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5320038 (7)

**AIRGRAM**

**DEPARTMENT OF STATE**

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TO- AID/W TOAID A- 66

FROM - JAMAICA

SUBJECT - PAR/PES FOR INLAND FISHERIES DEVELOPMENT PROJECT  
532-0038

REFERENCE -

Attached is a copy of the Project Evaluation of the  
Inland Fisheries Development Project No. 532-0038,  
dated o/a December 7, 1977.

HAVE CAMP



Attachment: A/S

PAGE 1 OF 1 PAGES 1

DRAFTED BY	OFFICE	PHONE NO.	DATE	APPROVED BY:
KELIS:lv <i>[Signature]</i>	RDO	241	5/18/78	Dr. Donor Lion, Director
AID AND OTHER CLEARANCES				
PRO:ES <i>[Signature]</i>				

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Proj. Evaluation 1-8/77

PROJECT EVALUATION SUMMARY

1. USAID/JAMAICA			2. Project Number 532-0038	
3. Project Title INLAND FISHERIES DEVELOPMENT				
4. Key project dates (fiscal years)			5. Total US Funding: Life of project	
a. Project Agreement Signed:	b. Final Oblig.	c. Final Input Delivered		
6/76	1/80	6/80	\$355,000	
6. Evaluation Number as listed in Eval. Schedule	7. Period covered in Eval. From:	To:	8. Date of this Review	
1	10/76	10/77	10/31/77	
9. Action decisions reached at Evaluation Review:  See following page.		10. Officer responsible for follow-up:  Ronald V. Curtis Rural Development Officer	11. Date action to be completed.  See following page.	

Ronald V. Curtis  
Rural Development Officer

Donor M. Lion  
Mission Director

Janice M. Weber  
Assistant Program Officer(TDY)

Kenneth N. Randolph  
Fisheries Advisor

Signed Dec 77: Probably between 7-9 Dec.

### Action Decisions

- A. A follow-on project will be designed by GOJ and USAID for a major extension effort to increase inland fish production (will begin January 1978).
- B. Current Project will be modified to prepare for follow-on by research into five questions (see Item 13) (January 1978).
- C. Extension Advisor will be added to the project to train extension officers (February 1978).
- D. Auburn University will provide analysis and recommendations of other fish species for introduction into Jamaica (March 1978).
- E. USAID will initiate action to modify project documents and contract with Auburn (January 1978).

13. SUMMARY.

During the initial project year, the project made better than satisfactory progress toward achievement of the purpose: developing the institutional capability of the Fisheries Division, Ministry of Agriculture (MOA), to promote and support intensive inland fish production. However, there were problems in implementation, the most important of which was and continues to be the lack of fingerlings (see item 16). The original estimate of native fish from which the project would obtain its supply of fingerlings was too high. That, plus the late arrival of the contract advisor and delays in procurement of equipment and materials (see item 16), contributed to delays in implementation.

On the positive side, the Inland Fisheries group already has more trained staff on board for the project than originally planned for the three-year duration, an indication of the GOJ's high level of support (see item 18). The completed pond survey found that of 1,091 ponds surveyed, 676 were dry and only 166 potentially suitable for fish culture (see item 19b). The renovation of the Twickenham Park fisheries facility is nearing completion (see items 18 and 19).

This first year was dedicated to recruiting personnel, beginning long-term and on-the-job training, renovating existing facilities, setting up brood ponds for fingerling production, and procuring project equipment and materials. Accordingly, research activities were slightly delayed but will begin in early 1978<sup>1</sup>. At the outset, the technical advisor realized the need for sufficient institutional development, including the adaption of fish culture techniques to local conditions; consequently, he concentrated project resources and his efforts on strengthening the human resources base before a major extension program is initiated (see items 17 and 21).

The extension program thus far has been limited to those few private-sector facilities that could contribute to the knowledge base of Inland Fisheries. A major extension program must be postponed until a stronger knowledge base is established and has indicated answers to these questions:

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1. Years are calendar years unless otherwise specified.

- A. What are the economic implications of fish farming within an integrated farming operation?
- B. What is the utility of indigenous ponds for increased fish production? How does renovation of existing ponds compare economically with construction of new ponds?
- C. Are there possible social and cultural characteristics that may preclude small farmers from participating in the expanded program?
- D. What are the existing and potential processing and marketing systems for freshwater fish? What special arrangements (e.g., cooperatives) are needed, if any, to allow small producers to participate?
- E. What are the expected production levels from different sized operations? Are economies of scale present? Are there significant differences in per-unit costs of production between different sized units?

#### 14. EVALUATION METHODOLOGY

This is a regular annual evaluation as provided for in the PP; however, due to the delayed start, this evaluation covers a period of one year from actual project initiation.

Data for this evaluation were collected from regular project reports by the contract technical advisor, project records, and discussions with GOJ Fisheries Division personnel, the MOA's Agricultural Marketing Corporation personnel, and others (see attached list of participants).

#### 15. DOCUMENTS TO BE REVISED

- A. Project Paper
- B. Logical Framework
- C. PIO/T
- D. Financial Plan

Note: This evaluation has confirmed the need and desire of the GOJ to design an expanded follow-on project to this project. USAID/J will modify the present project in preparation for the follow-on.

## 16. EVALUATION FINDINGS ABOUT EXTERNAL FACTORS

A. The unforeseen difficulty in obtaining a sufficient supply of fingerlings continues to be the factor most greatly affecting achievement of the project's production goals. The supply of fingerlings in country was found to be inadequate to support a significant level of intensive production. Brood ponds have been set up on government facilities and expansion of the project is not expected to be further delayed once the initial production of fingerlings from MOA facilities begins in 1978.

B. Import restrictions have caused difficulties in obtaining some commodities for the project. The change in automotive model years and a dock workers' strike on the US east coast also delayed delivery of project vehicles.

A total delay of five months (June to November 1976) in implementation stems from these factors.

## 17. EVALUATION FINDINGS ABOUT GOAL/SUBGOAL

Primary Goal: To meet the GOJ's food and nutrition objectives of increasing the protein intake of low-income local inhabitants.

The demand or market for Tilapia (or for fish in general) exists and may increase due to price competitiveness and import restrictions on substitutes. The baseline estimate in the PP of 5 million pounds of freshwater fish caught per year appears to be incorrect: it is closer to 2 million pounds. This revision is based on the results of the pond survey and on an estimate of the annual catch of river fish.

Since the current food fish production by the Inland Fisheries project is negligible, it will take until 1978 to see any significant production. It is expected that approximately 200,000 pounds will be produced in 1978 from current GOJ facilities and a lesser amount (100,000 to 200,000 pounds) from the private-sector ponds with which the project began work in 1977.

Subgoal: To increase inland fish production and income of participating farmers.

There is considerable interest in fish culture in Jamaica. The implementation of an extension program must, however, await the development of fingerling production and a stronger knowledge base, and the training of extension personnel. At present, limited association with the private sector indicates that despite keen interest in fish culture, expansion to 260 small producers with quarter-acre ponds will require a major effort to support and maintain production.

At the present rate of development it appears that emphasis on extension to the private sector will occur in early 1979.

#### 18. EVALUATION FINDINGS ABOUT PURPOSE

Purpose: To create within the GOJ Fisheries Division the institutional capability and technical expertise to design and implement an inland fisheries program involving applied research, experimentation, and an inland fisheries extension program.

Progress toward End-of-Project Status: Despite initial delay, the present EOPS is expected to be attained on schedule except for the anticipated results of the extension program.

End-of-Project indicators and progress toward each:

A. Trained staff on board in Inland Fisheries: The number of staff members originally planned (21.5) has been exceeded (33).

B. Constructing and equipping a research and training facility at Twickenham Park: (1) The basic laboratory building has been completed and equipped; additional expansion is in progress. Fish storage facilities have yet to be constructed (expected completion mid-1978). (2) Eight new ponds (three of the five acres planned) at Twickenham Park are complete, with the five at the Jamaica School of Agriculture (JSA) grounds yet to be begun. The Twickenham Park ponds needed some repair with clay, due to leakage through sandy soil in parts of the pond bottoms.

C. Applied research capability within the Fisheries Division: (1) 650,000 fingerlings produced at Twickenham Park; program under way on sex reversal of Tilapia. (2) The Fisheries Division had decided to delay any introduction of new fish species into Jamaica; however, based on discussion

at the first-year evaluation meeting, the project will proceed with evaluating various other fish species (in early 1978) for possible introduction into Jamaica in 1978. (3) Further activity is to begin in 1978.

D. Food fish production: increase from 100-200 lbs/ac/yr of freshwater fish to at least 3,000 lbs/ac/yr on an intensive basis by smaller producers, with from 8,000 to 10,000 lbs/ac/yr at Mitchell Town and Jamaica Industrial Development Corporation (JIDC) projects: The Mitchell Town farm is anticipated to produce 10,000 lbs/ac/yr beginning mid-1978. JIDC has not as yet made any progress toward the 8,000 to 10,000 lbs/ac/yr objective as they have not constructed their facility. JIDC's prospects of reaching their target are still in question; that organization's internal problems continue to delay its inputs into the project. It remains to be seen in FY1978 if USAID/J will be eliminating this portion of the project as not feasible for fish production in the near future. Certainly by the next evaluation, the Mission will know if the JIDC operation has improved to the point of fulfilling the role originally planned for them.

E. Establishment of adequate and accurate records and statistics at Fisheries Division pertaining to inland fish production: To begin in 1978.

F. An EOP added after project design: A formal in-country training course in fish culture has been initiated at the JSA; twelve students are currently enrolled in the course, which is taught by the project advisor. This level of interest by the JSA and its students bodes well for providing capable fisheries advisors in the planned expansion of GOJ fisheries efforts.

## 19. EVALUATION FINDINGS ABOUT OUTPUTS AND INPUTS

Delays have caused Inland Fisheries to become somewhat more self-sufficient in the provision of inputs. The staff fabricated their own equipment when supplies were not delivered. When a less than full complement of personnel was recruited, the contractor found other people to assist in various tasks of the project.

At the end of the first year, considerable progress has been made toward achieving the planned outputs and inputs.

Outputs:

## A. Personnel trained in inland fisheries development:

Long-term

No. of people	Leaving	Returning
1		August 1978
1	January 1978	
1	August 1978	

Short-term

No. of people	Course	Timing
1	3-month course	June 1977
1	Training seminar in other countries	April 1977
2	Training seminar	November 1977
1 or 2	Training	Summer 1978

B. Survey of inland fisheries development potential: This survey was completed in April 1977; the findings showed that of a total of 1,091 ponds surveyed--many naturally occurring--676 were dry. Of the 415 with water, only 166 appeared to be suitable for fish culture, but not for intensive levels of production. In 1978 the project will examine the question of whether some of these ponds can be utilized, and if so, the amount of extension assistance needed for 1979.

C. Extension program in operation: Postponed (see items 17, subgoal, and 21).

D. Upgrading of the Twickenham Park facility: Nearing completion (see item 18b). In addition, a dwelling for the resident biologist is planned for this facility and for Mitchell Town, where proposed expansion will encompass 60 acres of ponds.

Inputs:

A. U.S.: (1) Services of one aquaculturist have been obtained. (2) Short-term consultant and training services have not yet been used, due to delays in equipment arrival and

completion of infrastructure. (3) Training is on schedule. (4) Commodities have been delayed, causing some problems. The lack of project vehicles has made it difficult to travel between project sites and to collect fingerlings. Vehicles have been ordered; their arrival is contingent on the solution of the current dock strike. (5) Three Peace Corps Volunteers (PCVs) were assigned to the project. They have performed well, though one resigned recently due to misunderstandings as to his role and the project's nature. The remaining two continue to make a valuable contribution to the project as motivators, catalysts, sub-supervisors, and team members.

B. GOJ: (1) Resources for renovation of Twickenham Park lab and ponds have been provided. Funds for construction of fish storage facilities and two residences for biologists have been requested (FY1978-79) for mid-1978 completion. (2) Funds for an increased staff have been forthcoming. The Project Agreement stipulated a staff level of 21.5; 33 persons are currently on staff; at the time of PP submission staff needs were difficult to estimate. (3) Administrative and operational support has been forthcoming.

## 20. EVALUATION FINDINGS ABOUT UNPLANNED EFFECTS

None. It is too early in the project to notice any effects.

## 21. CHANGES IN DESIGN OR EXECUTION

As noted (items 13 and 17, subgoal), a major extension effort requires a corps of trained personnel, a supply of fingerlings to stock new ponds, and, most important, experience and a knowledge base in intensive fish production in Jamaica. Unforeseen delays in attaining these requirements mean that the project will have to be modified: an extension program must be prepared.

During the present production cycle, the project will continue training and renovation activities under way and will complete the first year of production at the Ministry's facilities and the private-sector ponds involved.

Applied research on biological, sociological, and economic factors will be intensified. Close observation of the private-sector ponds, especially as to the management factors for the owners--economic, technological, and social--will allow a more effective extension program to be developed.

Project staff will pay special attention to determining the economic viability of natural fish ponds and small ponds (less than 2 acres) for increased production. They will also examine closely the marketing and processing chain for fresh fish, considering, among other things, what special arrangements (e.g., cooperatives) are needed, if any, to allow small producers to participate, and what preparations should be made to handle greatly increased volumes of fish.

To assist in this preparation for the extension program for 1979, another resident contractor--an extension advisor--will be required; steps to have him in country in early 1978 have begun. Short-term advisors in marketing and economic analysis will also be required during 1978.

## 22. LESSONS LEARNED

The development of a corps of trained personnel capable of extending the technology of intensive fish production to farmers is taking longer than contemplated in spite of highly enthusiastic technicians working in the project.

## 23. SPECIAL COMMENTS AND REMARKS

Overall, the project has shown better than satisfactory progress. Postponing a major extension program in favor of building a solid Inland Fisheries staff capability and research facility will, in the opinion of the evaluators, lead to a sounder extension program with greater benefits.

The GOJ and USAID will begin designing a follow-on project based on the successful results to date of the current project. The follow-on project will consist of a major extension effort to the extent shown feasible as a result of socioeconomic studies to be performed under the current project as modified. The Project Paper should be ready for presentation in Washington by early 1979 and will begin implementation shortly thereafter.

Attachment

LIST OF PARTICIPANTS

First annual evaluation of Inland Fisheries Development Project  
Twickenham Park

November 1, 1977

<u>NAME</u>	<u>OFFICE</u>	<u>POSITION</u>
1. R. Curtis	USAID	RDO
2. D. Hurson	Peace Corps	Advisor
3. F. Ross	Fisheries Division	Fisheries Officer 1
4. L.A. McFarlane	" "	" "
5. N. Boyd	" "	Fisheries Instructor
6. R. Kalberer	Peace Corps	Advisor
7. F. Zenny	Min. of Agriculture	Director, Prod. Unit
8. Donor Lion	USAID	Director
9. L.E. McLaren	Min. of Agriculture	Permanent Secretary
10. I.E. Johnson	" "	Chief Technical Officer
11. Yvonne Laidlaw	" "	Admin. Officer
12. E. Royer	Fisheries Division	Director (acting)
13. Roy MooYoung	" "	Fisheries Officer
14. Ken Randolph	USAID	Fisheries Advisor
15. Janice M. Weber	USAID/Colombia	Acting Prog. Officer