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FROM . ROCAF/Guatemala

SUBJECT . NONCAPITAL PROJECT PAPER (PROP)

REFERENCE . Project Title: Development of Institutions  
of Higher Education  
Activity Title: Regional School of Veterinary  
Medicine

Submission date: August 16, 1967 Project # 596-11-660-012.)

U. S. Obligation Span: FY 66 through FY 72

Implementation Span: FY 66 through FY 72

Gross life-of-project financial requirements: US\$ 623,000

Cooperating country cash contribution..... 1,925,000

Other Donors..... 49,000

Totals .....US\$ 2,597,000

**OTHER AGENCY**

State  
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**A. SUMMARY DESCRIPTION**

There is an estimated shortage of 1100 veterinarians in Central America and Panama, and only one School of Veterinary Medicine (Guatemala) which graduates about 20 veterinarians each year. ROCAF, through a contract with Oklahoma State University (OSU) is assisting the Superior Council of Central American Universities (CSUCA) to develop a Regional School of Veterinary Medicine at San Carlos University, Guatemala.

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**AID AND OTHER CLEARANCES**

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The overall goal of the project is the following:

- 1) To develop an effective self-sustaining regional institution which will have the capability to graduate at least 50 well-trained veterinarians per year;
- 2) to strengthen the Regional School as a regional center for veterinary medical education, information and research;
- 3) to have available a sufficient number of veterinarians to confront the existing animal disease problems thereby increasing animal food products for domestic consumption and for export; and
- 4) to develop another component to regional integration with regional decision-making and pooling of resources for common benefit.

In view of the fact that neither CSUCA nor San Carlos University has sufficient resources to meet these goals, ROCAP has agreed to provide financial and technical assistance aimed at the development of the Regional School of Veterinary Medicine which can serve the region.

Through FY-67, ROCAP has obligated \$213,000 for a contract with Oklahoma State University (OSU) which has provided for technical assistance, participant training and some commodities such as teaching aids and some publications for the library. Our present plan is to continue a similar mix or assistance via extension of the OSU contract through FY-68 to help the School to further develop its teaching capability, to initiate regional short term training courses and to develop a regional information service on veterinary medicine, particularly in relation to the control of animal disease. In later years, FY 69 through 71, support will be continued mainly for technical assistance, participant training of faculty members, regional short courses, and special studies of animal disease problems.

Continuation of support for this project will be contingent upon: 1) The School's demonstration of growing capability to achieve project objectives; 2) assumption by the Universities in CA/P and other organizations of complete support costs by FY-70 and 3) the active cooperation and assistance of the CA/P governments, Universities and CSUCA in activities to assure students for the School and in meeting the veterinary problems in the region.

TABLE I

NONCAPITAL PROJECT FUNDING (OBLIGATIONS IN \$000)

Project Title: Development of Institutions of Higher Education  
Regional School of Veterinary Medicine

Fiscal Years	Ap	L/G	Total	Cont	Personnel Serv.			Participants		Commodities		Other Costs	
					AID	PASA	CONT	U.S. Agencies	CONT	Dir US Ag	CONT	Dir & US Ag	CONT
Prior through Act. FY 67	AG	G	213	213			112		18		50		33
Oper. FY 68	AG	G	100	94			67	6			10		17
Budg. FY 69	AG	G	110	99			70	11			10		19
B + 1 FY 70	AG	G	110	96			70	14			7		19
B + 2 FY 71	AG	G	80	66			50	14			7		0
B + 3 FY 72	AG	G	10	10			7						3
All Subs.													
<b>Total Life</b>			<b>623</b>	<b>578</b>			<b>376</b>	<b>45</b>	<b>18</b>		<b>84</b>		<b>100</b>

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ROCAP/Guatemala

TABLE I  
Exchange Rate \$1 = Q1 (\$000)

4 Fiscal Years	AID-Controlled Local Currency		Other Cash Contribution Cooperating Country (C.A.)	Other Donor Funds (\$ Equivalent) (Private Industries and Foundations)	Food for Freedom Commodities		
	U.S.-Owned	Country-Owned			Metric Tons (000)	CCC Value & Freight (\$000)	World Market Price (\$000)
UNCLASSIFIED	Prior through Act. FY 67		156		4		
	Oper. FY 68		256 <u>1/</u>		3		
	Budg. FY 69		381 <u>2/</u>		7		
	B + 1 FY 70		400 <u>3/</u>		10		
	B + 2 FY 71		450 <u>4/</u>		10		
	B + 3 FY 72		282 <u>5/</u>		15		
	All Sub.						
	<b>Total Life</b>		<b>1,925</b>		<b>49</b>		

- UNCLASSIFIED
- ROCAP/Guatemala
- 1/ Includes \$100,000 from IDB for new building.  
2/ Includes \$200,000 from IDB for new building and \$25,000 for fellowships.  
3/ Includes \$200,000 from IDB for new building and \$50,000 from other CA/P countries.  
4/ Includes \$250,000 from IDB for new building and \$50,000 from other CA/P countries.  
5/ Includes \$160,000 from San Carlos (Guatemala) and \$125,000 from other 5 CA/P countries at \$25,000 each.

**B. PROJECT SETTING**

The high incidence of preventable diseases among food animals and the lack of trained veterinarians severely affects the production of animal food products in the CA/P region. The overall objective of this project is to increase the production of animal food products. Such increase will permit the export of larger amounts of meat and provide protein foods for the region. The attainment of this goal will assist in reaching both the goals of the World War on Hunger and the economic integration and development of Central America and Panama.

ROCAP is working with the Superior Council of the Central American Universities (CSUCA) in higher education activities directed toward meeting the demand for well trained University graduates necessary for the economic development of the region. CSUCA, composed of the national universities of the region, traces its history to 1948 when the Rectors first enunciated regional goals for higher education. From that time, cooperation grew as common interests were recognized and identified. By 1957, the need for a continued organization of Central American universities was evident and CSUCA established a permanent Secretariat with an office in the University of Costa Rica. With technical assistance from AID, the Ford Foundation and UNESCO, a program evolved consisting of two major goals: 1) strengthening of each university by developing strong programs of general studies; and 2) designating regional post-graduate programs for specialized training. In 1965, the rectors designated San Carlos University School of Veterinary Medicine as the Regional School of Veterinary Medicine and authorized the CSUCA Secretariat to request external assistance to help develop this School. The Facultad de Medicina y Zootecnia, Universidad de San Carlos de Guatemala is the only Veterinary School in the region receiving governmental support, with a budget for 1967 of \$160,000 (none of which comes from other C.A. countries). At present, the School has 23 professors (18 full time and 5 part time). There are 33 students now in the 4 year curriculum. An additional 112 students are taking pre-veterinary

training in basic studies at San Carlos University. Thirty (30) students have been graduated in the 10 years of the School's existence, ten of these in the past year.

The departments of bacteriology and physiology are well equipped to teach the number of students present at this time. The pathology and anatomy departments are somewhat less well equipped, while public health, clinics, parasitology, zootecnia, biochemistry and the library are poorly equipped. There is a minimum of space and equipment for about 100 students. The present physical plant is temporary and is very poorly organized for the teaching of veterinary medicine.

Undoubtly, the most urgent need at the School is a new physical plant, built and organized especially for teaching veterinary medicine. It is estimated that an adequate building to teach 200 to 300 students would cost approximately \$750,000. The present teaching and laboratory equipment is good but it is not sufficient for 200 to 300 students. Approximately \$70,000 more in equipment would be necessary for this number of students. It is understood that IDB financing for at least the first phase of the building project (FY 63) has clearly been assured.

The administration of the University of San Carlos is headed by a Rector elected by an equal number of faculty members, alumnae and students. Administrative policy of the University is determined by the School's Consejo Superior composed of an equal elected number of faculty members, alumnae and students. The administrative organization of the School of Veterinary Medicine is organized along the same lines as the administration of the university, headed by an elected dean and a directorate. The departmental specialization within the School follows conventional lines. There is a head of each department whose administrative power appears to be somewhat limited. The present dean of the School is Dr. Victor M. Orellana E. He graduated from the School 3 or 4 years ago and took additional work at the Ve-

terinary School in Feru in physiology and, until his election as dean a year ago, worked in the physiology department of the School. He is a capable and energetic young man who has a real desire to see the School become an outstanding center of veterinary medicine in Central America and Panama. He has been most cooperative in this project during its first two years of operation and has contributed much to the direction proposed for the project in the coming years.

The instability of the administration at both the university and School level causes some difficulty in carrying out the aims of the project. The previous dean of the School resigned under threat of a student strike. He had been in office only for one year. Such changes of administration cause some problems in continuity. Funds for the operation of the University come from a constitutionally set proportion of 2½% of the government income. This is divided among the Schools of the University by the Consejo Superior and, therefore, results in some limitation on the School's administrative flexibility.

During the past two years the School has made progress by revising the curriculum for a 4 year course admitting students who have completed 2 years of basic studies. Improvement has been made in instructional methods and library, and teaching aids and equipment have been obtained. Nine (9) faculty members have received training at OSU in the U. S. and 5 visiting professors from OSU have given 7 man-months of assistance at the School. A full time OSU field coordinator provided assistance for 24 man months.

### C. STRATEGY

The School of Veterinary Medicine at San Carlos University is the only one in the CA/P region and has been designated by CSUCA as the Regional School of Veterinary Medicine. ROCAP considers that the School has the potential for the development of a permanent self-sustaining institution with high quality staff to meet the goals of this project and to serve the region in the field of Veterinary

**Medicine.** Other alternatives would be to work directly with livestock owners, and with Departments of Agriculture or establish Schools of Veterinary Medicine in National Universities. These activities would require greater manpower output, be more costly and would not develop a core of well trained veterinarians and animal husbandrymen to meet the needs of the region.

Our strategy is two-fold. First, we want to develop a regional institution which can train veterinarians in sufficient numbers and also serve as a focal center for matters relating to the control and prevention of animal diseases and for increasing the production of animal food products for domestic consumption and for export. Secondly, we are interested in promoting full integration in Central America to confront a host of problems. The pooling of resources and regional decision making in problems of preparing an adequate number of well-qualified veterinarians, and resolution of the problems which now are adversely affecting animal food production are steps toward integration. When animal food production is increased, a large part of the malnutrition problem (protein deficiency) which now exists, will be solved. Also, it can be expected that exports of these products will increase substantially thereby generating currencies which can be invested for further economic development.

*Combine*

To achieve the objectives stipulated in the project agreement, specific actions will be taken to resolve the problems presented under the Project Setting. These will include: 1) Assistance in the design and constitution of new housing facilities for the School; 2) improvement of library and 3) gentle persuasion relative to improvement of administrative and operational procedures and funding. The mere presence of U. S. professors at the School and their daily contact with faculty members and students promotes stability and reform of practices leading to a better administered institution.

Our plan is to continue financial and technical

support to the School through extension of the OSU contract through FY-71. By the end of FY-68 we anticipate that activities directed toward greater regionalization of the School will be well implemented, additional faculty members will have received training in the U. S. and technical assistance provided by OSU visiting professors in three specialties. In later years, continued effort will be given to achieving regionalization of the School, including financial support and provision of fellowships by the other CA governments, Universities and other organizations. The School will be encouraged to develop a regional base for financial support; possibilities to be explored include (1) a quota system based on number of students from each country, (2) direct budgetary allocations from each country, or a mix of these possibilities requiring first a direct budgetary contribution from each country. Each country would then be given a quota of students which could attend the school. For any number in excess of this quota, the country would be required to pay an "actual cost" scholarship. It is anticipated the CSUCA could determine the quota and the actual cost of instruction.

It should be noted that the Central American university Rectors have recently directed the CSUCA Secretariat to re-examine all external assistance being offered through CSUCA. The results of this re-examination, which is apparently directed at providing more flexibility to the individual universities in the use of this assistance, may have a direct bearing on this activity. However, the past successes and anticipated gains to the region from this activity should create sufficient interest to assure its continuity and ultimate objectives.

#### D. PROJECTS TARGETS

Our over-all objective in assisting the Regional School of Veterinary Medicine at San Carlos University is to enable it to develop a permanent capacity for continued

growth, serving as the recognized institution for training veterinarians and as the focal point within the region for all activities in veterinary medicine and animal husbandry. We anticipated that this goal can be achieved by the end of FY-1971. Specific targets for the Regional School in the attainment of this broad objective include the following: 1) To graduate at least 50 well-trained veterinarians per year; 2) a physical capacity to handle at least 200 students (50 per class); 3) a faculty of at least 20 well-trained professors in the various specialties of veterinary medicine (at least one professor with a Ph.D. degree in each department); 4) sponsor regional seminars and short courses in CA/P countries to train veterinarians and live stock men in modern technology to confront animal disease problems; 5) to have available appropriate teaching aids and laboratory and clinic equipment necessary for modern instruction; 6) to have a library with basic publications relating to veterinary medicine; 7) to operate a regional information center which will provide technical services and information on modern advances in veterinary medicine; 8) to establish a coordinated regional program directed toward a mass attack to eradicate priority animal disease problems (such as anaplasmosis, piroplasmosis, PPLO in chickens, parasitosis, animal nutrition, etc.); 9) to have assurance of full and equitable financial support from all CA/P countries.

The achievement of these goals will: a) Increase the supply of animal protein for domestic consumption, thereby reducing the most important malnutrition problem in the area -- protein deficiency; b) increase animal food production for export, thereby generating foreign exchange for reinvestment in priority economic development programs in the region. In June, 1967 SIECA reported that the export value of meat from Central America in 1965 totaled about \$21 million. It is well known that certain animal diseases adversely affect meat production, and required standards for export. For example, the high incidence of tuberculosis and brucellosis prevent the export of meat from diseased animals. Also, the high incidence of anaplasmosis in Cen-

tral America causes about a 25% calf loss each year and substantial weight loss of affected cattle. If these diseases could be controlled, the volume of meat exports would be greatly increased, perhaps by as much as 50% over a three year period. It is, therefore, estimated that this project will make a direct contribution toward augmenting foreign exchange earnings by roughly \$10 million over a three year period. Coupled with the ROCAP assistance to INCAP (CA/P Nutrition Institute) in developing animal feed formulae to improve animal nutrition, utilizing local products, this activity could have even a larger impact on foreign exchange earnings.

#### E. COURSE OF ACTION

Progress to date in this project with CSUCA and the Regional School which began in September 1965 consisted of: 1) A field project coordinator (OSU) spent 24 months at the School assisting in program development and carrying out special studies on anaplasmosis; 2) four faculty members of the Regional School received a total of 11½ man-months training in their specialties at OSU; 3) four OSU visiting professors spent a total of 7 man-months at the School assisting in instructional methods and program development; 4) a revised curriculum based on a 4 year course was implemented; 5) instructional methods were improved; 6) some teaching materials and equipment were purchased; 7) library was improved by additional publications; 8) assistance was provided in the planning of new physical facilities; 9) research was initiated in anaplasia including field trials of vaccine; and 10) a regional seminar on veterinary medicine which included a training course on diagnostic methods was held at the School with over 100 participants from the region.

It is planned that a follow on project agreement will be negotiated with CSUCA and San Carlos University in FY-1968 to continue assistance to the School through an extension of the contract with OSU. It is anticipated that

with this assistance the following will be accomplished during FY-68: 1) Modernization of instruction by provision of modern teaching aids, laboratory and clinic materials, publications for library, and revision of curriculum and course content; 2) development of faculty by providing: a) a full time field coordinator; b) a total of 8 man-months training for four faculty members in physiology, anatomy, clinical medicine and nutrition at OSU; and c) four visiting professors from OSU for a total of 8 man-months at the Regional School in the specialties of anatomy, clinic pathology, zootechnia and ectoparasitology; 3) improvement of physical facilities by providing technical assistance on planning a new building for the School (it is anticipated that IDB will provide funds for construction); 4) improvement of library by purchase of publications from equal funds from the school and this project; 5) development of cooperative teaching research programs on anaplasmosis, PPLO in chickens, and piroplasmosis jointly by faculty members of the School and OSU; 6) a Regional Information Service will be established to disseminate modern technology on animal disease control, results of research and other activities; 7) one regional seminar and two short courses in at least 4 countries will be held on major animal disease problems; and 8) regional interest and financial support for the School and fellowships for students will be promoted by personal contacts of faculty members of the School and OSU, among officials of CA/P governments, Universities, professional and private organizations and international agencies such as PAHO, U.S. Foundations, etc. Estimated cost \$98,200 to ROCAP. The School will contribute \$156,000 which is their budget plus \$100,000 for a new building (IDB). Table II shows the schedule of OSU technical assistance at the Regional School. Participant training of the School's faculty members at OSU follows a similar schedule with 2 months training in each specialty.

It is planned that technical and financial assistance will be continued at about the same through FY 70, decreasing sharply to \$80,000 in FY 71 and closing out in FY 72 with an additional \$10,000. Complete support for the Regional School will come from the CA/P countries after

**FY-71.** It is anticipated that international agencies, U. S. Foundations, FAHO and others will contribute for faculty and student fellowships and for specific research activities. Assistance provided under this project will consist of: 1) full time field coordinator through FY 70; 2) continued faculty development through training at OSU and visiting professors for OSU at the School (See Table 1); 3) some teaching aids and laboratory and clinic materials and equipment; 4) support for regional seminars and short courses; 5) assistance to the Regional Information Service on Veterinary Medicine; 6) support for teaching research particularly in priority animal disease problems and their control; and 7) planning assistance for a building for the School. Estimated cost: \$98,200.

It is anticipated that a new building will be constructed by the School to provide space for the departments of Anatomy, Pathology and Administration at an estimated cost of \$200,000. Four full time instructors will be added to the faculty and the number of students admitted to the first year will be increased to at least 50.

In FY-70 it is anticipated that new housing facilities will be completed by the School for the departments of physiology, microbiology and public health. Estimated cost \$200,000.

By the end of FY-71 it is expected that: 1) The buildings for the Regional School will be entirely completed; 2) the faculty trained; 3) curriculum modernized; 4) adequate teaching aids and equipment will be available; 5) research teaching programs will be supported by regional or external funds; 6) financial support assured from the region; and 7) The School will be actually a regional institution serving the region with capacity of achieving the established goals.

Satisfactory progress in this project can be measured in terms of accomplishments made in specific actions stipulated above.

TABLE II

**OSU Personnel at Regional School**

(Man-months)

<b>Specialties</b>	<b>FY-66</b>	<b>FY-67</b>	<b>FY-68</b>	<b>FY-69</b>	<b>FY-70</b>	<b>FY-71</b>
Field Coordinator	12	12	12	12	12	
Gross Anatomy			2			
Histology and Embryology		1				
Physiology	1					
Microbiology		1				
Endocrinology				2		
Zootechnia			2			
Nutrition					2	
General Pathology				2		
Systematic Pathology						2
Pharmacology				2		
Toxicology					2	
Ectoparasitology			2			
Poultry Pathology					2	
Public Health	2					
Milk Hygiene				2		
Milk Inspection						2
Infectious Diseases (large animals)						2
Surgery of Large animals				2		
Sporadic Diseases (large animals)						2
Reproductional Gynecology						2
Clinic Pathology			2			
Obstetrics					2	
Pathology					2	
Small Animal Clinics						
Large Animal Clinics	2					
<b>TOTAL MAN-MONTHS</b>	<b>17</b>	<b>14</b>	<b>20</b>	<b>12</b>	<b>22</b>	<b>24</b>

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