

PD-AAQ-843

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ACTION MEMORANDUM

May 11, 1979

TO : DAA/DS/FN, Mr. Tony Babb

FROM : DS/AGR, Dean F. Peterson *Dean F. Peterson*

SUBJECT: Workshop on Tropical Small-Scale Fishery Stock Assessment

Problem: Your approval is needed to authorize the expenditure of \$52,000 for the University of Rhode Island to conduct this workshop. URI has submitted a proposal as a result of JRC approving this approach as part of the JRC response to the RDA Report on Fisheries and Aquaculture Collaborative Research.

Discussion: During the course of the field work for the fisheries and aquaculture planning effort conducted for AID/BIFAD by Resources Development Associates, a constantly recurring theme in the developing world was the need for resource assessment methodologies that could be applied to tropical small-scale fisheries. The developing nations need these technologies so that they can answer such fundamental questions of fisheries management as: What is the nature and extent of each nation's living aquatic resource? What is its species composition, its sustainable yield, its optimum yield? What is the current rate of exploitation and how does it relate to biological and economic potentials and limits?

While a number of good methodologies are available for assessment of large-scale fisheries—e.g., the trawl fisheries of the northern hemisphere, the tuna fishery of the eastern tropical Pacific—these are not suitable for direct transfer to artisanal tropical operations where the fisheries are usually based on a multiplicity of species and are prosecuted by large fleets of small craft operating out of a number of shore bases.

What is needed is a workable system or systems that developing countries can either apply with their existing scientific complements, or, barring the existance of such complements, train people to apply within a reasonable time. This may at first be nothing more than a quick and dirty means of getting first approximations of population size and dynamics, based upon data of at least some statistical validity. The methodologies might be simple adaptations of existing techniques or they might represent totally new methodologies and concepts.

The RDA report, in discussing LDC problems and priority research, lists stock assessment as the top priority subject in the eyes of fisheries people in the 25 developing nations visited. (p.12: "The most frequently expressed and highest priority need was for assistance in the general area of capture fisheries stock and resource assessment, followed by fresh/brackish water aquaculture and fisheries administration/management".) Resource assessment as a topic for collaborative research received a relative priority of class 2 (page 15) because many of the perceived needs were for training and direct technical assistance rather than research per se. (Principles and mechanisms of pond culture was the only subject in relative priority 1 and is to be the subject of a CRSP.)

The RDA report goes on to say (pages 99-100):

"The ultimate objective of this research subject is to develop methods for assessing the condition of the fishery resources and the effects of fishing on it. This is a fundamental area of research which is a necessary prerequisite to the solution of nearly every other problem of capture fisheries. It is essential to know what stocks are present, in what quantity, what is being caught and whether or not the catch is commensurate with the stocks available. Effective methods for doing this in LDCs do not now exist or are not directly applicable. To restrict the scope to manageable proportions, it might be necessary to confine the effort to a few species which are common to the LDCs of major interest.

"The research area which needs to be addressed consists of four related subsets of projects:

1. Stock Assessment Methods. This involves the development of the means for identifying stocks, determining quantities, and migratory habits, and may include natural mortality rates, growth rates, reproductive potential and other characteristics useful in analyzing and evaluating the potential of the fishery.
2. Catch and Effort Statistics. Methods for estimating the landings and fishing effort which can be applied to LDC conditions and artisanal fisherman have to be devised.
3. Determination of the Effects of Fishing on the Resource. This concerns the development of techniques for evaluating the impact of fishing efforts on the condition of the fishery.
4. Determination of Sustainable Yield Methods suitable to LDC application need to be developed which will provide a basis for management of the fishery."

The JRC Fisheries and Aquaculture Task Force in its December 27, 1978, report to the Chairman of JRC said in part:

"The Task Force you appointed on Fisheries and Aquaculture to recommend follow-up to the RDA report has met four times and presented reports at three JRC meetings for discussion. We have proposed three activities in this area to help develop a collaborative research program.

#### Fishery Stock Assessment

"More simplified methodologies are needed to enable LDC's to evaluate their resource base, particularly in response to the new 200 mile Extended Jurisdiction Zone. Current techniques used in the U.S. are time consuming and expensive. Perhaps more appropriate technologies exist on the shelf or could be developed.

"We propose that a workshop be convened on this topic which would include approximately twelve to fifteen U.S. and six to twelve foreign participants. Background papers and literature reviews could be prepared in advance.

"The group would address the development of new, or modification of existing, technology for identifying and assessing coastal fish stocks which can be harvested by fisherman in developing countries. These methods should provide a basis for increased harvest of existing wild populations of both freshwater and marine fish and shellfish, while at the same time accumulating baseline information for management and the development of a system for maintaining a sustainable harvest. Significant modification of techniques developed for U.S. domestic needs and some new research for this specific need will be required."

The RDA Report and the subsequent recommendation of the JRC task force stimulated the University of Rhode Island to submit a proposal to AID for a Tropical Artisanal Fishery Stock Assessment Workshop (transmittal letter dated February 23, 1979). The JRC endorsed the concept at its April 1979 meeting and "approved" the URI as the logical institution to sponsor the workshop.

The Fisheries Division has subsequently discussed the matter with the appropriate people at URI, and University is redrafting the proposal to take into account some suggestions that were made during these talks. The original proposal was basically sound, but needed broadening in certain respects, and required some modification to take into account very recent developments in FAO's Department of Fisheries.

The Division is convening a small steering committee which will meet in Washington, tentatively on June 5, to draft final terms of reference for the Workshop.

Current thinking is that the Workshop should be limited to 30 individuals, which seems a reasonable number. Of these, about 15 would be drawn from the U.S. scientific community, about 10 from overseas, principally from the developing world, and the rest from AID/BIFAD.

There are a number of fisheries scientists in the U.S. who have specialized in population dynamics who have international reputations in the field, and who are conversant with the real problems in the developing world. There is a relatively small number of highly qualified scientists in the developing world who have specialized in stock assessment, but there are more than enough to give the Workshop the orientation required toward discussions and recommendations that can lead to research projects designed to solve the problems facing the LDCs. Further to bring the "real world" into the proceedings, we propose to include some high-level LDC fisheries administrators who have strong scientific backgrounds. Finally, we propose to invite one or two scientists from outside the U.S. and the LDCs who have outstanding reputations in stock assessment based on their work related to developing nations.

We plan to commission three or four background papers that will form the basis for the Workshop, which in essence will be asked to address these questions:

What do the developing countries need to know, and how do they get the information required, to harvest and manage their living aquatic resources at an optimal level?

What studies can be instituted within the framework of Title XII collaborative research to help these nations carry out their responsibilities with particular respect to their small-scale fisheries?

We use the term stock assessment broadly to include the identification and delineation of stocks, measurement of stock abundance, determination of the effects of fishing on the stocks, the collection of other biological and economic information necessary to manage stocks wisely, and the analysis and interpretation of stock and fishery data including formulation of management plans. We anticipate that any new programs proposed will clearly be oriented toward research as opposed to application of existing techniques. The research should include both development and testing of new methodologies in the tropical LDC environment, and the economy of any approach is obviously a major consideration. Research should not be limited to marine fisheries but should include freshwater river, lake and reservoir fisheries.

We expect the group to explore and emphasize the innovative in considering:

New methods for stock identification,  
Stock delineation and determination of stock size,

Development of new methods for measurement of catch and catch per unit effort,  
New methods for determination of maximum biologically sustainable yields,  
New methods for translation of maximum sustainable yields to optimum yields, and  
Use of new technologies in formulating management procedures.

In summary, we expect the Workshop:

Primarily,

1. To define and describe the principal problems facing the developing world in obtaining, analyzing and applying the basic data needed for stock assessment;
2. To delineate specific topics for collaborative research in the context of Title XII that would have the best chance of providing the LDC's with stock assessment methodologies suitable to their needs;

Secondarily,

3. To identify problems requiring research in other than a collaborative mode for their resolution;
4. To note problems not requiring research for their resolution that are identified during the course of the workshop; and

Finally,

5. To recommend a course of action to A.I.D. and BIFAD regarding collaborative research on stock assessment;
6. To make any appropriate recommendations concerning AID's course of action regarding stock assessment in other than a mode of collaborative research.

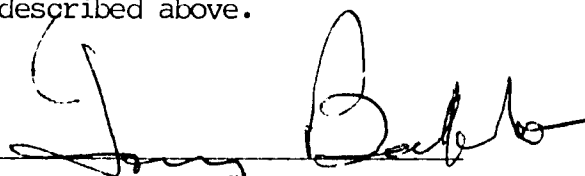
The cost of this workshop is estimated as follows:

Travel, 15 domestic and 10 foreign participants	\$21,000
Per diem	6,000
Commissioned papers (4)	8,000
Conference management	12,000
Printing and publishing	<u>5,000</u>
TOTAL	\$52,000

We will refine the budget further as we develop the necessary grant documents for support of this activity.

We propose to handle this as a small project activity to be funded from the DS/PO account maintained for such purposes. We would make a grant to the University of Rhode Island for the purpose of organizing and managing the Workshop and to provide for travel expenses of selected participants. Tentatively we have scheduled the Workshop for September 19, 20, 21, 1979, and the JRC has concurred in these dates.


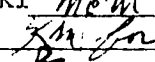
Recommendation: That you approve funding in an amount not to exceed \$52,000 for a small activity grant to the University of Rhode Island to support the Stock Assessment Workshop as described above.

Approved 

Disapproved \_\_\_\_\_

Date 6-14-79

Clearance:

DS/AGR/F:DJones	<u></u>	Date <u>5-14-79</u>
DS/AGR:M Mozynski	<u>M.M.</u>	Date <u>5-15-79</u>
DS/PO:RSimpson	<u></u>	Date <u>5/29/79</u>
DS/PO:PGage	<u>PG</u>	Date <u>5-22-79</u>

DS/AGR/F:PROedel:kb:am:mrh:5/11/79:58993

Worksheet

AID 1350-1X (1-78)	DEPARTMENT OF STATE AGENCY FOR INTERNATIONAL DEVELOPMENT	1. Cooperating Country DS/Bureau	Page 1 of 4 Pages
		2. PIO/T No. 931-1155.11 3698400	3. <input checked="" type="checkbox"/> Original or Amendment No. _____
		4. Project/Activity No. and Title 931-1155.11 Workshop on Tropical Small-Scale Fishery Stock Assessment (URI) Small Activity - Special Projects Inputs	
		5. Appropriation Symbol 72-1191021.3	

DISTRIBUTION	6. Allotment Symbol and Charge 943-36-099-00-20-91
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7. Obligation Status <input checked="" type="checkbox"/> Administrative Reservation <input type="checkbox"/> Implementing Document	8. Project Assistance Completion Date (Mo., Day, Yr.) 31 December 1979
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9. Authorized Agent AID/W	10. This PIO/T is in full conformance with PRO/AG NA Date _____
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11a. Type of Action and Governing AID Handbook <input type="checkbox"/> AID Contract (HB 14) <input type="checkbox"/> PASA/RSSA (HB 12) <input checked="" type="checkbox"/> AID Grant (HB 13) <input type="checkbox"/> Other	11b. Contract/Grant/PASA/RSSA Reference Number (if this is an Amendment)
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12. Estimated Financing (A detailed budget in support of column (2) is attached as attachment no. \_\_\_\_\_)

Maximum AID Financing	A. Dollars	(1) Previous Total	(2) Increase	(3) Decrease	(4) Total to Date
					\$52,000
	B. U.S.-Owned Local Currency				

13. Mission References

ACTION MEMO for DAA/DS/FN dtd 11 May 79 and signed 14 June 1979

14a. Instructions to Authorized Agent

This PIO/T authorizes the contract office to initiate a specific support grant with the University of Rhode Island (URI) for partial support of their organizing a "Workshop on Tropical Small-Scale Fishery Stock Assessment" to be held at the University of Rhode Island during September, 1979. Funds provided herein will be used to fund travel costs of speakers, conference coordinator, publication of proceedings, and other costs. The proposed budget is attached (see Attachment A). The effective life of the grant will be for seven months (from June 1, 1979 thru December 31, 1979).

**DS/PO OFFICIAL FILE**

14b. Address of Voucher Paying Office SF 1034 submissions to FM/PAD, Rm 601, SA-12, AID, Washington, D.C. 20523 and include the grant #, project # 931-1155, and DS/AGR/F in all correspondence.

15. Clearances—Include typed name, office symbol, telephone number and date for all clearances.

A. The project officer certifies that the specifications in the statement of work are technically adequate DS/AGR/F, P Roedel <i>[Signature]</i>	Phone No 235-8993	B. The statement of work lies within the purview of the initiating and approved agency programs DS/PO/FN, PGage <i>[Signature]</i>	Date 5-7-79
	Date 6/26/79		
	C. DS/AGR/F, DJones <i>[Signature]</i> DS/AGR, M Mozynski <i>[Signature]</i>		
DS/AGR, DPeterson <i>[Signature]</i>	Date 6/28/79	D. Funds for the services requested are available <b>FUNDS RESERVED BY</b> DS/PO/PP, MEGan <i>[Signature]</i> <b>POSTED July 19 1979</b> SER/FN/CSD	

For the cooperating country: The terms and conditions set forth herein are hereby agreed to

ure \_\_\_\_\_ NA Date \_\_\_\_\_

17. For the Agency for International Development

Signature *Kenneth A. Milow* Date 7/5/79

Title Kenneth A. Milow  
Chief, DS/PO/PPA

## Worksheet

AID 1350-1X (1-78)	1. Cooperating Country DS/Bureau	2. PIO/T No.	Page 2 of 4 Pages
	4. Project/Activity No. and Title Workshop on Tropical Small-Scale Fishery Stock Assessment (URI) Small Activity - Special Projects Inputs		

## SCOPE OF WORK

18. THE SCOPE OF TECHNICAL SERVICES REQUIRED FOR THIS PROJECT ARE DESCRIBED IN ATTACHMENT NUMBER \_\_\_\_\_  
HERETO ENTITLED "STATEMENT OF WORK" \_\_\_\_\_

## 19. SPECIAL PROVISIONS.

- A.  LANGUAGE REQUIREMENTS (SPECIFY) \_\_\_\_\_ N/A  
(IF MARKED, TESTING MUST BE ACCOMPLISHED BY AID TO ASSURE DESIRED LEVEL OF PROFICIENCY)
- B.  ACCESS TO CLASSIFIED INFORMATION  WILL  WILL NOT BE REQUIRED BY TECHNICIAN(S).
- C.  DUTY POST(S) AND DURATION OF TECHNICIANS' SERVICES AT POST(S) (MONTHS)
- D.  DEPENDENTS  WILL  WILL NOT BE PERMITTED TO ACCOMPANY TECHNICIAN.
- E.  WAIVER(S) HAVE BEEN APPROVED TO ALLOW THE PURCHASE OF THE FOLLOWING ITEM(S) (COPY OF APPROVED WAIVER IS ATTACHED)
- F.  COOPERATING COUNTRY ACCEPTANCE OF THIS PROJECT (APPLICABLE TO AID/W PROJECTS ONLY):  
 HAS BEEN OBTAINED  HAS NOT BEEN OBTAINED  
 IS NOT APPLICABLE TO SERVICES REQUIRED BY PIO/T
- G.  OTHER (SPECIFY)

After the conference has been completed, the subject matter papers, research recommendations, and country reports will be edited and compiled in a proceedings entitled "Stock Assessment Methods for Tropical Fisheries". It is expected that this publication will be approximately 150 pages in size and that 500 copies will be prepared for distribution. AID will provide instructions for distribution.

In addition to distribution of report, mentioned above three copies of all reports listed as a product of this grant shall be submitted directly to the Documentation Coordinator, DS/DUI, Agency for International Development, Washington, D.C., 20523.

## 20. BACKGROUND INFORMATION (ADDITIONAL INFORMATION USEFUL TO AUTHORIZED AGENT)

continued

1. Peterson to Babb - Approved Memorandum dated 5/11/79

## 21. SUMMARY OF ATTACHMENTS ACCOMPANY THE PIO/T (INDICATE ATTACHMENT NUMBER IN BLANK)

- A   DETAILED BUDGET IN SUPPORT OF INCREASED FUNDING (BLOCK 12)
- \_\_\_\_\_ EVALUATION CRITERIA FOR COMPETITIVE PROCUREMENT (BLOCK 14)
- \_\_\_\_\_ JUSTIFICATION FOR NON-COMPETITIVE PROCUREMENT (BLOCK 14)
- \_\_\_\_\_ STATEMENT OF WORK (BLOCK 18)
- \_\_\_\_\_ WAIVER(S) (BLOCK 19) (SPECIFY NUMBER)



**Worksheet**

AID 1350-1X (1-73)	1. Cooperating Country DS/Bureau	2. PIO/T No.	Page 3 of 4 Pages
PIO/T	4. Project/Activity No. and Title Workshop on Tropical Small Scale Fishery Stock Assessments (URI) Small Activity - Special Projects Inputs		

22. Relationship of Contractor or Participating Agency to Cooperating Country and to AID

A. Relationships and Responsibilities

B. Cooperating Country Liaison Official

C. AID Liaison Officials

DS/AGR: Dean F. Peterson

DS/AGR/F: Philip R. Roedel

**LOGISTIC SUPPORT**

23. Provisions for Logistic Support

A. Specific Items (Insert "X" in applicable column at right. If entry needs qualification, insert asterisk and explain below in C. "Comments")

	IN KIND SUPPLIED BY		FROM LOCAL CURRENCY SUPPLIED BY		TO BE PROVIDED OR ARRANGED BY SUPPLIER
	AID	COOPERATING COUNTRY	AID	COOPERATING COUNTRY	
(1) Office Space					X
(2) Office Equipment					X
(3) Housing and Utilities					X
(4) Furniture					
(5) Household Equipment (Stoves, Refrig., etc.)					
(6) Transportation in Cooperating Country					X
(7) Transportation To and From Country					X
(8) Interpreter Services/Secretarial					X
(9) Medical Facilities					
(10) Vehicles (official)					
(11) Travel Arrangements/Tickets					X
(12)					
(13)					
(14)					
(15)					

(OTHER SPECIFY)

B. Additional Facilities Available From Other Sources

APO/EPO

PX

COMMISSARY

OTHER (Specify, e.g., duty free entry, tax exemption)

CONTINUATION SHEET	DEPARTMENT OF STATE AGENCY FOR INTERNATIONAL DEVELOPMENT	<input type="checkbox"/> Worksheet <input type="checkbox"/> Invoice	PAGE <u>4</u> OF <u>4</u> PAGES
	<input type="checkbox"/> PIO/C	1. Cooperating Country DS/Bureau	
	<input type="checkbox"/> PIO/P	2a. PIO Number	2b. Amendment <input checked="" type="checkbox"/> Original OR No. _____
	<input checked="" type="checkbox"/> PIO/T	3. Project Number and Title 931-1155 Workshop on Tropical Small-Scale Fishery Stock Assessment (URI) Special Projects Inputs Small Activity	
<input type="checkbox"/> PA/PR			

Indicate block numbers Use this form to complete the information required in any block of a PIO/P, PIO/T or PA/PR. For PIO/C, furnish the item number, quantity, description/specifications, including catalog stock number and price when available.

14a Article # Voucher Identification In each instance of voucher (SF1034) submission made by the contractor for payment hereunder, the following identification data will appear on the face of the voucher:

Contract/Grant: AID ( to be determined)  
Project: 931-1155.11  
Project Office: DS/AGR/F - Philip Roedel

19g Such report shall include a title page showing the title of the report, the project title as set forth in the grant agreement and the grant number. One copy of each report shall be clearly typed or printed on white paper so that it may be photographed to produce a microfilm master. Technical report shall be accompanied by a 250 word abstract.

Appropriate Agency clearance for this publication will be obtained.

PROPOSALTROPICAL ARTISANAL FISHERY STOCK ASSESSMENT WORKSHOP

Place: University of Rhode Island  
Dates: September 20, 21, 22, 1979  
Duration: Three days  
Participants: 30  
Estimated Cost: \$51,861

The Problem

As the developing countries turn increasingly to the sea for food supplies and export products, coastal artisanal fisheries are expanding, resources are being threatened with depletion, and the LDCs are becoming more aware of the importance of resource assessments and sound management policy. Artisanal fishery management in the LDCs is hindered by a scarcity of information on which to base management decisions, insufficiently trained fishery researchers and administrators, a diversity of gear types and harvested species and a general reluctance on the part of fishery scientists in the developed countries to get involved in assessing stocks which are assumed to have little economic importance.

Conventional assessment models which require estimates of growth and mortality estimates or catch and effort data are hindered by certain unique features of tropical fishery resources which make the estimation of necessary parameters difficult. Some of these unique features are:

1. the diversity of species harvested

2. the complexity of tropical ecosystems and species interactions
3. the absence of predictable growing seasons, e.g., periods of time when growth rings are formed on scales
4. the localized distribution of many species of demersal fish in coral reef and estuarine habitats and its effect on the unit stock concept
5. the fragility of tropical ecosystems, e.g., coral reefs, to environmental perturbations

In addition, tropical artisanal fisheries are typically conducted in remote coastal areas, thus imposing special problems for reliable collection of information from the fishermen themselves. Since many species are exploited both by artisanal and industrial fleets, the effects of interactive resource utilization must also be considered.

The response of international development agencies to the increased demand from the LDCs for fishery resource assessments has intensified in recent years. The FAO of the United Nations, a traditional provider of assessment expertise to the LDCs, has recently devoted a great deal of attention to the development and management of artisanal fishery resources. Also, the U.S. Agency for International Development has shown an increased amount of interest in the problem: USAID sponsored a workshop in artisanal fishery development in conjunction with the University of Miami's Gulf and Caribbean Fisheries Institute in Cartagena, Columbia in 1977. The ICMRD of the University of Rhode Island, through research grants awarded by USAID, has been involved in overseas artisanal fishery management and development for ten years. ICMRD development projects have been conducted in the Caribbean,

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Central America, Indonesia, and the Azores. The focus of these projects has been an integrated approach to development involving biologists, economists, food chemists, anthropologists, sociologists, gear technicians and extensionists.

Biological stock assessment work performed by ICMRD to date has focused on the design of data collection and analysis systems aimed at estimating population statistics (growth and mortality rates) required by single-species synthetic yield models. The objective has been to adapt existing methodologies to tropical artisanal resource management. Two parameter estimation techniques tested in Puerto Rico and Costa Rica have been the use of length frequency information and a tag and recapture study. Results show that in many situations these techniques cannot be relied upon to estimate the necessary parameters. Other assessment approaches must be considered, both at a methodological level and a conceptual one.

#### A Solution

Alternative approaches which rely both on new methods of data collection and parameter estimation and on new conceptual assessment models for finfish, shellfish and crustacean resources are needed. Most important, more dialogue must be encouraged between LDC fishery administrators who must make the best of whatever information is available to them and theoreticians who can more effectively propose new approaches to assessment if they are made more aware of the

practical problems which inhibit data collection and analysis in the LDCs.

Consideration of alternative assessment approaches would be greatly facilitated by a workshop which would bring together assessment experts to discuss the various methodologies and models which have been or could be applied to tropical artisanal fishery management and development. The presence of some LDC fishery administrators would help to develop a dialogue between theoreticians and practitioners and improve the chances of selecting appropriate solutions.

Such a workshop is very appropriate given the high priority which has been assigned to stock assessment under USAID Title XII legislation and the urgent need to propose renewed stock assessment research. In addition, there is currently a great deal of interest among fishery scientists in the development and testing of new management concepts such as ecosystems and multi-species approaches to optimum yield estimates and the integration of biological, economic and social management and development objectives.

### The Workshop


#### A. Participants

ICMRD therefore proposes to invite approximately 25 participants to a workshop in September, 1979 to be held at the University of Rhode Island. This group would include 10-15 representatives from U.S. Universities and 5-10 from

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selected international institutions who are familiar with population dynamics, relevant research techniques or with tropical artisanal fishery development issues. A group of 5-10 fishery administrators would be drawn from LDCs in Latin America, Asia and Africa. All participants would be advised in advance of the meeting regarding workshop, objectives and frames of reference and asked to submit either case histories outlining actual LDC assessment and/or management efforts or a summary of experiences in developing or applying conceptual or methodological solutions to tropical stock assessment. These responses would be compiled and distributed to workshop participants to form the basis for the workshop sessions. The focus of the workshop will be to bridge the gap between what is required for resource evaluation and management in the LDCs and what concepts and methods could be applied to solving those needs.

A selected group of 6-8 participants would be asked, as their contribution to the proceedings, to deliver a short paper outlining a relevant issue facing the group. Conceptual approaches to tropical artisanal fishery stock assessment will be emphasized. If possible, copies of these papers will be distributed to all participants before the meeting. These papers will be published as part of the workshop proceedings along with case histories, proposed solutions to assessment problems and recommendations for the testing of proposed concepts and methodologies. In addition, the group will be asked



to rank alternative assessment concepts and methodologies in terms of their utility in tropical artisanal fishery management, the amount of effort (manpower, costs, time) required to determine necessary parameters and the limitations imposed by required assumptions.

B. Pre-workshop Tasks

The following requests for information will be sent to all participants well in advance of the meeting:

1. Identify what is meant by a "tropical artisanal fishery"
2. Describe the unique features of tropical artisanal fishery resources which have hindered previous attempts to evaluate resource potentials
3. Define the scope of the workshop and outline workshop objectives and format

The following contributions would be solicited from participants before the meeting, either in the form of papers or as brief, written summaries:

1. Specific case histories, data sets, experiences of LDC fishery administrators who are in charge of small-scale fishery management
2. Case studies and experiences of fishery scientists who have conducted resource assessments with tropical artisanal fishery resources
3. Conceptual models which have been or could be applied to tropical artisanal fishery resource assessment
4. All responses will be compiled into a coordinated "package" for distribution before the meeting, thus providing a basis for workshop sessions

C. Sub-group Topics

Sub-groups would be organized to work and report on the following topics:



1. Identify problems facing LDCs in artisanal fishery stock assessment and administration
2. Identify existing assessment concepts and objectives and evaluate their applicability to tropical artisanal fishery stock assessment
3. Consider new approaches to stock assessment and consider how they could be tested
4. Determine what are the minimum data sets required by different assessment approaches and what are the most practical and efficient ways to collect, process and analyze the data
5. Recommend productive avenues for additional thought and testing of proposed assessment approaches

D. Administrative Support

ICMRD will be responsible for organizing the workshop and providing logistic support. A workshop coordinator will be employed specifically for the purpose of coordinating both program and administrative support, assisted by an ICMRD secretary. He will assist the workshop co-leaders in developing the workshop program, and he will assist the Director of ICMRD in making necessary arrangements and providing services required to support the workshop.

ICMRD will arrange group transportation from airport to railway station to the motel, to the campus and return; reserve rooms at the selected motel; reserve meeting rooms on campus (Memorial Union) and such other arrangements as may be needed. Support services will include communications (telephone, telex, telegrams, correspondence), supplies, reproduction, publication of proceedings and fiscal services.

Budget

I.	<u>Travel and Per Diem</u>		
	A. <u>Travel</u>		
	15 participants within the U.S. at average of \$300 each	\$ 4,500	
	10 participants outside the U.S. at average of \$1800	18,000	
	B. <u>Per Diem</u>		
	25 participants at \$50 per day for 5 days (3 meetings, 2 travel)	<u>6,250</u>	
	Sub-total - Travel	\$28,750	\$28,750
II.	<u>Scientific Papers</u> - 4 at \$1000	\$ 4,000	4,000
III.	<u>Administrative Support</u>		
	A. <u>Personnel</u>		
	Conference Coordinator - June 3-August 25		
	Graduate Assistant Summer Stipend	\$ 2,533	
	Graduate Assistant - August 26-November 26 (1/3 year)	<u>1,267</u>	
	Total (no fringe benefits)	\$ 3,800	
	Conference Secretary - June 1- November 30 - part time	\$ 3,000	
	Fringe benefits at 19%	<u>570</u>	
	Total	\$ 3,570	
	B. Publication of Papers and Proceedings	\$ 5,000	
	C. Conference Facilities, Rental of Meeting Rooms	\$ 400	
	D. Rental of Vehicles (transportation from motel to campus)	\$ 500	

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Budget (continued)

E.   Reproduction, Communication, Supplies, Contigencies	<u>\$ 2,000</u>	
Sub-total - A. Support	\$15,270	15,270
O.H. at 8%	\$ 3,841	<u>3,841</u>
TOTAL		\$51,861



University of Rhode Island, Kingston, Rhode Island 02881  
 International Center for Marine Resource Development, 128 Woodward Hall 401-792-2479  
 Cable Address: RIMARDEC

June 20, 1979

Dr. Douglas M. Jones  
 DS/AGR/F Room 408 RPC  
 Agency for International Development  
 320 21st Street N.W.  
 Washington, D.C. 20523

JUN 25 1979

Dear Dr. Jones:

Reference is made to my letter of February 23, 1979, transmitting a preliminary proposal for a Tropical Artisanal Fishery Stock Assessment Workshop. We were moved to submit such a proposal by the priority given to Stock Assessment problems in the RDA report and the subsequent recommendations of the JRC Task Force.

You will recall that on April 10, 1979 there was a further discussion in the JRC meeting and that the Committee endorsed the concept and "approved" URI as the logical University to sponsor a workshop.

Following that meeting, Fisheries Division representatives discussed the proposal with us and we undertook to redraft the proposal to take into account suggestions that were made during discussions that followed the submission of the original proposal.

In our redraft we have tried to broaden the proposal to reflect even more the recent developments in FAO's Department of Fisheries' research. We are also fully cognizant of the discussions that took place during the meeting of the Steering Committee on June 5, 1979 and will be guided accordingly.

It is with pleasure, therefore, that I formally submit herewith the revised and fully approved URI Proposal for a Tropical Artisanal Fishery Stock Assessment Workshop. I hope that it will be found acceptable and that we may hear from you in the near future.

Sincerely,

Gerald A. Donovan  
 Dean and Director

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 enclosure  
 cc: Dean Knauss  
 Dr. Saila  
 Dr. Sage  
 Mr. Whelan

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