

July 3, 1979

Evaluation of Inland Fisheries Program/June 1979  
USAID/DR OPG #517-0123  
Approved: June 1978

Church World Service (CWS)  
Servicio Social de Iglesias Dominicanas

I. BACKGROUND

A. USAID/DR Operational Program Grant No. 517-0123, titled "Inland Fisheries Program (IFP)", was approved on June 13, 1978. The implementing PVO is Church World Service (CWS), with its local counterpart agency, Servicio Social de Iglesias Dominicanas, Inc. (SSID). The grant was made to CWS because SSID is not registered with USAID's Advisory Committee on Voluntary Foreign Aid. The grant is for a three year period, and totals \$160,000.00; CWS's, SSID's, and GODR's contribution to the project totals \$137,988.50.

B. The purpose of this pilot project is to develop economically viable fishponds on small farms which produce a food crop (fish) through methods which the typical small farmer, agriculture association, and/or rural community can afford, and manage. The principal long range goal of the project is nutritional in character. Secondary goals include: (a) additional income source, (b) increased employment opportunities. The specific objectives of the USAID/DR grant are threefold:

BEST AVAILABLE

## 1. Training

### a. Extensionists - (four Dominicans) - Inland Fisheries

Management: Subjects to include site selection, pond construction, types of fish that can be cultivated, fish nutrition, reproduction diseases, environmental tolerances, water quality, predator control, spawning, growth, stocking, transportation of live fish, harvesting, sales, and related economics.

b. Participants - (small farmers) - Subjects to include fish pond construction, fish feeding, water level checks/necessary action, plankton levels, pond fertilization, harvesting techniques. This training will be provided by the extensionists.

c. Volunteer Promoters - (eight) - Training in community organization techniques, fish pond construction, fish culture, and other aspects of fish pond management as with participants.

## 2. Fish Pond Construction

Construct and stock twenty (20) ponds in 8-12 rural communities (20,000 inhabitants); maintain, cultivate, and harvest fish.

## 3. Nutrition Education

Training courses for project participants and families to include methods for cleaning, preparing, and preserving fish; address local taboos vis-a-vis fish consumption; benefits of fish in diet. A basic course of five hours duration is to be given in each geographic area included upon initiation of the project to be repeated with new pond construction and/or when approximately ten new families become involved.

C. The following are some criteria selected for measurement of successful progress of the project: (1) number of fingerlings distributed; (2) pounds of fish produced cyclically; (3) number of farmers requesting fingerlings; (4) number of new areas introduced to fishculture and number of ponds constructed; (5) number of farmers who are able and continue to cultivate fish on their own after preliminary advice and technical assistance; (6) amount of fish being sold and consumed; and (7) increase in interest and support from Government institutions for fishculture programs.

The continuation of USAID/DR funding for this grant, as stated in the Grant Agreement, is contingent on positive findings that fresh water fish are an acceptable addition to the diets of the rural poor, for whom fish were not a normal part of the diet before initiation of this project.

## II. IMPLEMENTATION PROGRESS

A. Project Purpose (develop economically viable fishponds on small farms which produce a food crop and are affordable and manageable by small farmers).

Two methods have been used to date in the construction of the fishponds: (1) all manual labor; (2) mechanical plus manual labor. Below are tables (I and II), which present the cost for construction of a 300 m<sup>2</sup> (typical size) fish pond, by either method. Another table (III), presents the optimum and minimum production which can be expected from this pond.

<u>Activity</u>	<u>All Manual</u>	<u>Mechanical and Manual</u>
1. Dig Pond	480.00 = 1,200 man/ hours*	90.00 = bulldozer, 3 hours/ \$30/hour. 1 + 2 =
2. Finish Pond	-----	95.00 = gass, oil, etc. 70.00 = 175 man/hours labor.
3. Materials (pipe, cement, wood, etc.)	250.00 = (10 year replacement).	3,250.00
4. Equipment	150.00 = (3 to 10 year replacement).	4,150.00
5. Net	125.00 = (3 year replacement).	5,125.00
TOTAL	<u>1,005.00</u>	<u>780.00</u>

Production - (300 m<sup>2</sup> fishpond)

Maximum-Optimum = 150 lbs./8 months  
200 lbs./8 months

Minimum = 50 lbs./3 months

(Sale price can vary from 40¢ lbs. to 60¢ lbs.)

\* Labor costs are calculated at .40¢/Hour.

Maximum and optimum production levels are achieved by conscientious application of a 30-minute-per-day management program, supported by weekly and monthly activities (Table IV). Minimum production is a result of doing nothing.

Management Activities

Activity	Daily	Weekly	Monthly	Action
Feeding	X			Collection, Preparation as necessary.
Water Level Check	X			
Observation of Fish (Health, Resting, Spawning)	X			
Water Color Check	X			Correct As Necessary
Predator Check	X			
Check Intake and Outlet Drain Screens for Clogging		X		Clean as Necessary
Fertilization		X		Maintain
Clean Pond Banks		X		As Necessary
Repairs		X		As Necessary
Collect Fertilizer			X	Transport to Pond
Plan Following Month's Activities and Needs			X	As Perceived
Detailed Observation (Random Netting)			X	Corrective Measures As Required

B. Goals and Objectives

Goals: It is as yet too early to measure nutritional impact, or to measure income gains and increased employment. However, the following general observations can be made: (1) The rural families who are involved in the program do eat fish (from the fishponds or other sources) when it is available. With the exception of minor superstitions regarding fish consumption, all members of the family will eat fish prepared in a variety of ways. (2) Fish that is not consumed by the producer is readily marketable, either raw or prepared, to neighbors and others in the community or nearby communities. So to the need to cull the ponds, fingerlings will be available

for sale after spawning season. (3) Some minor employment generation has ensued as more ponds are established in a given region; to harvest a 300 m<sup>2</sup> pond extra help is needed (2-3 persons), and non-landowners may find an income or food source through permanent services to several ponds; or as the demand for fertilizer (manuere) increases an enterprising individual may offer to provide it to farmers, or groups of farmers may hire someone to provide for their needs. Also, prepared fish could be sold on certain days in various communities (market days) by either women or children.

Objectives:

1. Training

a. Extensionists - Two Dominican extensionists have been selected and have received training. They continue to receive training in the field through close supervision by the project coordinator, and will receive specialization courses in Brazil in late 1979 and 1980. Extensionist Juan de Jesús Santana is assigned to the Frontier Zone, in Loma de Cabrera; extensionist Frank Bello is assigned to the Southwest Zone, in San Juan de la Maguana. The other two extensionists who were identified were GODR employees; one has been sent to Israel at GODR expense for fish culture training, the other was transferred to an unrelated department in SEA and is yet to be replaced.

b. Participants - Four on-site training courses have been given, two in the Loma de Cabrera region, and two in the San Juan region. In addition, day-by-day direction is given to participants in the project

by the project coordinator and the extensionists. The Nigua experimental station has been used for demonstrations for various rural groups interested in fish handling.

Also, a general presentation was made at Las Haras Nacionales to 30 FENAC members from various areas of the country. It is expected that some FENAC member associations may request more detailed information in the near future.

c. Volunteer Promoters - Four volunteer promoters have been identified, trained, and are actively participating in the program: Meriss. Carmelo Espinal, Maelo Tejada, and Papote Cruz in Loma de Cabrera, and Rev. William de León in San Juan de la Maguana.

Also, ten Peace Corps volunteers received a three-day course in fish culture, organized by a visiting expert from PC/Washington. The IFP coordinator participated in this course and will utilize the PCVs as dictated by need and their site location. Three PCVs will enter training in July (arrival September) for intensive fish culture training and will participate in the program.

## 2. Fish Pond Construction

To date, twelve ponds have been constructed in ten communities, covering a total of 4,748 m<sup>2</sup> and directly involving 92 participants, and a total of 623 people when all family members are included.

<u>Location of Pond/ Date Original Stocked</u>	<u>Size</u>	<u>No. of Partici- pants/Family</u>	<u>Projected Pro- duction/Cycle</u>
<u>Loma de Cabrera Zone</u>			
1. Río Limpio #1 (*)	250 m <sup>2</sup>	3/21	125 Lbs.
2. Río Limpio #2 (*)	250 "	3/22	125 "
3. La Luisa 4/79	100 "	6/45	50 "
4. El Aguacate 1/79	900 "	33/266	450 "
5. Partido 4/79	450 "	4/25	225 "
6. Capotillo 9/78	440 "	6/29	220 "
7. Manuel Bueno #1-10/79	600 "	2/15	300 "
8. Manuel Bueno #2-10/79	600 "	4/28	300 "
<u>San Juan de la Maguana Zone</u>			
9. Maguana Abajo 5/79	210 m <sup>2</sup>	7/24	105 Lbs.
10. Maguana al Medio 5/79	288 "	4/28	144 "
11. Maguana Arriba 5/79	180 "	3/20	90 "
12. Reboso 6/79	480 "	17/140	240 "
TOTAL	4,748 m <sup>2</sup>	92/663	2,374 Lbs.

Harvest Cycle: 6-8 Months.

\* As of this date, the Río Limpio ponds have not been stocked.

NOTE: The wide variation in pond size is due to the fact that each site has unique characteristics. Factors that determine pond size are: (1) amount of land available, slope, and soil type; (2) amount of water available; (3) number of people involved; and (4) availability of heavy machinery.

### 3. Nutrition Education

To date, five 5-hour courses have been given in the nutrition component: two in the San Juan zone, with approximately 30 participants each; and three in the Loma de Cabrera zone, with approximately 25 participants each. These courses were prepared and presented by the three staff

nutritionists of SSID. Rural people were taught to clean, cook, and eat fish. Specific taboos were addressed, such as eating fish and drinking milk, or eating fish while sick with a cold.

C. Project Progress Criteria (As of May 1979)

	Amount/or Indicator	Date/Pre- dicted Findings	Future Potential
1. Number Fingerlings Distributed	2,985	--	--
2. Lbs. Fish Harvested/ Cycle	255 lbs/440 m <sup>2</sup> pond	8 mos. Stocked pond	2,374 lbs/ cycle (12 ponds)
3. Number Farmers with Family Participating	92/663	--	--
4. Number of Areas Pro- moted/Ponds Constructed	2/12	N/A	2/20
5. Number Farmers/Groups Weaned	Extensionists Visits Reduced to Courtesy and/or Emergencies	6/80	--
6. Amount of Fish Sold and Consumed	255 lbs.	Per Pond Cycle	2,374 lbs/ cycle (12 ponds)
7. Government Interest/ Support	Regional and National Contacts Made	12/79	--

Evidence to date, including acceptance of the program at the local level, participation in nutrition courses, interviews with recipients, and field observation indicates that fresh water fish is an acceptable addition to the diet of the rural poor. The fact that fish is not a typical item in diets in the rural target area was due to supply problems rather than cultural factors.

### III. BUDGET

A detailed budget will be submitted by CWS in July 1979, after the first full year of project operation. AID advances through March 1979, totaled \$40,000; CWS contributions were \$26,700. The budget for the first year of the project was calculated at \$52,000 in AID funds, and \$31,500 in CWS funds.