

AIRGRAM

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TO - AID/WASHINGTON TOAID A 1285

Return to: SER/DIS
Rm 720

FROM - MANILA

SUBJECT - FY 1970 BUDGET SUBMISSION

REFERENCE -

NONCAPITAL PROJECT PAPER (FRUP)

Country Philippines Project No. 492-11-189-005 180-234

Submission Date Sept. 1, 1968 Original 1 Revision No.

Project Title **FRESH-BRACKISH WATER FISH PRODUCTIVITY**

U.S. Obligation Span: FY 1969 through FY 1971

Physical Implementation Span: FY 1969 through FY 1972

Gross Life-of-Project Financial Requirements: (\$000)

U.S. Dollars ----- \$ **449.0**

U.S.-Owned Local Currency ----- -

Cooperating Country Cash Contribution ----- **708.6**
(\$1 - \$3.90)

Other Donor(s) ----- -

Totals ----- \$1,157.6

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DRAFTED BY

Staff

OFFICE

PHONE NO.

DATE

8-31-68

APPROVED BY:

Ernest E. Neal
Acting Director

AID AND OTHER CLEARANCES

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I. Summary Description

The Philippines is faced with a serious problem of protein deficiency. The incidence of ~~starvation~~ malnutrition is already high and they are problems that are being compounded by a rate of population increase that will double the population in 20 years. Fish is the main source of animal protein. The present annual fish catch, augmented by more than P50 million of imported fish, is able to supply an average only 14 per cent of the total protein needs of the Filipinos. There are few other sources of proteins for the Filipinos. At present fresh and brackish water fish ponds supply only approximately 60,000 tons of fish per year.

Specific objective is to increase fish production from fresh and brackish ponds from the present 60,000 tons per year to 500,000-750,000 tons. This will be accomplished over a five-year period by improving fish culture through research and practical demonstrations.

Two research facilities will be developed: (a) Brackish Water Research Station - Leganes, Iloilo; (b) Freshwater Research Station - Marawi City, Lanao Province, Mindanao. The two research facilities will initially be funded jointly by USAID and the University of the Philippines College of Fisheries (UPCF).

Both USAID/Philippines and the UPCF are committed to fund the Capital and Operating cost of both projects for the first three years of operation.

The AID contribution will be used for the purchase of commodities having their source and origin in the United States. AID will also provide technical assistance supplied by Auburn University and provide for the training of Philippine participants at the Auburn University School of Fisheries, Auburn, Alabama.

The contribution of the Government of the Philippines (GOP) will be P2,763,500 for the three-year period. The funds will be used for all local cost items including pond construction, buildings, equipment, supplies, salaries of Filipino personnel. See Table 1.

II. Setting or Environment

The essential problem at which the "Fresh-Brackish Water Fish Productivity" project is aimed is the inadequacy of high protein foods in the Philippines. There are very few protein rich foods now available to the average Filipino. Fish and rice are the staples of the Philippine diet. Yet the Philippines, an insular nation, cannot adequately supply the demand for fish of its own people. One symptom of the inadequacy of domestic supply is the large quantity of fish that is imported into the Philippines. These imports act as a drain on the economy in that they contribute in a major way to the imbalance of the country's current trade accounts. Another symptom is the high price now being commanded by fresh fish on the local market. Fresh fish is in fact so highly priced that all effort of canning locally caught fish has failed.

Significant potential exists for developing the Fishing Industry in the Philippines. Although ocean fishing would appear to offer vast potential, the surrounding oceans do not yield a rich harvest of fish. There are serious problems facing deep-sea fishers. The local practice of dynamite fishing, inadequate cold storage and freezing facilities, and heavy capital costs that must be borne in order to develop an ocean fleet, are some of these problems. Two areas offer far greater visible potential -- brackish and fresh water fishing. Fish culture is still practically an unknown in the Philippines.

Of the total 1965 fish production of 667,000 metric tons, less than 10 per cent or approximately 60,000 metric tons, was produced in 200,000 hectares of brackish water ponds. Average production per hectare of pond ranged between 300 and 400 kilos. By improved fishcultural techniques this yield figure can be increased to 2,500 kilos per hectare. By improving the production of existing ponds alone, brackish water fish pond production can be increased from 60,000 metric tons per year to over 350,000 metric tons per year. It is estimated that 250,000 additional hectares could be developed into brackish water fish ponds.

The Philippines has over 900,000 hectares of fresh water which yield approximately 40,000 metric tons of fish annually. Almost none of the fish reach the market since the supply is inadequate even for local consumption. About 350,000 hectares of the total 900,000 hectares of fresh water can be utilized for fishcultivation. At present there are 6,000 hectares of fresh water fish ponds. Per hectare production of over 1,200 kilos can be achieved with improved fishculture practices.

Fish, perhaps the best source of protein available to the average Filipino, now supplies him with less than 40 per cent of his animal protein needs and less than 14 per cent of his total protein need for good nutrition. Major alternate indigenous sources of protein, with the exception of coconut, are simply not available to the average Filipino. Filipinos enjoy fish in almost any form and quantity. Although fresh water and brackish water pond hectareage, suitable for development, is spread widely throughout the Philippines, there is almost no research or extension work in fishculture now being done in the Philippines.

III. Strategy

In an effort to increase food production the USAID contracted in February 1967 with Auburn University of Auburn, Alabama, U.S.A., for fishing scientists to make a survey of the possibilities for increasing pond fish culture as a source of food and protein. The Philippines, along with Brazil, Thailand, and East Pakistan was explored for possible selection as a site for a fish production research facility. Dr. H. S. Swingle and Dr. D. D. Moss conducted an intensive six-week survey in the Philippines in September and October of 1967. On October 10, 1967 they submitted a report to USAID/Philippines titled "Fishculture Project Report for the Philippines". In summary the report recommended the establishment of a Freshwater Fish Station at Marawi City and a Brackish Water Fish Station at ~~Lewenas, near~~ Iloilo on the Island of Panay.

The prime purpose of these stations is to teach better methods of Fish Pond Management which can result in very significant increases in fish production. A secondary function of these stations is to provide facilities for research and experiment in the field.

The need for these research facilities is due to the following factors outlined by the Philippine Fisheries Commission:

- (1) There is very little scientific information available on freshwater biology, ecology, and fisheries resources.
- (2) Economics of fish culture are based on verbal information obtained from a few selected areas.
- (3) Freshwater fisheries resource production data are negligible.
- (4) Productivity of natural waters are not known; pond productivity measurements are lacking.
- (5) Basic information needed for fisheries management and conservation are insufficient.
- (6) There is little training of prospective research leaders being done and there are very few technically capable people now available.

The Philippine Fisheries Commission is not able to develop a research and training arm. Lack of funds, know-how and personnel contribute to this inability.

A plan of action was evolved after extensive negotiation between USAID/Philippines, the Philippine Fisheries Commission, the National Economic Council, the University of the Philippines College of Fisheries, Auburn University and private fishpond owners. The plan is as follows:

- (1) The USAID/Philippines bilateral program will provide support over a three-year period to the project.
- (2) Secretary Salas will release to the UPCF P1.3 million earmarked for the Fresh and Brackish Water Fish Pond Project. The UPCF will turn these funds over to the National Economic Council which will act as the GOP Project Coordinator. The P1.3 million will be used to pay for the first year's local cost of the project. At the same time the GOP will agree to provide second and third year financing of P893,500 and P570,000 respectively.
- (3) The facilities will include ponds, tanks, laboratories and scientific instruments, sheds and other requisite buildings. Preliminary

plans have been prepared. The brackish water research facility would be at Leganes, near Iloilo. The land belongs to the town of Leganes and will be rented via a long term lease at a nominal rate by the Research Station. The freshwater research facilities would be at the Mindanao State University (MSU). MSU will donate the land to the Research Station.

- (4) The project is to run for three years during which time the facilities would be built, some research would be undertaken, but equally important, manpower would be trained -- fisheries technicians at the two stations in the Philippines and research scientists at Auburn University as well as "on the scene" research at these stations. As many as 12 senior research personnel would be trained in the United States.
- (5) The affairs of the Stations will be handled by a Project Director who will be governed by a Board of Directors. For the first three years the Board of Directors will include representatives of Auburn University, University of the Philippines College of Fisheries, USAID/Philippines, National Economic Council.
- (6) Auburn University will direct the program. It will have staff members at the two sites, grain research personnel going to the United States and supervise the research and training in the Philippines. This would be a part of a world-wide fishing research program covering several other countries: Brazil, Pakistan and perhaps Thailand. Thus there would be an exchange of findings and experience of other countries.
- (7) The three-year peso cost of the project will be used to create or rehabilitate and modernize fish ponds, to put up the needed buildings and to operate and maintain the ponds and research stations.

IV. Planned Targets, Results, and Outputs

The project has three essential targets.

A. Research Objective - The stations in the Philippines hope to determine or develop:

1. The most efficient species and combinations of fish species to obtain highest production in ponds.
2. The most efficient methods of water fertilization.
3. Cheap and efficient feeds for fish from locally available products.
4. Control of disease ~~and parasites~~. **UNCLASSIFIED**

5. Good management practices.
 6. Efficient methods of producing fish seeds for stocking purposes.
 7. Methods of shrimp culture and other aquatic crops.
- B. Training Objective - There is an almost total lack of trained Fish-culture Researchers in the Philippines. Training will be approached in two ways:
1. During the first three years a total of 12 well-qualified Filipino scientists will be sent to Auburn University for two years of intensive study in the area of Fishculture Research. As Filipinos complete their training at Auburn they will be sent back to the Philippines to participate in the second training effort.
 2. Both of the Research Stations are being located near universities. The University of the Philippines has a branch near Leganes and will also transfer a part of its College of Fisheries, now located at Diliman, Quezon City to Leganes. Marawi City is the site of Mindanao State University. Both UP and MSU will provide students and teachers to the Research Stations. Training will be done by the Auburn staff assigned to the Philippines, by Auburn-trained Filipino participants who have completed their two years of study, and by those trained technicians who will be directly employed by the Stations.
- C. Institutional Objective - The Philippines, a country with a compelling nutrition problem, with tremendous potential for increasing fish production, has neither the trained manpower nor the institutions to help her develop this high protein food source. Philippine Fisheries College graduates only a few adequately trained students each year. In 1964 the Philippine Fisheries Commission proposed a four-year budget of P206,000,000 with P15,000 per year earmarked for research.

The Fishculture Project will establish two physical plants, one fresh, one brackish water research station. The project will train Filipinos and generate research data.

AID and the GOP, through the NEC and the UPCF have agreed to a three-year project. AID/Washington has indicated that AID is anticipating being a partner in this project for a total of nine or 10 years.

After the first three years of construction and research, it is anticipated that funds for the continuation of the project will come from a variety of other sources, including: United Nations,

Rockefeller Foundation, Ford Foundation, Philippine Fisheries Commission, National Economic Council. Some portion of the operating cost will be recovered through the sale of fish raised on the stations -- perhaps 25 to 33 per cent of operating cost can be offset in this way.

Ultimately the facilities will be turned over to the GOP to be operated by UPCF and/or some other educational institution.

V. Course of Action

FY - 1. Upon approval of the project by AID/Washington and the GOP, Auburn University will provide the first of the two Associate Professors who will be assigned to the project. Plans will be finalized, detailed construction plans drawn up. An effort will be made to get the Philippine Army Engineering Battalions to do most of the pond excavation and construction work. Construction of laboratories, fish processing houses, refrigerating and storage facilities, residences and service building, will be completed during the first year. Four qualified Filipinos will be selected and sent to Auburn for two years of study. A Project Manager and Board of Directors will be selected. Students and instructors will be supplied by MSU and the UPCF.

Preliminary research will begin.

FY - 2. Construction will have been completed. Four more qualified Filipinos will be sent to Auburn University for two years of study. Extension work will begin using Filipinos trained at both stations. Close coordination with private fishpond owners will be maintained through a series of seminar and instructional sessions, in addition to the extension work.

The research effort will be well under way.

FY - 3. The first group of four trained at Auburn will have returned and have been assigned to the stations. A third new group of four participants will be trained by Auburn. Two new Auburn Associate Professors are assigned to the project. Pond expansion and improvement continues. Fish produced in the ponds of the stations are sold to offset operating cost. Extension work continues.

Research has begun to yield results. This, coupled with extension work, is expected to almost double fish production from fresh and brackish ponds.

FY - 4 to 10. Operation and capital costs are spread among a wider range of public -- both Philippine and Foreign -- and private sources. Associations of Philippine fishpond owners have volunteered financial support as early as FY 1. Training of Filipinos abroad is still necessary, although the UPCF will be a much stronger institution.

Production of fresh and brackish water fish ponds, which in 1968 amounted to approximately 60,000 tons, will by 1978 be increased to approximately 240,000 tons per year.

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Table 1
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NONCAPITAL PROJECT FUNDING
(OBLIGATIONS IN \$000)

PROP DATE: 9/1/68
Original : X
Rev. No. :

Country: PHILIPPINES

Project Title: Fresh-Brackish Water Fish Productivity
Project No. 492-11-180-234

Fiscal Years	AP	L/G	Total	Cont ^{1/}	Personnel Serv.			Participants		Commodities		Other Cost	
					AID	PASA	CONT	U.S. Ag	CONT	Dir US Ag	CONT	Dir & US Ag	CONT
Prior through Actual FY 1968			-	-									
Opr. FY 1969	TC	G	162.2	67.2			67.2	20		75			
Budg. FY 1970	TC	G	127.2	42.2			42.2	40		45			
B + 1 FY 1971	TC	G	159.6	93.6			93.6	40		26			
B + 2 FY _____													
B + 3 FY _____													
All Subs.													
Total Life	TC	G	449.0				203	100		146			

^{1/} Memorandum (nonadd) column

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Table 1
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Exchg rate \$1 = P3.90

Project No. 492-11-180629A

Fiscal Years	AID-controlled Local Currency		Other Cash Contribution Cooperating Country ^{2/}	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 through Actual FY 1968							
Opr. FY 1969			333.3				
Budg. FY 1970			229.1				
B + 1 FY 1971			146.2				
B + 2 FY _____							
B + 3 FY _____							
All Subs.							
Total Life			708.6				

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^{2/} COP General Budget.