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SUBJECT - Non Capital Project Paper (PROP)

REFERENCE -

NONCAPITAL PROJECT PAPER (PROP)

Country: Brazil (NE)

Project No: 512-11-110-094.3

Submission Date: 12/30/1969

Original:

Project Title: Agricultural Education- University of Ceara (NE)

U.S. Obligation Span: FY 1963 through FY 1972

Physical Implementation Span: FY 1964 through FY 1973

Gross life-of-project financial requirements:

U.S. dollars \$3,601,000

U.S. owned local currency \$ 47,000

Country owned local currency \$ 424,000

Cooperating country cash contribution \$ 492,000

TOTAL \$4,564,000

PAGE 1 OF 7 PAGES

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I. Summary

This is a continuing project in agricultural education designed to attack basic agricultural manpower and productivity problems in Northeast Brazil through a university institutional development approach.

The Federal University of Ceará, in Fortaleza, is one of four universities being assisted through a long-term university-relationship program. The University of Arizona serves as the U.S. contract institution. Basic objectives are the strengthening and expansion of agricultural training in the university, development of a graduate program in agriculture, expansion, improvement and increased dissemination of agricultural research and extension, and strengthening of the agricultural curriculum, generally along land grant college lines, in order to increase the number and skills of trained agriculturalists and the ability of the university to serve the agricultural needs of its area.

Improvement in agricultural production is a high priority requirement in Brazilian development programs and to accomplish this expanded technical training is one of the key needs. At least 60 percent of the population of the Northeast is engaged in agriculture. However the general level of education is very low and this emphasizes the need for substantial numbers of agricultural technicians to support and guide essential agricultural development activities in the area. At present, there are approximately 200 agronomists graduated at the college level each year in the Northeast whereas it is estimated that at least double this number are needed in order to meet minimum needs of a technical agricultural program, including agro-industry, credit, extension, and education. Private enterprise could doubtless absorb many more, although the exact number cannot be satisfactorily estimated at this time. Qualitative improvement in technical skills, although difficult to assess, is also required.

For general review of the priorities of agricultural production and agricultural manpower training, please refer to Program Memoranda submitted over the last two or three years.

II. SETTING OR ENVIRONMENT

The Government of Brazil requested U.S. assistance for the development of an agricultural educational system similar to that of our land grant colleges in four selected universities throughout Brazil. The College of Agriculture at the Federal University of Ceará in Fortaleza was chosen for Northeast Brazil, and an agreement by the two Governments was signed on April 5, 1963 for the implementation of a project to up-grade the College of Agriculture as well as to increase agricultural production in the area.

The production per unit of land in the northeast is generally very low as compared to the rest of Brazil; however, production of properly selected crops for the area can be materially increased by improved technology, weed control, use of fertilizers, selected seed varieties and by controlled water supply through drainage and/or irrigation. Increased research, demonstration and extension are important factors for increasing crop production. The major economic consideration, creating the need for this project, is the fact that the food supply in the northeast is being outstripped by the population growth.

The table on page 7 shows some interesting statistics for several crops grown in the northeast. Tomato production indicates the highest income per hectare but also has the highest inputs such as technology, fertilizer, selected seed and labor and tomatoes can usually be grown only in selected areas. It should be noted that in 1967, while 74% of the area for cotton in Brazil was in the northeast, only 48% of the total cotton production came from that area. Although this difference can be explained in part by the difference in productivity of the soil and rainfall, the lower level of technology also contributed to the low productivity.

The relatively high orange production indicates that citrus fruits and other selected tropical fruits are adaptable to the northeast. For this reason this project is driving to strengthen the capability of the College of Agriculture in the production and processing of tropical fruits.

There are vast areas in the northeast that could be made available for range and pasture for cattle. There are possibilities of a great increase in beef cattle production if chemical control of weeds and brush were initiated and if quality perennial grasses were introduced. At the present time it requires as much as six to seven years to get a beef animal to the size desired for slaughter. The improvement of farming methods should increase beef production per unit of land by at least 100%.

Research and demonstrations in weed and brush control, adaptability of improved grasses and forages, range management, nutrition and breed improvement have been initiated under this project and are considered important to agricultural development in the northeast.

Since there is a great lack of technical know-how and expertise among agricultural workers, it is important for this project to help develop a capability in the College of Agriculture to back-stop the state and national extension services and to up-grade extension workers, so that they will be in a position to more effectively disseminate technical information to the agricultural sector.

III. STRATEGY

The basic approach of this project consists of three parts:

- a) Assistance to the administrators of the College of Agriculture in developing improved methodology for instruction, research and extension activities.
- b) Development of an agricultural experiment station at which research procedures and full use of the farm are demonstrated.
- c) Up-grading instructional staff capabilities by in-service training and by sending professors and administrators to the United States and to agricultural colleges in southern Brazil for training.

The principal USAID contribution is a contract # for advisory services with the University of Arizona.

The University of Ceará has given extensive support to the project. It has provided funds from outside the College of Agriculture budget to construct new buildings on the agriculture campus, for farm machinery studies, propagation green house, plant science and seed processing.

The University has organized the College of Agriculture into five subject matter departments and designated staff members with responsibility for the coordination of teaching, research and extension. In addition the University of Ceará requested that a contract advisor act as a member on the following committees:

1. Graduate Curriculum Committee.
2. Undergraduate Curriculum Committee.
3. Research Committee.

IV. TARGETS, RESULTS AND OUTPUTS

Specific objectives of the project are:

- a) The integration of teaching, research and extension, strenghtening research & extension to ~~make~~ better serve the agricultural needs of the State of Ceará and other nearby areas; and building the professional capacity of agricultural specialists.
- b) Establishment of advanced training and specialization for the staff, and development of a graduate program in the basic agricultural disciplines, as a ~~means~~ means of increasing the number and qualifications of teachers, researchers and other technical personnel in agriculture and related industries.
- c) Increased capability in applied research, oriented toward solving the problems of agriculture to guide the state and federal agencies, cooperatives, farmers and other private enterprise in planning and carrying out programs to achieve rapid development of agriculture.
- d) Development of a University Experiment Station, to be used for education, research and training as an integral part of the University's activities.

V. PLAN OF ACTION

The USAID role in the project will continue to be provided through a contract with the University of Arizona and through related participant training. The contractor staff will work with the University and agricultural staff ~~to~~ to strengthen the Agricultural College and develop an institution by assisting in:

- a) Establishment of five departments in agricultural fields.
- b) Establishment of an M.S. degree curriculum in at least two departments by the end of school year 1970.
- c) Training of eighty full-time professors, of whom sixty-eight will have an M.S. or Ph.D. by end CY 1972.
- d) Development of an experimental farm to a stage that will satisfy the needs of necessary research and ~~EM~~ a regular program of demonstration projects.
- e) Expansion of the research library.
- f) Development of a system for publishing the results of research projects.
- g) Training of an administrative staff through in-service and short-term U.S. training.

DATA FOR SELECTED CROPS IN NORTHEAST BRAZIL - 1967

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FORM A-1279

Crop	Dry Beans	Corn	Cotton	Sisal	Mandioca	Rice	Soybean	Cassava	Sweetpotato
Total Hectares	1,571,558	2,061,073	2,767,645	332,479	911,573	741,519	584,951	17,515	15,772
Brazil - Total	3,670,568	9,256,321	5,719,805	332,777	1,914,439	4,291,147	1,680,763	166,660	41,319
% of Brazil	43.0	22.3	74.4	99.9	47.6	17.3	9.8	10.5	38.2
Total Production in metric tons.	951,389	1,768,690	812,755	318,921	11,302,370	962,891	25,779,459	(in 1,000 fruits) 1,746,499	179,892
Brazil-total	2,553,577	12,824,500	1,692,066	319,075	27,266,193	6,791,990	77,086,529	12,523,280	744,786
% of Brazil	37.3	13.9	48.0	100	41.4	14.5	33.4	12.3	24.2
Average/HA/Ha.	.605	.868	.294	.959	12.401	1.326	44.1	(in 1,000 fruits) 88.3	11.403
Brazil-Average	.700	1.385	.455	.959	14.243	1.583	45.9	75.1	18.084
% of Brazil	86.4	62.7	64.6	100.0	87.1	83.8	96.1	117.6	63.3
Total value 1,000 NCr\$	236,896	177,582	319,763	59,556	300,644	152,207	306,783	37,974	40,375
Brazil-total	660,436	1,186,431	601,128	59,606	706,340	1,402,134	812,898	166,240	167,652
Average Value per Ha. in NCr\$	151	86	116	179	330	205	524	2169	2360
Brazil-Average	181	128	162	179	369	327	484	997	4058
% of Brazil	83.4	67.2	71.6	100.0	89.4	62.7	108.3	217.6	63.1

Source: Anuário Estatístico do Brasil - 1968

NONCAPITAL PROJECT FUNDING (Obligations in \$000)

Table 1
Page 1 of 2 pages
COUNTRY: BRAZIL

Prop Date: 12/30/69
ORIGINAL:
Rev. N^o:
Project N^o:
512-11-110-024.3

Project Title: Agricultural Education-University
of Ceara (NE)

Fiscal Years	AG	L/G	Total	Cont ^{1/}	Personnel Serv.			Participants		Comodities		Other Costs	
					AID	PASA	Cont	U.S. Agen.	Cont	U.S. Agen.	Cont	U.S. Agen	Cont
Prior thru Actual FY 69	AG	G	2230	2152	78	-	1469	-	110	-	26 XXX	-	312
Operational FY 70	AG	G	519	496	23	-	237	-	186	-	15	-	958
Budget FY 71	AG	G	492	468	24	-	242	-	152	-	15	-	59
B 1 FY 72	AG	G	360	336	24	-	200	-	50	-	6	-	80
B 2 FY 73													
B 3 FY 74													
All Sube Yrs													
Total Life	AG	G	3601	3452	149	-	2148	-	498	-	297	-	509

^{1/} Memorandum (nonadd) column

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Fiscal Years	AID-controlled Local Currency		Other Cash Contribution Cooperating Country	Other Donor Funds (\$ Equiv.)	Food for Freedom Commodities		
	U.S. owned	Country owned			Metric Tons (000)	CCC Value & Freight (\$000)	World Market Price (\$000)
Prior thru Actual FY 69	47	74	170				
Operational FY 70		118	122				
Budget FY 71		124	100 ^{3/}				
B 1 FY 72		108	100 ^{3/}				
B 2 FY 73							
B 3 FY 74							
All Subs Yrs							
Total Life	47 ^{1/}	424 ^{2/}	492				

1/ NCR\$200,000 - PL 480 see 104 (F)
2/ Trust funds
3/ Subject to the availability of funds

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