Enfermedades Exóticas	OPS FAO	10,928 6,930
- Control de la Brucelosis Bovina	OPS	1,374
- Erradicación de la Peste Porcina Clásica	IICA	3,160
- Reunión IICA. Cono Sur.	IICA	1,390
- Areas Libres	OPS	2,780
- Control de Hidatidosis	OPS	1,900
TOTAL:		28,462

PAIS COLOMBIA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$ *
- Proyecto Sanitario ICA-USDA (Aftosa)	Departamento de Agricultura de EE.UU.	476,190
- Convenio Colombo-Alemán (Aftosa) Proyecto ICA-GTZ	Agencia Internacional de Cooperación Técnica de la República Federal de Alemania.	59,683

OBSERVACIONES:

*Corresponde al presupuesto inicial aportada por las Entidades Internacionales para la Vigencia Fiscal de 1982.

**Tipo de Cambio por Dólar $63.

PAIS COSTA RICA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Vigilancia epidemiológica de enfermedades vesiculares.	OPS	
- Cursos de adiestramiento en medidas cuarentenarias.	OIRSA/BID	

PAIS ECUADOR

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Programa de Control de la Fiebre Aftosa	Centro Panamericano de Fiebre Aftosa/OPS Brasil	8,824,000.00
- Peste Porcina Africana	FAO	Recursos aportados por FAO para el Ecuador.
- "Seminario/Ejercicio de Simulación Sub-regional sobre las principales enfermedades exóticas y de los sistemas de Respuesta de Urgencia". (PCT/ECU/2203 (T)	FAO	Recursos aportados por FAO para el Ecuador.
- Convenio internacional de Salud Animal	Oficina Internacional de Epizootías (OIE) París	35,294.00
- Control de la Fiebre Aftosa a nivel de Frontera	Convenio Colombo-Ecuatoriano	1,470.00
- Control de la Fiebre Aftosa a nivel frontera	Convenio Ecuatoriano-Peruano	1,470.00
	Junta del Acuerdo de Cartagena	17,147.00
OBSERVACIONES: Los aportes por parte del Ecuador ha sido considerados para el año 1981, está pendiente las asignaciones para el año 1982.		

PAIS EL SALVADOR

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
1) Proyecto Regional - Vigilancia Epidemiología de Enfermedades Vesiculares para América Central. a) 2 cursos capacitación en Panamá b) Un seminario Evaluación Costa Rica	OPS/OMS	5,000.00
2) Curso de capacitación para 3 personas a efectuarse en Colombia. (Seminario sobre capacitación en enfermed exóticas de los animales).	FAO	5,000.00
3) Capacitación Médico Veterinario Maestría patología aviar U.N.A.M. México	OEA	10,000.00

PAIS GRENADA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Bluetongue Disease	IICA	

PAIS GUATEMALA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Programa Regional de Prevención de Enfermedades Exóticas	OIRSA	121,938.00
- Sección Fiebre Aftosa	OIRSA	44,399.00
- Laboratorio Diagnóstico de Enfermedades Vesiculares	OIRSA	27,108.00

OBSERVACIONES:

Estos programas que realiza el OIRSA, tienen cubertura regional, y, los mismos funcionan con los recursos financieros que los países signatarios aportan al organismo.

PAIS GUYANA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Bluetongue Survey	IICA	No funds specifically designed
- Foot and Mouth Disease Prevention	OPS	No funds specifically designed
- Rabies Control	IICA	No funds specifically designed
- Screwworm Control	IICA	No funds specifically designed
- Establishment of Veterinary Diagnostic Laboratory	OPS	203,694.00

PAIS HONDURAS

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
		Lempiras
- Medidas Preventivas contra la Peste Porcina Africana	FAO (Proyecto TCP/HON/0107(E)	64,000.00
- Convenio Antiaftoso Bilateral	USDA/OIRSA	65,000.00

PAIS JAMAICA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
1) Screwworm Eradication	IICA	Nil
2) Haemo parasites control	IICA	Nil
3) Ecto parasites control	IICA	Nil
4) Helminth Control	IICA	Nil
5) Embryo Transplant	EDF - LOME II	Nil

PAIS MEXICO

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Panorama Epidemiológico y Programas de Erradicación de la Tuberculosis Bovina	OPS	
- Mejorar las técnicas de laboratorio para el aislamiento y tipificación de micobacterias	OPS	
- Vigilancia Epidemiológica de la Rabia	OPS	
- Técnicas de Laboratorio para el Diagnóstico de la Rabia	OPS	
- Administración y Planificación de Servicios de Salud	OPS	
- Vigilancia Epidemiológica de Enfermedades Exóticas	OPS	
- Medicina Ocupacional a Nivel Laboratorios	OPS	
- Control de Calidad de Productos Químico-Farmaceúticos para uso en Animales	OPS	
- Vigilancia Zoo-sanitaria en productos y subproductos de origen animal	OPS	
- Desarrollo de Sistema de Información de Salud Animal	OPS	
- Desarrollo de Información Zoo-sanitaria	OPS	

PAIS MEXICO

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Sistema de Evaluación del Control de calidad	OPS	
- Implementación de nuevas técnicas de producción de biológicos	OPS	Subtotal: 74,667
- Mejoramiento de Sistemas de Diagnóstico de Laboratorios	IICA	(PENDIENTE)
- Salud del Hato	IICA	1,000
- Vigilancia y Epidemiología de Enfermedades de los Animales	IICA	20,000
- Desarrollo de un Centro Regional para Parásitos	IICA	5,000
		Subtotal: 26,000
		TOTAL: 100,667

PAIS NICARAGUA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
		CORDOBAS
- Sistemas de Información Estadística, Vigilancia Epidemiológica y Control Sanitario	OPS	5,000.00 Asesores por año
- Convenio Antiaftoso Bilateral	USDA/MAG	65,000.00

PAIS PANAMA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Sección de Prevención de Fiebre Aftosa OIRSA-Panamá	OIRSA	81,200.35 *
- Vigilancia Epidemiológica de Enfermedades Vesiculares	OPS	47,500.00
- Programa de Adiestramiento en Sanidad Animal	OPS	5,000.00

*Incluye Sanidad Vegetal.

PAIS PARAGUAY

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Programa de Control de la Peste Porcina Clásica, Anemia Infecciosa Equina, Newcastle y Prevención de Enfermedades Exóticas.	IICA	₲ 3,509,100.00 US$ 27,850.00

PAIS REPUBLICA DOMINICANA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Salud Pública Veterinaria*	OPS	RD$ 30,000.00
- Capacitación Regional para el Control de las Enfermedades Pecuarias Exóticas**	FAO	RD$ 200,000.00
- Programa Regional Sanidad Animal	IICA	

*Comprende la Cooperación de PANAFTOSA Y CEPANZO.
**Este Proyecto comprende 22 países de América Latina.

PAIS TRINIDAD & TOBAGO

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
1) Bluetongue Survey	IICA	5,000.00
2) Screwworm Survey	IICA	5,000.00

PAIS URUGUAY

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COOPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Vacuna Oleosa Proyecto de aplicación experimental	CPFA	
- Entrenamiento Técnico Becas, Cursos en el país y Consultores	CPFA	
Programa de Intercambio de información para la vigilancia de la fiebre aftosa y otras enfermedades vesiculares (América del Sur y Central)	CPFA	
- Reorganización Biblioteca Técnico-Especializada	IICA	

PAIS VENEZUELA

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION DE ORGANISMOS INTERNACIONALES DE COCPERACION TECNICA

ANIMAL HEALTH PROGRAMS DEVELOPED WITH COLLABORATION OF INTERNATIONAL ORGANIZATIONS OF TECHNICAL COOPERATION

TITULO DEL PROYECTO PROJECT TITLE	AGENCIA DE COOPERACION TECNICA TECHNICAL COOPERATION AGENCY	RECURSOS APORTADOS 1982 1982 FUNDS US$
- Programa Sanitario Contra la Peste Porcina Africana	Junta del Acuerdo de Cartagena	10,000.00
- Asistencia Técnica Proyecto Ven-3.100	Organización Panamericana de la Salud	232,558.00
- Asistencia Técnica Construcción Laboratorio producción de vacuna Antiaftosa de adyuvante oleoso	Organización Panamericana de la Salud	
- Centro Panamericano de Zoonosis	CEPANZO	69,186.00
- Oficina Internacional de Epizootías	OIE	46,511.00
- Centro Panamericano de Fiebre Aftosa	PANAFTOSA	131,171.00

FORM 3

ANIMAL HEALTH PROGRAMS DEVELOPED WITH SUPPORT OF INTERNATIONAL FINANCE ORGANIZATIONS

PAIS GUATEMALA
COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON APORTES ECONOMICOS DE ORGANISMOS INTERNACIONALES DE APOYO FINANCIERO

ANIMAL HEALTH PROGRAMS DEVELOPED WITH SUPPORT OF INTERNATIONAL FINANCE ORGANIZATIONS

TITULO DEL PROYECTO PROJECT TITLE	ORGANISMO FINANCIERO FINANCIAL AGENCY	FONDOS PARA 1982 1982 FUNDS US$
- Proyecto regional de Vigilancia Epidemiológica de Enfermedades Vesiculares para Centroamérica y Panamá	PNUD	496,650.00
- Cursos en Cuarentena Agropecuaria	BID/OIRSA	113,300.00

OBSERVACIONES:

Estos proyectos tienen carácter regional.

PAIS BRASIL
COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON APORTES ECONOMICOS DE ORGANISMOS INTERNACIONALES DE APOYO FINANCIERO

ANIMAL HEALTH PROGRAMS DEVELOPED WITH SUPPORT OF INTERNATIONAL FINANCE ORGANIZATIONS

TITULO DEL PROYECTO PROJECT TITLE	ORGANISMO FINANCIERO FINANCIAL AGENCY	FONDOS PARA 1982 1982 FUNDS US$
- Programa de Asistencia Técnica para acelerar la implementación de la Red LANARA	PNUD/FAO	44,050*

*US$21,625 en equipos y US$ 22,425 en Consultoría Técnica.

FORM 4

ANIMAL HEALTH PROGRAMS DEVELOPED WITH THE BILATERAL COLLABORATION OF OTHER GOVERNMENTS

PAIS MEXICO

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION BILATERAL DE OTROS GOBIERNOS

ANIMAL HEALTH PROGRAMS DEVELOPED WITH THE BILATERAL COLLABORATION OF OTHER GOVERNMENTS

TITULO DEL PROYECTO PROJECT TITLE	GOBIERNO GOVERNMENT	RECURSOS PARA 1982 FUNDS FOR 1982 US$
- Programa de Erradicación de la Peste Porcina Africana en Haití	Contribución de México	549,880
- Comisión México-Americana para la Erradicación del Gusano Barrenador del Ganado	EE.UU.	41,723,000
- Comisión México Americana para la Prevención de la Fiebre Aftosa	EE.UU.	141,000
- Banco de Vacuna de Norteamérica contra la Fiebre Aftosa	Contribución de México	398,000
- Técnica Zoo-sanitaria Nº 39	Japón	553,191
	TOTAL:	43,365,071

PAIS CHILE

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION BILATERAL DE OTROS GOBIERNOS

ANIMAL HEALTH PROGRAMS DEVELOPED WITH THE BILATERAL COLLABORATION OF OTHER GOVERNMENTS

TITULO DEL PROYECTO PROJECT TITLE	GOBIERNO GOVERNMENT	RECURSOS PARA 1982 FUNDS FOR 1982 US$
- Sanidad Animal	JAPON	6,600.00

PAIS PARAGUAY
COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION BILATERAL DE OTROS GOBIERNOS

ANIMAL HEALTH PROGRAMS DEVELOPED WITH THE BILATERAL COLLABORATION OF OTHER GOVERNMENTS

TITULO DEL PROYECTO PROJECT TITLE	GOBIERNO GOVERNMENT	RECURSOS PARA 1982 FUNDS FOR 1982 US$
- Investigación y Diagnóstico Veterinario Cooperación MAG/Gobierno Británico	Inglaterra	₲ 1/ 57,218,550
- Sanidad Animal MAG/Gobierno República Federal de Alemania	Alemania	Marcos 2/ 3,500,000 para 3 años

OBSERVACIONES:

1. Este convenio entró en vigencia en febrero de 1972.

2. Este convenio fué formalizado el 19 de mayo de 1982 y su inicio está previsto para octubre del corriente año.

PAIS URUGUAY

COUNTRY

PROGRAMAS DE SALUD ANIMAL QUE SE DESARROLLAN CON LA COLABORACION BILATERAL DE OTROS GOBIERNOS

ANIMAL HEALTH PROGRAMS DEVELOPED WITH THE BILATERAL COLLABORATION OF OTHER GOVERNMENTS

TITULO DEL PROYECTO PROJECT TITLE	GOBIERNO GOVERNMENT	RECURSOS PARA 1982 FUNDS FOR 1982 US$
- Intercambio de Información Epidemiológica Semanal-Mensual-Anual	Argentina	No se utilizan recursos específicos
- Intercambio de Información Epidemiológica Semanal-Mensual-Anual	Brasil	No se utilizan recursos específicos
- Cursillos de revisión y adiestramiento	Argentina/Brasil	No se utilizan recursos específicos
- Uniformación de medidas sanitarias y aceptación recíproca de documentos para tránsito de fronteras	Brasil	No se utilizan recursos específicos
- Becas de entrenamiento técnico de campo	Francia