AIRGRAM

DEPARTMENT OF STATE

Addendum to 38 PROP

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PD-AAA-279-B1

For each address check one ACTION | INFO

TO - AID|W — TOAID A 108 — X

RIO DE JANEIRO — USAID A 122 — X
BRASILIA — USAID A 30 — X

DATE REC'D. 12 P. 5120247 (6)

DISTRIBUTION
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INFO.

DATE SENT
OCTOBER 21th, 1971

FROM - Recife

SUBJECT - Revised Fisheries PROP (Project 512-15-180-247.4)

REFERENCE - AIDTO CIRC A 1877

In response to the questions raised in REFAIR:

1. The Mission feels that "Processing and Marketing" aspects of the Project are important and should not be deleted.

2. Item 3-a) Self sufficiency as intended signifies that the DNOCS technicians are capable of identifying problem areas in their particular field (fishery biology, reservoir management, fish culture, etc.) and awarding priorities for action. They are capable of initiating and designing research programs aimed at solving these problems. After analyzing research results they are capable of applying these results to the solution of the original problem area. Benchmarks of this self sufficiency are the publication of meaningful (problem solving) scientific research papers, extension bulletins, and/or most importantly, the actual operations of fishery technology, fishery biology and fish culture projects in private and governmental sectors that are being carried out by Brazilians. Evaluation of these success measures (benchmarks) could be made by on site inspection by USAID officials, consultants and personal evaluation by project personnel. There are presently 3 DNOCS technicians working in fishery technology and this number of personnel is sufficient to handle present problems in this area. These technicians have the ability (another benchmark) to train other Brazilians should the need arise for more personnel in this area.

Item 3-b) Two technicians are being trained in fishery biology and reservoir management. These are both fishery biologists one of which has received 10 months training in the U.S. and the other 3 months. The self sufficiency of these personnel (see definition and benchmarks of self-sufficiency Item 3-a) is aimed at providing intelligent management of freshwater fishery resources in the Northeast and is accomplished by

OTHER AGENCY

PAGE 1 OF PAGES 2

DRAFTED BY	OFFICE	PHONE NO.	DATE	APPROVED BY:
DMein:mg DCohen NJefferres	NEAR	30	10|19|71	NEAD-CGreen

AID AND OTHER CLEARANCES
NEAR-LHDavis
NEPS-FRCampbell

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AID-5-39 (9-62) (Do not type below this line) PRINTED 3-63

supervision of problem identification, research planning, and management decisions based on research results. The project input that has the largest effect is the technical advice of the Fishery Biology Advisor.

Item 3-c) For definition of self-sufficiency see Item 3-a. There are presently 3 DNOCS technicians being trained in fish culture. One of these has spent 10 months in the States, another 3 months and the third has a 2 month U.S. training trip planned. These individuals are being trained primarily in the establishment and development of a fish culture station which can ultimately serve as a model operation not only for Northeast Brazil but perhaps Latin America. Benchmarks of self-sufficiency can be evaluated by the successful operation of this station by trained Brazilians and the practice of fish cultures in private and governmental sectors.

Item 3-d) Number of fingerling produced by DNOCS:

1967	315,637	
1968	381,702	
1969	364,062	
1970	416,237	
1971	600,000	(projected)

Item 4) 1. Self sufficiency as explained in 3-a. This could be verified by on-site inspection by USAID personnel, outside follow-up consultants and personal evaluation by project technicians.

2. Increases in fish supply can be measured by the annual statistics that DNOCS records.

3. Changes in resource management and regulation systems of reservoirs can be noted and evaluated.

4. Numbers of fish ponds under culture can be enumerated.

5. Development of extension service in fish culture and technology can be enumerated.

Item 5) Increase in numbers of personnel has not been one of the main objectives of this project. The major objectives have been to train the existing personnel into a well functioning unit by upgrading their technical skills.

Item 6) Other verifiable indicators could be use of DNOCS facilities and expertise in training technicians from other agencies and counties.

Green

JUL 21 1971

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TO - AID/W TOAID A 405 1971 JUL 19 AM 8 39 x
RECIFE USAIDA 108 x

A.I.D. COMM BR

DATE SENT 7/12/71

FROM - RIO DE JANEIRO

SUBJECT - REVISED FISHERIES PROP

REFERENCE -

Attached to this airgram is a revised, updated PROP for project 512-15-180-247.4, Fish Production, Processing, and Marketing (NE).

While Mission realizes that draft PROP M.O. is not yet official, the new format is followed as an experiment with the form. The ~~experiment~~ experiment having been relatively successful, we encourage AID/W to approve this PROP as is.

ROUNTREE

Attachment

Seckinger LA/DR x 28128
J. Carello
Haudelius
Wilson

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PAGE 1 OF 1 PAGES

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DACohen/ nc	PRPC	276	7/12/71	D/ADPR: MFox

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AID-6-80 (11-65) PRINTED 6-69

AID CAPITAL PROJECT PAPER (PROP)

I. PROJECT IDENTIFICATION

1. PROJECT TITLE
Fish Production, Processing and Marketing (NE)

Appendix Attached: [X] Yes [ ] No

Page 1 of _____ pages

2. PROJECT No.
512-15-180-247.4

3. RECIPIENT
Brazil

4. LIFE OF PROJECT
Began **FY 64**
Ends **FY 73**

5. SUBMISSION
Revision No. 1
Date 7/12/71

II. FUNDING (In thousands of US dollars) AND MANPOWER (In man months)

A. Funding by FY	B. Total	C. 1/ Contractor		D. Personnel		E. Participants		F. Commodity	G. Other Costs	H. Local Currency (Exc. US$/5.2)	
		$000	MM	$000	MM	$000	MM			Joint	Budget
Prior thru FY-70	619.5	102.0	36	475.8	157	63.7	75	52.4	27.6	360.0 2/	250.0
Oprn. FY-71	114.0	41.6	14	109.0	38	- 2/	-	5.0	-	48.0	100.0
Budget FY-72	120.0	120.0	24	96.0	24	21.0	8	2.5	-	25.0	100.0
Budget FY+1	126.0	126.0	24	102.0	24	21.0	24	2.5	-	20.0	150.0
Budget FY+2	-	-	-	-	--	-	24	-	-	-	150.0
Budget FY+3											
Grand Total	979.5	389.6	98	782.8	243	105.7	131	62.4	27.6	453.0	750.0

2. OTHER DONOR CONTRIBUTIONS
Name of Donor
No other donors

III. MISSION CLEARANCE

1. Drafter:
NEAR:CRees/NEPO:FRCampbell

2. Mission Clearances:
NEAR:LIIDavis
NEPO:FRCAmpbell
NEAD:CDGreen

1/ Non-add column
2/ FY-71 participants were funded from Project 268-20 participant man-months $19,500
3/ US$ based on exchange rate at time of obligation. Includes Trust Fund and CONTAP/SUDEN resources.

FISH PRODUCTION, PROCESSING AND MARKETING
PROP 512-15-180-2424

INTRODUCTION

This revision is submitted to incorporate into the PROP changes that are taking place in the project and to extend the final obligation date to FY-73. The revision follows the outline as prepared in the PROP draft M.O. (AID TO CIRC A-1115, 5/22/71) except for the face sheet which is not yet available.

SUMMARY

USAID assistance to fresh water fisheries in Northeast Brazil began in 1964 with a team of five PASA technicians which surveyed at the request of SUDENE (Superintendency for Northeast Development) the possibility of increased protein production through development of fresh water resources. The survey team found that the National Department of Works against the Drought (DNOCS) had constructed a large number of public and private dams and reservoirs which were used almost solely for the storage of water but which had potential for the production of fish. In 1966, USAID began to finance technical assistance in Fish Technology and Fish Biology through two PASA technicians to assist DNOCS in obtaining data on yields and population of reservoirs and methods of fish landing, handling, processing and distribution. From the start, progress in public reservoir management and in fish technology has been consistent. However, soon after the project began it became apparent that the introduction of fish culture systems to the many smaller and more manageable private ponds would have even greater significance. Technical assistance in this area was delayed until 1970 when personnel from Auburn University were contracted. PASA assistance is terminating but contractor assistance is required for two more years in order to insure that research results will be used in production.

A. STATEMENT OF GOAL

1. "Increase overall production of animal protein from fish through improvement of yields from Northeast public reservoirs, improvement of fish processing and marketing practices, and introduction of fish culture to farm ponds."
2. Progress toward goal achievement can be measured by the increase of the edible supply of fish from reservoirs and ponds in the Northeast. We

believe a 15 percent increase in the supply between 1970 and the end of 1973, beyond that which would normally occur as the result of new impoundments, would indicate that research results are in fact moving into production. Another measure would be the introduction of fish culture to 50 farm ponds by 1973.

3. Progress toward goal achievement is based on several assumptions which are key elements in the project but which we expect, at this time, can be complied with. They are:
   a. DNOCS will continue to pursue the research, development and extension programs begun under this project;
   b. DNOCS will have sufficient interest in project to perfect and maintain records-keeping for the use and production of reservoirs and ponds;
   c. DNOCS will be able to supply fingerlings and arrange extension services to persons desiring to engage in fish farming.

D. PROJECT PURPOSE

1. Purpose: Establish within DNOCS the capacity to carry out research, to improve and encourage extension services, and to develop fresh water fish resources.
2. By the completion of the project, i.e., at the end of FY-73, we expect that there will exist in the Northeast and principally in DNOCS:
   a. A self-sufficient capacity in planning and research for fresh water fish resources;
   b. Operational systems of reservoir management, fishery technology, and fish culture;
   c. Agreements with at least three state extension agencies for the introduction and dissemination of fish culture information to farmers with ponds or reservoirs.
3. There are several elements in the project which are not within USAID's capacity to control or manage but which are key elements in achieving the project purpose. They are:
   a. DNOCS will retain its identity as a semi-autonomous agency, or if absorbed into another agency, its fisheries department will remain intact with substantially the same purposes;
   b. The Government of Brazil will continue its commitment to fresh water fisheries development through budgetary allocations or counterpart commitments;
   c. Minimum training for extension agents can be arranged through the University of Ceará or DNOCS itself.

C. PROJECT OUTPUTS

a. Self-sufficiency of DNOCS technicians in Fishery Technology. As a result of project-related training, this output will be accomplished by the end of FY-71.

b. Self-sufficiency of DNOCS technicians in Fishery Biology and Reservoir Management. This target is 80 percent accomplished now and should reach 100 percent by the end of FY-72.

c. Self-sufficiency of DNOCS technicians in developing operational systems of pond fish culture. There will only be 50 percent of self-sufficiency by the end of FY-71. One hundred percent achievement is projected for the end of FY-73.

d. Functional laboratory and research facilities. This is essentially accomplished as far as fish biology and fish technology laboratory equipment is concerned. However, possibly as much as $5,000 may be needed to complete the equipment needed for fish culture studies. All equipment should be in place by the end of FY-73.

e. One hundred percent increase (over 1967) in the production of fingerling fish for stocking ponds and reservoirs. Target is expected to be achieved in FY-72. (There was a 50 percent increase at the end of FY-70 and a cumulative increase of 75 percent is expected at the end of FY-71).

f. Introduction of fresh water fish culture on private farm ponds. Starting from zero base in FY-71, we expect that fish culture will be introduced on 20 farm ponds in FY-72 and 50 (cumulative) by the end of FY-73. A similar rate of increase can be expected in following years.

2. Among the assumptions which affect the achievement of outputs are:

a. Returned participants will effectively utilize their training for the project purpose;

b. DNOCS salaries will be sufficiently competitive to keep trained personnel;

c. Timely arrival of commodities;

d. Extension service will have adequate budgets;

e. It can be demonstrated to pond owners that fish production is equivalent to additional income.

D. PROJECT INPUTS

a. Technical Assistance:

Fishery Technology - PASA, FY-66 to FY-71
Fishery Biology - PASA, FY-66 to FY-71; contract (AUBURN) FY-71 to FY-73
Fish culture/Research - Contract (AUBURN) FY-70 to FY-74
Fish culture/Extension - Contract (AUBURN) FY- 72 to FY-74

b. <u>Technical Training in the U.S.</u>
Short Term - 14 participants-1967; 2-1968; 3-1970; 4-1972.
Long Term - 3-1969; 2-1970; 1-1971; 2-1973.

c. <u>Commodities - Laboratory Equipment.</u> (plus minor misc.)
FY-1966-$10,000; 1967-$16,500; 1968-$5,458; 1970-$10,000; 1971-$5,000; 1972-$2,500; 1973-$2,500.
Total commodities - $51,958.

d. <u>Fish Culture Research Center.</u> DNOCS, with the help of counterpart (CONTAP/SUBIN) funds has built facilities for 48 ponds on 15 hectares. Funding has been approved for 24 additional ponds in FY-72.

e. <u>Financial Resources.</u> (In addition to budgetary allocations) Counterpart (CONTAP/SUBIN) funds are being utilized in project as follows:
1966 - Cr$204,000; 1967 - 400,000; 1969 - 400,000; 1970 - 200,000.

2. Budget - see [illegible]
3. Assumptions:
   a. Qualified candidates for participant training will be available;
   b. SUBIN allocations and budget resources will be released on time;
   c. AID/W will continue Auburn University contract.

E. <u>RATIONALE</u>

In the officially designated drought area of Northeast Brazil, which touches ten states and covers an area larger than Europe, scarcity of rainfall from June to December causes frequent crop failures and thus a shortage of feed for cattle, hogs, poultry and other animals. This feed shortage, which becomes even more pronounced during the periodic droughts which affect the region, results in very irregular and unsatisfactory levels of animal protein production throughout the area. For more than sixty years, DNOCS and predecessor agencies have been constructing ponds and reservoirs both on private and public lands to store water for human and livestock consumption during these dry periods. DNOCS has completed construction of 254 public reservoirs with a total capacity of 11.4 billion cubic meters and has provided assistance in the construction of another 596 public and private reservoirs and dams with a capacity of over 2.2 billion cubic meters.

Although this natural resource has only begun to be tapped, DNOCS long ago realized its potential and began a functioning fish culture service in 1937. The first fish culture station for production of stocking fish was completed in 1949 at Lima Campos Reservoir in Ceará. Two other stations have since been completed, one in Ceará and one in Rio Grande do Norte, and a fourth is under construction in Bahia. Nevertheless, there is a basic lack of knowledge of the characteristics of the Northeast reservoirs and of their fish populations, as well as a lack of modern methods of preserving and transporting the catch. These deficiencies have had beginning remedies applied through PASA technical assistance, participant training and commodity assistance. DNOCS now has a staff of 30, 12 of whom are professionals, working in this area. Eight of these technicians have already received in-service or academic training in the United States. Moreover, there now exists in DNOCS a research institute dedicated to the development of fresh water fisheries. Even in its relatively underdeveloped state, fresh water fisheries production contributes an estimated 30,[illegible] tons of animal protein per annum to the Northeast diet.

Although progress in reservoir management and fishery technology has been consistent, both DNOCS and USAID realized as early as 1968 that the introduction of intensive fish culture in the thousands of ponds in the region had the potential of greatly increasing production. However, fish culture technical assistance was not available in Brazil nor through the PASA agreement. Attempts to utilize the AID/W contract with Auburn University were delayed by almost two years and the first fish culture technician under the contract arrived only in FY-70. It also became apparent at this time that there would have to be improved extension services in order to disseminate fish culture technology to persons interested in fish farming.

The point at which the project now rests is:

1. There is a cadre of [illegible] professional Brazilians in fishery technology, fishery biology and [illegible], and fish reservoir management capable of continuing these disciplines without U.S. assistance beyond that presently programmed and funded.
2. DNOCS continues to need technical assistance in fish culture research and extension for an estimated two years. Small amounts of commodities and some participant training will also be required in this area.

Although the U.S. assistance to this project may be considered 90% completed, it is important to stress that the last 10% of planned assistance is what will make the difference in reaching the project goals.

5. COURSE OF ACTION

1. a. Allow PASA to expire as scheduled 6/30/71, thus eliminating positions of Fishery Advisor and Fishery Specialist/Technology.
   b. Allow Auburn contract position of Fishery Biologist/Reservoir Management to expire as scheduled August 1972.
   c. Continue the existing position of Fish Culture Specialist for an additional 2 year period after its present termination date of October, 1971.
   d. Establish the additional position of Fish Culture Specialist/Extension for one 2 year tour to run concurrently with second tour of fish culture specialist.
   e. Send 6 additional participants to the USA to study Fish Culture; 4 for short-term on-the-job training and 2 for long-term academic training.
   f. Provide $5,000.00 under the Auburn University Contract for a limited amount of fisheries research equipment not available in Brazil.

GOAL: Increase overall production of animal protein from fish through improvements of yields from Northeast public reservoirs, improvement of fish processing and marketing practices, and introduction of fish culture to farm ponds.	Measures of Goal Achievement 1. 15% increase in fish supply from fresh water sources between 1970 and 1975. 2. 50 farm ponds have begun fish culture by 1975.	Important Assumptions 1. DNOCS will continue research, development and extension programs already begun . 2. DNOCS will maintain records on fish production. 3. DNOCS will be able to supply fingerlings and technical advice to farmers.
PURPOSE: Establish within DNOCS the capacity to carry out research, improve and encourage extension services and develop fresh water fish resources.	Conditions at End of Project 1. Self-sufficiency in planning and research capacity for fresh water fish resources. 2. Operational systems of reservoir management, fish technology and fish culture. 3. Dissemination of fish culture information through at least three state extension agencies.	1. DNOCS fisheries dept. will remain intact. 2. GOB commitment to fisheries development will continue. 3. Extension agents can be trained in fish culture.
OUTPUTS 1. Brazilians trained in: - Fish technology - Fish biology - Reservoir management - Pond fish culture Functional laboratories and research facilities Fingerling production increase. Introduction of fish culture to small pond owners.	Magnitude of outputs 1. 31 participants trained 2. Central lab at Fortaleza, fisheulture station at Pentecostes, CE., field lab. at Araras, CE. 3. 100% increase in fingerling production between 1967 & 1972. 4. Introduction of fish culture to 20 farm ponds by 1972; 50 by 1975.	1. Returned participants will use training toward project purpose. 2. DNOCS salaries will be reasonably competitive. 3. Extension services will have adequate budgets. 4. Farmers can be shown that fish production is equivalent to additional income
INPUTS 1. Technical assistance in Fish Technology, Fish Biology, Fish Culture Research and Extension. 2. Participant training. 3. Commodities - lab equipment 4. Fish Culture Research Center 5. Budgetary and SUDENE(ex-CODENO) resources.	Implementation Schedule 1. PASA for fish tech.& biology. 1966-1971; Auburn contract for other TA, FY-70 to FY-74. 2. 10 short term & 9 long term training completed Long term: 1-FY-71; 8-FY-73. Short term: 4-FY-72 3. $47,000 in lab equip. FY-66-72 $5,000 FY-71, 72 4. Total of 72 fish ponds by FY-75 5. Cr$1,204,000 thru 1970	1. 1. Qualified candidates for participant training available. 2. SUDENE resources and budget allocations released on time. 3. AID/W will continue Auburn contract.

FISH PRODUCTION, PROCESSING AND MARKETING (NE)
512-15-180-247.4

Total obligated thru 6-30-71	$723,000
Proposed obligations to end of project	$247,000
Total cost of project	$970,000
Project started	1963
Scheduled to terminate - funding	1973
activities	1974
U.S. Chief of Party	William Davies Auburn University
Brazilian Official	Dr.Amaury Bezerra e Silva Project Coordinator National Department of Work Against the Drought (DNOCS)

Address: Departamento Nacional de Obras contra a Seca (DNOCS)
Fortaleza, Ceará

Objectives: the goal is to increase the production of protein from fresh water resources and to increase farm income and employment.

Description: The fresh water portion of the project began in 1967. The first phase intended to give DNOCS (National Department of Works Against the Drought) the capacity to carry out fresh water fishery research and development. Thus, assistance was developed largely to on-the-job and cutside training, equipment procurement, and construction on physical facilities. Twenty-seven people were trained, 42 experimental ponds constructed, and three laboratories equipped. USDI provided two PASA Technicians.

After a comprehensive Mission evaluation one year ago, it was decided the institutional building phase was completed and the USDI PASA was terminated. The second phase started two years ago and focuses mainly on research. Two Auburn University technicians are assisting DNOCS. During the past year several promising species have been identified. They have been made available to selected pond owners on an experimental basis. Consumer acceptance tests are being run. Preliminary results are encouraging.

The third phase will start this year when an additional Auburn contract technician will focus on extension and marketing.