



*executive committee of
the directing council*

PAN AMERICAN
HEALTH
ORGANIZATION

*working party of
the regional committee*

WORLD
HEALTH
ORGANIZATION



74th Meeting
Washington, D. C.
June-July 1975

Provisional Agenda Item 13

CE74/11 (Eng.)
21 May 1975
ORIGINAL: ENGLISH-
SPANISH

VIII INTER-AMERICAN MEETING, AT THE MINISTERIAL LEVEL, ON FOOT-AND-MOUTH
DISEASE AND ZONOSSES CONTROL

In compliance with Resolution XIX approved by the Directing Council at its XVII Meeting, the Director convened the VIII Inter-American Meeting, at the Ministerial Level, on Foot-and-Mouth Disease and Zoonoses Control, which was held in Guatemala City, Guatemala, during 16-19 April 1975. Representatives from 28 Member Countries and seven international agencies participated in the Meeting.

The Director takes pleasure in presenting for the consideration of the Executive Committee the following documents for transmittal to the Directing Council at its XXIII Meeting with the recommendations that the Committee considers appropriate:

- Agenda
- Final Report
- Program and Budget of the Pan American
Foot-and-Mouth Disease Center
- Program and Budget of the Pan American
Zoonoses Center

The documents on the related technical activities of the various subjects of this Meeting are available for study and review by the members of the Executive Committee, who may request them through the Secretariat.

In this VIII Inter-American Meeting, the principal subjects discussed included: the utilization of small animal species for food production in the Americas; the importance of tick control in the development of programs for animal health and production in the Americas; epidemiology and control of leptospirosis; epidemiological surveillance of rabies, encephalitis and other vesicular diseases; and current status

of the development and achievements of the recommendations and targets for animal and veterinary public health as established in the Ten-Year Health Plan for the Americas.

In the Final Report will be found 24 resolutions approved by the Ministers of Agriculture pertaining principally to technical assistance to animal health and veterinary public health programs in the Region, and the economical cooperation being provided by the Organization and the Inter-American Development Bank in epidemiological research on foot-and-mouth disease, development of laboratory services for diagnosis of animal diseases in the Americas, and control of equine encephalitis.

The two principal resolutions that have budgetary consequences and which were examined and approved by the Ministers of Agriculture are: Resolution III, Proposed Program and Budget Estimates of the Pan American Foot-and-Mouth Disease Center for 1976; and Resolution V, Proposed Program and Budget Estimates of the Pan American Zoonoses Center for 1976.

Annexes



PAN AMERICAN HEALTH ORGANIZATION



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CE74/11 (Eng.)

ANNEX I

VIII INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON FOOT-AND-MOUTH DISEASE AND ZONOSSES CONTROL

GUATEMALA, 16-19 APRIL 1975

RICAZ8/1, Rev. 1 (Eng.)

16 April 1975

ORIGINAL: SPANISH

AGENDA

Document No.

1. Preliminary Session. Election of the President and Two Vice-Presidents
2. Inaugural Session. Presentations by the Minister of Agriculture and by the Director of the Pan American Sanitary Bureau
3. Approval of the Agenda and the Program of Sessions RICAZ8/1, Rev. 1
and RICAZ8/2
4. Importance of the Utilization of Small Animal Species for Food Production in the Americas
 - A. The Role of Small Animal Species in Nutrition and Food Production RICAZ8/25
 - B. Intensive Fish Breeding and Its Possibilities for Improving Human Nutrition in the Americas RICAZ8/20
 - C. Rabbit Breeding as a Means to Increase the Production of Animal Protein RICAZ8/22
 - D. The Utilization of Wild Species in Human Nutrition in the Tropical Regions RICAZ8/8
and ADD.I
 - E. The Importance of Apiculture in Food Production RICAZ8/24
5. Current Status of the Development and Achievement of the Recommendations and Targets for Animal Health and Veterinary Public Health as Established in the Ten-Year Health Plan for the Americas, Approved by the Governing Bodies of the Pan American Health Organization, Santiago, Chile, October 1972. Country Reports
6. Research Program of the Pan American Zoonoses Center RICAZ8/4

	<u>Document No.</u>
7. Program and Budget of the Pan American Zoonoses Center	RICAZ8/17 and Corrig.
8. Program and Budget of the Pan American Foot-and-Mouth Disease Center	RICAZ8/18 and ADD. I.
9. Panel on the Importance of Tick Control in the Development of Programs for Animal Health and Production in the Americas	
A. The Tick as a Vector of Animal Diseases. Its Biology and Ecology	RICAZ8/5
B. Socioeconomic Importance of the Tick Problem in the Americas	RICAZ8/19
C. Methods of Tick Control	RICAZ8/23
D. The Problem of Acaricide Resistance in Tick Control Programs	RICAZ8/12
E. Importance of Entomological Diagnosis and Research in Tick Control Programs. Perspectives	RICAZ8/21
F. Organization and Development of a National Campaign for Tick Eradication	RICAZ8/13
10. Panel on the Epidemiology and Control of Leptospirosis	
A. Leptospirosis as a Human and Animal Health Problem	RICAZ8/10
B. The Problem of Leptospirosis in the World	RICAZ8/16
C. Diagnosis of Leptospirosis	RICAZ8/14
D. Epidemiology of Leptospirosis	RICAZ8/15
E. Efficacy of Treatment and Use of Vaccines in the Control of Leptospirosis in Domestic Animals	RICAZ8/11
11. Epidemiological Surveillance of Rabies, Equine Encephalitis, Foot-and-Mouth Disease, and Other Vesicular Diseases	RICAZ8/6, Rev.1, RICAZ8/7, 9, 26, and 27.



PAN AMERICAN HEALTH ORGANIZATION

CE74/11 (Eng.)
ANNEX II



WORLD HEALTH ORGANIZATION

VIII INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON FOOT-AND-MOUTH DISEASE AND ZONOSSES CONTROL

GUATEMALA, 16-19 APRIL 1975

RICAZ8/FR (Eng.)
19 April 1975
ORIGINAL: ENGLISH-SPANISH

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FINAL REPORT

The VIII Inter-American Meeting, at the Ministerial Level, on Foot-and-Mouth Disease and Zoonoses Control was held at the Biltmore Hotel, Guatemala City, Guatemala, from 16 to 19 April, 1975, having been convened by the Director of the Pan American Sanitary Bureau pursuant to Resolution XIX approved by the Directing Council of the Pan American Health Organization at its XVII Meeting.

OFFICERS

On 16 April, the heads of delegations met to elect the Officers of the Meeting, with the following results:

President: Dr. Roberto Zachrisson
Minister of Agriculture of Guatemala

Vice-Presidents: Dr. Carmelo Contreras
Minister of Agriculture and Breeding,
Venezuela

Dr. Gustavo Reta Pettersson
Undersecretary for Livestock,
Secretariat of Agriculture and Live-
stock, Mexico

Dr. Héctor A. Acuña, Director of the Pan American Sanitary Bureau served as Secretary, ex officio.

PARTICIPANTS

The following governments were represented: Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, France, Guatemala, Guyana, Haiti, Honduras, Jamaica, Kingdom of the Netherlands, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, United States of America, Uruguay and Venezuela.

An observer from the United Kingdom and observers from the following international organizations were also present: Banco Centroamericano de Integración Económica, Food and Agriculture Organization of the United Nations, Inter-American Development Bank, Inter-American Institute of Agricultural Sciences,

International Office of Epizootics, Organization of American States, Regional International Organism for Plant and Animal Health, United Nations Children Fund and United Nations Development Program.

PLENARY SESSIONS

At the inaugural session, held on 16 April, addresses were given by Dr. Héctor R. Acuña, Director of the Pan American Sanitary Bureau and Dr. Roberto Zachrisson, Minister of Agriculture of Guatemala.

Dr. Acuña thanked the Government for its kind hospitality and called attention to the fact that this Meeting demonstrated once again the close connection between the health and agricultural sectors in the countries of the Hemisphere and the absence of boundaries in the technical and professional fields, where analysis of problems affecting human health is concerned.

He pointed out that because of the persistence of under-nourishment and the high incidence of malnutrition among large population groups of the Region, immediate action on the part of the countries is imperative to overcome the problem. He considered it important to organize systems for improving food and nutrition and in this, agricultural and livestock development play a decisive role. It is therefore essential to control the zoonoses which account for 35 per cent loss of animal protein in Latin America and the Caribbean, in order to improve livestock production.

Since nutritional problems are related to the economic level, education, health, sanitation and general standards of living, they require concerted interdisciplinary and multisectoral action for their solution. As a guide to such action, the countries, in collaboration with the Organization and the international agencies, are formulating and carrying out national food and nutrition policies. Maximum food production is of first priority in this period crucial to the future of the peoples of the Americas. Protein-calorie malnutrition is still a serious problem; five million Latin American children still suffer from advanced malnutrition, and it is well known that this leads to physical and mental retardation in children and decreases work capacity in adults.

The improvement of agricultural and livestock production, vital to the improvement of the situation, requires the widespread application of technical innovations; this in turn requires highly qualified technical and professional personnel so that the specific needs of each country can be met.

The Organization, through the Pan American Foot-and-Mouth Disease and Zoonoses Centers, is providing training to veterinarians in modern methods for planning and programming activities for the control of animal diseases.

These Centers are also engaged in research, in the provision of technical advice to countries requesting it for the solution of animal health problems, and in supporting epidemiological surveillance systems designed to facilitate timely reporting of outbreaks of disease and speedy application of control measures.

In conclusion, Dr. Acuña stressed that the Organization would continue to collaborate with the countries of the Region in seeking means of controlling zoonoses and carrying out effective programs for the improvement of agricultural and livestock production, and pointed out that the recommendations of high-level meetings such as the VIII Inter-American Meeting would generate important recommendations which would ultimately result in improving the development plans in the countries of the Americas.

Dr. Zachrisson then welcomed the participants in the name of the Government of Guatemala and thanked them for the honor of electing him to chair the Meeting.

He pointed to the extreme importance of the themes to be discussed at the Meeting, because of their profound effect on the peoples of Latin America..

The first topic was of particular interest in that it analyzed the possibilities and potential of utilizing small animal species for the production of food for human consumption. He said the papers to be presented on this topic would provide valuable information on available knowledge, and on the studies that are being carried out in the countries on the development

potential of small animal species as an important source of food for the populations of the Hemisphere.

The meeting would also cover the advances made so far in the control of the zoonoses and of foot-and-mouth disease. These diseases take a heavy toll which is reflected not only in animal health but also in the economies of the countries of the Region; at the same time they are sources of infections transmissible to man. It would be necessary to continue to apply the most up-to-date techniques to control these diseases in order to achieve the final victory of complete eradication in the Americas.

He was convinced that the meeting would elicit important guidelines, recommendations and conclusions with regard to the activities of animal health programs being carried out in the countries of the Region, and expressed his hopes that the deliberations would prove highly successful.

The VIII Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control was thereupon officially declared in session.

The first plenary session opened with consideration of Agenda Item 4, "Importance of the utilization of small animal species for food production in the Americas." Dr. Ricardo Bressani of the Institute of Nutrition of Central America and Panama presented a paper, "The role of small animal species in nutritional food production." He pointed out that even when it was feasible to obtain a diet with high protein value based on protein of vegetable origin, the supplementary value of animal protein was unequalled, hence the interest in promoting the production of sources of animal protein from small animal species, such as pigs, chickens and rabbits.

He stressed the economic advantages of developing these species and analyzed the improved quality of diets containing protein of animal origin, the chemical composition of the meat of small species as compared to the larger species and also analyzed the diets consumed by both types of animals.

Mr. Enrique Castro Butter, Chief of the Livestock Resources Service of the Directorate of Renewable Natural Resources, Ministry of Agriculture and Livestock, El Salvador, submitted a paper "Intensive fish breeding and its possibilities for improving human nutrition in the Americas." which called attention to the great potential fishing reserves of the Hemisphere, stressing the need to limit the uncontrolled exploitation of fishing, which has resulted in the depletion of certain species and the devastation of offshore fishing banks. It was also necessary to increase the production of aquatic resources and encourage the breeding of species useful for nutrition. In the majority of the countries of Latin America and the Caribbean, fish does not play an important part in the diet of the population, but attempts are being made to encourage greater fish consumption. Fish compares favorably in price with other sources of animal protein and therefore fish farm production could play an important part in satisfying the future needs of low-income population groups in the Hemisphere.

Following this, Dr. Enrique Salinas Aguilera, Director General of Aviculture and Small Species, Secretariat of Agriculture and Livestock, Mexico, presented "Rabbit breeding as a means to increase the production of animal protein." He stated that the rabbit was one of the most suitable species for production turnover because it is fast growing and prolific. Furthermore it is easy to handle, requires very little breeding space, produces high quality droppings, its fur and other byproducts can be used extensively and it does not compete for foodstuffs consumed by man, since 50% of its intake consists of forage and only 20 to 30 per cent cereal grains. Moreover, rabbit meat has a high protein value and a lower fat content than that of other species.

Dr. Manuel Moro of the Pan American Zoonoses Center then embarked on the theme "The utilization of wild species in human nutrition in the tropical regions." In the forested tropical zones where conventional livestock can not yet be raised, there are a number of wild species which, as a result of indiscriminate exploitation and capture, have been decimated, leaving areas with an ecological gap. He referred to species such as the Guinea fowl, the dried smoked meat of a wild species known as "mountain meat" and turtle eggs, which are helping to alleviate the problem of

nutrition in vast areas of the Amazon region. He stressed that wild species could be extremely important both for human nutrition and for scientific research; this was why it was important to take immediate steps to repopulate devastated tropical regions with suitable wild species and to encourage research studies to determine the most appropriate method of utilization of the species for food production.

Dr. José A. Zozaya Rubio, Chief of the Department of Agriculture, Directorate of Aviculture and Small Species, Secretariat of Agriculture and Livestock, Mexico, then spoke on the subject of "The importance of apiculture in food production." He outlined the great advantages of apiculture, which is easily exploited, provides job opportunities for rural people and at the same time raises their nutritional status and incomes. For these reasons it is important to exploit the potential of plants with pollen-bearing nectar, which through the technical management of bee colonies can be converted into honey and beeswax.

The floor was then opened to discussion. The Representatives of El Salvador, Guatemala, Guyana, Mexico and Peru put a number of questions and made comments on the papers presented and these were answered by Mr. Castro and Drs. Bressani, Moro, and Aguilera.

The Representative of Peru thanked the Organization for the support it was providing to the countries in the field of nutrition, and recognized the efforts being made in Peru to improve food production. He referred particularly to the recent setting up of the Ministry of Nutrition, designed to further programs for increasing supplies of essential foodstuffs, and subsequently submitted a draft resolution on the agenda item.

The Representative of El Salvador also tabled a draft resolution requesting the technical assistance of the Organization for activities aimed at improving the production of small animal species in the countries.

The second plenary session was chaired by Dr. Gustavo Reta Pettersson and was devoted to the presentation of the country reports on the present state of development and implementation of the recommendations and goals of the Ten-Year Health Plan for the

Americas in the fields of animal health and veterinary public health. The following Representatives gave their reports in order of registration: Dr. Roberto Muñoz and Dr. Carlos Ruano (Guatemala), Dr. José Pedro Gonzales (Brazil), Mr. Salvador Arias (El Salvador), Dr. Nelson Magallanes (Uruguay), Dr. Raúl Prieto Busto (Paraguay), Dr. Héctor Campos López (Mexico), Dr. José Luis Solano (Costa Rica), Dr. Raúl M. Mendy (Argentina), Dr. Humberto Olmos Colmenares (Venezuela), and Dr. Vincent Gerald Moe and Dr. Leonard V. Butcher (Trinidad and Tobago).

The session then continued with consideration of the draft resolution presented by the Representative of Peru at the first plenary session, which was approved.

The third plenary session opened on 17 April, under the chairmanship of Dr. Gustavo Reta Pettersson with the presentation by the Representative of Brazil, Dr. José Pedro Gonzales, of the report of the Second Special Meeting of the South American Commission on Foot-and-Mouth Disease, held at Rio de Janeiro in March 1975, embodying important recommendations relating to programs being carried out by the countries for the control of the disease. He was followed by the Representative of Uruguay who stressed the importance of having the South American Commission on Foot-and-Mouth Disease continue its valuable work; this however required strong support from the Governments of Member Countries and PAHO/WHO; to this end he presented a draft resolution which was unanimously approved.

This was followed by introduction of Agenda Item 8, "Proposed Program and Budget Estimates of the Pan American Foot-and-Mouth Disease Center for 1975 and Provisional Draft for 1976," introduced by Dr. Mario V. Fernandes, Director of the Pan American Foot-and-Mouth Disease Center. He outlined the main activities being carried out by the Center in support of the efforts of the countries towards control and prevention of the disease; these included technical assistance, diagnostics and research, particularly on oil suspension vaccine which in initial field test provided immunity for over six months. He also referred to the project for training professionals of the countries to manufacture and control vaccines for the pilot plant for industrial manufacture. The Center is supporting the pilot project by agreement with the Government of Brazil and with the support of the Inter-American Development Bank. He also pointed out the difficulties the Center was facing in trying to cope with the growing demand on the part

of the countries for training for their programs; these difficulties arose mainly on account of the limitations of space in their installations. He explained the financial difficulties resulting from the high cost of supplies, reagents for vaccines, equipment, laboratory animals and staff salaries. In 1974 the Center was in part able to solve its budgetary problems, thanks to the voluntary contributions of the Governments of Brazil and Venezuela; nevertheless there would be a deficit in 1975 and 1976, as indicated in the document under review and this would require a solution if the support given to the countries was not to be reduced.

The Representative of the United States of America then stressed that the work of the Center was vital for progress in the control programs currently under way against foot-and-mouth disease, for preventing the introduction of the disease in disease-free areas and for achieving the goals of the Ten-Year Health Plan. The Representative of Canada agreed that the Center should receive all the aid necessary for carrying out this valuable work, and tabled a draft resolution supporting the proposed program and budget estimates of the Center; this resolution was unanimously approved.

The Representatives of Guyana, Mexico, Costa Rica, Paraguay, Ecuador and Brazil expressed the appreciation of their respective Governments for the cooperation provided by the Center and affirmed that they would do their best to provide maximum financial support for the continuation of this work. They also noted the invaluable assistance provided by the Inter-American Development Bank in the form of funds for foot-and-mouth disease control programs, and expressed the hopes that this assistance would be expanded in the future.

Dr. Carmelo Contreras, Minister of Agriculture and Breeding of Venezuela, then took the chair, and Dr. William M. Henderson, Secretary of the Agricultural Research Council, United Kingdom, presented the report of the Scientific Advisory Committee of the Pan American Zoonoses Center. He outlined a number of noteworthy aspects of the work of the Center considered by the Committee at its November 1974 meeting, and stressed that the important recommendations resulting from that meeting would tend to

reinforce the activities of the Center in the years to come. He laid particular stress on the urgent need to find adequate housing for the Center, to enable it to carry out and expand its program.

The Representative of the United States of America expressed his satisfaction with the report of the Scientific Advisory Committee and his conviction that the Zoonoses Center should receive maximum assistance to enable it to carry out to the full the vital activities undertaken in collaboration with the countries. He then presented a draft resolution which was unanimously approved.

Next Dr. Ramón Rodríguez Toro, Director of the Pan American Zoonoses Center, presented the proposed program and budget estimates of the Pan American Zoonoses Center for 1975 and the provisional draft for 1976, and discussed a number of general features of the activities being carried out by the Center in support of the country programs for control of the zoonoses, particularly with regard to training, research and technical assistance.

The zoonoses, he said, affected both livestock production and human health and, for this reason, control of these diseases should be embodied in livestock production policies and not merely in disease reduction policies. The Center hoped to intensify its efforts to increase manpower resources to satisfy the growing requirements of the countries, and to carry out field research to solve some of the problems which have emerged.

The Center is devoting continuous efforts to the production of biologicals, to the dissemination of knowledge and information through regular information bulletins and to the organization of epidemiological surveillance systems; other areas to be encouraged are the setting up of regional support centers for diagnostics and for the production of biologicals, with a view to benefitting those countries which required them. The efforts of the Governments to control the zoonoses are making even greater demands on the Center in the way of training and technical assistance, and this is reflected in the present budget of the Center. The budget itself has been affected by higher operational

costs due to inflation, with a resulting deficit of about \$80,000 in 1975 and \$93,000 in 1976.

It was therefore hoped that the countries would take these budgetary difficulties into account when considering the program of the Center.

The Representative of Brazil considered it necessary to reinforce the Center to enable it to continue to collaborate with the countries on zoonoses control, which would result in greater availability of animal protein sources. In this connection he put forward a draft resolution supporting the program of the Center and this was unanimously approved. The Representatives of Jamaica, the Dominican Republic and Paraguay reiterated their appreciation for the assistance of the Center in animal health projects.

The Representative of Argentina, referring to the budgetary situation of the Center, pointed out the increase provided by the contributions of the Government of his country and of PAHO, to cover the decrease in UNDP funds for 1975, and that the Government of Argentina was requesting the Inter-American Development Bank to provide financial support to the Center.

The Representative of Chile then asked to what extent the fellowship holders of the Center were carrying out the functions for which they had been trained; Dr. Rodríguez replied that their activities had been evaluated and were in general considered to be effective.

The Delegate of Cuba then gave an account of his country's experience in the training of specialist personnel needed to carry out zoonoses control and thanked the Center for its assistance in training. The Representative of Ecuador also thanked the Center for the training assistance his country had received.

The fourth plenary session, held on the afternoon of 17 April, opened with a presentation by Dr. César Cainelli, an observer from the Inter-American Development Bank, who thanked the meeting for inviting him to participate in this meeting which is vitally important to the animal health programs of the countries. He noted that up to the end of 1974, the Bank had

provided loans of more than US \$50 million specifically for livestock disease control projects and that other projects, for which PAHO was providing technical and administrative assistance, were under consideration at the present time.

He announced that a vast program of Regional technical cooperation in Central America and Panama was in the final study stage. This program to be undertaken in collaboration with the Organization would contribute to the organized development of activities in health education training and mass communication for the control and eradication of zoonoses and for the prevention of foot-and-mouth disease and other diseases of economic importance. This program would train professionals and auxiliaries to organize programs, execute, supervise and evaluate health education activities. He reaffirmed that the Bank would continue to give financial support to animal health and livestock development programs and thus contribute to increasing essential foodstuffs production.

The Representative of the United States of America expressed the recognition of all the countries for the support given to animal health programs by the Inter-American Development Bank, and said that in order to achieve the goals of the Ten-Year Health Plan, as regards increased food production through animal health control programs, the continued assistance of the Foot-and-Mouth Disease and Zoonoses Centers was essential; and in that respect the assistance of the Inter-American Development Bank was invaluable. The draft resolution tabled by the Representative of Nicaragua in appreciation of the contribution of the Inter-American Development Bank to animal health programs in the countries and of the activities of the Pan American Foot-and-Mouth Disease and Zoonoses Centers was unanimously approved.

This was followed by the presentation by the Representative of Guatemala of a draft resolution relating to social training in mass communication for the eradication and control of livestock diseases in Central America and Panama, and this was also unanimously adopted.

Following this, the Representative of Venezuela presented a draft resolution on technical cooperation in animal health and

veterinary public health for the countries of the Andean Group and this was unanimously approved, following a minor revision suggested by the Representative of Chile, which extended and generalized the provisions of the resolution.

Next, the Representative of Jamaica tabled a draft resolution on the development of the Regional Center for the Caribbean, for the training and updating of animal health auxiliaries, and the Representative of Trinidad and Tobago presented another draft resolution on the setting up of the Caribbean School of Veterinary Medicine; both resolutions were unanimously approved.

The rest of the session was devoted to presentation of the country reports on the implementation of the goals of the Ten-Year Health Plan on animal health and veterinary public health in the following order: Mr. Gerardo González, Minister of Agriculture and Livestock Development (Panama), Dr. Deryck W. Heineman (Kingdom of the Netherlands), Dr. Cedric L. Bent (Jamaica), Dr. Peter Fernandes and Dr. Frank E. Mongul (Guyana), Dr. Luis Palacios (Bolivia), Dr. Héctor O. Chacón (Honduras), Dr. Lizardo Fernández (Perú), Mr. Osvaldo Luco Echeverría (Chile), Mr. Eduardo Velarde (Ecuador), Dr. Kenneth F. Wells (Canada), Dr. Georges Delclos (France), Dr. Francis J. Mulhern (United States of America), Dr. Herberto A. Quirico Bodden (the Dominican Republic), Dr. Elysée Eustache (Haiti), Dr. Alfonso Ruiz Martínez (Colombia) and Dr. Carlos M. Martínez (Cuba).

At the close of the session, the Representative of Cuba tabled a draft resolution on the project for maintaining the northwestern region of Colombia, bordering on Panama, free of foot-and-mouth disease, upon which the Representative of Colombia thanked him for his concern and requested the participants to give careful consideration to the resolution in question.

The fifth session opened on the morning of 18th April, with Dr. Carmelo Contreras presiding. The first presentation was consideration of the draft resolution presented at the first session by the Representative of El Salvador, on technical assistance to the countries in the production of small animal species, and this resolution was unanimously approved. Then, the Representative of Canada presented a draft resolution on epidemiological research designed to assess the role of wild life in relation

to foot-and-mouth disease. This was followed by discussion between the Representatives of the United States of America, Mexico, Colombia, Guatemala, Panama and Cuba. This last representative recalled that the draft resolution he had tabled at the closing of the fourth session, and which covered a similar topic, was still pending. It was eventually decided that although both topics were related, they dealt with different aspects of the problem and were therefore put separately to the vote and both were approved unanimously.

Immediately following this, Agenda Item 9, "Importance of tick control in the development of programs for animal health and production in the Americas" was presented, and Dr. João Carlos Gonzales, Assistant Professor of the Faculty of Veterinary Medicine of the Federal University of Rio Grande do Sul, Porto Alegre, Brazil, presented his paper "The tick as a vector of animal diseases. The biology and ecology of Boophilus microplus," in which he discussed features of the biological cycle of the parasite, and diseases transmitted by viruses, rickettsias and protozoans. He also spoke of the ecological factors determining the population density of ticks, outlining the different components of the ecosystem and its influence, as well as the methodology of biological control and the correct use and handling of animal dips for the parasite destruction process.

Dr. Ruben A. Lombardo, of the Pan American Zoonoses Center, then presented the "Socioeconomic importance of the tick problem in the Americas", pointing out that approximately 70 per cent of the livestock of the Americas is infested with ticks, which resulted in financial loss through death, reduced meat and milk production, damage to hides and other complications which could be estimated as costing approximately US\$10.00 per head of cattle per year. In view of the need to apply updated techniques for livestock development in the Americas, so as to produce the necessary foodstuffs, it was vitally important to undertake tick control programs through combined country projects in the affected zones of the Hemisphere. It was also considered necessary to encourage more thorough analyses of the economic losses, including studies of the reproductive cycles of cattle and their economic viability.

This was followed by Dr. E.A. Wells of the International Tropical Agriculture Center, Cali, Colombia, who dealt with the

topic "Methods of tick control," stressing the economic importance of tick control and the need for an interdisciplinary approach to the problem by the animal health institutions. He noted that the literature on the subject demonstrated quite clearly the lesions caused to cattle by ticks, the loss of meat and milk, and paralysis which could be induced in both animals and humans by tick-transmitted toxins; he added that there was a long list of other human and animal diseases transmitted by ticks. In the campaign against ticks it was necessary to decide between eradication and control, taking into consideration in each case the various factors involved. The growing problem of acaricide resistance has resulted in intense research for new compounds. There are many factors counterindicating the use of acaricides, among them contamination of the environment, the hazards they represent to human health and the presence of unacceptable levels of chemical residues in meat destined for human consumption. For this reason biological control methods, and preferably hormonal substances extracted from the ticks themselves, are important and these methods are at present being researched.

Dr. José M. Grillo Torrado, Department of Animal Pathology, Institute of Agricultural and Livestock Technology, Argentina, then presented "The Problem of Acaricide Resistance in Tick Control Programs", again stressing the problems arising from physicochemical resistance when the tick is exposed continuously to chemicals, as happens through malpractices in dipping. It is essential to control the use of acaricides through tests in vivo and in vitro in order to avoid appearance of physicochemical resistance throughout tick colonies. He also advised the charting of "resistance factors" found in the different areas of the countries, and the authorization for use only of those acaricides previously tested in the laboratory and accepted as effective for the zones for which they are destined.

Dr. O. H. Graham, Research Entomologist, Livestock Insects Laboratory, Agricultural Research Service, Department of Agriculture, United States of America, presented "Importance of Entomological Diagnosis and Research in Tick Control Programs," in which he specified the need for an interdisciplinary approach in the study of complex problems such as the one under discussion. Entomologists could make important contributions on the basis

of their knowledge of ticks and their life cycles to control team activities. He mentioned research being carried out in a number of countries and research centers on ticks and on taxonomy, morphology, physiology, ecology, genetics, disease transmission, host-parasite relationship, the respective toxicologies of arthropods and mammals, all of which studies could help to further the control of these parasitoses.

Dr. Roberto Castillo Lavié, Chief of the National Campaign for Tick Eradication, Secretariat of Agriculture and Livestock, Mexico, then presented a paper "National Campaign for Tick Eradication." He pointed out that Mexico was losing 37.3 per cent of its commercial livestock production revenue through tick infestations. National livestock losses in his country amounted to US\$300 million a year through tick infections. He continued, saying that the primary objectives of the tick eradication campaign were the eradication of the Boophilus responsible for the transmission of bovine pyroplasmiasis and the control of other varieties of ticks. He went on to give details of the various activities being carried out by the program in his country and illustrated his presentation with slides.

When the topic was opened to discussion the Representatives of Jamaica, Uruguay, France, Mexico and Costa Rica asked a number of questions on tick control, which were answered by Drs. Grillo, Gonzales, Castillo and Lombardo.

Following this, the Chairman of the session, Dr. Contreras, Minister of Agriculture and Breeding, Venezuela, intimated that he unfortunately had to leave the meeting and return immediately to Venezuela. He expressed his satisfaction with the papers presented and the discussion that had taken place at the meeting, and reiterated the invitation of the Government of Venezuela to all the countries to hold the IX Meeting at Caracas in 1976.

At the end of the session, the Representative of Mexico asked the Secretariat if the seventh plenary session could begin at ten the next day in order to allow the Representatives more time to present their proposals for topics for the next meeting. He informed the meeting that he intended to propose

new modalities in the work scheme of future Inter-American Meetings on Foot-and-Mouth Disease and Zoonoses Control, particularly in the form of presentation of the country reports.

The sixth plenary session began with consideration of topic 10, "Panel on the Epidemiology and Control of Leptospirosis," which began with Dr. Boris Szyfres' presentation of "Leptospirosis as an Animal and Public Health Problem in Latin America and the Caribbean." He said that although leptospirosis was a worldwide problem, it affected more particularly the inhabitants of the developing countries. The use of mechanization techniques in agriculture had reduced contagion in the more developed countries, but the insufficiency of diagnostic laboratories and immunogens in Latin America and the Caribbean make it difficult to cope with this problem. Furthermore, the distribution of this disease is not well known nor its impact on health and the economy, except by a few researchers interested in the topic. It is clear that what is needed is the reinforcement of the infrastructure of diagnostic services and epidemiological surveillance and the production of animal vaccines.

Next, Dr. M. Abdussalam, World Health Organization, submitted the paper "The Problem of Leptospirosis in the World," in which he pointed out that leptospirosis in man and animals is the most widespread of the zoonoses. More than half the countries of the world have isolated one or more of the 130 known serotypes; nevertheless, in many parts, data on the epidemiological characteristics of their types is not available. In general, rodents and domestic animals are the main source of infection in man. Leptospire have also been found in non-mammalian hosts such as birds, amphibians, reptiles and fish. The natural focus of the disease in wild mammals is well known; in these the persistence of infection depends on one or two main types of hosts, until the disease is transmitted to man and domestic animals; and the influence of environmental factors is also well understood. Identification of taxonomy, in insufficiently specialized laboratories, is difficult, with the result that specimens have to be sent to diagnostic reference laboratories; hence the urgent need to develop a simple diagnostic test, as well as an effective vaccine for immunizing cattle. Furthermore, the pathogenesis of leptospirosis is as yet insufficiently

understood, although there are a fair number of descriptions of lesions in man and animals.

Dr. C. A. Santa Rosa of the Department of Microbiology and Immunology, Institution of Biomedical Studies, University of São Paulo, Brazil, then discussed "Diagnoses of Leptospiroses," analyzing methods of identifying the anamnestic and clinical characteristics of the disease in the laboratory and described the various techniques employed. Referring to the occurrence of the disease in Latin America, he felt that the Governments should support basic research in this area and provide the necessary resources for the diagnosis of this particular zoonosis, which seriously affects the production of food-stuffs of animal origin.

Next, Dr. Donald C. Blenden, School of Veterinary Medicine, University of Missouri, United States of America, continued the subject with his paper "Epidemiological Aspects of Leptospirosis," in which he reiterated that the occurrence of the disease was closely linked with environmental factors. Referring to the agents, he recalled that they are independent organisms which can multiply and persist in a favorable environment for many months, although they are very susceptible to disinfectants, to sunlight and to slight acidity, and they die rapidly in a dry environment or if exposed to wide temperature ranges. In a dry environment, leptospirosis can only be transmitted by direct contact with urine, in close contact with animals; in a humid environment with slow evaporation transmission occurs through the contaminated medium.

Referring to the host, he demonstrated that it was necessary to distinguish between "host" and "reservoir" since the latter was of significance in the transmission cycles. Other considerations were age, susceptible species, population densities, and mobility. It was essential to carry out further research on leptospirosis particularly in regard to land utilization and management which could reduce surface moisture and animal contact, and he emphasized that the complexities of the disease and the ecological media in which it thrives demand an interdisciplinary methodology which would provide a basis for significant advances in the control of the disease.

The last paper on leptospirosis, "Chemotherapy and Immunization in the Control of Leptospirosis in domestic Animals," was presented by Dr. O. H. V. Stalheim, Veterinary Medical Officer, National Animal Disease Center, Department of Agriculture, United States of America. Dr. Stalheim pointed out that the kidneys of animals were the reservoirs and incubators of leptospirosis and that it would be easy to avoid contamination of the environment if there was a cheap and simple means of suppressing leptospirosis in the kidneys of cattle and swine. A number of drugs had been tested and dihydrostreptomycin (DSM) had been used in a number of countries to control outbreaks of spontaneous abortion due to leptospires. Artificial immunization is another important feature in control, especially if avirulent strains are used. Nevertheless, a safe and effective immunizing agent is still being researched since there are to date no acceptable methods for human immunization. Evaluation of immunizing agents should be based on the protection they afford to hamsters, swine and cattle; and it must be established whether the immunity is humoral, cellular or both, and investigate the chemical nature of the immunogen and its relation to IgG and IgM antibodies.

When the papers were presented for discussion, the Representatives of Trinidad and Tobago, Guyana and France were interested in more information on leptospirosis control, and Drs. Szyfres, Stalheim, Abdussalam, Santa Rosa and Blenden helped to clarify their questions. The Representative of Brazil gave an account of the research on leptospirosis carried out on domestic and wild animals at the Evandro Chagas Institute, Belem, Amazon region. The Chairman asked for a copy of the report for inclusion in the publication on the VIII Meeting. This was followed by presentation of a draft resolution on the topic by the Representative of Trinidad and Tobago and this resolution was unanimously approved.

Then followed a presentation by Dr. Ruben Lombardo, Pan American Zoonoses Center, on "Epidemiological Surveillance of Rabies, Equine Encephalitis, Foot-and-Mouth Disease, and other Vesicular Diseases." He outlined the present situation of the program being carried out by the Center in collaboration with the countries of the Hemisphere. He indicated that there had been an improvement in information services, diagnostic confirmation and vaccine production in the countries. He was insistent on the desirability of timely dispatch of information on the part of the countries, and referred to the International Conference on Vaccines, held at Maracay in

August 1974, during which valuable information and important recommendations had been presented for improvement in the quality of vaccines. He concluded by pointing to the favorable reception by the countries of the epidemiological bulletins published by the Center.

Following this, Dr. Roberto Goi , Pan American Foot-and-Mouth Disease Center, spoke on epidemiological surveillance of vesicular diseases in the Americas, stressing that although progress had been made there was still a long way to go to reach the stated objectives. Outbreaks occurred frequently and it was therefore necessary to stimulate the national information systems of the countries free of foot-and-mouth disease, but with vesicular stomatitis; and even more so, information from countries affected by the disease. Dr. Goi  concluded with an account of the training being provided by the Center to professionals of the countries.

Following this the Representative of Paraguay again expressed his appreciation to the Center for the support provided and submitted a draft resolution on epidemiological surveillance of vesicular stomatitis, which was unanimously approved following the addition of a paragraph proposed by the Representative of Ecuador.

The Representatives of Chile and Costa Rica also referred to the outstanding work of the Centers and the Representative of Costa Rica tabled a resolution on the establishment of a diagnostic laboratory for vesicular diseases for Central America and Panama and this also was unanimously approved.

The Representatives of Mexico, Ecuador, the Dominican Republic and Venezuela then presented draft resolutions on topics discussed at the sixth session and at previous plenary sessions and all these resolutions were approved unanimously.

In view of the interest shown by a number of Representatives in submitting topics for consideration at the IX Inter-American Meeting to be held in 1976, the Secretariat suggested that all these topics should be considered at the beginning of the seventh plenary session. Finally, two draft resolutions were presented for consideration of the participants; the first was a vote of thanks to the Government of Guatemala for its kind hospitality and the other proposed that the next meeting be held at Caracas, Venezuela. Both resolutions were approved by acclamation. The Secretariat then informed the Meeting that the Governments of Brazil and Mexico would be members of the committee which was to visit the north-western region of Colombia in accordance with Resolution XIII approved at the VIII Meeting.

The seventh plenary session was held in the morning of Saturday, 19 April, under the Chairmanship of Dr. Roberto Zachrisson, Minister of Agriculture of Guatemala, and was devoted to study of the topics proposed by the Delegations for the IX Inter-American Meeting. The following topics were submitted:

- Production, control and availability of veterinary biologicals by the Governments and their institutions in the Americas
- The importance of avian encephalitis to the health and nutrition of the countries of the Hemisphere
- Eradication of screwworm in livestock and the utilization of biological control and atomic energy in animal health
- Sterility in bovine cattle and its relation to livestock development and food production in the Americas
- Trypanosomiasis in domestic animals
- Anaplasmosis and babesiasis
- Utilization of aquatic species in human nutrition and study of their diseases
- The role of wildlife in the transmission of zoonotic diseases
- Quarantine systems for control of foot-and-mouth disease

The Representative of Mexico again stressed the need to give a new orientation to the modalities of the Inter-American Meeting. He considered that the topics presented in panel sessions were too long and too technical, which perhaps accounted for the dwindling interest of the Ministers of Agriculture. He also pointed out that the country reports were extremely long and suggested that they should be presented in written form only, or grouped together by Zones.

The Representative of the United States of America agreed with the proposal, as did the Representative of Brazil, although the latter was of the opinion that decision on the matter should be postponed pending closer consideration. The Representative of Costa Rica believed the panel system should be kept as it was very useful and that all the country reports should be presented together. The Representative of Chile agreed with the Representative

of Brazil that the countries could forward their reports before the Meeting to the Secretariat, who would summarize them and present them in written form.

The Secretariat pointed out that the structure of the Meeting and the choice of topics rested with the countries, but assured them that there would be no objection to adopting any reorganization of the Meetings decided on by the Governments. If it were considered desirable for the Secretariat to prepare summaries of the country reports, it should be remembered that the reports would have to reach the Organization in sufficient time for them to be summarized and properly prepared. The Secretariat further suggested the possibility of having meetings of technical personnel before the arrival of the Ministers.

Since several possibilities were open, the Secretariat welcomed the suggestion of the Representative of Brazil to postpone final decision on the structure of future meetings until the IX Meeting.

The Representative of Guyana indicated that at Caribbean ministerial meetings, it was customary first to hold two-day technical meetings, followed by a one-day meeting with the Ministers.

The Representative of Mexico again stressed that his proposal was to eliminate the oral presentation of the country reports; they should be presented in written summary form, and prepared by the Organization through the Advisers in the Zones. The proposal was put to the vote and unanimously approved.

On the subject of his second proposal, the question of panels, the Representative of Mexico pointed out that some topics should be considered at panel sessions, whereas others required presentation by a technical expert; if the presentation of the country reports were to be eliminated, there would be more time to consider the topics. The Representative of Uruguay then suggested that not more than three topics should be selected. The Representative of France felt that there was need of clarification as to whether a large number of topics should be covered superficially, or a few studied in depth.

With reference to a suggestion made by the Representative of Chile, the Secretariat asked the Representatives to return the list of topics, indicating their choices for the IX Meeting.

In accordance with the results of the voting, the following order of priority was established for the topics:

1. Production, control and availability of veterinary biologicals by the Governments and their institutions in the Americas
2. Quarantine systems for control of foot-and-mouth disease
3. The role of wildlife in the transmission of zoonotic diseases
4. Sterility in bovine cattle and its relation to livestock development
5. Trypanosomiasis in domestic animals
6. Anaplasmosis and babesiasis
7. The importance of avian encephalitis to the health and nutrition of the countries of the Hemisphere
8. Utilization of aquatic species in human nutrition and study of their diseases
9. Eradication of screwworm in livestock and the utilization of biological control and atomic energy in animal health

The Representative of Mexico suggested that the Organization present an annual report on the implementation of resolutions approved at previous meetings, to which the Secretariat replied that although this kind of information was available in the documents circulated by the Centers, it could be presented separately if the countries so requested it. The Secretariat also asked whether it was felt necessary to extend the duration of future meetings in order to allow more time for consideration of the topics. There was consensus among the Representatives on extending the meetings to four days.

The Representative of Honduras expressed his concern at the number of resolutions being approved at the meetings and suggested that for the IX Meeting consideration be given to appointing a rapporteur to be responsible for coordinating draft resolutions. The Secretariat took note of the proposal and agreed to appoint a rapporteur for the following Meeting.

The closing ceremony took place after a brief recess. The Secretary read the Final Report, which after consideration by the Representatives was unanimously approved.

The Representatives of Ecuador and Panama reiterated their invitation to host the IX and X Meetings in their respective countries, to which the Representatives agreed and thanked both Governments.

The Representative of Argentina, speaking on behalf of all the Representatives, expressed their thanks to the Government of Guatemala for its warm welcome and for its valuable support for the meeting, as expressed in Resolution XXIII approved at the sixth plenary session.

Dr. Pedro N. Acha, Chief, Department of Human and Animal Health, Pan American Health Organization, on behalf of Dr. Héctor R. Acuña, Director, Pan American Sanitary Bureau, thanked the Representatives of all the Governments for their participation at the Meeting and congratulated them on their fruitful deliberations. He also thanked the Government of Guatemala for its valuable support in the conduct of the Meeting.

Finally, Dr. Zachrisson expressed his thanks to the Pan American Health Organization for organizing the Meeting and congratulated the Meeting and the Secretariat on their excellent work.

RESOLUTIONS APPROVED

The following resolutions were approved in plenary session:

RESOLUTION I

FOOD AND NUTRITION

THE VIII INTER-AMERICAN MEETING,

Mindful of the existence in the Americas of a number of nutritional problems, especially deficiencies in protein, calories, iron, vitamin A and other nutrients;

Bearing in mind that the diets of the population should contain foods of vegetable as well as animal origin, this being the basis of adequate nutrition; and

Considering that cereals, legumes and tubers constitute the staple components of the diet of the majority of the population of the Region; that these products have nutritional limitations and that products of animal origin have high supplement value and appeal to the consumer,

RESOLVES:

1. To recommend to the Governments that they adopt measures that provide for an increase in the availability of primary and processed food products of high nutritional value and low cost, in keeping with cultural patterns of the populations.
2. To recommend that in animal feeding, maximum use be made of agricultural by-products that do not compete with products destined for human nutrition.
3. To recommend the establishment and development of agricultural foodstuff production industries that will enable the utilization of agricultural input materials and secure better use of these materials for nutritional purposes.
4. To encourage the setting up of centers for research on food and nutrition, or the strengthening of existing centers in

order that, with the support of the Ministries of Agriculture and/or Food Production in particular, greater efforts may be devoted to research and development of appropriate technologies, and thus further the implementation of the recommendations.

5. To urge the Government to improve the nutritional quality of foodstuffs, particularly of foods most widely consumed, through adequate control and with appropriate legal backing, and include such considerations as local consumption and intercountry commercialization and at the same time to strengthen quality control laboratories.

6. To recommend that the agricultural livestock development programs of each country be incorporated into the national food and nutrition policies.

(Approved at the second plenary session,
16 April 1975)

RESOLUTION II

SOUTH AMERICAN COMMISSION FOR THE CONTROL
OF FOOT-AND-MOUTH DISEASE

THE VIII INTER-AMERICAN MEETING,

Having noted the final report of the Second Special Meeting of the South American Commission for the Control of Foot-and-Mouth Disease, held at Rio de Janeiro, Brazil, in March 1975;

Considering the commission to be important in the coordination of foot-and-mouth disease control, particularly for the livestock of the border areas;

Recognizing that the Commission is playing a unique role in the interchange of experience in the countries and in the standardization of information systems; and

Considering it highly desirable that countries of the disease-free area should establish relations with the Commission, with a view particularly to reinforcing preventive measures in regions bordering on areas affected by the disease,

RESOLVES:

1. To endorse the recommendations of the Second Special Meeting of the South American Commission for the Control of Foot-and-Mouth Disease.
2. To request the Governments of the States Members of the Commission and the Pan American Health Organization to give the fullest possible support to the implementation of the recommendations to enable the Commission to achieve its objectives.
3. To recommend to the Executive Secretariat of the Commission that it regularly invite to the meetings of the Commission countries of the area free of foot-and-mouth disease, and urge the Governments of these countries to participate in the work of the Commission.

(Approved at the third plenary session,
17 April 1975)

RESOLUTION III

PROPOSED PROGRAM AND BUDGET ESTIMATES OF THE PAN AMERICAN
FOOT-AND-MOUTH DISEASE CENTER FOR 1976

THE VIII INTER-AMERICAN MEETING,

Taking into account Resolution I of the VII Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control relating to the Proposed Program and Budget Estimates for 1975 and the provisional draft for 1976;

Having carefully examined the proposed program and budget estimates for 1976 (Document RICAZ8/18 and Addendum);

Recognizing that the work carried out by the Center in 1974 was made possible by the outstanding contributions of the Governments of Brazil and Venezuela;

Bearing in mind that the increase in operational costs at the present time has necessitated a reduction in the activities planned for the Center in 1975, and that the proposed program for 1976 has a deficit of US\$376,412 as noted in Document RICAZ8/18 and Addendum;

Realizing that it is essential to maintain at least the present level of activities of the Center, given that at this time the foot-and mouth disease control programs are in full development with considerable national investment and international financial aid; and

Cognizant of the concern and efforts of the Organization to find solutions to the budgetary difficulties of the Center,

RESOLVES:

1. To recognize that the proposed program and budget estimates for 1976 contain the basic activities required by

the Center to give support to the programs of the countries for prevention, control and eradication of foot-and mouth disease.

2. To recommend to the XXIII Meeting of the Directing Council of the Pan American Health Organization that it give favorable consideration to approval of the proposed program and budget estimates for 1976, as laid out in Document RICAZ8/18 and Addendum.

3. To recommend to the Ministries of Agriculture that they study the possibility of providing voluntary contributions in order to cover the deficit in the Center budget for 1976 and enable the proposed program to be carried out without any reductions.

4. To express its appreciation to the countries and international organizations collaborating in and providing support to the activities of the Center and especially to the Governments of Brazil and Venezuela.

(Approved at the third plenary session,
17 April 1975)

RESOLUTION IV

REPORT OF THE SCIENTIFIC ADVISORY COMMITTEE OF
THE PAN AMERICAN ZOONOSSES CENTER

THE VIII INTER-AMERICAN MEETING,

Bearing in mind the importance of the report presented by the Scientific Advisory Committee of the Pan American Zoonoses Center on the work undertaken by the Center during 1973 and 1974 (Document RICAZ8/4);

Considering that this report points out that lack of a suitable building is limiting the activities of the Center and that an urgent solution to the problem is expressly recommended;

Convinced that the research carried out by the Center is invaluable for the better understanding of the zoonoses and for improving the methods of diagnosis and control of these diseases; and

Recognizing that the activities planned or carried out have been evaluated by specialists with the highest scientific qualifications,

RESOLVES:

1. To endorse the recommendations of the Scientific Advisory Committee of the Pan American Zoonoses Center and to congratulate the Committee for its excellent evaluation of the activities of the Center during 1973 and 1974.
2. To stress again that periodic evaluation of this kind, carried out by internationally recognized scientists, constitutes a guarantee in relation to the orientation of the activities of the Center in providing services to the countries.
3. To take recourse again to the valuable collaboration of the Government of Argentina and to request the Government to

accelerate the process required to put into effect the decision taken, so as to provide the Pan American Zoonoses Center with the installations necessary for its smooth operation.

(Approved at the third plenary session,
17 April 1975)

RESOLUTION V

PROPOSED PROGRAM AND BUDGET ESTIMATES OF
THE PAN AMERICAN ZOONOSSES CENTER FOR 1976

THE VIII INTER-AMERICAN MEETING,

Having examined in detail the proposed program and budget estimates for 1976 of the Pan American Zoonoses Center;

Conscious of the interest of a number of Governments in furthering national programs for the control of brucellosis, tuberculosis, rabies and other zoonoses;

Considering that for this reason there will be an increase in 1975 and 1976 of demand, on the part of the countries, for the services of the Center in support of the planning and development of these programs and in training activities, and the provision of reference services and biologicals;

Bearing in mind that the present increase in operational costs has limited the activities of the Center, even necessitating reduction of technical and administrative personnel, and that in the 1976 program a deficit of US\$93,518 is expected, according to Document RICAZ8/17 and Corrig.;

Recognizing the concern and efforts of the Organization to find solutions to the budgetary difficulties of the Center; and

Recognizing that in order for the activities of the Center to be carried out it will be necessary to count on supplementary contributions of a voluntary nature from the countries,

RESOLVES:

1. To express its support for the work being carried out by the Pan American Zoonoses Center.

2. To reaffirm that the cooperation provided by the Center to the countries for their zoonoses programs should continue and be extended, particularly assistance in the field, in order to obtain better results and more efficient utilization of the resources available.

3. To recognize that the proposed program and budget estimates of the Center include, in compatible form, the various assistance, training and research activities needed for collaboration with the countries.

4. To reiterate their thanks to the Government of Argentina and the United Nations Development Program for the consistent and invaluable aid they are providing for the financing and operation of the Center.

5. To recommend to the XXIII Meeting of the Directing Council of the Pan American Health Organization that it approve the proposed program and budget estimates for 1976 of the Pan American Zoonoses Center, in agreement with the provisions of Document RICAZ8/17 and Corrig.

6. To recommend to the Ministries of Agriculture that they study the possibility of providing voluntary contributions to cover the budgetary deficit of the Center in 1976.

(Approved at the third plenary session,
17 April 1975)

RESOLUTION VI

CONTRIBUTION OF THE INTER-AMERICAN DEVELOPMENT BANK TO THE ANIMAL
HEALTH PROGRAMS OF THE COUNTRIES AND THE ACTIVITIES OF THE PAN
AMERICAN FOOT-AND-MOUTH DISEASE AND ZOONOSIS CENTERS

THE VIII INTER-AMERICAN MEETING,

Conscious of the important financial assistance provided by the Inter-American Development Bank to the countries of the Region for the execution of animal health programs;

Considering the budgetary difficulties confronting the Pan American Foot-and-Mouth Disease and Zoonoses Centers in carrying out the research activities, manpower training and technical assistance essential to the development of the aforementioned programs; and

Bearing in mind that discussions are under way between the Bank and the Pan American Health Organization on the question of financial backing for the Centers,

RESOLVES:

1. To thank the Inter-American Development Bank for the financial cooperation it is extending to the countries for the development of activities for the control of animal diseases in the Hemisphere.

2. To ask the Bank to support the request of the Pan American Health Organization for funds for the Pan American Foot-and-Mouth Disease and Zoonoses Centers to enable the expansion and consolidation of the animal health programs of the countries of the Region.

3. To urge the Representatives present at this meeting, on their return to their respective countries, to take the necessary action so that the highest Government level asks the

President of the Inter-American Development Bank to give most prompt and favorable consideration to the request for fulltime support to the Pan American Foot-and-Mouth Disease and Zoonoses Centers, in accordance with operative paragraph 2 above.

(Approved at the fourth plenary session,
17 April 1975)

RESOLUTION VII

PROGRAM FOR SOCIAL TRAINING IN MASS COMMUNICATION FOR THE
ERADICATION AND CONTROL OF LIVESTOCK DISEASES IN CENTRAL
AMERICA AND PANAMA

THE VIII INTER-AMERICAN MEETING,

Bearing in mind that Resolution XIX of the VII Inter-American Meeting on Foot-and-Mourth Disease and Zoonoses Control (Trinidad and Tobago, April 1974) requested the Inter-American Development Bank to provide financing for the execution of the mass communication training project for the control and eradication of livestock diseases in Central America and Panama, and considering that this resolution was subsequently approved by the Ministers of Agriculture of the respective countries;

Considering that the Inter-American Development Bank approved the project in March 1975; and

Seeing the need for this project to be put into effect at the earliest in order to obtain the active and full-time participation of the community in programs for the control of zoonoses and the prevention of foot-and-mouth disease and other exotic diseases in the countries of Central America and Panama,

RESOLVES:

1. To thank the Inter-American Development Bank for its financial aid to the project.

2. To recommend to the Governments of the countries of Central America and Panama that they expedite the signature of any agreements to be entered into with the Inter-American Development Bank on technical cooperation, with a view to early commencement of the project.

3. To advise the Governments of the countries of Central America and Panama to take the necessary steps to strengthen the mass communications and health education units within their animal health services.

4. To recommend to the Governments of the countries of Central America and Panama that they give their support to activities carried out by the Pan American Health Organization in its capacity as executing agency for the project.

(Approved at the fourth plenary session,
17 April 1975)

RESOLUTION VIII

TECHNICAL ASSISTANCE TO ANIMAL HEALTH AND VETERINARY PUBLIC
HEALTH PROGRAMS IN THE COUNTRIES OF THE ANDEAN GROUP

THE VIII INTER-AMERICAN MEETING,

Recognizing the efforts being made by the countries of the Andean Group to develop a veterinary service infrastructure to help solve health, economic and social problems caused by animal diseases seriously affecting food supplies;

Considering that these activities, directed in Phase I to the control of foot-and-mouth disease and some of the more important zoonoses, with the financial assistance of the Inter-American Development Bank, have encountered serious difficulties through lack of adequately trained professionals;

Bearing in mind the limitations in various fields of knowledge, which affect the administrative and technical operational efficiency of animal health programs and prevent the utilization of the available manpower resources of the countries;

Considering that the training courses for graduates require strengthening, in order to provide current control programs and future planning programs with personnel properly qualified in programming, administration and evaluation techniques;

Bearing in mind the increased interchange fostered by the organization of the Andean Group, and considering the problems posed in the Region by animal diseases, which set a limit to the objectives of the Cartagena Agreement for increased interchange and food supply; and

Recognizing the interest of the Pan American Health Organization and the Inter-American Development Bank in supporting animal health policies of the countries,

RESOLVES:

1. To thank the Pan American Health Organization and the Inter-American Development Bank for their support to the programs of the countries of the Andean Group for control of foot-and-mouth disease and other zoonoses.

2. To request the Inter-American Development Bank to provide financing for the execution of the project for technical assistance in animal health and veterinary public health, which was promoted by the Junta de Cartagena in the countries of the Andean Group and which is to be carried out with the technical support of the Pan American Health Organization.

3. To recommend to the Governments of the Andean Pact that they present the project jointly for the consideration of the aforementioned organizations, and pool their efforts to give the execution of the project a regional character.

(Approved at the fourth plenary session,
17 April 1975)

RESOLUTION IX

DEVELOPMENT OF THE CARIBBEAN REGIONAL CENTER FOR THE EDUCATION AND TRAINING OF ANIMAL HEALTH ASSISTANTS

THE VIII INTER-AMERICAN MEETING,

Having been informed of the progress made in the development of the Caribbean Regional Center for the Education and Training of Animal Health Assistants;

Recognizing the valuable financial support provided by the United Nations Development Program (Phase I);

Wishing to emphasize the importance of the financial support given by the World Bank to the Government of Guyana for the construction of the Center; and

Conscious of the efforts and sacrifices made by the Government of Guyana to have the Center operational by 1 September 1975,

RESOLVES:

1. To urge that the countries of the Caribbean Community expedite the signature and approval of the project document (Phase I).

2. To urge the immediate recruitment of candidates and selection of students for the first course in Guyana.

3. To support the request (Phase II) of the Caribbean Governments to the United Nations Development Program for continued assistance, and to recommend that the request be given the highest possible priority and maximum aid.

4. To recommend that the United Nations Development Program, the Canadian International Development Agency, the British Development Division and other international lending

agencies furnish maximum financial support for the development and operation of the Regional Center.

5. To request the Government of Guyana to continue to make every effort to have the Center operational by 1 September 1975.

6. To ask the Pan American Health Organization to continue with its technical assistance in the development and operation of this Center.

(Approved at the fourth plenary session,
17 April 1975)

RESOLUTION X

CARIBBEAN SCHOOL OF VETERINARY MEDICINE

THE VIII INTER-AMERICAN MEETING,

Considering the importance of having adequate human resources in the fields of livestock production and animal health, and of implementing the pertinent resolutions adopted by the Ministers of Agriculture in the III, IV, V, VI and VII Inter-American Meetings on Foot-and-Mouth Disease and Zoonoses Control;

Recognizing the initiative taken by the Governments of the Caribbean Community and the assistance provided by the United Nations Development Program and the Pan American Health Organization in organizing the Intra-Caribbean Conference on the Education and Training of Animal Health Assistants, held at Kingston, Jamaica, in February 1974; and

Bearing in mind the decision of the Conference to establish a Caribbean Regional Center for the Education and Training of Animal Health Assistants, as a result of the severe shortage of veterinary manpower in the Region, and the fact that admission of Caribbean candidates to schools of veterinary medicine abroad is becoming increasingly restrictive because of limited facilities and heavy demands placed on these training institutions,

RESOLVES:

1. To commend the Governments of the Caribbean for their decisiveness in establishing the Caribbean Regional Center for the Education and Training of Animal Health Assistants, and the United Nations Development Program and the Pan American Health Organization for the superb effort, dedication and support which they have contributed towards the materialization of this project.

2. To recommend that the highest possible priority and maximum aid be given to the establishment of a School of Veterinary Medicine in the Caribbean region, taking into account the information provided in the Report of the PAHO/WHO/UNDP Mission on the Feasibility Study for the Training of Human Resources in Animal Health in the Caribbean region.

3. To ask the Pan American Health Organization in cooperation with the Governments of the Caribbean region to initiate a feasibility study for the establishment of a school of veterinary medicine, which will unquestionably contribute to the improvement of animal and human health services in the countries of the Caribbean.

(Approved at the fourth plenary session,
17 April 1975)

RESOLUTION XI

TECHNICAL ASSISTANCE TO THE COUNTRIES IN THE PRODUCTION OF
SMALL ANIMAL SPECIES

THE VIII INTER-AMERICAN MEETING,

Bearing in mind the problems of malnutrition which affect the great majority of the population of Latin American countries as a result of the marked disparity of incomes in the different social strata, which make it impossible to devise an economical market structure for the exploitation of small animal species; and

Considering that for these reasons, and in order to raise the nutritional levels of the marginal income social groups, it is essential to promote the development of programs for intensive production of small animal species to help the smallholders of the different countries,

RESOLVES:

To request the Pan American Health Organization to collaborate with the Governments in setting up intensive technical assistance programs designed to improve the production of small animal species with a view to contributing to the alleviation of the problems of malnutrition in the Hemisphere.

(Approved at the fifth plenary session,
18 April 1975)

RESOLUTION XII

EPIDEMIOLOGICAL RESEARCH ON FOOT-AND-MOUTH DISEASE

THE VIII INTER-AMERICAN MEETING,

Bearing in mind that in the northwestern region of Colombia a project for maintaining this area free of foot-and-mouth disease is being developed;

Considering the disease-free maintenance of this area to be of utmost importance for the maintenance of the disease-free state of the countries of Central and North America;

Recognizing that there are a number of unknown factors in relation to the epidemiological aspects of foot-and-mouth disease, especially as regards domestic and wild animals as carriers of the foot-and-mouth disease virus; and

Recalling that a research project is under study in Colombia to determine the role wildlife plays in the persistence of foot-and-mouth disease within an endemic area, as well as in areas recently freed of the disease,

RESOLVES:

To request the Inter-American Development Bank to furnish financial support to the study being proposed in Colombia designed to assess the role of wildlife in foot-and-mouth disease, as the project would benefit all countries of the world and particularly the countries of the Americas.

(Approved at the fifth plenary session,
18 April 1975)

RESOLUTION XIII

PROGRAM FOR THE PREVENTION OF FOOT-AND-MOUTH DISEASE IN
THE NORTHWESTERN REGION OF COLOMBIA

THE VIII INTER-AMERICAN MEETING,

Bearing in mind that in the northwestern region of Colombia, close to the border with Panama, a project for maintaining this area free of foot-and-mouth disease is being carried out;

Considering the maintenance of this area free of the disease to be of utmost importance for the countries of the Hemisphere; and

Considering that it is necessary to inform the Member Countries of progress of the project,

RESOLVES:

1. To designate at the VIII Inter-American Meeting a commission from the two countries which, in collaboration with personnel from the Pan American Health Organization, would visit the project area and prepare a report to be presented at the IX Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control; this report would outline the present situation of the control project in Colombia.

2. To request the Pan American Health Organization to assume responsibility for coordinating the implementation of the above recommendation and to explore the possibility of obtaining sufficient funds to carry out the project.

(Approved at the fifth plenary session,
18 April 1975)

RESOLUTION XIV

LEPTOSPIROSIS

THE VIII INTER-AMERICAN MEETING,

Having studied the papers presented on leptospirosis in humans and animals (Documents RICAZ8/10, 11, 14, 15 and 16);

Bearing in mind that the available information suggests that there is widespread incidence of the disease in the Americas and that it is detrimental to health and to the economy to an extent as yet unknown;

Recognizing that the countries must have suitable personnel and laboratories specialized in the diagnosis of leptospirosis, and that this is essential for the adequate and timely treatment of patients, for epidemiological understanding of the disease and for providing a more rational basis for control activities;

Considering the need for greater understanding of the disease and for the setting up of an adequate system of epidemiological surveillance; and

Keeping in mind that the countries of Latin American and the Caribbean area are not equipped with laboratories for the production of vaccines against leptospirosis,

RESOLVES:

1. To express its appreciation to the authors of the papers on leptospirosis.
2. To recommend to the Governments that they strengthen or set up laboratories for research on and diagnosis of leptospirosis within the public health and animal health services.
3. To urge that those countries equipped with facilities for diagnosing the disease, carry out representative serological examinations among the human and animal populations.

4. To urge the countries to carry out bacteriological investigation of suspected cases of leptospirosis in man and wild animals and also of cattle and hogs destined for slaughter.

5. To ask the Pan American Health Organization to study the possibility of finding a source for the production of vaccine against bovine leptospirosis in Latin America; and to ask the Organization to cooperate in the training of the requisite personnel in diagnostics, research, epidemiology and control of the disease.

6. To recommend to the countries that they use the Pan American Zoonoses Center as a reference laboratory for confirmation of diagnosis and typing of isolated strains.

7. To request the Pan American Health Organization to organize, at its earliest convenience, a Regional seminar on diagnosis, epidemiology and control of leptospirosis.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XV

EPIDEMIOLOGICAL SURVEILLANCE OF VESICULAR DISEASES

THE VIII INTER-AMERICAN MEETING,

Having taken note of the report of the program for epidemiological surveillance of foot-and-mouth disease (Document RICAZ8/9), and the conclusions of the Seminar on Epidemiological Surveillance of Vesicular Stomatitis held under the aegis of the Pan American Health Organization and the Ministry of Agricultural and Livestock Development of Panama;

Observing that the development of foot-and-mouth disease surveillance systems in South American countries affected by the disease is still insufficient; and

Conscious of the need to set up a system for epidemiological surveillance of vesicular stomatitis in countries free of foot-and-mouth disease,

RESOLVES:

1. To request those South American countries affected by foot-and-mouth disease to adopt, if they have not already done so, the system of epidemiological surveillance designed by the Pan American Health Organization, and request countries already using the system to standardize the quality and regularity of their information.

2. To recommend to the countries free of foot-and-mouth disease, but with vesicular stomatitis, that they put into practice the recommendations of the Seminar on Epidemiological Surveillance of Vesicular Stomatitis.

3. . To recommend to those countries that have not yet done so, to establish through agreements, specific information systems for the border areas.

4. To ask the Pan American Health Organization to give priority to technical assistance requested by the countries, in order to hasten the development of an intra-continental system of epidemiological surveillance of vesicular diseases in animals.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XVI

ZOONOSSES SURVEILLANCE AND INFORMATION SERVICE

THE VIII INTER-AMERICAN MEETING,

Having taken note of the reports presented by the Pan American Zoonoses Center on epidemiological surveillance of rabies and equine encephalitis (Documents RICAZ8/6 and 7), and the regular information bulletins on the zoonoses put out by the Centers;

Recognizing that these regular information publications are of interest and benefit to the countries in that they provide greater understanding of these diseases in the Hemisphere; and

Considering that the value of this information depends on the timely provision of data by the countries,

RESOLVES:

1. To recognize with satisfaction that the Pan American Zoonoses Center has complied with the recommendations of previous meetings on surveillance of rabies and encephalitis and on the publication of bulletins on the zoonoses.

2. To reiterate to the countries the need to consolidate information systems which may initially be elementary, but will provide the necessary data for insuring the gradual improvement of epidemiological surveillance services.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XVII

LABORATORY FOR DIAGNOSIS OF VESICULAR DISEASES FOR CENTRAL
AMERICA AND PANAMA

THE VIII INTER-AMERICAN MEETING,

Considering the advances achieved over the last few years in the collection and dispatch of animal epithelial specimens of vesicular diseases in Central America and Panama;

Bearing in mind the difficulties which arose in respect of air transport of the specimens from the countries of this zone to the city of Rio de Janeiro, with the result that specimens are not received in time at the Pan American Foot-and-Mouth Disease Center;

Recognizing that speed in the diagnosis of an outbreak of vesicular disease is a positive factor in preventing the possible spread of foot-and-mouth disease in a country; and

Considering the recommendations of the meeting of OIRSA at Panama City in March 1975,

RESOLVES:

1. To endorse the recommendations of the OIRSA meeting and urge the countries of Central America and Panama to make every effort to put them into effect.

2. To request the Pan American Health Organization to complete, as soon as possible, the feasibility studies on the establishment of a diagnostic laboratory for vesicular diseases, and to elaborate the project accordingly.

3. To recommend to the Organization that, in consultation with the United Nations Development Program and other international bodies, it explore the possibility of securing adequate financing for the development of this project and assume responsibility for its planning and operation in collaboration with the countries of Central America and with Panama.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XVIII

REQUEST TO THE UNITED NATIONS DEVELOPMENT PROGRAM FOR
ASSISTANCE IN REGIONAL HEALTH PROJECTS

THE VIII INTER-AMERICAN MEETING,

Recognizing the importance of the financial support provided by the United Nations Development Program to a number of programs for the control of animal diseases affecting food production;

Having noted the beneficial results achieved by animal health projects carried out by the Pan American Health Organization with the financial support of the United Nations Development Program;

Bearing in mind the desirability of expanding this type of cooperation in national and multinational projects, including those of the international technical agencies; and

Conscious of the existence, in a number of countries of serious health problems not at present receiving the technical and scientific assistance necessary for their solution,

RESOLVES:

1. To thank the United Nations Development Program for the financial support it is providing to animal health projects and to request that it consider expansion of this support.

2. To recommend to the Pan American Health Organization that it provide technical advisory assistance to the countries, in the elaboration of projects for the setting up of centers designed to attend to regional animal health problems.

3. To request the United Nations Development Program to give favorable consideration to the financing of regional animal health center projects submitted by the countries.

4. To ask the Pan American Health Organization to agree to act as a specialized executing agency for the projects of the regional animal health centers financed by the United Nations Development Program.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XIX

TICK CONTROL IN RELATION TO HEALTH AND
ANIMAL PRODUCTION PROGRAMS

THE VIII INTER-AMERICAN MEETING,

Mindful of the papers presented and the conclusions and recommendations they contain (Documents RICAZ8/5, 12, 13, 19, 21 and 23);

Recognizing that a number of countries have demonstrated that it is possible to achieve significant results in the control of the common cattle tick;

Conscious of the need to apply, in all the affected countries, pertinent and effective measures for tick control and, further, to eliminate the diseases transmitted by ticks;

Convinced that the chemicophysical resistance of the parasite to acaricides and the uncontrolled use of acaricides constitute a constant threat to control or eradication programs;

Considering it essential that the countries have at their disposal uniform and adequate standards supported by appropriate legislation on the use of acaricides, and dispose of trained personnel to apply such standards; and

Considering it necessary to encourage the support of livestock farmers for tick control or eradication programs,

RESOLVES:

1. To urge those Governments which have not already done so to set up active programs for the eradication or control of the common cattle tick, based on adequate planning and with sufficient economic support.

2. To recommend the setting up or strengthening, as necessary, of laboratory services to carry out relevant entomological research, acaricide control, research on chemotherapy, chemicophysical resistance and immunity against the hemoparasites transmitted by ticks.

3. To stimulate and encourage the interchange of experience between the countries in regard to tick eradication and control, and personnel training in methods of control, laboratory techniques, field activities and program administration.

4. To recommend the enactment or updating of legislation, rules and regulations for controlling the use of acaricides, in order to ensure their effectiveness and avoid the appearance of harmful chemical residues in animal products destined for human consumption.

5. To express the desirability of establishing surveillance of tick resistance and to experiment with various control methods requiring smaller doses of acaricides.

6. To affirm that it is necessary to dispose of more precise information on the geographic distribution of ticks and the diseases transmitted by them in the Hemisphere, and on the socioeconomic implications in each of the affected countries.

7. To recommend that the relevant international organizations occasion, as soon as possible, a meeting of experts to draw up and recommend criteria and procedures on standards for tick control, and evaluation of the efficacy and toxicity of acaricides and of the risks of contamination of the environment and of foodstuffs.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XX

ELABORATION BY THE PAN AMERICAN HEALTH ORGANIZATION
OF A DETAILED STUDY (CENSUS) OF LABORATORY SERVICES
FOR DIAGNOSIS OF ANIMAL DISEASES IN THE REGION

THE VIII INTER-AMERICAN MEETING,

Recognizing that the application of up-to-date techniques for diagnosis of animal diseases is basic to the elaboration of adequate methods for their control and eradication;

Considering the need to know exactly where and what facilities exist, in the way of material equipment and human resources in each Member State of the Organization; and

Considering that information on the diagnostic facilities of each country will be extremely valuable to consultation and interchange of experience,

RESOLVES:

1. To request the Pan American Health Organization to carry out a census of laboratory services existing in the Americas for diagnosis of animal diseases.

2. To ask the Pan American Health Organization, on completion of the census, to publish the results and put them at the disposal of the Governments of the States Members of the Organization.

3. To request that this information be periodically updated.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XXI

CONTROL OF EQUINE ENCEPHALITIS

THE VIII INTER-AMERICAN MEETING,

Recognizing the importance of equine encephalitis in the Americas as a result of the wide distribution of the diseases and their grave repercussions on the economy and public health of the countries;

Considering the dangers involved in the use of equine encephalitis vaccines, when the innocuousness and efficacy of these vaccines has not been reliably established, and that they are available without official control; and

Taking into account the recommendations contained in the document, distributed to the present Meeting by the Pan American Zoonoses Center, of the International Conference on Equine Encephalitis Vaccines, held in August 1974 at Maracay, Venezuela,

RESOLVES:

1. To express its satisfaction to the Pan American Health Organization for holding the International Conference on Equine Encephalitis Vaccines, pursuant to Resolution XV of the VII Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control.
2. To endorse the important recommendations drawn up by the Conference on the production and control of equine encephalitis vaccines.
3. To recommend to the countries that they put into immediate effect the said recommendations, contained in the relevant publication of the Pan American Zoonoses Center.

4. To request the Pan American Health Organization to provide, to those countries which so request it, the advice necessary to apply the resolutions in question.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XXII

PROJECT FOR AN INTEGRATED INTER-AMERICAN NETWORK OF
ANIMAL PATHOLOGY DIAGNOSTIC LABORATORIES

THE VIII INTER-AMERICAN MEETING,

Considering the need to establish closer coordination between the diagnostic services provided by the existing animal pathology diagnostic laboratories in the Member Countries of the Organization; and

Bearing in mind the desirability of compiling, reviewing and disseminating up-to-date techniques used in laboratory diagnosis of animal diseases; and wishing to standardize the use of these techniques in units of this type, whether established or to be established,

RESOLVES:

To request the Pan American Health Organization to assume responsibility for the preparation of a project for an integrated inter-American network of animal pathology diagnostic laboratories, with the aim of affiliating the greatest possible number of existing units into a system coordinated by the Pan American Health Organization, and designed to standardize diagnostic techniques and the interchange of experience and information in this field; and to present this project at the IX Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XXIII

VOTE OF THANKS TO THE GOVERNMENT OF GUATEMALA

THE VIII INTER-AMERICAN MEETING,

Bearing in mind the valuable collaboration rendered by the Government of Guatemala, which has helped to make the present meeting so successful, as well as its generous support and active participation in the organization of this event,

RESOLVES:

To express sincere appreciation to the Government of Guatemala for its cooperation in the conduct of this VIII Inter-American Meeting, at the Ministerial Level, on Foot-and Mouth Disease and Zoonoses Control.

(Approved at the sixth plenary session,
18 April 1975)

RESOLUTION XXIV

PLACE OF THE NEXT MEETING

THE VIII INTER-AMERICAN MEETING,

Recognizing the growing importance of animal health for the production of foodstuffs for the peoples of the Americas and for the economic development of the countries;

Bearing in mind that Resolution XIX of the XVII Meeting of the Directing Council of the Pan American Health Organization authorized the Director of the Pan American Sanitary Bureau to convene annually a meeting of the Ministers of Agriculture or their representatives to review the programs of the Pan American Foot-and-Mouth Disease and Zoonoses Centers and to discuss matters of mutual interest; and

Considering that Resolution XXI of the VII Inter-American Meeting recommended that the Director convene the IX Meeting at Caracas in 1976, accepting the kind invitation of the Government of Venezuela,

RESOLVES:

1. To express its satisfaction with the interest shown by the Governments in the present meeting, and with the valuable information presented on this occasion.

2. To thank the Government of Venezuela again for its kind invitation to host the next meeting and to recommend once again to the Director of the Pan American Sanitary Bureau that he convene the IX Inter-American Meeting, at the Ministerial Level, on Foot-and-Mouth Disease and Zoonoses Control at Caracas in 1976.

3. To thank the Director of the Bureau and his staff for their assistance in the organization and conduct of the present meeting.

(Approved at the sixth plenary session,
18 April 1975)

IN WITNESS WHEREOF, the Chairman of the Meeting and the Director of the Pan American Sanitary Bureau, Secretary ex officio, sign the present Final Report in the English and the Spanish languages, both texts being equally authentic.

DONE in Guatemala City, Guatemala, this nineteenth day of April, nineteen hundred and seventy five. The Secretary shall deposit the original texts in the archives of the Pan American Sanitary Bureau and shall send copies thereof to the Governments of the Organization.

Dr. Roberto Zachrisson Asturias
Chairman of the Meeting
Representative of Guatemala

for Dr. Héctor R. Acuña
Director of the
Pan American Sanitary Bureau
Secretary ex officio of the Meeting



PAN AMERICAN HEALTH ORGANIZATION

CE74/11 (Eng.)
ANNEX III



WORLD HEALTH ORGANIZATION

VIII INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON FOOT-AND-MOUTH DISEASE AND ZOONOSSES CONTROL

GUATEMALA, 16-19 APRIL 1975

Provisional Agenda Item 8

RICA28/18 (Eng.)
3 March 1975
ORIGINAL: ENGLISH-SPANISH

PROGRAM AND BUDGET OF THE
PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER
FOR 1975 AND PROPOSED ESTIMATES FOR 1976

PROGRAM AND BUDGET OF THE
PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER
FOR 1975 AND PROPOSED ESTIMATES FOR 1976

I - INTRODUCTION

Social and economic development in the large majority of the American countries is basically related to agricultural development and to the health of the people. Among other animal sicknesses, foot-and-mouth disease is responsible for causing the heaviest damages to livestock and for intensifying the shortage of red protein and milk. This disease affects practically all of South America, and also represents a constant threat for the rest of the Continent. Considerable economic losses are due to the frequency of epidemics that affect domestic animals producers of meat and milk, and to the insidious manner in which the disease strikes, the result being grave impairment to the international marketing of animals and animal by-products. Special mention must be made of some of the chief factors which are responsible for the importance of foot-and-mouth disease:

- a) The exceptional plasticity of the virus, which is responsible for the existence of a considerable diversity of types which bear no immunological relationship to each other.
- b) The highly contagious nature of the virus, and the rapidity of its diffusion among cattle, sheep and swine.
- c) The increase in the cost of production that the stock-breeder must bear, and the concomitant social repercussions upon the consumer.
- d) The decrease in the availability of the animal protein which is required for good nutrition, chiefly for certain age groups of human population.
- e) The decrease of income of foreign exchange, which is felt by the exporting countries in view of the reduction of exportable amounts of livestock products, and the devaluation thereof in the international market.

The aforementioned factors, and the impossibility of achieving adequate control of the movement of animals and animal by-products, have converted the fight against the scourge into a continental undertaking in which all affected countries directly participate, and for which substantial financial aid is being supplied by the Inter-American Development Bank. At the present time, more than half of South America's bovine population is covered by the control programs against foot-and-mouth disease.

Similarly, the countries in the disease free area are redoubling their efforts to establish programs capable of preventing the entrance of the disease.

II - THE PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

A. Origin and sources of financing

The Center was created in 1951 by the Organization of American States, at the request of several member countries. It started operations with the headquarters in Brazil as a technical cooperation program of the Organization of American States, managed by the Pan American Sanitary Bureau, and it continued in that character until June 1968. Since this latter date, it has become a regular program of the Pan American Health Organization, financed by contributions from the Organization's members in accordance with the respective resolutions adopted at meetings of the Inter-American Economic and Social Council (Viña del Mar, Chile, June 1967), the Inter-American Committee on the Alliance for Progress (Rio de Janeiro, Brazil, September-October 1967), and the Directing Council of the Pan American Health Organization (Port-of-Spain, Trinidad and Tobago, October 1967). The Center also receives financial assistance from France, the United Kingdom and the Kingdom of the Netherlands.

In addition to participating with its own quota, as the other countries, Brazil makes a special contribution for the purchasing of materials and other items required for the upkeep of buildings, installations, lands and internal roadways, and for the payment of salaries to the workers who are assigned to perform such jobs.

Through an agreement which was concluded between the Pan American Health Organization and the Inter-American Development Bank, the Center receives a grant from the Bank for the purpose of training veterinarians in vaccine preparation and control at the industrial level.

The General Assembly of the United Nations, on its 29th Meeting, adopted a resolution recommending that all of the agencies under the U.N. system increase the salaries of the professional personnel by 6% and to be effective on January 1, 1975.

In this budget document, the requested increase applies only to costs that were not anticipated and to maintain the payroll of those employees actually working in the Organization. Approval of the requested increase will be necessary in order to avoid a reduction in operations and services to the Governments.

The Center is in a precarious situation because transfer of funds from one allotment to another is impracticable. Such a move would cause suspension of operations of those units, which are already functioning on a minimum budget.

Realistically, in view of the present situation, the requested increase represents but a very small amount of money in relation to the total quantity of funds utilized for the control of FMD in the Continent.

Compounding the present financial position is the increasing inflation which faces us, particularly with respect to certain supplies required by the Center in large amounts, such as animal feed, chemical products, paper, etc., and periodic salary increases for local staff members. Annual increases in the Center's budgets, as is occurring up to the present, are not sufficient to maintain the current level of the activities which are carried out. In order that the Center may be in a position to continue its advisory functions to the countries and carry out research activities at present level, a revision of the Center's program and budget will have to be made in the near future.

In order to maintain adequate rhythm of the Center's activities during 1974, it became necessary to seek a number of extraordinary contributions from various countries; the Governments of Brazil and Venezuela donated US\$30,000.00 each.

B. Purposes and Objectives

The purpose of the Center is to prevent the introduction and establishment of foot-and-mouth disease in the area of the Americas free from the disease, and to achieve control and eradication from the affected area, through the promotion, coordination and advice of the countries, and by carrying out specific activities in research, evaluation and technical training. In order to undertake these functions, the Center maintains three divisions, as follows: Research, Diagnosis, and Reference; Training and Information; and Field Advisory Services. The purposes of each of these divisions are as follows:

1. RESEARCH, DIAGNOSIS, AND REFERENCE

- a) Identification and study of the characteristics of strains of foot-and-mouth disease and vesicular stomatitis viruses causing field outbreaks, as well as those used for the production of vaccines and in potency control. It serves as the reference laboratory for the countries of the Hemisphere.
- b) Study of new foot-and-mouth disease viruses and improvement of inactivated and modified live virus vaccines with a view to obtaining better and more lasting immunity.
- c) Preparation and maintenance of a strain collection of various subtypes of foot-and-mouth disease virus considered to be of epidemiological importance and adapted to the Frenkel method, to cell lines, and to rabbit embryo organs for dispatch to the countries in the event of emergencies in their vaccine production.
- d) Study of new methods for ascertaining the effectiveness of foot-and-mouth disease vaccines, their uniformity, and simplification and adaptation of existing vaccines to conditions in the Hemisphere.
- e) Study of the epidemiology of the disease through laboratory experimentation and field studies to develop more efficient ways for interrupting the chain of spread of the virus.
- f) Solution of problems arising from the effects of the disease on international trade in meat and meat by-products, such as that of the survival of the virus and study of carriers.
- g) Basic studies of the biological and physico-chemical characteristics of foot-and-mouth disease and vesicular stomatitis viruses.
- h) Provision of advisory services to national centers engaged in research on foot-and-mouth disease.

2. TRAINING AND INFORMATION

- a) Organization and conduct of international seminars.

- b) Organization and conduct of national courses.
- c) Attendance of its expert staff of the Research and Field Advisory Services Department at seminars, courses, and meetings organized by other national or international institutions.
- d) Award of fellowship for individual training at the Center or in other institutions.
- e) Provision of information available about the epizootiology of vesicular diseases.
- f) Provision of library services and up-to-date bibliographies on works published on specific topics of those diseases.

3. FIELD ADVISORY SERVICES

- a) Encouragement of and assistance in the planning of national foot-and-mouth disease programs.
- b) Studies of technico-administrative methods for the control of foot-and-mouth disease through demonstration pilot areas.
- c) Advisory services to the countries in the preparation of loan applications for foot-and-mouth disease control campaigns to be submitted to international lending agencies.
- d) Promotion of intercountry coordination through bilateral, regional, or multilateral meetings and agreements for the control and prevention of foot-and-mouth disease.
- e) Advisory services on the organization and conduct of preventive programs in disease-free countries.
- f) Field studies of the most effective preventive and control methods, and evaluation of national campaigns.
- g) Establishment of a continent-wide vesicular disease surveillance system including the collection, compilation, analysis, publication, and distribution of epidemiological data.

In the annual budgets the following percentages will be assigned to each of the above-mentioned activities in accordance with the administrative structure of the Center. (See Table on page 34).

<u>Year</u>	<u>Research Diagnosis Reference</u>	<u>Training</u>	<u>Field Advisory Services</u>
1975	50.6%	8.2%	24.8%
1976	51.6%	10.2%	22.2%

Distribution of the funds in accordance with the program of direct services to the Governments is shown in the Table of page 33.

C. Administrative and Technical Organization

The organizational structure of the Center comprises the Director's office, three departments (Research, Diagnosis and Reference; Training Activities and Information; and Field Advisory Services); and Administrative Services. Towards the end of 1974, Research, Diagnosis and Reference activities were organized in two laboratory groups: one directly related to matters of immunology, and the other concerned with virology. Each laboratory group is headed by a chief who is responsible for coordination and supervision of the respective activities. The attached chart contains a resumé of the organizational structure of the Center.

The Department of Training Activities is responsible for fellowships, the organization of training courses and other scientific meetings, the library, publications and information services.

The activities of the Department of Field Advisory Services are undertaken by the technical staff, from headquarters in Rio de Janeiro, and by means of advisers in various countries. Such activities provide advice on epidemiology, administrative methods, statistics, planning, and evaluation of foot-and-mouth disease control campaigns.

The Department of Administrative Services comprises the following sections: Finance, Personnel, Supplies and General Services.

In alternate years the Scientific Advisory Committee, whose members are personalities of international repute, meets at the Center in order to discuss, analyze and comment on the different projects that are being executed or that are being planned, together with the Director and members of the technical staff.

During the Seventh Inter-American Meeting at the Ministerial Level on the Control of Foot-and-Mouth Disease and Zoonoses Control (RICAZ/7), the following resolution, relating to the Center's program and budget for 1975 and draft project for 1976, was approved:

RESOLUTION I

PROPOSED PROGRAM AND BUDGET ESTIMATES OF THE
PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER
FOR 1975 AND PROVISION DRAFT FOR 1976

THE VII INTER-AMERICAN MEETING,

Recognizing the importance of the foot-and-mouth disease problem for nutrition, livestock development, and economic progress in the countries of the Americas;

Taking cognizance of the work that the Pan American Foot-and-Mouth Disease Center has done toward promoting, executing, and coordinating programs for the prevention and control of this disease;

Taking into account Resolution IV of the VI Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control on the proposed program and budget of the Center for 1974 and the provisional draft for 1975; and

Having carefully examined the proposed program and budget estimates for 1975 and the provisional draft for 1976 (Document RICA7/6),

RESOLVES:

1. To express its full support of the Pan American Foot-and-Mouth Disease Center and the work that it is doing.
2. To reaffirm the need for the Center to continue its activities for the promotion, development, and coordination of programs for the prevention and control of foot-and-mouth disease, together with research and the training of personnel from the countries of the Americas, as called for in the proposed program and budget estimates for 1975 and the provisional draft for 1976.
3. To recognize that the proposed program and budget estimates of the Center provide for activities essential to rendering scientific collaboration and technical advice to the Governments in the planning, execution, and coordination of national and regional programs for the prevention and control of foot-and-mouth disease.

4. To express its appreciation to the Government of Brazil for its unfailing goodwill and its continuing support of the Center's activities.

5. To recommend to the XIX Pan American Sanitary Conference that it give favorable consideration to approval of the proposed program and budget estimates of the Center for 1975, as set forth in Document RICA27/6.

6. To recognize that the provisional draft for 1976 contains necessary and well-planned activities that will be submitted in 1975 for consideration by the VIII Inter-American Meeting on Foot-and-Mouth Disease and Zoonoses Control and by the Directing Council of the Pan American Health Organization.

III - RESEARCH ACTIVITIES

A. Diagnosis and Reference

There are seven different serotypes of foot-and-mouth disease virus (FMD) which do not afford cross protection. Within these main types there are several subtypes which only afford partial cross protection. Even strains within a given subtype may be different enough antigenically so that vaccines prepared from one of these strains does not protect adequately against the others. Such antigenically different strains are emerging continuously and this great variability of the virus requires a constant typing and subtyping service to alert vaccine producers when such strains appear in the field.

Directives for subtyping and reference were established at the International Symposium on Foot-and-Mouth Disease, variants and immunity, held in Lyon, France, in 1967.

The classification of FMD viruses requires standardized methodology to achieve similar and reproducible results that are being interpreted similarly in each diagnostic center in South America. This goal requires maintaining an up-to-date strain collection, standardization of the techniques used and frequent symposia of technical experts from all the countries.

A complicating factor in prevention or eradication of FMD in the existence of other disease with similar symptoms, such as vesicular stomatitis, vesicular exanthema and swine vesicular disease, making a rapid and accurate differential diagnosis imperative.

Therefore, the diagnostic and reference laboratory carries out the following activities:

1. Assay of specimens forwarded by the countries for the differential diagnosis of vesicular disease.
2. Determination of type and subtype of virus of all positive specimens in order to accurately determine which viruses exist in the field.
3. Serological and immunological classification of any strain which may be epidemiologically significant.
4. Maintenance of an up-to-date strain collection important for South America.
5. Coordination and instruction of diagnosis of vesicular disease throughout the Hemisphere.
6. Reference Center for Americas, working in close coordination with the World Reference Laboratory.
7. Diagnoses and reference work on behalf of the Center's various research projects.

Since its establishment the Center has examined around 14,000 vesicular disease specimens from 19 American countries. 9,729 specimens of foot-and-mouth disease, from South American countries, were diagnosed between 1952 and 1974. Their annual distribution is shown in Table I. During the period 1958-1973 the Center identified 20 subtypes of FMD virus and 2 of vesicular stomatitis virus, as indicated in tables II and III.

1,759 biological specimens from countries affected by the disease were typed and subtyped during 1974. 97 of the above total number of specimens corresponded to foot-and-mouth disease cases which occurred in the field (table IV). Included also were 1,622 sera from various species, in which the presence of anti-VIA antibodies was studied.

It is anticipated that diagnosis and reference activities will continue to increase in importance during the following years in view of the development of national control programs of the disease. Consolidation of those programs requires a thorough study of the serological and immunological properties of the virus field strains, so that those which differ can be incorporated in the vaccines.

The Center supplies reference sera and viruses to national diagnoses and control laboratories. During 1974 all countries in the affected area received various biological materials for diagnosis, on vaccine research production and control, including guinea pig hyper-immune serum, in sufficient quantities to carry out 400,000 complement-fixation tests. Taking into account the increase in diagnosis activities carried out in the countries, it is estimated that it will become necessary to expand considerably the above amount in forthcoming years.

Studies on 2,479 specimens corresponding to the Center's research work were carried out throughout 1974.

With reference to typing and subtyping of vesicular stomatitis virus, the Center examined, during the year 1974, 273 specimens from Central American countries and Panama, of which 160 were positive. Table V contains a resumé of this work.

The Center continues to give priority attention to the activities which are related with the diagnosis of vesicular diseases in countries that are free from foot-and-mouth disease, since they do not possess laboratories for such purposes. It can be anticipated that the number of specimens from that area will increase considerably in the near future.

Virus infection associated antigen (VIA) is produced in cells during FMD virus replication and is closely related to FMD virus-RNA polymerase. Animals infected with FMD virus produce antibodies against VIA which can be detected by several assay systems. Serological surveys measuring the levels of FMD virus specific neutralizing antibodies usually cannot be used to distinguish between vaccination and infection, but VIA antibody tests can be used for this purpose. Relatively large amounts of this preparation will be needed in the future and purification and concentration methods should be refined.

Concentration and purification techniques of VIA-antigen by techniques useable in South American diagnostic laboratories have been developed. This technique can be utilized as a routine procedure in serological surveys.

The sensitivity of double diffusion and radial diffusion in agar gel is being compared, in order to detect anti-VIA antibodies in various sera, and the production of specific hyper-immune sera for the various antigens of the foot-and-mouth disease virus has been started.

The Center also supplies direct advisory services to Member Countries through periodic visits to diagnostic laboratories which are made by the Center's technical staff assigned to that sector.

B. Inactivated vaccines

Inactivated vaccines constitute approximately 96 to 98% of the total vaccines applied in the various programs in fighting foot-and-mouth disease in South America. Any improvement in the quality and duration of the immunity provided by these vaccines shall obviously have very favorable results in terms of efficiency and lowering of costs of these campaigns. This is the reason why the Center assigned priority to research work regarding the process of virus multiplication, new inactivants that provide a better guarantee of safety of the vaccines produced without impairing immunizing and antigenic qualities, and new adjuvants that will make it possible to obtain more potent vaccines, and which will provide longer lasting immunity.

In the laboratories of this sector the production of antigen is carried out in surviving bovine tongue epithelium, in newborn rabbits and by tissue culture techniques, in tanks for suspension cultures and in roller bottles.

In the research work on inactivants preference is given to the study of substances pertaining to the ethylenimine group. Ethylenimine (EI) and propylenimine (PI) inactivate foot-and-mouth disease virus in a way similar to that of the reference inactivant acetylenimine (AEI). EI remains stable after more than one year in storage at ambient temperature. Tests in guinea pigs and in cattle have shown that the immunogenic qualities of the antigens are retained by the inactivant.

In the research work on coadjuvants priority is given to the study of oil adjuvanted vaccines. Initial studies at the laboratory level, in cattle and pigs, have been carried out in cooperation with the Plum Island Animal Diseases Laboratory of the United States Department of Agriculture. Cattle vaccinated for the first time showed a good level of protection six months later and the challenge performed 12 months after revaccination also showed a good level of protection. In view of these results a series of field experiments were initiated, in cooperation with the Ministry of Agriculture of Brazil. The experiments were designed to supply information on the vaccination scheme, the way of inoculation, the influence on the production of milk and the weight of the animal, and possible collateral effects. These experiments conducted at the field level are showing very promising results. Undesirable side effects from the vaccination

could not be observed. There were only minimal local reactions without any alterations in the lymph nodes as observed in slaughtered animals. The vaccination did not interfere with the normal weight gain or milk yield of the animals. Immunity studies showed that animals of less than one year can be protected by vaccination at six month intervals and that vaccination by the subcutaneous or intramuscular route are equally effective. Studies of population immunity are continuing.

There are still some problems that must be solved for large scale production of this type of vaccine. The Brazilian Ministry of Agriculture made available to the Center a tank with emulsification equipment. This will enable us to study the emulsification of larger volumes of virus suspensions to an oil vaccine. We are also studying the possibility to obtain mineral oil with the appropriate specifications from a Brazilian oil company in order to avoid the necessity to import this oil. We expect to conclude this research activity within the next two years.

The Center maintains a strain collection of the most common viruses in South America adapted to bovine tongue epithelium, newborn rabbits, and BHK-21 cell lines, in order to deal promptly with requests from the countries.

All batches of foot-and-mouth disease vaccines that are used in the campaigns should be controlled for efficacy. Direct control methods are very expensive and exclusive use of such methods makes it impossible to achieve total control of the vaccines that are produced. Because of the difficulty in obtaining highly susceptible bovines, priority must be assigned to controlling the immunity by various indirect methods, in order to arrive at some method which could be used in routine practice.

A guide on detailed techniques and interpretation of such techniques, is being completed.

The Center also supplies permanent assistance to the countries in matters concerning the drafting of their control regulations, as well as through periodic visits and meetings with the technical staff of the control laboratories of the various countries.

C. Modified live virus vaccines

Modified live virus vaccines have been one of the major contributions of the Center and over the years it has acquired great experience in this field. Even though at the present time most of the countries do not use this type of vaccine in their

campaigns, mainly because of limitations established by the importing countries, the Center continues the research to clarify the basic virus-host relationships in virus infections and determine the changes which occur in the virus population during the attenuation process.

Two of the main problems of this type of vaccine are related to the time required for modification, which can be several months, and the fact that once that the virus is adequately modified by the bovine species it still remains pathogenic for other species, particularly swine.

During 1974 research was continued on various clones of modified foot-and-mouth disease virus, on attenuation of several strains by means of physical and chemical processes and by selection of plaques; and the genetic and biologic characteristics of some of those strains were studied.

Some strains with good immunogenic capacity and without pathogenic reaction were obtained, thus considerably shortening the time required for the modification by passage in embryonated eggs.

The studies and testing of selected clones for the use as vaccine strains will continue in Venezuela.

At the Center in Rio de Janeiro more basic studies will evolve; growth of the modified live virus strains in the upper respiratory and alimentary tract or other sites, viremia patterns, and relationships between infection, virus growth and antibody development. Among the variables to be considered are route of exposure (e.g. intramuscular or upper respiratory), dose effect, strain differences and passage level.

The study of immunogenic and biophysical-chemical changes of the virus population at different passage levels will receive particular attention.

D. Pathogenesis studies

Intradermal tongue inoculation (IDL) is widely used in FMD research and vaccine potency testing. However, relatively little is known about the virus-host interaction after this route of inoculation. In view of the importance of IDL inoculation in vaccine testing in cattle, studies will be undertaken to establish relationships between the clinical response of unvaccinated and vaccinated cattle after IDL inoculation and subsequent virus growth and antibody development. For these experiments the following subjects will be considered: virus growth in the pharynx and viremia patterns, antibody titrations, antibody characterization and the study of cellular and local immunity.

The pathogenesis of FMD in pigs also is largely unknown and studies will be undertaken to determine the portal of entry of the virus and the virus-host interaction. It is expected that the results of these experiments will enhance the knowledge of the epidemiology of the disease in pigs, and will indicate ways to better immunize pigs and the best challenge method for vaccine potency tests in this species. These experiments will explore the upper respiratory and oral route of infection as well as aerosol infection, deep lung infection and infection through abrasion of skin and mucosa. The following parameters will be studied: growth of the virus in susceptible and immunized pigs, viremia patterns, development of antibodies. Also it will be determined if there is a carrier state and, if not, studies will be undertaken to study what is causing this difference with ruminants. The differences in antibody responses of pigs and ruminants will be determined.

E. Epidemiological studies

The objectives of the epidemiological studies are:

1. To provide better knowledge and understanding of the epidemiology of FMD under South American condition and to study the influence of control measures and experimental vaccines on the spread and persistence of the infection.
2. To clarify where and how the virus is maintained during inter-epidemic periods and to determine whether there are other vectors of FMD than those normally incriminated.
3. To determine factors influencing virus transmission under controlled field conditions.

The epidemiological studies of surveys to be made requires the capability for large scale testing of field and experimental samples. The following tests systems are being developed by the Center: micro-neutralization test, plaque reduction neutralization test, hemagglutination test, and immuno radical diffusion tests.

The antibody active in each of these tests must be characterized and a statistical analysis of test systems is to be made.

The epidemiological aspects of foot-and-mouth disease virus in carrier animals has received particular attention by the Center over a period of years. Two aspects were assigned priority consideration because of their consequences on international trade of animals and the preventive measures which the countries are now putting into effect.

a) The Center has carried out a series of studies on persistent infection which have lead to the preparation of a test protocol that considerably reduces the risks involved in importing carrier animals. The testing is being applied to Zebu cattle exported by Brazil where type C virus is endemic to Venezuela, which is free of this virus type. So far, the procedures followed have prevented the introduction of FMD virus type C into the Northern part of the Continent.

At present the testing of export cattle is not performed at the Center, but the technical staff continues to give permanent technical assistance to both countries in regard to all matters related to this problem. In addition to the assistance, the Center has supplied biological products, culture media, cells, etc. to the laboratory in charge of performing those tests in Brazil. Several hundred animals have been tested, and a number of carriers -about 10% of the total number of animals studied- were eliminated, thus considerably decreasing the risk related to this transport of animals to the Northern countries of South America.

b) The other question refers to the characterization of the role played by healthy carriers of foot-and-mouth disease virus in the epidemiological chain of the disease. There still is a lack of information regarding the question if a carrier may become a source of infection of foot-and-mouth disease, and further studies on virus carriers in the cattle and sheep population during interepidemic periods are urgently needed in supplying basic information for the appropriate measures in South America. In this respect it is also important to determine the role of wildlife in the epidemiology of the disease and the role of the non-mammalian vectors such as flies or ticks.

Experimental studies must be done to determine the effectiveness of control measures and their influence on the epidemiology of the disease. For this purpose the epidemiological characteristics of an area will have to be determined by random samples surveys combined with testing of animals for VIA antibodies and carrier virus. Within that area one or more farms will be selected and individual animals tested to determine their infectious status. The Center's experimental vaccines or other control measures will then be applied to determine their influence through changes in antibody patterns and infectious status. The spread of the infection within the herds in case of an outbreak will be closely studied.

Moreover, the epidemiological characteristics of selected regions in the Continent will be selected to study the dynamics of the disease.

F. Other research activities

The Center is giving special attention to studies related to research on the susceptibility of various cell lines to foot-and-mouth disease virus as well as to culture media for the multiplication of foot-and-mouth disease in vitro, in order to obtain more economic sources for the production of antigens to be used in the preparation of the vaccines.

Fluorescent antibody and peroxidase techniques will be made operational for use of studies on virus-host interaction and to explore the application for the assay of antibody levels and diagnostics.

The use of these techniques will also be explored for antibody characterization, virus-cell interactions and in pathogenesis studies for the localization of FMD antigens in cells and tissues.

In 1972 the Center started a process of selecting the best animals for the establishment of its mouse colony. By the end of that year 100 male and 100 female mice of the same stock were imported from the Rockefeller Foundation in the United States. New males were paired with before available females, and new females with before available males. This was done in view of a possible increase in sensitivity to foot-and-mouth disease virus as a consequence of many years of inbreeding. During 1973 the whole colony was transferred to new facilities built by an agreement with the Government of Brazil. At the present time the whole colony is functioning under the system of random breeding. In view of this fact and in order to achieve better management and environmental control, the colony's average yield per litter increased substantially. At the present time the average per litter of the established colony is 10.

Nearly 200,000 mice were used in the Center's research activities during 1974.

With the increase of computer capability at the Center, programs must be made available to the Center's staff for their research, training and technical assistance programs and to assist the Center's administrative services with the use of the computer for accounting and inventory control. For this purpose programs will have to be written or will have to be adapted for bio assay, mathematical-statistical functions, laboratory record-keeping data retrieval and literature search, tabular and graphical presentation of results, stimulation models (virus-host interaction, epidemiology, and economic impact) and for specific need of the administrative services and the library.

During 1974 the Center sent biological material and tissue culture media and sera to a number of countries in the Hemisphere, as indicated in table VI.

To achieve the research targets set, it is necessary to make provision in the budgets for 1974 and 1975 for the following international and local staff:

<u>International Staff</u>	<u>1975</u>	<u>1976</u>
Chief, Immunology Laboratories	1	1
Chief, Virology Laboratories	1	1
Serologists	2*	2
Research Officers	3*	3
Biochemist	1	1
Immunologist	1	1
Research Assistants	<u>2</u>	<u>2</u>
Total	<u>11</u>	<u>11</u>

*One of which is to be held vacant in 1975.

The international staff post for 1976 will remain the same as for 1975.

<u>Local Staff</u>	<u>1975</u>	<u>1976</u>
	118*	118

*Seven of which are to be held vacant in 1975.

Supplies and Equipment

In 1976 there will be a slight increase in this item compared to 1975.

Contractual Services

In 1976 there will be a slight increase in this item to maintain the present level of operation.

IV - TRAINING AND INFORMATION

The chief reasons that make necessary and a matter of priority the training of personnel engaged in the prevention and fight against foot-and-mouth disease are the following: the expansion of the geographic and population coverage of foot-and-mouth disease combat programs which are carried out in the majority of South American countries; the inception of new programs; the need for renewal and updating the acquired knowledge of the experts who participate in the programs; the introduction of new techniques and methods; the need for reviewing concepts and principles, and to standardize the techniques which are used; the deficiencies in the teaching which is imparted on certain subjects in veterinary schools of Latin American universities; the need for improving information services in areas which are affected as well as in areas which having experts from the free areas become familiar with foot-and-mouth disease and aware of its harmful effects.

The Center undoubtedly is one of the few institutions that can provide training as specialized as it is complete. The fact that it has specialists from different branches: virologists, epidemiologists, immunologists, statisticians, etc. makes possible that the student come in contact with them, interchange opinions, clear up doubtful points, and also attend the professional staff's monthly seminars in which the work that is being carried out in every section is freely discussed, as well as take part in conferences and technical meetings which are frequently held.

A building for students endowed with scholarships which was erected with funds provided by the Government of Brazil, has just been completed. Therefore, the Center now has three classrooms, four meeting rooms for work groups, secretariat's offices and facilities for the preparation of bibliographic material specifically intended for the students.

On the other hand, almost every professional staff member of the Center has a thorough knowledge of Spanish or Portuguese, or of both, which is quite an advantage for Latin American technicians, when other institutions in the Continent and in Europe are considered.

A program to combat foot-and-mouth disease comprises different aspects and several levels, and actions which are carried out at each level are also different. At the central level, planning, evaluation, decision taking and administration play a capital role, as well as data processing and epidemiological surveillance. Within the last few years, the need has arisen for introducing in anti-foot-and-mouth disease campaigns, a modern, scientific and dynamic approach to planning,

and experience in the field of human health and in other activities has shown that in addition to saving efforts and resources, it allows for better assessments and rectification of the actions which are taken.

In regard to laboratory activities, serological diagnosis and virus typification of samples obtained from outbreaks, as well as strains for the production of vaccine, are fundamental. Training in vaccine production and control must be emphasized, since this has been a particularly important question in view of the millions of doses which will be required for the campaigns during incoming years. A laboratory particularly directed towards training professionals in vaccine production and control, at industrial scale, and using the most modern and sophisticated techniques, has been built and equipped through agreements between the Pan American Health Organization, the Brazilian Government and the Inter-American Development Bank. It is the only existing laboratory providing this type of training.

At field operation level, the activities are mostly practical or supervisory. The Center has a unit which is specifically charged with providing this type of training which was created through an agreement between the Federal and State Governments, and is located in Porto Alegre, Brazil.

Furthermore, other subject matters also have an important bearing upon the programs against foot-and-mouth disease, and on which the Center offers training opportunities. With respect to epidemiology, courses on this specialty are being offered in collaboration with the School of Veterinary at the University of Sao Paulo and the Ministry of Agriculture of Brazil. In regard to statistics, a number of fellows have been already trained at the Center or at statistical services which have been set up with the advice of the Rio Grande do Sul Center.

Finally, attention must be drawn to a truly new field in animal health campaigns, which was brought into bold relief at a seminar which was held in June 1973, in Bogota, Colombia: it is the communication field. How to reach the grand public interested in the fight against foot-and-mouth disease, delivering the correct message which is required to obtain the indispensable collaboration of that public, is a task which must be performed by people with specialized training. At the aforementioned seminar, a recommendation was directed to the Center to broaden its field of action by introducing in its regular activities, communication techniques and methods, and the preparation and utilization of audio-visual means; these activities are planned to be started in 1975.

The Center carries out its training activities through various ways, i.e.: individual training, courses, seminars, training units for specific sectors, field exercises, and information. Table VII gives an overall idea of the training activities which have been developed by the Center since its inception. In this table, the reader can see that over one thousand veterinarians from 36 countries -some of them from areas outside the American Continent- have participated in one way or another in these activities.

A brief explanation follows on the methods for each system, what was accomplished in 1974 in each field, and the projections for 1976.

1. Individual training

Through this system, veterinarians and other professionals, in addition to improving their acquired knowledge, have an opportunity to master techniques, should the work consist of laboratory tasks they carry out special or research work which may interest their own country, and will personally observe, in the field, the organization and development of activities in other countries, etc.

During 1974, 20 professionals from 6 South American countries benefited from this system of training, in 7 different specialties, most of them having received scholarships, totaling 28 1/2 months/scholarship, as indicated in Table VIII.

2. Courses

The purpose of the courses is to improve training and to expand or refresh the acquired knowledge of groups of professionals from a given country or state. Courses are sometimes offered at the Center, with its own staff and means; at times they are carried out through agreements with universities or other institutions in order to take advantage of human and physical resources, and there are cases in which Center's professionals are invited to lecture at courses sponsored by other agencies.

Activities in this field, during 1974, were:

a) Courses on Foot-and-Mouth Disease Epidemiology and Prophylaxis

Through an agreement among the Federal Government of Brazil, the University of Sao Paulo, and the Pan American Health Organization, a course of one month duration was offered on the above-mentioned specialty, in which 20 veterinarians participated, all of whom were from the official foot-and-mouth disease control services of Brazil.

b) Courses on Animal Health Planning

These courses, which are sponsored by the Pan American Health Organization, are offered at the Pan American Zoonoses Center, Argentina, and comprise a joint program with the Pan American Foot-and-Mouth Disease Center.

The purpose of these courses is to train veterinarians from the animal health services of the American countries, in animal health program planning, organization, administration, and evaluation, and introduce them to modern concepts of general planning of the development of the countries. For this purpose, the program includes subjects which are almost totally absent from the curricular of veterinary schools and comprises, inter alia, administration, economic analysis, accounting, political economy, statistics, economy policy, theory and practice of planning, and project formulation and evaluation.

The courses have an approximate duration of 30 weeks, and during the final two months practical exercises in the field are carried out, which consist in preparing animal health projects for specified regions.

The first three courses were offered in 1971, 1972, and 1973, in which a total of 54 veterinarians from 14 countries participated; in the fourth course, which was offered in 1974, 17 veterinarians attended, whereby the total sum is 71, from the following countries: Argentina, Bolivia, Brazil, Colombia, Chile, Cuba, Ecuador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Practical exercises were carried out in regions of Argentina, Brazil, Chile, and Paraguay, in which the respective sanitary authorities provided efficient collaboration.

c) Course on Laboratory Animal Medicine

During 1974 the second course on this topic was carried out, the duration of which was three months, and was attended by 2 Brazilian, 1 Dominican, 1 Chilean, 1 Ecuadorian and 1 Paraguayan veterinarians.

3) Seminars

Financial reasons prevented the holding of international seminars in 1974, as was being done in previous years. Only one Seminar on Diagnosis of Vesicular Diseases, for Brazilian veterinarians, could be carried out, which was financed by the Ministry of Agriculture of the aforementioned country.

4) Training units in specific sectors

a) Field activities training unit

This unit was created in mid-1972, through an agreement between the Federal Government of Brazil, the State Government of Rio Grande do Sul and the Pan American Health Organization. The purpose is to improve and help standardize operational procedures of field activities, to up-date the acquired knowledge of personnel performing such services; to develop health education elements; to visit affected farm establishments with national personnel; and to follow up the development of programs in pilot areas, etc. The courses have 6 weeks duration, full-time.

Two courses were held in 1972, three in 1973 and four in 1974.

In slightly over two years, a total of about two hundred Brazilian veterinarians and 27 from other South and Central American countries, i.e.: Argentina, Bolivia, Chile, Colombia, Ecuador, Mexico, Panama, Paraguay and Uruguay, were trained at the Unit.

b) Pilot plant for vaccine production

This plant is the outcome of a joint effort on the part of the Government of Brazil, the Inter-American Development Bank and the Pan American Health Organization. Built on the grounds of the Center, it is equipped to produce, on a small scale but with the use of standard manufacturing processes, inactivated vaccines of any of the types now on the market.

The project in which the construction, equipment and operation was based, contemplates courses at different levels and with different duration. In 1973, a 9-month course was held which was attended by three Brazilian veterinarians, one Colombian, one Peruvian and one Venezuelan. Furthermore, teaching and training was provided to two other Colombian veterinarians and one Argentine in techniques on cell culture and virus typification and subtypification, which topics are basic for vaccine production.

In 1974, in addition to the 9-month course, other courses were held which were included in the project, with 3 and 1-month duration, on diagnosis, cell culture, efficiency control and vaccine production control. The students who participated in these courses, as well as the countries and institutions of origin and months/scholarship, are listed in table IX.

5) Exercises in the field

This type of training is the most adequate for meeting the requirements of the foot-and-mouth disease free area. It consists in preparing and performing the action that should be taken in the case of an outbreak of foot-and-mouth disease. The exercise includes, not only participation in the services of notification, diagnosis, quarantine services, etc., but also involves the mobilization of other agencies and resources in the country as may be necessary in an emergency, such as: the police, the army, county authorities, livestock associations and regional and international agencies.

Two of these exercises were held in Panama and one in El Salvador, in the course of 1974.

Training activities foreseen for 1975 and 1976 are:

1) Individual training

Twenty-four scholarships for professionals from 17 countries, totaling 72-months/scholarship per year.

2) Courses

The course on Animal Health Planning shall be continued in Argentina.

Each year two national courses are foreseen, in two different countries, in addition to those offered at the Center's headquarters.

3) Seminars

During the first quarter of 1975, in Panama a seminar will be held for professionals from the area countries which are free from foot-and-mouth disease. It is expected that 12 veterinarians from Central American countries will participate, as well as observers from other countries and institutions. By mid-year, an international seminar on diagnosis of vesicular diseases shall take place in the Center.

In 1976, a Seminar of Campaign Evaluation will be held in Buenos Aires, in which 10 veterinarians from South American countries will attend. For countries of the free area, a seminar on foot-and-mouth disease prevention and control and eradication of foci will be held, probably in Nicaragua, with 12 Central American and Caribbean veterinarians participating.

4) Training unit in specific sectors

- a) Field Activities Unit. Six annual courses shall take place, with a duration of four weeks.
- b) Vaccine Production Unit. Annual courses on this specialty shall be continued, in addition to auxiliary courses on virus typification and sub-typification, laboratory techniques and vaccine control.

5) Exercises in the field

In 1975 and 1976, exercises on presumed outbreaks of foot-and-mouth disease in Central American and Caribbean countries shall be continued.

6) Information

It is foreseen that quarterly publication of the "BOLETIN" and the biweekly issue of the Epidemiological Report shall be continued. The series on Scientific and Technical Monographs reached No. 4 during 1974. Number 3 of the Series of Technical Handbooks is being prepared. The numbers 1 and 2 were issued in 1974.

To achieve the targets of the training program it is estimated that the following staff will be necessary:

<u>International Staff</u>	<u>1975</u>	<u>1976</u>
Chief	1	1
Publication Officer	1*	1
Communication Officer	1*	1
Total	<u>3</u>	<u>3</u>

<u>Local Staff</u>	<u>1975</u>	<u>1976</u>
Librarian	1	1
Secretaries	2	2
Draftsman	1*	1
Reproduction Equipment Technician	1	1
Clerks	2*	2
Reproduction Clerks	2	2
Total	<u>9</u>	<u>9</u>

V - FIELD ADVISORY SERVICES

A. Foot-and-mouth disease free area

Mexico, the Central American countries and Panama represent the highest risk sector in the prevention of foot-and-mouth disease, mainly because of territorial contiguity with the infected area and the complication created by the existence of endemic vesicular stomatitis in all these countries. Progress in the construction of the Pan American Highway, in the section linking Panama and Colombia, and the colonization of the lands crossed by the highway, substantially increase the risk involved.

The countries of the area have organized their defense against the problem, and set up OIRSA (International Regional Animal Health Organization), one of the main functions of which is foot-and-mouth disease prevention. The agency's action is concentrated in the development of national services for health control of agricultural and livestock imports.

*To be held vacant in 1975.

Aiming at collective security, the United States of America has agreements on the prevention of foot-and-mouth disease with everyone of those countries except Guatemala. These agreements are being implemented through the establishment of epidemiological surveillance services, charged with identifying occurrences of vesicular diseases. For strategic reasons, the largest amount of resources is applied in Panama, chiefly in the Eastern section of the province of Darien neighboring with Colombia. This latter country, in turn, has an agreement with the United States on the control of disease in the Northwestern section of the bordering Department of Chocó.

The Pan American Health Organization (PAHO), through its specialized agency, which is the Pan American Foot-and-Mouth Disease Center (PAFMDC), executes a policy which takes into account all such elements and endeavors to shape foot-and-mouth disease prevention within a framework of common principles, objectives, strategy and activities.

In order to achieve this goal, it relies upon the specialized resources at the headquarters, in Rio de Janeiro, and upon advisors assigned to Zones I and II, with whom the advisors on Veterinary Public Health of said Zones and of Zone III work in collaboration. Requests for activities relating to diagnosis, statistical information systems, planning and training in general are increasing.

The only countries in the disease free zone which possess laboratories for identifying the causative agents of animal vesicular diseases are: Canada, the United States of America and Mexico, which, for safety reasons, only take care of their own needs. For all others, this service is supplied by the Diagnosis and Reference Laboratory of the PAFMDC. This activity has been significantly on the increase in recent years, as a consequence of the evolution of epidemiological surveillance programs in Central America and Panama, as illustrated in table X. The vital interest of those countries in the need for consolidating those programs suggests that the trend will continue, and therefore, there will be a larger demand made upon the Center. The Central American countries are desirous to develop their own diagnostic resources. If a decision should be taken in this respect, following a technical study on the matter, implementation of such an alternate would imply, in the event resources could be assured, that the advisory services would have to be reoriented. The Center is equipped to supply the required support in planning, organizing and operating diagnosis laboratories for vesicular diseases.

Surveillance of vesicular stomatitis wherever it occurs is essential for foot-and-mouth disease prevention. This makes it necessary that there should be kept a well-ordered registry of cases, through a permanent information system. The countries do not have machinery able to meet these requirements, and that is why we assign priority to this problem. Monthly registration forms were distributed during 1973, and the study of epidemic outbreaks has been stimulated. Nevertheless, the results have been poor. Consequently, a strategy has been worked out that endeavors to establish a common basic program in Mexico, Central America and Panama, for collecting systematic information on the occurrence and distribution of vesicular stomatitis. The PAFMDC prepared a draft project which was to be discussed by the countries in 1974, at Seminar XXXIII, which had to be postponed, for financial reasons, until April 1975. The purpose thereof is basic knowledge of the disease, in order to orient possible research work and to study what action may be taken eventually to combat the scourge.

Such information systems shall be structured so as to potentially be able to gradually incorporate other diseases and will eventually become a complete animal health system. Since from their inception these structures include basic livestock information, they will supply essential data which are required for planning purposes.

All the countries follow the Plan of Action which was formulated by the PAFMDC for eradication of foot-and-mouth disease outbreaks, and which was revised in 1974. The new version of the Plan was circulated at the beginning of the current year, and contains a description of all the activities which are recommended for preventing the introduction of the disease and its eradication in the event of its occurrence. Such activities must be made a part of the preventive programs, following modern planning methodology. The Center is promoting activities in order that countries in the disease free area should start a planning process on prevention programs, similarly as to what is being done to control foot-and-mouth disease in the affected area. By agreement with the Inter-American Bank (IDB) and PAHO, El Salvador is formulating an animal health program comprising a scientific project on vesicular disease and on foot-and-mouth disease.

B. Countries in the affected area

Prevention and the support of the PAFMDC in the combat against foot-and-mouth disease, in South America, represents a continental effort, with the participation of all the countries affected by the scourge. The situation which has been achieved through this effort can be summarized at four different levels.

The highest level is represented by countries such as Chile, Paraguay and Uruguay, which exercise good control upon the animal population and which is reflected in a sustained low incidence, and a degree of reliability which now aims at achieving further advances in the fight against foot-and-mouth disease as well as other diseases which are important for the respective country.

The second level is made up of countries that are in the process of organizing, or in different stages of development of their national foot-and-mouth disease control plans, without, however, having achieved full territorial coverage. This is the case in Brazil, Colombia, Ecuador and Peru.

A third position is that held by Argentina and Venezuela, that have plans which are executed at national level and are relatively superannuated; because of this very fact, such plans are presently being reformulated in order that they become more efficient. Both countries incorporate other diseases, at this particular stage.

The fourth level is represented by Bolivia, which has just completed formulation of its National Control Plan for Foot-and-Mouth Disease, Brucellosis and the Rabies.

The framework of this work consists in planning in other words, the orderly marshalling of methods and resources for selecting the ones which may be most convenient for achieving the zoo-sanitary changes that may have been decided upon.

This implies an increasing attentiveness and demand upon the Center, inasmuch as it is a vital year of this movement, in the Continent. During 1974, the Center has intensive participation in the following activities:

Argentina: Study of the industry which produces anti-foot-and-mouth disease vaccine, and of the quality control official system; analysis of the strategy to combat foot-and-mouth disease; and assessment of the pilot plan for Henderson district.

Bolivia: Formulation of the National Foot-and-Mouth Disease Control Project, and cooperation with project BOL/73/012 financed by the United Nations Development Program (UNDP) and implemented by the United Nations Food and Agriculture Organization (FAO) jointly with the Ministry of Rural and Agricultural and Livestock Affairs, for carrying a livestock census, and sanitary survey in the Departments of Cochabamba and Santa Cruz de la Sierra. These are considered to be preparatory activities prior to the National Control Plan for Foot-and-Mouth Disease, Brucellosis and Rabies.

Brazil: Organization of the assessment of the first stage (1971-1974) of the National Plan to Combat Foot-and-Mouth Disease, which involves the States of Bahia, Espirito Santo, Minas Gerais, Parana, Rio Grande do Sul, Santa Catarina and Sao Paulo; study of projects to incorporate the States of Goias, Mato Grosso, Rio de Janeiro and Sergipe; and consolidation of the Animal Health Pilot Project of the State of Rio Grande do Sul, which is being carried out pursuant to an agreement between the Ministry of Agriculture of Brazil, the Secretariat of Agriculture of Rio Grande do Sul, and PAHO.

Chile: Evaluation of the first stage of the National Foot-and-Mouth Disease Control Plan, which comprises the 1970-1973 period; and formulation of the second stage, within a Ten-Year Animal Health Plan.

Ecuador: Reformulation of the strategy, organization and activities of the anti-foot-and-mouth disease project, which began to be implemented early this year.

Paraguay: Evaluation of the first stage of National Foot-and-Mouth Disease Combat Plan, which comprises the 1970-1973 period; formulation of the second four-year stage, and organization of a study which will include the said project as well as the combat against rabies, brucellosis, tuberculosis and parasitical diseases.

Uruguay: Formulation of a project to combat foot-and-mouth disease, as part of a national animal health program, and which is to be submitted to the IDB. The strategy, purposes and objectives, activities and resources of this plan have been defined. A weekly system of epidemiological information has been set up, with referral action to the PAFMDC.

Venezuela: Up-dating of the animal health program, which includes foot-and-mouth disease, brucellosis, tuberculosis, parasitical diseases and the rabies, and of an agreement entered into by the Government and PAHO, for the development of the program.

Particular mention must be made of special activities on coordination of the anti-foot-and-mouth disease fight with neighboring countries; three sectors deserve to be singled out:

Ecuador and Colombia: The agreement which was signed in 1964 by both Governments and PAHO, on foot-and-mouth disease combat in the bordering departments of Narino and Carchi, is regularly operating. At the present time, the two countries are considering expanding activities in order to cover other diseases which are of mutual interest and for this purpose the study of a project on animal health in the frontier is being proposed.

Brazil and Paraguay: The epidemiological surveillance program for the Paraguayan Departments of Alto Parana, Canendyu and Caaguazu, and neighboring counties in the State of Parana (Brazil) was activated.

Brazil, Guyana and Venezuela: Sometime during the middle of the year, an epidemic of foot-and-mouth disease was registered in the Territory of Roraima (Brazil), neighboring with Guyana and Venezuela, which triggered action by the three countries, with the PAFMDC coordination. The episode was particularly disquieting since one case of type C virus was isolated, never before identified in Guyana or Venezuela. Propagation of this virus could eventually affect Colombia and Ecuador, since said virus is also exotic to those two countries. The epidemic was controlled, and its extension to neighboring countries was averted by means of an intensive vaccination campaign which included the area of the Rupununi Savanna, with vaccine supplied by the PAFMDC. This episode reactivated contacts for establishing a border foot-and-mouth disease combat program. A project on animal health for the frontier region of the three countries was formulated with particular attention to foot-and-mouth disease prevention and control. By the year's end, the system of epidemiological surveillance of this disease had started to operate, while work on the organization of a farm and livestock census, and on a sanitary survey which is to be carried out early in 1975, went on.

The 1968 agreements between Argentina and Paraguay, and with Chile, remained inactive.

All this process of planning, implementation and evaluation imposes an increasingly heavy task upon the training and marshalling of human resources and epidemiological research work, as well as technical and administrative tasks, in order to improve program efficiency. Methodology of planning is a subject which is being taught at the Animal Health Planning Course sponsored by PAHO and given in Buenos Aires, and the principles of which are being tested in the different countries in the activities which have been described. Foot-and-mouth disease is a priority matter, and the PAFMD is charged with the responsibility for developing the subject.

With respect to implementation, statistical services continue to be one of the main subject-matters. The methodology and organization which have been provided by the PAFMD have achieved their highest and most efficient expressiveness in Brazil and Paraguay.

To achieve the technical assistance targets, the following staff will be necessary:

<u>International Staff</u>	<u>1975</u>	<u>1976</u>
Chief	1	1
Epidemiologist	1	1
Area Consultants	7*	7
Headquarters Consultants		
in Biostatistics	2	2
in Administrative Methods	1	1
in Vaccine Production and Control	<u>1</u>	<u>1</u>
Total	13	13
<u>Local Staff</u>	<u>1975</u>	<u>1976</u>
Administrative Clerk	1	1
Secretaries	1	1
Programmer	1*	1
Clerks	<u>5**</u>	<u>5</u>
Total	8	8

The following percentages of the Field Advisory Services budget will be assigned to the headquarters and area consultants:

	<u>1975</u>	<u>1976</u>
Headquarters Services	47.9%	52.0%
Area Consultants	52.1%	48.0%

*One of which will be held vacant in 1975.

**Three of which will be held vacant in 1975.

VI ADMINISTRATIVE SERVICES

There will be no changes in the local staff of the Administrative Services during 1975 and 1976.

VII COMMON SERVICES

Provision is made for increases for supplies and equipment in 1975 and 1976 to cover price increases in products and equipment and additional maintenance service that will be needed for the laboratories and animal quarters.

VIII ORGANIZATION OF MEETINGS

There will be no substantial changes in the cost of the meeting of the Technical Council in 1975 and 1976. Funds for the Scientific Advisory Committee were not considered for 1976.

ORGANIZATIONAL CHART OF THE PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

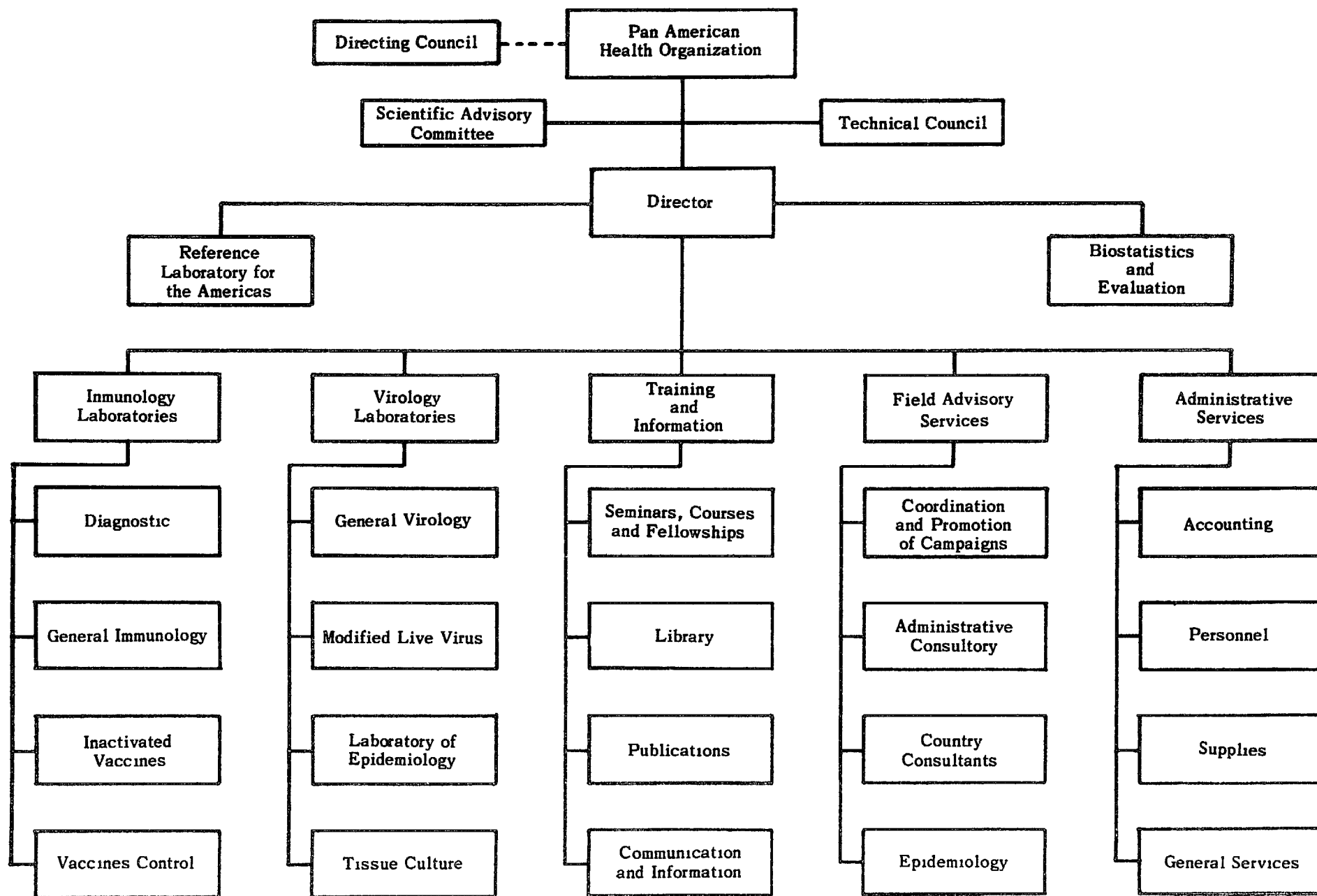


Table I

SAMPLES DIAGNOSED BY THE PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER ACCORDING TO COUNTRIES AND YEARS.
SOUTH AMERICA. 1952-1974.

Country	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	Total
Argentina	-	-	-	-	4	-	-	18	24	71	149	375	281	112	126	126	59	116	19	81	44	48	-	1653
Bolivia	-	4	1	-	3	2	-	-	-	-	8	-	-	15	9	-	22	12	6	1	17	-	3	103
Brazil	52	85	168	251	365	489	406	490	323	775	159	234	160	154	382	42	290	116	236	279	441	77	78	6052
Colombia	-	2	-	-	-	15	10	9	34	16	-	62	48	2	7	23	4	16	9	11	5	3	-	276
Chile	-	-	-	-	-	-	2	-	-	-	-	3	-	-	-	12	-	10	9	50	5	3	2	96
Ecuador	20	1	-	-	12	3	-	9	28	9	128	175	10	8	2	9	13	46	-	14	4	-	2	493
Guyana	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	17	3	-	-	7	-	43
Paraguay	32	-	10	10	-	1	-	7	3	-	-	1	1	-	1	-	84	232	70	10	-	2	6	470
Peru	-	5	-	-	-	-	2	3	-	6	3	3	19	5	11	11	14	20	12	31	10	-	-	155
Uruguay	-	-	-	2	-	4	16	6	5	-	-	53	19	26	54	21	6	11	2	5	7	-	-	237
Venezuela	-	6	11	-	-	-	12	2	12	4	3	18	1	-	5	7	2	15	9	36	2	-	6	151
Total	104	103	190	263	384	514	448	544	429	897	450	924	539	322	597	251	494	611	375	518	535	140	97	9729

Table II

CLASSIFICATION OF FOOT-AND-MOUTH DISEASE VIRUS IN SOUTH AMERICA IN
THE PERIOD 1958-1973^{a/}

V i r u s		Period of Study ^{c/}	O b s e r v a t i o n s
Strain ^{b/}	Subtype		
A-Santos Brazil/58	A ₁₃	1958 - 62	These 4 viruses were isolated in slaughterhouses, from cattle used to produce antigen for preparing vaccine by the Waldmann method. Production was stopped in good time.
O-Bahia Brazil/60	O ₈	1960 - 62	
A-Belem Brazil/59	A ₁₆	1960 - 64	
A-Guarulhos Brazil/59	A ₁₇	1960 - 64	
A-Zulia Venezuela/62	A ₁₈	1962 - 64	Isolated in 1962 and 1963 in Venezuela during an epidemic of foot-and-mouth disease in the state of Zulia, but not identified again since then.
A-Suipacha Argentina/62	A ₁₉	1963 - 64	Slightly spread over the Argentina campo in 1963.
O-Campos Brazil/58	O ₁	1966 - 67	Subtype representative of South America since 1958, when it was first diagnosed.
A-Argentina/61	A ₁₀	1965 - 67	Subtype exotic in South America, only isolated in Argentina in 1961; suspected connection with use of vaccine prepared with imported antigens.
A-Cruzeiro Brazil/55	A ₂₄	1966 - 67	Subtype representative of South America, except Colombia and Venezuela.
A-Argentina/59	A ₂₅	1965 - 67	Diagnosed sporadically in Argentina, Bolivia, Brazil and Uruguay from 1959 through 1963.

cont....

Table II. Cont.

Virus		Period of Study ^{a/}	Observations
Strain ^{b/}	Subtype		
A-Argentina/66	A ₂₆	1966 - 67	Of epidemiological importance from 1963 through 1967 in Argentina. Since then only isolated sporadically in that country, Chile and Uruguay.
C-Resende Brazil/55	C ₃	1967 - 69	Subtype representative of the affected countries of South America since 1955, Argentina excepted.
C-Tierra del Fuego Argentina/66	C ₄	1967 - 69	Virus isolated only in one outbreak that occurred in Tierra del Fuego, Argentina, in December 1966, and was stamped out by slaughter.
A-Colombia/67	A ₂₇	1967	Subtype similar to the A ₅ of Europe. Prevailing in Colombia since 1967.
A-Perú/69	A ₂₉	1969 - 70	Only identified in the south of Perú during 1969.
A-Uruguay/68 ^{d/}	A ₃₀	1969 - 70	Isolated in Uruguay in 1945. Its presence has not been recorded, at least since 1960.
A-Colombia/69	A ₃₁	1969 - 70	Diagnosed only in the Bogotá savanna, in 1969 and 1970.
C-Argentina/69	C ₅	1969 - 70	Subtype representative of Argentina from 1969 on.
C-Pando Uruguay/45	C ₂	1969	Isolated since 1945 in Uruguay. Classified by the Center in 1969 with sera and viruses supplied by the WRL. Subsequently identified in Chile and Paraguay.
A-Venezuela/70	A ₃₂	1970	Subtype representative of Venezuela since 1969.

^{a/} Work performed in cooperation with the Pan American Foot-and-Mouth Disease Center and the World Reference Laboratory, in Pirbright, United Kingdom.

^{b/} The strains are named according to the type of virus to which they belong and the place, country and year they were first isolated.

^{c/} The first date corresponds to the year the virus was studied in the Center and the second to the year it was classified by the World Reference Laboratory.

^{d/} Year it was received by the Center.

Table III

CLASSIFICATION OF VESICULAR STOMATITIS VIRUS
JOINT STUDY BY THE PAN AMERICAN FOOT AND MOUTH DISEASE CENTER
AND THE WORLD REFERENCE LABORATORY (WRL)

P.A.F.M.D.C.		W.R.L.		Comments
Strain	Date sent to WRL	Subtype	Date when classified	
Indiana-Salto (Argentina 63)	Jan. 11, 1965	Indiana ₂	Aug. 5, 1965	Diagnosed in the Province of Buenos Aires (Argentina) in 1963 and in the state of São Paulo (Brazil) in 1965/66.
Indiana-Alagoas (Brazil 64)	Jan. 11, 1965	Indiana ₃	Aug. 5, 1965	Diagnosed in the states of Alagoas and Minas Gerais (Brazil) in the years 1964 and 1972 respectively.

These subtypes are the only ones diagnosed up to date within the range of the Indiana type and also of vesicular stomatitis virus. Both were characterized by affecting horses exclusively.

Table IV
FIELD SAMPLES (EPITHELIUM). SOUTH AMERICA

Country	Foot-and-Mouth Disease								Neg.	Total
	O Vallée	O 1	A Vallée	A 24	A 27	A 32	C Wald.	C 3		
BOLIVIA	-	-	- ^{b/}	-	-	-	1 ^{a/}	-	2	3
BRAZIL	-	15	5 ^{b/}	15	-	-	1	13	29	78
CHILE	-	-	-	2	-	-	-	-	-	2
ECUADOR	-	-	-	1	1	-	-	-	-	2
PARAGUAY	-	-	-	-	-	-	6 ^{a/}	-	-	6
VENEZUELA	1	1	-	-	-	4	-	-	-	6
T o t a l	1	16	5	18	1	4	8	13	31	97

^{a/} 7 samples pending for classification.

^{b/} 4 samples pending for classification.

Table V
FIELD SAMPLES (EPITHELIUM AND SERUM). FMD FREE AREA

Country	Vesicular Stomatitis		Neg.	Total
	New Jersey	Indiana		
ARUBA	1	-	1	2
BELIZE	-	-	2	2
COSTA RICA	2	-	9	11
CURAZAO ^{a/}	5	-	-	5
EL SALVADOR	13	4	15	32
GUATEMALA	1	2	1	4
HONDURAS	27	3	9	39
NICARAGUA ^{b/}	73	14	64	151
PANAMA	6	9	12	27
T o t a l	128	32	113	273

^{a/} Samples collected in imported shipped animals.

^{b/} There were also studied 45 human sera.

Table VI
BIOLOGICAL MATERIALS SUPPLIED TO THE COUNTRIES
1974

Country	Serological Material (ml)			Tissue Cultures			Tissue Medium (liter)	Bovine Serum (liter)	Antibiotics (ampoule)	FMD Virus		Ves. Stom. Virus	Vaccines (doses)	
	Hyper-immune sera	Hemolysin	Antigen VIA	BHK-21	IBRS-2	Other cell lines				BHK (ml)	Epithel. (gm)		Mono-valent	Tri-valent
ARGENTINA	102	-	-	3	1	2	-	-	-	6	2	-	-	-
BOLIVIA	9	9	-	-	-	-	-	-	-	-	-	-	-	-
BRAZIL	174	-	3	66	-	-	30	1	80	9	-	8	3,600	45
CHILE	-	-	-	3	6	-	-	-	-	-	-	-	-	-
COLOMBIA	21	-	-	2	-	-	-	-	-	-	-	-	6,455	-
ECUADOR	87	-	-	-	-	-	-	-	-	-	-	-	-	-
GUYANA	-	-	-	-	-	-	-	-	-	-	-	-	-	25,600
PARAGUAY	51	6	3	-	-	-	-	-	-	-	-	-	-	-
PERU	42	-	-	-	-	-	-	-	-	-	3	-	-	-
URUGUAY	54	-	-	-	-	-	-	-	-	-	2	-	-	-
VENEZUELA	57	-	-	3	-	-	-	-	-	3	-	-	-	-
T o t a l	597	15	6	77	7	2	30	1	80	18	7	8	10,055	25,645

Table VII

NUMBER OF PROFESSIONALS HAVING RECEIVED INDIVIDUAL TRAINING, OR HAVING PARTICIPATED IN COURSES OR SEMINARS
OF THE PAN-AMERICAN FOOT-AND-MOUTH DISEASE CENTER, FROM 1952 UNTIL 1974

Countries	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	Total
Argentina	-	-	-	2	-	-	1	38	3	2	-	-	2	2	3	-	-	2	3	4	1	2	8	73
Bahamas	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	3
Barbados	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Belize	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	2
Bolivia	-	1	-	2	-	-	2	-	1	-	5	3	-	1	1	-	-	1	1	3	2	-	-	23
Brazil	-	5	4	47	1	2	4	3	7	10	2	23	4	9	10	5	8	8	5	26	84	78	114	459
Canada	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Colombia	-	1	2	27	-	-	1	-	3	6	1	-	4	4	3	-	-	2	4	4	2	24	4	92
Costa Rica	-	2	2	1	1	-	2	-	-	-	1	-	-	1	-	-	-	1	-	6	2	-	-	19
Cuba	-	1	2	-	1	-	1	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-	8
Chile	-	-	2	3	1	1	-	3	2	-	-	-	2	1	1	-	1	4	6	1	3	2	3	36
Dominican Republic	-	1	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	1	7
Ecuador	-	1	-	2	1	2	-	-	1	3	1	1	2	2	2	-	1	7	4	3	1	2	9	45
Egypt	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
El Salvador	-	-	2	-	1	-	2	-	-	-	-	-	-	1	-	-	-	1	-	2	1	24	-	34
French Guiana	-	-	1	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Grenada	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Guatemala	-	1	2	-	1	-	2	-	-	1	1	-	-	1	-	-	-	1	-	2	4	-	-	16
Guyana	-	-	1	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Haiti	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Honduras	-	-	2	-	-	-	2	-	-	1	1	-	-	1	-	-	-	-	-	-	1	1	-	6
Jamaica	-	-	1	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Martinique	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Mexico	-	-	-	-	2	-	-	-	1	1	7	-	-	1	-	-	-	-	-	-	1	2	1	16
Montserrat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Netherland Antilles	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Nicaragua	-	-	-	-	1	-	2	-	-	-	1	-	-	1	-	-	-	1	-	3	1	-	-	10
Panama	-	1	8	1	2	-	2	-	-	-	2	-	-	2	-	-	-	2	-	4	1	2	-	27
Paraguay	1	-	1	2	-	-	1	2	1	-	-	-	1	1	2	2	4	2	8	5	9	2	8	52
Peru	-	1	-	3	-	2	-	-	2	1	2	1	2	3	1	-	-	1	2	-	3	2	-	26
Surinam	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	9	1	-	-	12
Trinidad and Tobago	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	4
Uruguay	-	-	2	4	-	-	1	6	2	2	-	-	4	2	2	-	1	1	4	2	3	3	6	45
U. S. A.	-	-	3	1	3	-	1	-	2	-	1	-	1	-	-	-	-	1	-	-	-	1	-	14
Venezuela	-	1	1	3	1	-	1	-	-	-	2	1	3	2	3	2	2	3	3	2	4	2	2	38
Total	1	16	41	99	21	7	26	53	34	29	27	29	25	35	28	9	17	46	40	89	125	147	156	1100

Table VIII

INDIVIDUAL TRAINING AT THE PAN-AMERICAN FOOT-AND-MOUTH DISEASE CENTER

Speciality	Duration (months)	Participant	Origin
Statistics and epidemiology of Foot-and- Mouth Disease	1-1/2	José F.P. Dora	Min. Agric., Brazil
	1	José Carlos Nunes Coelho	" " "
	1	Luiz Carlos Monteiro Barbosa	" " "
	3	Ricardo Santana de Azeredo	" " "
	3	Víctor Estigarrribia V.	SENALFA, Paraguay
	4	Blanca B. Caballero	" "
	3 weeks	Julián Castro	M.A.C., Venezuela
Immunology	3	Benjamín Duque Suarez	I.C.A., Colombia
Breeding and management of lab. animals	1	Roquita César Pinto	Univ. S. Maria, Brazil
	1	Valdir P. Machado	GECOFAR-S, Brazil
	1	José Gonçalves Rodrigues	GECOFAR-MG, Brazil
	1	Pablo I. Vázquez Colarte	SENALFA, Paraguay
Serol.Neutraliz. and Tissue Culture	1	Regina G.F. de Albarracín	SENASA, Argentina
	1	Realdo Vieira Aguiar	GECOFAR-S, Brasil
Serology	1	Feliciano R. González	SENALFA, Paraguay
	1	Jorge Baltar	DILFA, Uruguay
Sterilization	1	Alcides da Cruz	Inst. Biol. S.P., Brazil
	1	Fernando S. de Souza	GECOFAR-MG, Brazil
	1	Zulema Rojas Galeano	SENALFA, Paraguay
Administrative matters	1 week	Máximo R. Fleitas	SENALFA, Paraguay
7 Specialities	28-1/2 months fellowships	20 participants	10 institutions/6 countries

Table IX

COURSES PROFFERED AT THE PAN-AMERICAN FOOT-AND-MOUTH DISEASE CENTER

Speciality and duration	Participant	Origin
Anti-Foot-and-Mouth Disease Vaccine Prod. and Control 9 months	Fernando Abel Osorio	I.N.T.A., Argentina
	Luis Alberto Bragagnolo	I.N.T.A., Argentina
	Vanderlei L. de Pellegrini	I.P.V.D.F. (RS), Brazil
	Iracidio Marques de Souza	GECOFA-SP, Brazil
	Sonia Adriana Martínez	Servicio Agrícola y Ganadero, Chile
	Sonia Armonia Montenegro	Servicio Agrícola y Ganadero, Chile
	Ricardo Gilberto Valverde	Inst. Nacional de Higiene, Ecuador
Tissue Culture 4 months	Carlos Alberto Marengo	SENASA, Argentina
	Eduardo Antonio Villacís	Inst. Nacional de Higiene, Ecuador
Serology 3 months	Carlos Enrique Clavijo	Minist. Agric. y Ganadería, Ecuador
	Mario V. Marecos Rodas	SENALFA, Paraguay
	Rosa Di Landro	DILFA, Uruguay
	Myriam Josefina Espinoza Fuentes	C.I.V., Venezuela
	Juan Gay Gutiérrez	Secret. Agric. y Ganadería, México
Breeding and management of lab. animals 3 months	Luiz Antonio Ribeiral	Fundación Zootécnica (DF), Brazil
	Antonio Gomes Silva	GECOFA-MG, Brazil
	Fernando B. Nunes Farinha	Inst. Biológico de S. Paulo, Brazil
	Sergio R. Romero	Inst. Bacteriológico de Chile, Chile
	Héctor Andrade Zambrano	Inst. Nacional de Higiene, Ecuador
	Ana Turina Centurión	SENALFA, Paraguay
	Ercilia Zabala Hernández	Dir. Gal. Gan., Dominican Rep.
Vaccine Efficiency Control 2 months	Verno Valério Kassick	I.P.V.D.F. (RS), Brazil
	Luiz Ernani Anadon Cardozo	GECOFA-RS, Brazil
	Ivanete Kotait	Inst. Biológico de S. Paulo, Brazil
	Domingos de Lucca Neto	Pfizer Química Ltda., Brazil
	Mário Cezar Lisbôa	GECOFA-RS, Brazil
	Erberto Diniz Barbosa	GECOFA-SP, Brazil
	Walter Pinto Coelho	GECOFA-MG, Brazil
	Carlos Alberto Velásquez	I.C.A., Colombia
	Jorge Cucalón Rendón ^{a/}	Inst. Nacional de Higiene, Ecuador
Vaccine Production Control 2 months	Vitor Hugo A. Conde	GECOFA-RS, Brazil
	Telmo Gomes de Araújo	GECOFA-SP, Brazil
	Julio Guilherme Gubel	GECOFA-SP, Brazil
	Wagner Campelo de Alencar	GECOFA-MG, Brazil
133 months/ fellowships	34 participants	19 institutions/10 countries

^{a/} Plus one month in Uruguay

Table X

VESICULAR SAMPLES OF CENTRAL AMERICA AND PANAMA EXAMINED
AT THE P.A.F.M.D.C. 1965 TO 1974

Country	YEARS									
	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Belize	-	-	-	2	-	-	1	2	5	2
Costa Rica	5	8	3	7	4	4	29	39	18	11
El Salvador	15	12	1	13	9	8	6	10	24	34
Guatemala	-	2	3	1	1	2	19	33	18	3
Honduras	-	2	3	60	11	8	22	19	14	33
Nicaragua	5	5	3	8	6	4	88	15	24	138
Panama	12	36	76	9	8	7	4	3	1	24
Total	37	65	89	100	39	33	169	121	104	245

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

BREAKDOWN OF THE BUDGET IN ACCORDANCE WITH THE PROGRAM OF DIRECT SERVICES TO GOVERNMENTS

1975-1976

Year	Laboratory Services (a)		Field Services for Prevention and Control Programs (b)		Training (c)		Research (d)		Administration (e)		Total Budget	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1975	505,078	24.0	582,943	27.7	347,240	16.5	595,570	28.3	73,658	3.5	2,104,489	100.0
1976	631,968	24.0	729,396	27.7	434,477	16.5	745,195	28.3	92,162	3.5	2,633,198	100.0

- (a) Includes the item for diagnostic and reference laboratories and costs of laboratory consultants providing direct services to Governments and the cost of supplies sent to the countries.
- (b) In addition to the budget for field advisory services, includes costs of personnel and administrative staff of field studies on vaccines, epidemiology of the disease, carriers, etc., carried out jointly by the field advisory and laboratory departments. Also includes cost of meetings.
- (c) These funds include the budget of the Training Department (personnel, fellowships, national and international courses, short-term consultants, supplies and equipment, and publications) and the costs of personnel, supplies, and other administrative costs for other departments involved in training.
- (d) Includes the costs of research undertaken by headquarters laboratories in coordination with the institutes or laboratories of some countries. Includes costs of personnel, supplies and equipment, and administrative costs.
- (e) Funds intended for the general administration costs of the Center - finances, personnel, supplies and general services.

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

BREAKDOWN OF THE BUDGET FOR 1975

Regular Budget	Office of Director	Research Activities	Training Activities	Field Advisory Services	Administrat. Services	Common Services	Organizat. Meetings	Total	% of Total
Personal Services and Allowances	112,818	951,538	88,014	462,298	93,361	-	-	1,708,029	81.2
Duty Travel	6,817	20,244	3,847	41,919	-	-	39,000	111,827	5.3
Fellowships	-	-	51,682	-	-	-	-	51,682	2.5
Short-Term Consultant	-	-	3,440	-	-	-	2,000	5,440	0.3
Supplies and Equipment	-	85,261	9,680	1,650	2,200	46,000	-	144,791	6.8
Contractual Services	-	7,050	9,670	-	1,650	51,500	9,000	78,870	3.7
Publications	-	-	3,850	-	-	-	-	3,850	0.2
Total	119,635	1,064,093	170,183	505,867	97,211	97,500	50,000	2,104,489	
% of Total	5.6	50.6	8.2	24.0	4.6	4.6	2.4		100.0

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

BUDGET

1 January-31 December 1975

<u>Office of the Director</u>		<u>119,635</u>
Salaries and Allowances		112,818
Professional Staff (2)		
Director, P.6		
Administrative Officer, P.4		
Local Staff (3)		
Duty Travel		6,817
<u>Research Activities</u>		
Salaries and Allowances		951,538
Professional Staff (11)		
Chief of Immunology Laboratory, P.5		
Chief of Virology Laboratory, P.5		
Serologist, P.4		
Research Officer, P.4		
Biochemist, P.4		
Immunologist, P.4		
Serologist, P.4		
Research Officer, P.4		
Research Officer, P.4		
Technical Officer, P.1		
Technical Officer, P.1		
Local Staff (118)		
Duty Travel		20,244
Supplies and Equipment		85,261
Supplies	75,261	
Equipment	10,000	
Contractual Services		7,050

1975 BUDGET (Continued)

Training Activities 170,183

Salaries and Allowances 88,014

Professional Staff (3)

Chief of Training Activities, P.4
Technical Publications Officer, P.2
Translator, P.2

Local Staff (9)

Duty Travel 3,847

Short-Term Consultants 3,440

Fellowships 51,682

<u>Period</u>	<u>Stipends</u>	<u>Travel</u>
72 months	18,300	11,215

Residents

24 fellows from: Argentina (1),
Bolivia (2), Brasil (2),
Chile (1), Colombia (2),
Cuba (1), Dominican
Republic (1), Ecuador (2),
Guatemala(1), Haiti (1),
Jamaica (1), Panama (1),
Paraguay (2), Peru (2),
Uruguay (1), Venezuela (2),
United States of America(1)

Seminars

Seminar in

Rio de Janeiro, Brazil 21 days	4,620	3,551
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11 fellows from: Argentina,
Bolivia, Brazil (2),
Chile, Colombia, Ecuador,
Paraguay, Peru, Uruguay,
Venezuela

1975 BUDGET (Continued)

	<u>Period</u>	<u>Stipends</u>	<u>Travel</u>
Seminar in Argentina	21 days	4,620	2,330
11 fellows from: Argentina (2), Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela			
Seminar in Nicaragua	21 days	4,536	2,510
12 fellows from: Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Surinam			
Publications			3,850
Supplies and equipment			9,680
Supplies		9,680	
Contractual Services			9,670
<u>Advisory Services</u>			<u>505,867</u>
Salaries and Allowances			462,298
Professional Staff (13)			
Chief of Field Services, P.5			
Veterinarian, P.4			
7 Country Consultants, P.4			
Biostatistician, P.4			
Vaccine Consultant, P.4			
Statistician, P.4			
Administrative Consultant, P.4			
Local Staff (8)			

1975 BUDGET (Continued)

Duty Travel		41,919
Supplies and Equipment		1,650
Supplies	1,650	
<u>Administrative Services</u>		97,211
Salaries and Allowances		93,361
Local Staff (11)		
Supplies and Equipment		2,200
Contractual Services		1,650
<u>Common Services</u>		97,500
Supplies and Equipment		46,000
Supplies	26,000	
Equipment	20,000	
Contractual Services		51,500
<u>Meetings</u>		50,000
Technical Council Meeting		34,000
Duty Travel	13,000	
Per Diem	10,000	
Short-Term Consultants	2,000	
Interpreters	6,000	
Local Transportation, Printing and General Services	1,500	
Secretariat Personnel	1,500	
Scientific Advisory Committee		16,000
Duty Travel	10,000	
Per Diem	6,000	
Total		2,104,489
Funds Available		2,054,356
Deficit*		- 50,133

*This deficit does not include the amount of 190,819 which represents the costing of the vacant posts removed from the budget.

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

1975 BUDGET

RESEARCH ACTIVITIES

	Diagnosis and Reference	Inactivated Vaccine	Modified Live Virus Vaccine	Epidem. Studies	General Investigat.	Total	% of Total
<u>Personal Services and Allowances</u>							
International Staff	72,231	72,530	83,619	34,167	37,164	299,711	28.2
Local Staff	114,070	194,896	139,490	104,293	99,078	651,827	61.3
<u>Duty Travel</u>	3,118	4,662	6,984	3,030	2,450	20,244	1.9
<u>Supplies and Equipment</u>	10,035	46,484	13,480	5,798	9,464	85,261	8.0
<u>Contractual Services</u>	1,410	1,410	1,410	1,410	1,410	7,050	0.6
	200,864	319,982	244,983	148,698	149,566	1,064,093	
% of Total	18.7	30.2	23.0	14.0	14.1		100.0

PAN AMERICAN FOOT-AND MOUTH DISEASE CENTER

1975 BUDGET

FIELD ADVISORY SERVICES

	Regional Advisers	Advisers at Headquarters	Total	% of Total
<u>Personal Services and Allowances</u>				
International Staff	248,947	175,876	424,823	83.9
Local Staff	-	37,475	37,475	7.4
<u>Duty Travel</u>	23,695	18,224	41,919	8.3
<u>Supplies and Equipment</u>	-	1,650	1,650	0.4
Total	272,642	233,225	505,867	
% of Total	53.8	46.2		100.0

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

BREAKDOWN OF THE BUDGET FOR 1976

REGULAR BUDGET	Office of Director	Research Activities	Training Activities	Field Advisory Services	Administrat. Services	Common Services	Organizat. Meetings	Total	% of Total
Personal Services and allowances	125,102	1,224,394	163,403	522,500	141,870	-	-	2,177,269	82.6
Duty Travel	7,552	28,225	4,332	60,906	-	-	22,778	123,793	4.7
Fellowships	-	-	64,716	-	-	-	-	64,716	2.4
Short-Term Consultant	-	-	4,000	-	-	-	2,000	6,000	0.3
Supplies and Equipment	-	98,050	13,130	1,900	4,530	50,000	-	167,610	6.4
Contractual Services	-	8,110	11,140	-	1,900	59,230	9,000	89,380	3.4
Publications	-	-	4,430	-	-	-	-	4,430	0.2
Total	132,654	1,358,779	265,151	585,306	148,300	109,230	33,778	2,633,198	
% of Total	5.0	51.6	10.2	22.2	5.6	4.1	1.3		100.0

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

BUDGET

1 January-31 December 1976

<u>Office of the Director</u>		<u>132,654</u>
Salaries and Allowances		125,102
Professional Staff (2)		
Director, P.6		
Administrative Officer, P.4		
Local Staff (3)		
Duty Travel		7,552
<u>Research Activities</u>		
Salaries and Allowances		1,358,779
Professional Staff (11)		1,244,394
Chief of Immunology Laboratory, P.5		
Chief of Virology Laboratory, P.5		
Serologist, P.4		
Research Officer, P.4		
Biochemist, P.4		
Immunologist, P.4		
Research Officer, P.4		
Research Officer, P.4		
Serologist, P.4		
Technical Officer, P.1		
Technical Officer, P.1		
Local Staff (118)		
Duty Travel		28,225
Supplies and Equipment		98,050
Supplies	86,550	
Equipment	11,500	
Contractual Services		8,110

1976 BUDGET (Continued)

<u>Training Activities</u>	265,151
Salaries and allowances	163,403
Professional Staff (3)	
Chief of Training Activities, P.4	
Technical Translator, P.2	
Technical Publications Officer, P.2	
Local Staff (9)	
Duty Travel	4,332
Short-Term Consultants	4,000
Fellowships	64,716

	<u>Period</u>	<u>Stipends</u>	<u>Travel</u>
<u>Residentes</u>	72 months	21,600	12,000
24 fellows from: Argentina (1), Bolivia (2), Brazil (2), Chile (1), Colombia (2), Cuba (1), Dominican Republic (1), Ecuador (2), Guatemala(1), Haiti (1), Jamaica (1), Panama (1), Paraguay (2), Peru (2), Uruguay (1), Venezuela (2), United States of America (1).			

Seminars

In Rio de Janeiro, Brazil,	21 days	6,930	3,600
11 fellows from: Argentina (1), Brazil (2), Paraguay (1), Bolivia (1), Ecuador (1), Colombia (1), Venezuela (1), Peru(1), Chile (1), Uruguay (1).			

1976 BUDGET (Continued)

	<u>Period</u>	<u>Stipends</u>	<u>Travel</u>
Seminar en Panama	21 days	7,056	3,000
12 fellows from: Nicaragua, Guatemala, Panama, El Salvador, Honduras, Costa Rica, Cuba, Haiti Dominican Republic, Jamaica, Guyana, Surinam			
Seminar en Rio de Janeiro, Brazil	21 days	6,930	3,600
11 fellows from: Argentina (1), Brazil (2), Paraguay (1), Bolivia (1), Ecuador (1), Colombia (1), Venezuela (1), Peru (1), Chile (1), Uruguay (1)			
Publications			4,430
Supplies and Equipment			13,130
Supplies		11,130	
Equipment		2,000	
Contractual Services			11,140
<u>Advisory Services</u>			
Salaries and Allowances			585,306
Professional Staff (13)			522,500
Chief of Field Services, P.5			
Veterinarian, P.4			
7 Country Consultants, P.4			
Administrative Consultant, P.4			
Biostatistician, P.4			
Vaccine Consultant, P.4			
Statistician, P.4			
Local Staff (8)			

1976 BUDGET (Continued)

Duty Travel		60,906
Supplies and Equipment		1,900
Supplies	1,900	
<u>Administrative Services</u>		148,300
Salaries and Allowances		141,870
Local Staff (11)		
Supplies and Equipment		4,350
Supplies	2,530	
Equipment	2,000	
Contractual Services		1,900
<u>Common Services</u>		109,230
Supplies and Equipment		50,000
Supplies	30,000	
Equipment	20,000	
Contractual Services		59,230
<u>Meetings</u>		34,000
Technical Council Meeting		34,000
Duty Travel	12,778	
Per Diem	10,000	
Short-Term Consultants	2,000	
Interpreters	6,000	
Local transportation, printing, and general services	1,500	
Secretariat Personnel	1,500	
Total		2,633,198
Funds Available		2,256,786
Déficit		- 376,412

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

1976 BUDGET

RESEARCH ACTIVITIES

	Diagnosis and Reference	Inactivated Vaccine	Modified Live	Epidem. Studies	General Investigat.	Total	% of Total
<u>Personal Services and Allowances</u>							
International Staff	86,338	86,696	99,952	40,840	44,423	358,249	26.3
Local Staff	151,575	258,977	185,355	138,583	131,654	866,145	63.7
<u>Duty Travel</u>	4,346	6,492	9,738	4,233	3,415	28,225	2.2
<u>Supplies and Equipment</u>	11,540	53,457	15,502	6,667	10,884	98,050	7.2
<u>Contractual Services</u>	1,622	1,622	1,622	1,622	1,622	8,110	0.6
TOTAL	255,422	407,244	312,169	191,945	191,999	1,358,779	
% OF TOTAL	18.8	29.9	22.9	14.2	14.2		100.0

PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER

1976 BUDGET

FIELD ADVISORY SERVICES

	Regional Advisers	Advisers at Headquarters	Total	% of Total
<u>Personal Services and Allowances</u>				
International Staff	247,912	203,657	451,569	77.1
Local Staff	-	70,931	70,931	12.1
<u>Duty Travel</u>	31,122	29,784	60,906	10.4
<u>Supplies and Equipment</u>	-	1,900	1,900	0.4
TOTAL	279,034	306,272	585,306	
% OF TOTAL	47.6	52.4		100.0



PAN AMERICAN HEALTH ORGANIZATION



WORLD HEALTH ORGANIZATION

VIII INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON FOOT-AND-MOUTH DISEASE AND ZOOSES CONTROL

GUATEMALA, 16-19 APRIL 1975

Provisional Agenda Item 8

RICAZ8/18 (Eng.)
ADDENDUM I
1 April 1975
ORIGINAL: ENGLISH

PROGRAM AND BUDGET OF THE
PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER
FOR 1975 AND PROPOSED ESTIMATES FOR 1976

PROPORTION OF CONTRIBUTIONS OF MEMBER GOVERNMENTS OF PAHO FOR THE FINANCING
OF THE PAN AMERICAN FOOT-AND-MOUTH DISEASE CENTER*

Country	%	1975	<u>Tentative</u>
		\$	1976
			\$
Argentina	7.40	141,245	155,163
Barbados	0.08	1,527	1,677
Bolivia	0.19	3,627	3,984
Brazil	7.40	141,245	155,163
Chile	1.35	25,768	28,307
Colombia	1.54	29,394	32,291
Costa Rica	0.19	3,627	3,984
Cuba	1.06	20,232	22,226
Dominican Republic	0.19	3,627	3,984
Ecuador	0.19	3,627	3,984
El Salvador	0.19	3,627	3,984
Guatemala	0.29	5,535	6,081
Haiti	0.19	3,627	3,984
Honduras	0.19	3,627	3,984
Jamaica	0.19	3,627	3,984
Mexico	8.27	157,850	173,405
Nicaragua	0.19	3,627	3,984
Panama	0.19	3,627	3,984
Paraguay	0.19	3,627	3,984
Peru	0.67	12,788	14,049
Trinidad and Tobago	0.19	3,627	3,984
United States of America	66.00	1,259,755	1,383,888
Uruguay	0.58	11,070	12,161
Venezuela	3.08	58,788	64,581
	<hr/>	<hr/>	<hr/>
	100.00	1,908,721	2,096,800

Other Member and Participating Governments

Bahamas	0.06	1,144	1,258
Canada	6.81	129,983	142,792
France	0.19	3,627	3,984
Guyana	0.19	3,627	3,984
Kingdom of the Netherlands	0.19	3,627	3,984
United Kingdom	0.19	3,627	3,984
		<hr/>	<hr/>
	TOTAL	2,054,356	2,256,786
		=====	=====

*In the funds of the PAHO Regular Budget there are included the corresponding contributions of the ministries of agriculture for the Pan American Foot-and-Mouth Disease Center. These contributions, included in the PAHO Regular Budget and approved by the Directing Council of PAHO (or the Pan American Sanitary Conference), form an integral part of the quota assessment of each Member Government.

For the information of those Member Governments who decide, as a matter of internal administration, to allocate to the Ministry of Agriculture the quota for support of the Pan American Foot-and-Mouth Disease Center, this is the schedule showing the amount by country.

VIII INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON
FOOT-AND-MOUTH DISEASE AND ZONOSSES CONTROL

GUATEMALA, 16-19 APRIL 1975

Provisional Agenda Item 7RICA28/17 (Eng.)
CORRIGENDUM
1 April 1975 .PROGRAM AND BUDGET OF THE PAN AMERICAN ZONOSSES CENTERCorrigendumPage 48, where it reads:

I.	<u>Office of the Director</u>	<u>106,834</u>
a.	Salaries and allowances	102,467

it should read:

I.	<u>Office of the Director</u>	<u>106,534</u>
a.	Salaries and allowances	102,167

Page 50, where it reads:

Total	2,029,526
	=====
Funds available	1,936,008
Deficit	93,518

it should read:

Total	2,029,226
	=====
Funds available	1,936,008
Deficit	93,218



PAN AMERICAN HEALTH ORGANIZATION



WORLD HEALTH ORGANIZATION

VIII INTER-AMERICAN MEETING AT THE MINISTERIAL LEVEL ON FOOT-AND-MOUTH DISEASE AND ZOONOSSES CONTROL

GUATEMALA, 16-19 APRIL 1975

Provisional Agenda Item 7

RICAZ8/17 (Eng.)

5 March 1975

ORIGINAL: ENGLISH-SPANISH

PROGRAM AND BUDGET OF THE
PAN AMERICAN ZOONOSSES CENTER FOR 1975
AND PROPOSED ESTIMATES FOR 1976

INTRODUCTION

Experience gained from the evaluation of the 10 Year Health Plan for the Americas, originally adopted at Punta del Este in 1961, has permitted the establishment of a second 10 Year Health Plan for decade 1971-1980.

Health has been identified as an essential element within the developmental process, and as such, special attention is being paid to this component as a most important factor in the economic advance of countries. Economic indices used earlier have been superceded by other indices which now place human well-being aspects as they are influenced by a rational and planned national income. There is no doubt that the economy is most influenced in any society or country when people are protected from disease.

The control of zoonoses plays a particularly important role in this new concept of human health. Livestock represents one of the most substantial means of providing animal protein in human nutrition, always on the basis that the livestock industry may continue to be developed on the basis of scientific advances. These should not only be related to animal disease, but also to all aspects affecting rearing and production husbandry, nutrition and selection.

The Pan American Health Organization through the Pan American Zoonoses Center, has carried out a progressive task of technical achievements related to animal health, and has continually placed such skills at the service of the countries of the continent. The objective of such action on the part of the Center is that countries may develop such veterinary infrastructure and have the necessary human resources as may be necessary for the development of animal health programs.

With the creation of national programs of animal health, these objectives acquire new and favorable dimensions. In the activities designed to attain these objectives, the Center has provided technical assistance in the preparation of the programs concerned, many of which have now been submitted for consideration of financial support by international credit agencies. Even though the programs have been directed for the control of specific diseases, the new assignment of such funds favor the consolidation of advanced technical services of countries. These are considered absolutely necessary for the support of the many livestock development plans being promoted in the Americas. In addition, all efforts in improving planning is directly concerned with the formation and preparation of national staff. It is in this field that the Center is directing its greatest effort and considers its most important mission.

Positive advances in the countries are determined by such action. Countries have been able to define policy based on their plans of animal health, in which the basic planning concepts are well established, supported by serious studies previously carried out on the actual reality of the situation, together with such plans as are considered necessary to achieve the most effective results.

For the purpose of assisting these new incentive approaches, the Pan American Health Organization through its Pan American Zoonoses Center, has organized annual courses in Planning in Animal Health. Plans have already been made to hold the fifth such course during 1975.

The reception and analysis of data, from the standpoint of assisting in the attainment of program objectives, correspond to what has become to recognized as information for action. The initial stimulus for the formation of human resources in this field of planning in animal health can best be appreciated when it is learned that 10 Latin American countries have constituted program and information units within the technical services of the animal health departments.

Statistics in the livestock area should be improved in the countries of the Americas if dynamic information is to be used in baseline operations of the program. With this, it will be possible to evaluate activities in all phases of the program and using data properly, real adjustment can be made in the program in operation.

The Pan American Zoonoses Center continues its essential tasks, some of the more important of which are :

1. Training of Professionals of the technical services of Animal Health units in the continent.
2. Definitive technical assistance directed towards uniformity of standards in the production of diagnostic reagents and in the production and control of biological material. The reference services of the Center provide all material by the laboratories of the countries.
3. Technical assistance and collaboration in the zoonoses control programs. In this regard the Center is entering into direct relationships with animal health programs in several countries, with whom the Center has entered into formal agreement. This will ensure the most effective means of attaining the health goals concerned.

In addition the Center has assigned international staff permanently to the field operational areas, to assist in further development of these programs. It is considered opportune to mention that such efforts are

not limited to provide attention exclusively to such countries but are planned to permit the attendance of staff from all countries and so provide for multinational advantage.

Agreements signed between the Center and individual countries open the door for workers of other countries. As a consequence dynamic teaching and practical experience is brought to bear on training of staff directly in programs of control of animal disease.

4. Technical information - the lack of such information represents in the Americas one of the limiting factor which is an obstacle to further livestock development. The high cost of such publications and the delayed transmission of technical information which should otherwise increase the capacities of the technical services have made it necessary for the Center to provide up to date information in all areas of research and technical aspects of animal health.

All of this is accomplished through the Zoonoses Bulletin, and the monthly bulletins on rabies and encephalitis surveillance which by now have been extended to include brucellosis, tuberculosis, leptospirosis, hydatidosis and food borne diseases. In addition the Center has prepared and distributed a series of technical notes, manuals, monographs and visual aid material for transmission to different countries.

5. Scientific research carried out by the Center. This is determined and directed to health problems whose solution has not yet been found in our continent. The research work implies special and specific studies of diseases which are considered serious in human health and which have significant economic repercussion for livestock.

It is sufficient to make mention of the important advances on immuno-diagnostic aspects of hydatidosis in man, and the tests which have been made to facilitate the diagnosis of brucellosis in man as well as in animals.

The physical area in which the Center carries out its work in Ramos Mejia, Buenos Aires, is one shared by a general hospital. This has already been considered as insufficient for the carrying out of the regional objectives of the Center. The Government of the Republic of Argentina, through its Ministries of Public Health and of Agriculture and Livestock has studied the possibility of affording the Center improved facilities in its own building duly designed for the carrying out of the many duties and responsibilities acquired by the Center with countries in the Americas.

The initiative of the Government of Argentina to find a permanent physical facility for the Pan American Zoonoses Center is very much appreciated. At the same time we thank the authorities of Public Health and of Agriculture of Argentina, and indeed, of all other countries, for their valiant and permanent collaboration.

FOLLOW UP ON RESOLUTIONS ADOPTED
AT THE VII INTER AMERICAN MEETING
ON FOOT AND MOUTH DISEASE AND OTHER ZOONoses

Trinidad-Tobago, 17-20 April, 1974

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RESOLUTION IX

CYSTICERCOSIS AND TENIASIS

This Resolution recommends that PAHO provide support in training of meat inspectors and to increased coordination in research and so provide for improved knowledge of this widespread disease.

During 1975, the Center has made plans for a project involving standardization and evaluation of immunological diagnosis of human and animal cysticercosis. For this purpose the Center has requested sera of confirmed cases of this zoonoses from countries affected by this disease. Once these sera have been obtained, studies will begin on finding an effective technique for diagnosis.

RESOLUTION XV

EPIDEMIOLOGICAL SURVEILLANCE OF EQUINE ENCEPHALITIS

This Resolution requests PAHO to continue the development of epidemiological surveillance of equine encephalitis in the Americas, through the Pan American Zoonoses Center.

Though the information on which encephalitis surveillance is based, has been improved throughout the two and a half years of operation, it should be recognized that the service has not reached maximum efficiency; reports are received very late at the Center, and several countries do not even send reports. During 1973 for example, no information was received from 5 countries. One of these countries covers more than 40 % of the area of Latin America and comprises 19 % and 33 % of the human and equine populations respectively.

Of a total of 408 monthly reports which should have been sent to the Center, only 254 were received. Delay in receipt of the monthly reports was also an adverse factor in the efficient functioning of the surveillance service. The average delay for all countries was 4.6 months.

The following observations can be made based on data obtained through the operation of the surveillance.

It should be borne in mind that in many cases, diagnoses of equine encephalitis are made on clinical or etiological grounds, if this latter term can be used; when so used, its justification is on the history or simultaneity of outbreaks or because the area in which cases are recognized is close to other zones in which the virus had already been previously identified.

Even though the geographical distribution of outbreaks caused by the three viruses of equine encephalitis is known, there are still vast areas where cases and outbreaks in equines occur, without data on the causal agent or on epidemiological characteristics. This aspect is obviously due to the fact that in some countries there are neither epidemiological facilities nor adequate diagnostic laboratories.

It should also be borne in mind that encephalitis vaccines are being used indiscriminately in the equine population. The unnecessary use of such a product may well complicate the situation as in the case that the virus or the viruses used in the preparation of the vaccine are not active in the area. Even more dangerous is the potential risk of introducing a virus into a new area, with attendant possible confusion for the future when virus isolations or serological surveys are carried out.

The problems concerned in the use of encephalitis vaccines, the subject of repeated editorials of the Surveillance service, were presented at an international conference on equine encephalitis vaccines, held under the auspices of PAHO in Maracay, Venezuela, 12-17 August 1974. The final recommendations of this meeting, which included standards of production and control of these vaccines, are being published by the Pan American Zoonoses Center. It is hoped that these standards will be adopted by the countries which produce vaccines, and so ensure that safe and effective products are available.

RESOLUTION XVI

PUBLICATION OF INFORMATIVE BULLETIN

This recommendation requests that PAHO, through the Pan American Zoonoses Center, publish annual informative bulletins containing a review of the epidemiological status of brucellosis, hydatidosis, leptospirosis, tuberculosis and food-borne diseases in the Americas.

During 1974, the Center prepared and published the first number of annual informative bulletins on brucellosis, tuberculosis, hydatidosis, leptospirosis and food-borne diseases. This first number included data on various publications and other reports submitted by countries to the Center. In addition the bulletin included maps and other items of interest to professionals in human and animal health fields, as well as to research workers at university and other institutions.

In the second issue of these bulletins it is hoped to collect data on prevalence of these zoonoses during 1974. With this purpose in mind, instruction forms for the data requested have already been sent to countries.

The foregoing constitutes an initial effort to consolidate the data which is at present dispersed. In this way, it is hoped to have an overall view of the status of zoonoses in the Americas. The final objective will be to transform these bulletins into really useful tools of epidemiological surveillance. It is recognized that this is a most ambitious project of difficult execution, and one which will demand years of common effort between the countries and PAHO.

RESOLUTION XVII

EPIDEMIOLOGICAL SURVEILLANCE ON RABIES

This requests that the Pan American Zoonoses Center continues the rabies epidemiological surveillance service which has been shown to be useful in understanding the trend of this disease, for evaluating the programs in operation, in improving inter-country coordination, and also for the attainment of the goals of the 10-Year Health Plan for the Americas.

This service of the Center has now been in operation for over 5 years and is now firmly established. It receives information from 30 reporting areas forming the system.

Principal achievements during 1974 :

In compliance with instructions drawn up by countries, it was decided that, as from July, to specify that cases of rabies in wildlife appearing in the reports should be on the bases of laboratory confirmation.

A study has been prepared of information obtained during the past 5 years on human rabies, post vaccinal neurological complications in man and rabies in animals.

WHO - World Survey of Rabies, 1973: as in previous years, the Center received Questionnaire No. 15 in English and French. This was translated into Spanish and copies distributed to countries of the Region. In addition, the Center received the results of the survey for the year 1972 in both English and in French, together with the Addendum for 1971. All of this material has been distributed to countries.

Delayed reports of the opinion surveys were received as well as those referring to the incidence of urban canine rabies and production of canine rabies vaccine. The telephonic reporting system in Argentina continued. A new reporting unit was added to the system, and data is being obtained in a complete and timely manner.

RESOLUTION XVIII

PRODUCTION OF RABIES VACCINE

This requests PAHO to provide all possible support to ensure the regular provision of rabies vaccine for animal use and assist in the establishment of regional production laboratories for the benefit of those countries where the local production of vaccine is feasible and convenient.

The Center has continued to provide maximum support to countries in the production and control of rabies vaccines.

PAHO continued its efforts for improving the production of rabies biologicals in the Americas. During recent years, the following may be cited :

a) Brazil : An agreement was signed regarding the concentration of production at a limited number of regional laboratories, with more effective quality control and increased production volume.

b) Colombia : The present agreement permitted improving the quality and quantity of vaccines for animal use, and for the first time in the history of that country, there was, at the end of 1974, a surplus of over 300,000 doses.

c) Venezuela : In addition to technical assistance, a vaccine specialist was designated for the public sector. This has permitted the production of rabies biologicals to be re-initiated, after having been at a standstill since 1968.

d) Ecuador : A specialist in vaccine production was designated and has begun his duties in Guayaquil.

Towards the end of 1974, the Center contracted the services of a specialist in large scale biologic production and this will contribute to the improvement in quantity and quality of vaccines, sera, reagents, etc.

ACTIVITIES OF THE
PAN AMERICAN ZOONOSES CENTER
DURING 1974

ACTIVITIES OF THE PAN AMERICAN ZONOSSES CENTER DURING 1974

The technical assistance provided to countries by the Center during 1974 which will continue through 1975 and beyond, is represented by the various activities carried out in support of the Animal Health Services of the Ministries of Agriculture and those of the Public Health Services of the Ministries of Health. Such activities are directed fundamentally, to the preparation of zoonoses control programs and strengthening of those programs already in operation.

The year 1974 has witnessed and extraordinary activity by countries in formulating feasibility studies for the future establishment of zoonoses control programs.

The collaboration of the Center was required on many occasions and this was provided in keeping with the staff and financial resources available to the Center during the period. This preparatory stage, carried out in various countries makes it possible to consider that within the 10 year period, the goal might be realized of establishing the necessary programs of control of those zoonoses which have the greatest repercussion in economic and human health fields.

The collaboration of the Center with the Ministries of Agriculture were directed principally to supporting the establishment of brucellosis, tuberculosis and bovine rabies control programs. In the public health sector, the activities of the Center were mainly in the field of control of canine rabies and prevention of human rabies, in addition to collaboration in improved food hygiene and in perfecting diagnostic techniques in human hydatidosis.

The majority of countries are in the stage of planning and initiation of programs of control, and it is anticipated that for 1975 and subsequent years, such collaboration from the Center will necessarily have to be increased, particularly with regard to the steps required to enable the program to be defined and carried out at the national level. In addition the Center must collaborate in periodic evaluation and consolidation of such programs.

The rapid evolution of scientific and technical knowledge together with changes derived from program methodology and control, require constant attention, if such knowledge is to be applied. In this way it will be possible to make best use of available resources and apply the results of improved experience to the control of zoonoses. The foregoing is complemented at this time, with the assistance of external financial credit obtained by various countries and project requests from other countries. Such a system establishes control of investments and economic returns associated with administrative units of the programs themselves.

There also arises, the need to define a degree of multinational coordination regarding standards, methods and regulation within the zoonoses control area. In this way, this will facilitate the most appropriate exchange of technical and scientific information, associated with a better definition of future staff training needs. Within this framework, economic and health aspects related to importation and exportation of animals, products of animal origin and biological products, should be incorporated in a single organic unit.

The Pan American Zoonoses Center is constituted precisely to mobilize its best technical resources and so collaborate in the progressive development of the livestock industry and to safeguard all aspects relating to animal health.

TECHNICAL ASSISTANCE

In keeping with the above, the Center, during 1974 participated directly with the technical assistance services of countries.

The Center collaborated in the preparation of the following projects of animal health programs : Bolivia - brucellosis and bovine rabies; Chile - brucellosis and tuberculosis; Paraguay - brucellosis, bovine rabies and tuberculosis; Ecuador - brucellosis; Uruguay - brucellosis and tuberculosis. These countries intend to present projects requesting financial assistance from Inter American Development Bank within the areas indicated above.

Collaboration of the Center has been provided to Brazil in the preparation of a national program for brucellosis and bovine rabies. In the state of Rio Grande do Sul, the Center continued its participation in the animal health demonstration program. A consultant was assigned to this program, stationed at Porto Alegre.

Similarly the Center assisted Venezuela in the reformulation of the national animal health program. Different aspects of the ongoing programs in Dominican Republic, Mexico and Colombia were the subject of the Center's assistance.

Technical advisory services were provided through direct contact with the respective services and through visits to the Center by national staff officers. Veterinary advisors at the different Zone and other Offices of the Pan American Health Organization have also provided constant collaboration to countries.

It is considered important to indicate that in 1974 requests for pre-project funds of IDB were completed in the case of Panama, Costa Rica, Nicaragua, El Salvador and Guatemala. These funds will permit the development of feasibility studies and preparation of animal health

projects with emphasis on zoonoses.

Directly and indirectly, the Center supported these requests. It is hoped that by 1975, all such countries have completed the project requests, and that the Center will provide the collaboration required in regard to zoonoses aspects.

In Argentina, the Center collaborated with the National Commission on Zoonoses and with the State Health Department of Neuquen Province in the evaluation of the hydatidosis control program, being carried out. The Center also participated in the preparation of a health education program in hydatidosis which it is anticipated will be carried out at the national level after trial in selected areas.

The Center also collaborated in the design of sample surveys for determining future activities and evaluation in brucellosis control in Paraguay and in Rio Grande do Sul, Brazil.

With regard to food hygiene, the Center provided diagnostic and epidemiologic collaboration regarding studies of various problems arising out of food contamination in Argentina, Uruguay, Guatemala and Brazil.

On the subject of canine rabies it is important to indicate that considerable advance has been achieved in control programs in Colombia, Peru, Brazil, Nicaragua, Ecuador and Honduras. During 1974 the Center provided technical advisory services related to different aspects of these programs.

LABORATORY SERVICES AND PROVISION OF BIOLOGICALS

It is obvious that in control programs, only antigens and vaccines of standard and duly controlled effectiveness should be used. The Center, for this reason, has continued to provide with all due importance, reference services on diagnosis, production and control of biologics. Bearing in mind that various new programs will soon be added to those already in operation, and that demand for such assistance in this field will increase considerably, the Center added to its staff, in 1974, a consultant in the production of biologicals for human as well as animal use. This will permit of increased technical assistance to the laboratories of countries.

During 1974, the Center provided assistance to Argentina, Mexico, Brazil, Nicaragua, Colombia, Chile, Uruguay and Paraguay on the installation, functioning, supply of equipment and laboratory regulations. Staff of the Center made visits to countries to observe the functioning of laboratories in areas of diagnostic capability in brucellosis, rabies,

equine encephalitis, hydatidosis and food microbiology, and to review vaccine production. Assistance was also provided in studies being carried out by laboratories of the International Center for Tropical Agriculture (CIAT) in Colombia. Technical advisory services were also provided to laboratories in Barbados, Jamaica and other countries.

During the year, quality control tests were performed on 30 samples of rabies vaccines from 9 countries, and on 10 samples of brucellosis vaccines from 4 countries and 9 samples of antigens from 4 countries. In addition a total of 31 different samples of tuberculosis vaccines, BCG (liquid and lyophilized). Of these, 25 were from the Argentina.

The Center received a large number of strains of brucella, leptospira, mycobacteria, salmonella and other microorganisms for identification and typing. Considerable numbers of serum samples were received for research activities being carried out in collaboration with other countries.

With the purpose of improving diagnostic capability in hydatidosis, the Center began an immunodiagnostic service for hospitals in Argentina. This will be extended to other countries which request. During 1974, the Center collaborated with 36 hospitals, the majority of which are located in the Federal Capital and greater Buenos Aires area. Collaboration was provided to 2 rabies Centers in Argentina, who sent a total of 579 brains for rabies confirmation to the Center.

In addition the Center provided assistance in surveys carried out in the field by countries. In studies on leptospirosis, the Center received serum samples from Argentina, Barbados, Bolivia, Curaçao, St. Maarten, and Guyana and for studies in brucellosis, from Argentina, Brazil and Colombia, etc.

Biological material and reference strains were supplied to 20 countries as shown in the attached Table. It is of interest to mention several antigens used in diagnosis of brucellosis were sent to countries. The amount sent (10 liters) is sufficient for about 130,000 diagnostic tests. Details of the services provided can be seen in attached Tables 1, 2 and 3.

TRAINING AND TECHNICAL INFORMATION SERVICES

During 1974 emphasis was placed on training of technical and professional staff of official agencies in Latin America, with special reference to planning and field operations, diagnostic procedures, and production and control of biologicals. The demand for such training by countries has been met, using the maximum available capacity of the facilities of the Center.

Training was thus provided for periods varying from 2 months to 1 year, to 54 professionals from 18 countries. Details of the subjects studied can be found in Table 4. The training fields so detailed reflect the activities being carried out, or due to be developed in terms of zoonoses control programs.

Argentina, as host country, sent 17 candidates for individual training in immunodiagnostic aspects of hydatidosis and in brucellosis, food microbiology, tuberculosis and rabies diagnosis, as well as in the Course on Planning in Animal Health.

Of the 54 fellows received at the Center, several studied in more than one principal field. Thus 8 received training in production and control of rabies vaccines and in laboratory techniques of rabies diagnosis; 7 in immunodiagnostic aspects of hydatidosis; 9 in diagnosis, production and control of brucellosis vaccines; 8 in food microbiology; 4 in diagnostic techniques and PPD production; 2 in diagnosis of leptospirosis; 1 in ecology and vampire bat control; 2 in general aspects of diagnosis and field aspects of zoonoses. A total of 17 fellows participated at the IV Course on Planning in Animal Health.

It should be borne in mind that during 1974 a total of 21 Courses and Seminars were held in countries with substantial attendance. The Center considers the holding of such courses and Seminars as important in intensifying training of human resources, and thus assigned its staff to the countries where such activities were held, to present the theoretical and practical classes concerned. Details of this activity can be seen in Tables 5 and 6.

It is estimated that during 1975 and future years an increased demand for training at the Center will arise. It is also anticipated that the Center's involvement in courses and seminars will also be augmented. This increase is due to the fact that there are now more countries with control programs, and the projects themselves include definite components of staff training.

During 1974 a survey was carried out to determine the use made of training capability in the case of 162 fellows who trained at the Center during 1967-1973. A total of 83 % of such students replied to the survey questionnaire. It was found that 80 % were still working at official units and that of these 90 % were working in the field in which they had undertaken training. Even though these percentages indicate a most acceptable level of advantageous use of fellows, the Center recognizes that it could well be improved upon.

Course - Planning in Animal Health

At the request of countries, the Pan American Zoonoses Center, in collaboration with the Pan American Foot and Mouth Disease Center, held

the IV Course on Planning in Animal Health. At this course a total of 17 veterinarians from 11 countries in Latin America participated. The completion of this course permits the incorporation of a new group of professionals to the planning units already in existence or which will shortly be established in countries with programs of animal health. With the graduation of these 17 professionals, a total of 74 veterinarians from 18 countries have now been trained in planning techniques. There is every basis for hoping that this type of training will significantly add to the development of effective programs of zoonoses control. During 1975 the V Course will be held with possibly 17 participants, and it is expected that by 1976 all countries will each have available to them, at least one professional trained in this field. It is planned to carry out an evaluation and review of the course during 1975, and so define the changes which may be required for the holding of future courses, on the basis of experience gained and in the light of new needs which are being recognized in the operation of animal health programs. In this aspect, the Center will examine the possibility of holding national short-term courses, as well as short-term international courses for officers at high administrative and operational levels.

Technical information

Through the publication and distribution of a variety of printed matters, the Center makes provision for sending up to date information to veterinarians and public health officers, on subjects of interest in research, teaching, control programs, diagnosis, production and control of biologicals.

During 1974, in addition to the 3-monthly publication of the Zoonoses Bulletin, and the monthly bulletins on the Rabies and Encephalitis Epidemiological Surveillance in the Americas, the Center issued bulletins on brucellosis, tuberculosis, leptospirosis, hydatidosis and food-borne diseases. With the preparation and publication of this material, the Center thus complied with the respective recommendations of RICAZ VII.

The Center reports with great satisfaction the most enthusiastic welcome given to such publication at all levels.

In addition to these publications in English and Spanish, the Center has published an increasing number of monographs, technical notes, and manuals, distributed to the agricultural and health sectors of countries. For 1975 and future years, the Center has planned to continue the preparation and publication of a substantial number of printed materials and thus maintain a continuing flow of information on scientific advances standards and techniques. Experience has shown that such material is of great assistance to those officers working in zoonoses control programs or who are involved in teaching or research aspects of this field.

RESEARCH ACTIVITIES

RESEARCH ACTIVITIES

In keeping with its objectives of promoting research in countries during 1974, the Center continued the development of various projects of direct application in the field. Such research is in the area of improved diagnostic techniques and treatment, and control of vaccines, sera and field techniques as well as for better understanding of epidemiological aspects of the zoonoses in countries. The 54 projects which were being carried out in 1974 were reviewed by the Scientific Advisory Committee of the Center, during the period 3 to 9 November. The report of this Committee is being presented to this Meeting.

The more important results of these studies are indicated as follows :

HYDATIDOSIS

During the course of research into sensitivity and sensibility of immunodiagnostic tests for hydatidosis in man it has been found that the only technique which does not present positive reactions with non hydatid patients is the immunoelectrophoresis test, based on the presence of arc 5 as a criterion of positivity.

On the other hand, the high degree of sensitivity and specificity of the latex agglutination test and its excellent correlation with the immunoelectrophoresis test recommends it as a screening test for the examination of large numbers of sera. Studies carried out at the Center have demonstrated that a positive latex test leads to a suspect hydatidosis case, but the immunological confirmation is obtained only through immunoelectrophoresis, since up till now, no false positives have been found using this test.

On the basis of these studies, it is recommended that, in collective medical examinations and in sero-epidemiological studies in hydatidosis, the latex test be used for screening. The sera of all persons which are positive to this test should be examined by immunoelectrophoresis to attempt to confirm the disease on immunological grounds.

Studies carried out have shown that this serological focus for the detection of carriers of hydatid cysts by immunological methods in endemic areas, is superior to the intradermal Casoni reaction.

The high non-specificity of the Casoni test and the fact that this test is an expression of the allergic response of the carrier indicates that it is not the ideal screening test to immunologically confirm hydatidosis by immunoelectrophoresis, since this latter is measured by circulating antibody.

Up till now, it has not been found that these tests are useful in the diagnosis of animal hydatidosis. This can only be detected at autopsy or at meat inspection in slaughterhouses and packing plants. Based on the results of research carried out at the Center, a monograph titled "Techniques for Immunodiagnostic Diagnosis of Human Hydatidosis" has been prepared and published. Distribution of the monograph has been made specially to those workers in the field of hydatidosis in countries where the disease is known. It is expected that now this information is available, traditional techniques which had been in general use, will be superceded by up-to-date and more recommended procedures.

Other studies carried out at the Center are concerned with determination of the viability of cysts. It was shown that the formation of protoscolices was of little use, given the irregularity of the phenomenon, and the great length of time required for their occurrence. Equally unsatisfactory were the criteria based on the viability of protoscolices, or on the mobility of flame cells of these, since the viability of the protoscolices did not imply the absence of irreversible damage in some other part of the cyst which would eventually be a threat to its survival. Later, studies showed the presence of flame cells in the germinal membrane of the cyst. This constituted a more reliable index of the viability of the cyst, but not the best such index, since it could be argued that alteration of other types of cells in the germinal layer of the cyst were not necessarily excluded. All of these criteria of viability have now been substituted by a single criterion based on the macroscopic aspect of the cyst after transplantation in the peritoneal cavity of the gerbil. Live cysts maintain their swollen appearance and morphological integrity after transplant.

Dead cysts are characterized by loss of hydatid fluid and the rupture of the germinal layer and appear flattened in the peritoneal cavity of the gerbil.

Studies carried out at the Center have permitted the development of an experimental model which will allow maintaining hydatid cysts in vitro. This model is of use for research into the effects of physical, chemical, immunological and pharmaceutical agents in regard to the viability of hydatid cysts. On the other hand it has been found that hydatid cysts survive for at least 2 years after transplant to homologous and heterologous hosts.

BRUCELLOSIS

The Center continues to carry out applied research directed principally to resolve problems which face countries in the development of their brucellosis control and/or eradication programs. Research into brucellosis diagnosis in animals is oriented towards the study of serological studies which are significantly sensitive and specific.

At the same time, such tests should be simple and of low cost, thus permitting their widespread application in control and eradication programs. Similarly, the Center has developed techniques for the production of antigens and vaccines by methods which give high yields at lower cost.

Studies continue on the evaluation of sensitivity and specificity of the different serological tests in vaccinated and unvaccinated animals, with the object of selecting the most appropriate test. With regard to human brucellosis, in the majority of countries of the Region, there is no uniformity in the use of diagnostic methods and in the criteria used to interpret the results. Most of the reagents used in diagnostic techniques do not comply with established standards, and are the source of many errors. Research is being carried out to study the relative value of serological tests in acute and chronic brucellosis through the examination of a significant number of patients.

On the subject of prevention and control of brucellosis a demonstration project is being carried out by the Center, at a dairy establishment in Argentina. It is hoped to be able to demonstrate the feasibility of eradicating brucellosis without necessarily recurring to slaughter of reactors. The objectives will be the eradication of the disease under present husbandry methods, using facilities available at selected ranches in Argentina and in other countries in Latin America. The Center also trains fellows in diagnostic and control and eradication procedures. Results obtained in combining the vaccination of calves of 3-6 months of age, and the isolation of reactors means that eradication of the disease could be achieved, using a procedure of low cost for the livestock owners and one which could easily be put into practice in many regions of Latin America.

Another project being carried out is concerned with porcine brucellosis. The Center has considered it useful to assess the value of several immunogens for field use. In this, the Center is collaborating with the National Institute of Agriculture on Livestock Technology (INTA) in Argentina in the evaluation of a vaccine against swine brucellosis. This vaccine had been developed by INTA several years ago. The potency trials include other vaccines, and an attempt is being made to assess their immunogenic value in pigs. Trials are well advanced, and it is hoped to have significant results shortly.

Strain 19 Brucella abortus vaccine continue to be the vaccine of choice and the most recommended for the protection of cattle. Rev. 1 Brucella melitensis vaccine has been shown to be highly effective for protection of goats. The Center is carrying out projects relating to practical aspects of problems concerned in production, conservation and application and use of these vaccines. Such studies include: immunity conferred by strain 19 B. abortus vaccine after challenge by biotypes of B. abortus

prevalent in Latin America. Trials carried out in guinea-pigs have shown significant protection against biotypes 1, 2 and 4 which have been studied to date.

Studies are continuing of factors affecting the life of lyophilized vaccines. The determination of optimal conditions for the production and storage of lyophilized *Brucella* vaccines, is of great importance for the success of control programs, based on vaccination.

This project attempts to provide information to improve the quality of the most widely used immunogens used in the control of Brucellosis in Latin America.

A potency test model for strain 19 *B. abortus* vaccine based on a survey of vaccines produced in Latin America. The purpose will be to develop a model potency test in laboratory animals and in this way, determine the immunogenic value of strain 19 *B. abortus* vaccines produced by countries of the Region.

TUBERCULOSIS

The research projects of the Tuberculosis laboratory are intimately related to applicative aspects of programs of bovine tuberculosis control. These projects are also carried out with the cooperation of fellows assigned to the Center and are considered as part of their training. Thus, during 1974 a project was carried out, in which a comparison was made of human and bovine PPD against para-specific sensitivity in animals. With regard to bacteriological diagnosis, studies were made of the isolation of mycobacteria from samples of raw and pasteurized milk. Different antiseptics were tried for use in techniques for transmission of samples from slaughterhouses to laboratory for bacteriological studies.

Field research included studies on specificity and relative sensitivity of the caudal test and the comparative tuberculin test, interpretation of the tuberculin test in "infected" and "free" herds, and standardization of reference tuberculin in cattle.

The goal of the Center, insofar as bovine tuberculosis is concerned, is to provide reference laboratory services to all member countries, to provide training to professionals in field operations, and in laboratory techniques in tuberculosis control, to develop and publish practical diagnostic techniques and promote and assist countries in the development of tuberculosis control systems adapted to their own special circumstances.

LEPTOSPIROSIS

Research into leptospirosis is directed towards the development of new diagnostic methods which are capable of being used in the countries.

In addition such research is for the better understanding of the prevalence and distribution of the more common serotypes, and the definition of little known wildlife hosts. Among the epidemiological studies presently being carried out, special mention should be made of bovine leptospirosis. Serotype hardjo has been isolated from bovine kidney. This isolation shows the importance of this serotype in bovines, and it is assumed that this serotype is responsible for the high prevalence of agglutinins of the Hebdomadis group frequently observed in bovine sera in numerous countries of Latin America.

In addition a study is being carried out of the ecological aspects of leptospirosis in wildlife and in domestic animals. This study will be of great value in providing data to relate specific serotypes of leptospira with distinct animal species, and may throw light on the epidemiology of the disease.

A study is being carried out on the isolation of serotype Fort-Bragg from a rat trapped in a plantation in Barbados. This is the first report of isolation of this serotype of the autumnalis group in animals. The serological incidence based on adsorption studies suggest that this serotype is the cause of leptospirosis in cattle in Barbados.

Studies are proceeding to determine if the armadillo serves as a possible reservoir host in the infection produced by serotype hardjo in cattle. The armadillo is found in cattle ranching areas and a high proportion of armadillos present high agglutinating titers to serotype hardjo. The isolation of this serotype from the armadillo will be important from the point of view of prevention and control of bovine infection and will establish a wildlife host for this serotype.

Among other studies being carried out, is the use of furazolidone combined with neomycin as a medium for isolation of leptospirae from contaminated material. The nitrofurans furazolidone and neomycin, when used together using a simple culture medium, are highly effective for the isolation of leptospirae in pure culture. The synergetic action of the combined drugs increases the action of each chemical-therapeutic agent on the bacterial contaminants. The diagnosis of leptospira and research into the epidemiological aspects of the disease can be much improved through the use of these antimicrobial agents, through the decontamination of clinical and pathological samples for culture of leptospirae.

In another study, it is hoped to find a genus-specific antigen to be used in screening animal sera. A sensitive and simple test is required, using a stable antigen to be used in screening for pathogenic leptospirae. Such a test would be of great help in reducing the number of sera which require to be examined using microscopic agglutination techniques. These require considerable time and need a battery of antigens.

In another study, a statistical comparison was made to determine the effect of culture media on agglutinating ability of leptospires in the standard microscopic agglutination technique. It was shown that the leptospiral antigens produced in cultures containing Stuart and Korthof's medium had fairly equal sensitivity in the detection of antibody. Antigens prepared in egg medium, bovine albumen, polysorbate 80 medium were less sensitive. If titers of 1:100 to 1:200 are considered significant, only Stuart and Korthof's media are adequate as standard media for leptospires in serological tests.

RABIES

With regard to studies on vaccines for use in cattle, a trial was completed regarding the comparison of two modified live virus vaccines (ERA and WIRAB). The studies included the use of these vaccines in dilute form (1:100) with the object of reducing costs of the vaccine. Results obtained show that both vaccines were equally effective and their immunising capacity was not affected by the dilution to which they were submitted. It should be borne in mind that the WIRAB strain is from ERA and that the production of WIRAB vaccine could be economically advantageous since it is prepared in continuous cell lines instead of in primary culture.

Serological studies continued of 48 cattle, half of which received suckling mouse brain vaccine with aluminum hydroxide, and the other half, received the same vaccine but with oily adjuvant. In July 1975 all animals will be submitted to challenge with virus isolated from vampire bats, in order to determine the immunizing capability of the two products.

Preliminary results of a cell culture vaccine for animal use has shown promising perspectives. Serological tests show that a good antibody response is obtained in dogs. A number of dogs so vaccinated is now ready to be challenged with street virus.

With regard to studies on diagnostic techniques, a comparison was made of the immunofluorescent method with the immunoperoxidase test. This last technique as compared with IF test showed a sensitivity of 93.5 % and a specificity of 99.2 %. Research continues to compare the immunoperoxidase test with standard methods and so determine the usefulness of this system.

Final stages have been concluded of two inter-related studies of importance in bovine rabies control, by means of control of the vampire bat (Desmodus rotundus). One of these studies demonstrated the feasibility of halting advancing wave of rabies in vampire bats, ahead of the epizootic. In the northwest of Argentina it was possible to prevent the entry of rabies into an area 30 by 50 km where vampires

were destroyed using cyanogas. The epizootic continued southwards, passing to the west of the cleared area. The technique used was applied later to a more extensive geographical area and again it was able to control the outbreak, thus showing the efficiency of control of bovine rabies by elimination of vampire bats.

Another study was carried out concerning evaluation of a technique developed in Mexico, and relating to the use of an anticoagulant in bats. The merit of this technique is that it is possible to destroy whole populations of bats without knowledge of the location of the bat roosts. There are many areas where bat roosts are located in dense jungle or inaccessible caves, and often these defy discovery. Using this technique, vampire bats are captured using special nylon nets close to cattle which are their main source of nutrition. The backs of the bats are anointed with a mixture of the anticoagulant and vaseline, after which they are allowed to fly free. The treated bats return to their roosts where, during the mutual cleaning and grooming procedures, the bats contaminate other members of the roost. A single vampire bat may so contaminate and cause the death of 20 to 40 members of the roost. The evaluation of this technique was carried out in Surinam, Trinidad, Brazil and Bolivia. Elimination of vampire bats from selected areas was achieved, and most acceptable results were obtained. If full use is made of these two techniques, that is, the strategic elimination of vampire bats from areas ahead of the advancing wave of bovine rabies, and the application of anticoagulants, a most effective and economical method for control of bovine rabies can be achieved.

FOOD MICROBIOLOGY

The program of studies of the Food Microbiology unit is directed principally towards the standardization of analytical techniques used in food control laboratories of the countries of the Hemisphere. Efforts are being made to obtain information to prepare microbiological standards for control in accordance with the real need of the countries themselves. Priority has been assigned to milk products due to their importance in countries and to the interest that governments have in bringing legislation in this foodstuff up to date. At this time useful information has been obtained in respect of dairy products such as cheese.

The Center continues studies in the distribution of salmonellas as well as the mechanism whereby food is contaminated with this food. With this object, a study is presently underway to determine salmonella contamination in superficial waters of the greater Buenos Aires area. The results obtained and information on the serotypes found are providing excellent information for this aspect of the research, and contribute substantially to official agencies concerned in environmental control.

At the request of health authorities the Center carried out studies on hospital infections in an important hospital unit in Argentina. Efforts are being made to learn the means by which antibiotic resistant salmonellas are spread, since these cause serious problems in pediatric units and may extend into other hospital areas. The Center is attempting to learn what role foodstuffs play in the diffusion of these bacteria. Studies carried out so far have permitted us to learn the principal routes of diffusion, and the appropriate recommendations have been made to prevent a repetition of these problems.

Clostridium perfringens, type A, is among the bacteria which are the most common causes of food-borne disease. There is insufficient information in Argentina at the present time on the distribution of this organism. Studies being carried out by the Center are directed towards recognizing the presence of this bacteria in man, animals and food. Special attention is being paid to the possible standardization of a simple test for the discovery and isolation of this bacteria and to determine the toxic principles concerned.

In hygienic control of beef and superficial working areas of slaughterhouses, packing plants and food production plants, a simple economic and rapid test is required to ascertain the presence of certain pathogenic organisms. The sampling method should interfere as little as possible in the routine activity of the plant; in addition the technique should reduce the need for introduction of glassware in the environment where food is handled, thus preventing accidents and contamination, should such glassware break. The sampling technique should not be destructive to the item being sampled, so that unnecessary losses may be avoided. The Center has developed a technique which avoids many of the obstacles mentioned above and the results presently being obtained are far superior to those obtained using traditional methods.

TABLE 1

LABORATORY SERVICES TO COUNTRIES

COUNTRIES	Control of Biologicals				Strain received for typing				Sera received		
	Rabies Vaccine	BCG Vaccine	Brucellosis Vaccine	Brucellosis Antigen	Brucella	Lepto	Mycobact	Salm.& others	Brucella	Lepto	Rabies
Argentina	x	x	-	-	x	-	x	x	x	x	x
Belize	-	-	-	-	-	-	-	-	-	x	-
Bolivia	x	-	-	-	-	-	-	-	-	x	-
Brazil	x	-	-	-	x	-	x	-	x	-	-
Chile	x	-	x	-	-	-	-	-	-	-	-
Colombia	x	-	-	-	x	-	-	-	x	x	-
Cuba	x	-	-	-	x	x	x	-	-	-	-
Curaçao	-	-	-	-	-	-	-	-	-	x	-
Dominican Rep.	-	-	x	x	-	-	-	-	-	-	-
Ecuador	-	-	x	-	x	x	-	-	-	x	-
Guatemala	x	-	-	x	-	-	-	-	-	-	-
Honduras	x	-	-	-	x	-	-	-	-	-	x
Jamaica	-	-	-	-	-	-	x	-	-	-	-
Peru	-	-	x	x	-	-	-	x	-	-	-
Paraguay	-	-	-	-	-	-	x	x	-	-	-
St. Maarten	-	-	-	-	-	-	-	-	-	x	-
Uruguay	-	x	-	x	x	-	-	-	-	-	-
Venezuela	x	-	-	-	x	x	-	-	-	-	-

TABLE 2

DIAGNOSTIC BRUCELLA REFERENCE ANTIGENS DISTRIBUTED TO COUNTRIES

COUNTRIES	Plate		Tube		Rivanol		Card - Test		Ring - Test		<u>B. ovis</u> <u>antigen</u>	
	Quantity (ml)	No. of tests	Quantity (ml)	No. of tests	Quantity (ml)	No. of tests	Quantity (ml)	No. of tests	Quantity (ml)	No. of tests	Quantity (ml)	No. of tests
Argentina	1450	12083	360	4500	60	500	120	4000	180	6000	-	-
Barbados	120	1000	120	1500	-	-	-	-	-	-	-	-
Brazil	1150	9580	300	3750	120	1000	180	6000	180	6000	130	1300
Colombia	1080	9000	60	750	60	500	60	2000	-	-	-	-
Chile	240	2000	120	1500	120	2000	60	2000	-	-	4	40
Dominican Rep.	140	1167	60	750	-	-	-	-	60	2000	-	-
Ecuador	240	2000	-	-	-	-	-	-	180	6000	-	-
Guyana	60	500	-	-	-	-	60	2000	-	-	-	-
Jamaica	-	-	-	-	-	-	60	2000	-	-	-	-
Paraguay	960	3000	60	750	-	-	-	-	-	-	-	-
Peru	660	5500	60	750	60	500	60	2000	60	2000	8	80
Trinidad/Tobago	90	750	60	750	-	-	-	-	30	1000	-	-
Uruguay	120	1000	120	500	60	500	60	2000	60	2000	20	200
Venezuela	240	2000	120	1500	-	-	120	4000	120	4000	-	-
TOTALS	6550	49583	1440	18000	480	5000	780	26000	870	29000	162	1620

TABLE 3
PROVISION OF REFERENCE ANTIGENS

COUNTRIES	BRUCELLOSIS			LEPTOSPIROSIS		RABIES		TUBERCULOSIS	ENTEROBACTERIA MYCOBACTERIA ANTHRAX & OTHER	HYDATIDOSIS
	Antigen	Strain	Sera	Strain	Sera	Conjugate	Vacc., strains sera	Ref. Tuberculin	STRAIN	Antigen
Argentina	x	x	x	x	x	x	x	x	x	x
Barbados	x	x	-	x	-	-	-	-	-	-
Bolivia	-	x	-	-	-	x	x	-	x	-
Brazil	x	x	x	x	x	x	x	x	x	x
Chile	x	x	x	-	-	x	-	x	x	-
Colombia	x	x	-	-	-	-	-	-	x	x
Costa Rica	-	-	-	-	-	x	-	-	-	-
Cuba	-	-	-	-	-	-	x	-	-	-
Curaçao	-	-	-	x	x	-	-	-	-	-
Dominican Rep.	x	x	x	-	-	-	-	-	x	-
Ecuador	x	x	x	-	-	x	x	x	-	-
Guatemala	-	-	-	x	-	x	-	-	-	-
Guyana	x	-	-	x	-	-	-	-	-	-
Jamaica	x	-	-	-	-	-	-	-	-	-
Mexico	-	x	-	-	-	-	-	-	-	-
Nicaragua	-	-	-	-	-	x	-	-	-	-
Paraguay	x	-	-	-	-	-	x	-	-	-
Peru	x	x	x	x	x	x	-	-	-	x
Trinidad/Tobago	x	-	x	x	-	x	x	-	-	-
Uruguay	x	-	-	-	x	x	x	x	x	-
Venezuela	x	x	x	x	x	x	x	-	x	-

TABLE 4
SUBJECTS STUDIED BY FELLOWS AT CEPANZO
1974 *

SUBJECT COUNTRIES	Lepto	Rabies & rabies diagnosis	Imm. Hydatidosis	Bruc.	Food Microbiol.	Tb.	Ecology	Planning in Animal Health	General aspects Zoonoses	Total
Argentina	-	1	5	3	3	1	-	4	-	17
Brazil	-	-	1	-	2	-	-	4	-	17
Bolivia	-	-	-	1	-	-	-	-	-	1
Chile	-	1	1	-	-	-	-	1	-	3
Colombia	-	-	-	1	-	-	-	1	-	2
Cuba	-	1	-	-	-	-	-	-	-	1
Curaçao	1	-	-	-	-	-	-	-	-	1
Dominican Rep.	-	-	-	1	1	-	-	-	-	2
Ecuador	-	1	-	1	-	-	-	1	-	3
El Salvador	-	-	-	-	-	-	-	1	-	1
Grenada	-	1	-	-	1	-	-	-	-	2
Guatemala	-	1	-	-	-	-	-	1	-	2
Haiti	-	-	-	-	-	-	-	-	2	2
Mexico	-	-	-	1	-	1	-	1	-	3
Peru	1	-	-	-	1	1	-	1	-	4
Trinidad/Tobago	-	1	-	-	-	1	1	-	-	3
Uruguay	-	1	-	1	-	-	-	1	-	3
Venezuela	-	-	-	-	-	-	-	1	-	1
TOTALS	2	8	7	9	8	4	1	17	2	58 *

* Subjects studied by 54 professionals.

TABLE 5

INDIVIDUAL TRAINING OF FELLOWS, BY COUNTRY, 1967 - 1974

COUNTRY	Y E A R S								TOTAL
	1967	1968	1969	1970	1971	1972	1973	1974	
<u>South America</u>									
Argentina	4	2	6	19	18	10	9	12	80
Bolivia	1	-	1	2	1	-	1	1	17
Brazil	1	2	4	4	4	8	1	3	27
Colombia	-	1	1	4	4	4	2	1	17
Chile	-	-	1	-	2	1	-	3	7
Ecuador	-	-	2	-	2	-	2	2	8
Peru	3	-	-	-	1	3	2	1	10
Paraguay	1	-	1	1	-	1	1	-	5
Uruguay	-	-	-	-	1	7	1	2	11
Venezuela	1	-	1	4	2	4	-	-	12
<u>Panama, Central America, Mexico</u>									
Panama	-	-	1	-	-	1	-	-	2
Costa Rica	-	-	-	2	-	-	-	-	2
El Salvador	1	-	1	-	-	-	-	-	2
Guatemala	1	-	1	-	1	-	-	1	4
Honduras	-	1	-	-	-	-	1	-	2
Nicaragua	1	-	-	-	1	-	-	-	2
Mexico	-	1	1	1	2	-	4	2	11
<u>Caribbean area</u>									
Barbados	-	-	-	-	-	1	1	-	2
Cuba	-	-	-	1	1	-	3	1	6
Curaçao	-	-	-	-	-	-	-	1	1
Dominican Rep.	-	-	-	-	1	1	-	2	4
Grenada	-	-	-	-	-	-	-	1	1
Haiti	-	-	-	-	-	-	1	2	3
Jamaica	-	-	-	-	-	-	1	-	1
Surinam	-	-	-	-	-	1	-	-	1
Trinidad	-	-	-	-	-	-	2	2	4
<u>Others</u>									
Philippines	-	-	-	-	-	-	1	-	1
U.S.A.	-	-	-	-	-	-	1	-	1
TOTAL	14	7	21	38	41	42	34	37	234

TABLE 6
COURSES AND SEMINARS

1974

- | | |
|---|--|
| • 3rd. Seminar on New Concepts in Rabies | Mar del Plata, Argentina |
| • Seminar: Microbiology of Products of Animal origin | Brasilia, Brazil |
| • Course: Rabies Diagnosis | Curitiba, Brazil |
| • Course: Basic Concepts of Planning | Porto Alegre, Brazil |
| • Course: Serological Diagnosis of Human Brucellosis | Lima, Peru |
| • Special Course on Statistics | Pan American
Zoonoses Center, Argentina |
| • First Course for Sanitary Inspectors | Buenos Aires, Argentina |
| • 3rd. Course on Milk Production | Cordoba, Argentina |
| • Course: Statistics for Physicians | Balcarce, Argentina |
| • 4th. Seminar on Tuberculosis | Recreo, Santa Fe,
Argentina |
| • Seminar on Brucellosis | Porto Alegre, Brazil |
| • National Rabies Seminar | Cali, Colombia |
| • Course: Administration in Animal Health Programs | Santiago, Chile |
| • Course: Rabies Diagnosis | Mexico, Mexico |
| • 7th. International Course in Microbiology and Food Hygiene | Lima, Peru |
| • Course in Brucellosis and Hydatidosis diagnosis for Physicians, Veterinarians and Biochemists | Mar del Plata,
Argentina |

BUDGET
OF THE PAN AMERICAN ZOONOSES CENTER
FOR 1975

ESTIMATES
FOR 1976

BUDGET OF THE PAN AMERICAN ZOONOSES CENTER FOR 1975
AND ESTIMATES FOR 1976

The year of 1975 corresponds to the fourth yearly stage of the administration of the Pan American Zoonoses Center as a Regional Project under the support of the United Nations Development Program.

The Government of Argentina participates with its contribution in the purposes that prompted the establishment of this United Nations project.

The UNDP contribution was approved in January 1972, and as regional project, the Center will now be able to increase the technical assistance it provides to the American countries in support of their zoonoses control and/or their eradication program

SOURCE OF FUNDS

Under the Regional Project, the funds allocated for financing the activities of the Pan American Zoonoses Center during the period 1972-1976 will come from the four following sources:

- a. The United Nations Development Program (UNDP);
- b. An annual contribution from the Government of Argentina;
- c. Funds from the Regular Budget of the Pan American Health Organization (PAHO) (including the contributions of the Ministries of Agriculture as per Resolution II of RICAZ III, 15 April 1970);
- d. Funds from the Regular Budget of the World Health Organization (WHO).

Tables 1 and 1A show the budgetary projection for the years 1975 through 1976.

TABLE 1
PAN AMERICAN ZOONOSIS CENTER
BUDGETARY PROJECTIONS FOR THE YEARS 1975 THROUGH 1976
(In US dollars)

	1975 <u>\$</u>	1976 <u>\$</u>
Contributions from the United Nations Development Program (UNDP)	385,160	276,050
Contributions from the Government of Argentina	648,210	842,268
Funds from regular budgets of the Pan American Health Organization* and the World Health Organization	778,752	817,690
	<u>1,812,122</u>	<u>1,936,008</u>

* In the funds of the PAHO Regular Budget, there are included the corresponding contributions of the ministries of agriculture, in the amounts of \$439,230 (1975) and \$483,153 (1976). These amounts, included in the PAHO regular budget and approved by the Directing Council of PAHO (or the Pan American Sanitary Conference), form an integral part of the quota assessment of each Member Government.

For the information of those Member Governments who decide to allocate to the Ministry of Agriculture a portion of the quota for support of the Pan American Zoonoses Center, there is a schedule in Table 1A, showing the amount by country.

TABLE 1A

PROPORTION OF CONTRIBUTIONS OF MEMBER GOVERNMENTS OF PAHO
PROJECTED FOR FINANCING THE EXPANDED PROGRAM OF SERVICES
OF THE PAN AMERICAN ZOONOSES CENTER

Country	%	1975 \$	1976* \$
Argentina	7.40	30,200	33,219
Barbados	0.08	326	359
Bolivia	0.19	775	853
Brazil	7.40	30,200	33,219
Chile	1.35	5,509	6,060
Colombia	1.54	6,286	6,913
Costa Rica	0.19	775	853
Cuba	1.06	4,326	4,758
Dominican Republic	0.19	775	853
Ecuador	0.19	775	853
El Salvador	0.19	775	853
Guatemala	0.29	1,183	1,302
Haiti	0.19	775	853
Honduras	0.19	775	853
Jamaica	0.19	775	853
Mexico	8.27	33,750	37,124
Nicaragua	0.19	775	853
Panama	0.19	775	853
Paraguay	0.19	775	853
Peru	0.67	2,734	3,008
Trinidad & Tobago	0.19	775	853
United States of America	66.00	269,342	296,274
Uruguay	0.58	2,367	2,604
Venezuela	3.08	12,570	13,826
	100.00	408,093	448,902
Other Members and Participating Governments			
Bahamas	0.06	245	269
Canada	6.81	27,792	30,570
France	0.19	775	853
Guyana	0.19	775	853
Kingdom of the Netherlands	0.19	775	853
United Kingdom	0.19	775	853
		31,137	34,251
Total		439,230 =====	483,153 =====

* Tentative

PAN AMERICAN ZOONOSES CENTER
BREAKDOWN OF THE BUDGET FOR 1975

	Office of Director	Training and Technical Information	Technical Advisory Services Field Services Laboratory for Zoonoses Control		Research	Adminis- tration	Meetings	Course Costs	Total	Percentage of Total
Salaries and Allowances	94,486	99,207	351,039	313,202	477,747	69,835	-	-	1,405,516	75.9
Short-term Consultants	-	12,000	12,000	6,000	6,000	-	-	-	36,000	2.0
Duty Travel	3,893	5,276	18,646	14,752	8,657	-	-	-	51,224	3.4
Fellowships	-	64,551	-	-	-	-	-	-	64,551	3.3
Supplies and Equipment	-	8,224	2,977	37,053	28,813	1,566	-	-	78,633	6.6
Common Services	-	12,832	13,259	36,674	44,159	-	-	-	106,924	5.7
Contractual Services	-	1,849	-	1,632	2,562	-	-	-	6,043	0.6
Meetings	-	-	-	-	-	-	45,181	-	45,181	1.6
Course Costs	-	-	-	-	-	-	-	12,000	12,000	0.6
Publications	-	6,050	-	-	-	-	-	-	6,050	0.3
Totals	98,379	209,989	397,921	409,313	567,938	71,401	45,181	12,000	1,812,122	
			807,234							
Percentage of Total	5.4	11.6	22.0	22.6	31.3	3.9	2.6	0.6		100.0
			44.6							

PAN AMERICAN ZOONOSES CENTER
BUDGET

1 January - 31 December 1975

I.	<u>Office of the Director</u>	<u>98,379</u>
a.	Salaries and allowances	94,486
	Professional staff (2)	
	Director, P.5	
	Administrative Officer, P.3	
	Local staff (3)	
b.	Duty travel	3,893
II.	<u>Training and Technical Information</u>	<u>209,989</u>
a.	Salaries and allowances	99,207
	Professional staff (3)	
	Chief of Training, P.4	
	Translator and Publications Officer, P.2*	
	Specialist in Audiovisual Aids, P.1	
	Local staff (5)	
b.	Short-term consultants	12,000
c.	Duty travel	5,276
d.	Fellowships	64,551
e.	Supplies and equipment	8,224
f.	Common services	12,832
g.	Contractual services	1,849
h.	Publications	6,050
III.	<u>Field Services for Zoonoses Control</u>	<u>397,921</u>
a.	Salaries and allowances	351,039
	Professional staff (7)	
	Chief of Technical Services, P.5	
	Consultant, Control Programs, P.4	
	Epidemiologist (Physician), P.4	

*Unfunded

Budget for 1975 (Continued)

2 Specialists in Zoonoses, P.4
 Mastozoologist (Ecology), P.4
 Biostatistician, P.4

Local staff (13)*

b. Short-term consultants	12,000
c. Duty travel	18,646
d. Supplies and equipment	2,977
e. Common services	13,259

IV. Laboratory Services 409,313

a. Salaries and allowances	313,202
----------------------------	---------

Professional staff (3.5)

Chief of Laboratories (50%), P.5
 Bacteriologist (Tb), P.4
 Bacteriologist (Bru), P.4
 Expert in biological products, P.4

Local staff (27)

b. Short-term consultants	6,000
c. Duty travel	14,752
d. Supplies and equipment	37,053
e. Common services	36,674
f. Contractual services	1,632

V. Research 567,938

a. Salaries and allowances	477,747
----------------------------	---------

Professional staff (10.5)

Scientific adviser, P.5**
 Chief of laboratories (50%), P.5
 Parasitologist, P.4
 Serologist, P.4
 Virologist, P.4
 Food microbiologist, P.4
 Serologist (Immunologist), P.4
 Specialist in laboratory animals, P.2
 Scientist, P.3
 2 Scientists, assistants, P.1

Local staff (34)***

* One G.4 Secretary is unfunded.

** Unfunded

*** One G.1 Helper is unfunded.

Budget for 1975 (Continued)

b.	Short-term consultants	6,000
c.	Duty travel	8,657
d.	Supplies and equipment	28,813
e.	Common services	44,159
f.	Contractual services	2,562
VI.	<u>Administrative Services</u>	<u>71,401</u>
a.	Salaries and allowances	69,835
	Local staff (9)*	
b.	Supplies and equipment	1,566
VII.	<u>Meetings</u>	<u>45,181</u>
	Scientific Advisory Committee	
	Travel	37,772
	Per diem	7,409
VIII.	<u>Course Costs</u>	<u>12,000</u>
	Local Course Costs	12,000
	Total	<u>1,812,122</u>

* One G.5 clerk is unfunded.

PAN AMERICAN ZOONOSES CENTER
1975 BUDGET
TECHNICAL ADVISORY SERVICES

	Field Services	%	Labora tory Services	%	Total
Salaries and Allowances					
International Staff	263,201	66.3	132,000	32.2	395,201
Local staff	99,838	25.0	187,202	45.8	287,040
Duty Travel	18,646	4.7	14,752	3.6	33,398
Supplies and Equipment	2,977	0.7	37,053	9.0	40,030
Common Services	13,259	3.3	36,674	9.0	49,933
Contractual Services	-	-	1,632	0.4	1,632
Total	397,921	100.0	409,313	100.0	807,234
Percentage of Total	49.2		50.8		100.0

PAN AMERICAN ZOO NOSES CENTER
1975 BUDGET
TRAINING AND TECHNICAL INFORMATION

	National Courses*	International Courses and Short Courses	Individual Training	Publications	Total	Percentage of Total
Salaries and Allowances						
International staff	27,383	25,210	13,268	3,073	68,934	32.8
Local Staff	15,261	13,866	7,228	5,918	42,273	20.1
Duty Travel	1,821	2,379	1,076	-	5,276	2.5
Fellowships	24,593	24,144	15,814	-	64,551	30.7
Supplies and Equipment	1,925	1,677	239	4,383	8,224	3.9
Common Services	2,811	2,259	577	7,185	12,832	6.4
Contractual Services	746	650	250	203	1,849	0.8
Publications	2,521	2,521	1,008	-	6,050	2.8
Totals	77,061	72,706	39,460	20,762	209,989	
Percentage of Total	36.6	34.6	19.0	9.8		100.0

* To be held in the countries with the assistance of the Center.

PAN AMERICAN ZOOSES CENTER

1975 BUDGET

RESEARCH PROJECTS

	Epidemiological Research	Improvement of Diagnosis	Improvement of Vaccines	Basic Research	Total	Percentage of Total
Salaries and Allowances						
International Staff	90,851	89,666	74,820	41,567	296,904	52.2
Local Staff	55,119	54,372	47,084	30,268	186,843	32.9
Duty Travel	2,889	2,883	1,956	929	8,657	1.5
Supplies and Equipment	8,817	8,644	7,261	4,091	28,813	5.2
Common Services	11,878	14,132	12,629	5,520	44,159	7.8
Contractual Services	799	786	662	315	2,562	0.4
Totals	170,353	170,483	144,412	82,690	567,938	
Percentage of Total	30.0	30.0	25.4	14.6		100.0

PAN AMERICAN ZOONOSES CENTER
BREAKDOWN OF THE BUDGET FOR 1976

	Office of Director	Training and Technical Information	Technical Advisory Services Field Services for Zoono- ses Control	Labora- tory Services	Research	Adminis- tration	Meetings	Local Costs	Total	Percentage of Total
Salaries and Allowances	102,167	128,652	365,684	348,823	581,779	92,923	-	-	1,620,028	79.8
Short-term Consultants	-	12,000	12,000	6,000	6,000	-	-	-	36,000	1.7
Duty Travel	4,367	5,942	24,015	16,494	9,824	-	-	-	60,642	3.0
Fellowships	-	53,286	-	-	-	-	-	-	53,286	2.6
Supplies and Equipment	-	12,353	3,230	37,462	25,836	1,858	-	-	80,739	4.0
Common Services	-	14,036	14,626	40,574	48,712	-	-	-	117,948	6.0
Contractual Services	-	1,965	-	1,776	2,559	-	-	-	6,300	0.3
Meetings	-	-	-	-	-	-	40,423	-	40,423	2.0
Course Costs	-	-	-	-	-	-	-	6,000	6,000	0.2
Publications	-	7,860	-	-	-	-	-	-	7,860	0.4
Totals	106,534	236,094	419,555 870,684	451,129	674,710	94,781	40,423	6,000	2,029,226	
Percentage of Total	5.3	11.6	20.7 43.0	22.3	33.2	4.7	2.0	0.2		100.0

PAN AMERICAN ZOONOSES CENTER
BUDGET

1 January - 31 December 1976

I.	<u>Office of the Director</u>	<u>106,834</u>
a.	Salaries and allowances	102,467
	Professional staff (2)	
	Director, P.5	
	Administrative Officer, P.3	
	Local Staff (3)	
b.	Duty travel	4,367
II.	<u>Training and Technical Information</u>	<u>236,094</u>
a.	Salaries and allowances	128,652
	Professional staff (3)	
	Chief of Training, P.4	
	Translator and Publications Officer, P.2	
	Specialist in Audiovisual Aids, P.1	
	Local staff (5)	
b.	Short-term consultants	12,000
c.	Duty travel	5,942
d.	Fellowships	53,286
e.	Supplies and equipment	12,353
f.	Common services	14,036
g.	Contractual services	1,965
h.	Publications	7,860
III.	<u>Field Services for Zoonoses Control</u>	<u>419,555</u>
a.	Salaries and allowances	365,684
	Professional staff (6)	
	Chief of Technical Services, P.5	
	Consultant, Control Programs, P.4	
	Epidemiologist (Physician), P.4	

Budget for 1976 (cont.)

1 Specialists in zoonoses, P.4
 Mastozoologist (Ecology), P.4
 Biostatistician, P.4

Local staff (13)

b. Short-term consultants	12,000
c. Duty travel	24,015
d. Supplies and equipment	3,230
e. Common services	14,626

IV. Laboratory Services 451,129

a. Salaries and allowances	348,823
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Professional staff (3.5)

Chief of Laboratories (50%), P.5
 Bacteriologist (Tb), P.4
 Bacteriologist (Bruc), P.4
 Expert in biological products, P.4

Local staff (27)

b. Short-term consultants	6,000
c. Duty travel	16,494
d. Supplies and equipment	37,462
e. Common services	40,574
f. Contractual services	1,776

V. Research 674,710

a. Salaries and allowances	581,779
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Professional staff (10.5)

Scientific adviser, P.5
 Chief of laboratories (50%), P.5
 Parasitologist, P.4
 Serologist, P.4
 Virologist, P.4
 Food microbiologist, P.4
 Serologist (Immunologist), P.4
 Specialist in laboratory animals, P.2
 Scientist, P.3
 2 Scientists, assistants, P.1

Local staff (34)

Budget for 1976 (cont.)

b. Short-term consultants	6,000
c. Duty travel	9,824
d. Supplies and equipment	25,836
e. Common services	48,712
f. Contractual services	2,559
VI. <u>Administrative Services</u>	<u>94,781</u>
a. Salaries and allowances	92,923
Local staff (9)	
b. Supplies and equipment	1,858
VII. <u>Meetings</u>	<u>40,423</u>
Scientific Advisory Committee	
Technical Coordinating Committee	
Travel	32,580
Per diem	7,843
VIII <u>Local Costs</u>	<u>6,000</u>
Local operating costs	6,000
Total	2,029,526
	=====
Funds available	1,936,008
Deficit	- 93,518

PAN AMERICAN ZONOSSES CENTER
1976 BUDGET
TECHNICAL ADVISORY SERVICES

	Field Services	%	Labora- tory Services	%	Total
Salaries and Allowances					
International staff	234,626	55.9	91,000	20.2	325,626
Local staff	143,058	34.0	263,823	58.6	406,881
Duty Travel	24,015	5.9	16,494	3.6	40,509
Supplies and Equipment	3,230	0.7	37,462	8.3	40,692
Common Services	14,626	3.5	40,574	8.9	55,200
Contractual Services	-	-	1,776	0.4	1,776
Total	419,555	100.0	451,129	100.0	870,684
Percentage of total	48.2		51.8		100.0

PAN AMERICAN ZOONOSES CENTER
1976 BUDGET
TRAINING AND TECHNICAL INFORMATION

	National Courses*	International Courses and Short Courses	Individual Training	Publications	Total	Per- centage of Total
Salaries and Allowances						
International Staff	35,827	32,754	17,212	2,020	87,813	37.2
Local Staff	19,127	17,384	8,929	7,399	52,839	22.4
Duty Travel	2,139	2,734	1,069	-	5,942	2.5
Fellowships	20,782	20,355	12,149	-	53,286	22.7
Supplies and Equipment	2,853	2,508	333	6,659	12,353	5.2
Common Services	3,032	2,498	618	7,888	14,036	5.9
Contractual Services	786	686	297	196	1,965	0.8
Publications	3,222	3,222	1,416	-	7,860	3.3
Total	87,768	82,141	42,023	24,162	236,094	
Percentage of Total	37.2	34.8	17.8	10.2		100.0

* To be held in the countries with the assistance of the Center

PAN AMERICAN ZOONOSES CENTER
1976 BUDGET
RESEARCH PROJECTS

	Epidemiological Research	Improvement of Diagnosis	Improvement of Vaccines	Basic Research	Total	Per- centage of Total
Salaries and Allowances						
International Staff	100,704	99,714	83,206	46,555	330,179	48.9
Local Staff	75,992	75,219	64,916	41,473	257,600	38.0
Duty Travel	3,430	3,241	2,161	992	9,824	1.5
Supplies and Equipment	7,879	7,778	6,511	3,668	25,836	3.9
Common Services	13,352	15,292	13,931	6,137	48,712	7.3
Contractual Services	793	787	685	294	2,559	0.4
Total	202,150	202,031	171,410	99,119	674,710	
Percentage of Total	30.0	30.0	25.4	14.6		100.0