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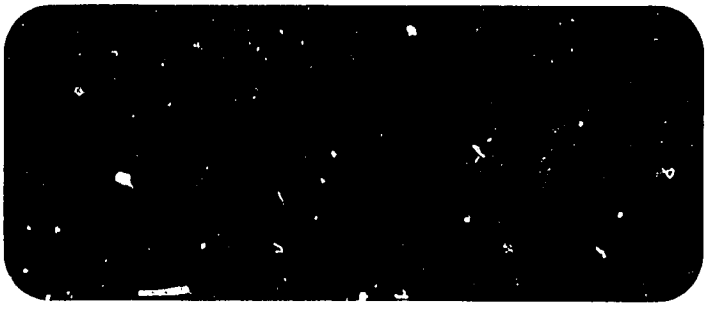

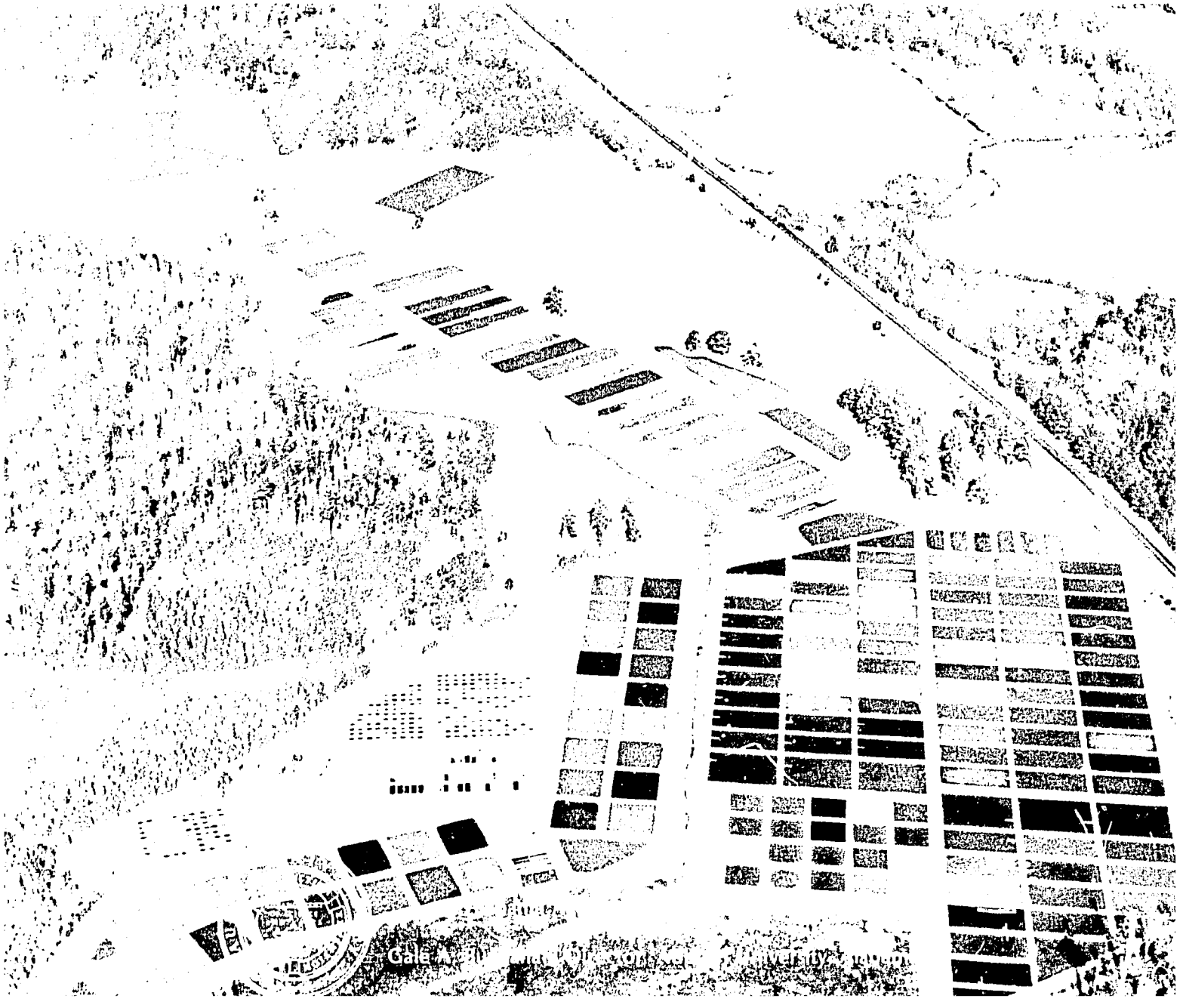

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Review of Peace Corps/Morocco Fish Culture Project

Bryan L. Duncan
Nov. 30 to Dec. 18, 1981

Auburn Univ./
AID/DSAN-C-0053

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I. Introduction

A. Purpose of Review

In March, 1981, implementation of PC/M (Peace Corps/Morocco) fish culture project began with the arrival of the PCVs (Peace Corps Volunteers) at their work sites. In the months that followed problems and questions arose prompting PC/M to seek outside assistance. Technical assistance was requested through AID/W. Auburn University, which has a history of involvement in international aquaculture development, responded to the request under the provisions of its University Services Agreement with AID/W. The arrival of the consultant was conveniently scheduled by PC/M to coincide with the beginning of a previously scheduled Mid-Service Evaluation Conference.

B. Scope of Work

It was agreed in consultation with PC/M that the consultants scope of work would focus on the following:

- Evaluate PC/M fish culture project progress to date as measured by original objectives.
- Recommend future direction, outputs/objectives, etc.
- Address specific problems and questions that have arisen in the course of the project.
- Begin compilation of information on the conditions for aquaculture in Morocco to serve as the basis for planning future initiatives.

The above scope of work was orally agreed to by USAID/M (USAID/Morocco) in a meeting with officials on Dec. 1, 1981. Oral agreement was also obtained from GOM (Government of Morocco) officials

in a meeting on the same date. Additional requests from GOM included recommendations on the degree of government involvement in fish farm production, and how to put reservoirs into fish production. These requests are not addressed as they are outside of the scope of the PC/M project, and have recently been addressed by an FAO consultation.

C. Period of Work

The consultant arrived in Rabat, Morocco, on November 30, 1981, and departed on December 18, 1981.

II. Fish Culture in Morocco

A. History

In 1924 the French government constructed the coldwater fish propagation station at Azrou, and imported trout for stocking natural waters for sport fishing purposes. The station is the national center for freshwater fisheries and hydrobiological work and is directed by a French-trained (M.S. equivalent) fisheries biologist. Station facilities have recently been expanded to provide new laboratory and office space. The principal activities at the station are the propagation of rainbow trout, brown trout, pike and largemouth bass for stocking natural waters and fee-fishing ponds. The station also houses a Belgium-sponsored water quality research project, and one PCV.

Common carp (mirror strain) were also introduced from France in 1924 in part for the purpose of controlling mosquitoe larvae. The carp spread, rapidly and by 1934 were present in many areas of the country. They competed successfully with native cyprinids and adversely affected trout which had been introduced about the same time.

In 1956 efforts were made to culture carp in rice paddies. This effort was abandoned, however, because of the adverse effect of salt accumulation in the soil on the rice, the effect of chemical pesticides on the fish, the lack of a market for the fish, and insufficient experience with this type of culture.

In 1978 mirror carp from the station in Azrou were successfully marketed. Three hundred kilograms of carp were sold in two hours, even though marine fish were present at the time in the market. This positive indication of carp acceptance was not followed up. Some problems were encountered marketing carp captured from a lake due to off-flavor.

At the present time carp brood stock caught from a lake are being held at the station and have been successfully spawned by the PCV assigned there.

In October, 1981, 5000 mirror carp fingerlings were imported by PC/M from Hungary with financial support from the Catholic Relief Service, for the purpose of comparing their performance with the local mirror carp strain. Grass carp, bighead carp and silver carp were imported at the same time at the request of the GOM. At the present time there are no known fish culture activities in the private sector in Morocco.

B. Constraints to fish culture in Morocco

Factors influencing aquaculture feasibility fall into the categories listed below. These factors were not thoroughly considered during the present consultancy to determine where the principal

constraints lie due to lack of time and scope-of-work priorities. Recommendations are made in this report for obtaining the necessary information. The following general observations regarding constraints can be made at this time, however.

1. Physical environment

   Water and suitable land are scarce resources in Morocco. Justification for aquaculture will depend upon its integration into present agricultural practices, or replacement of less efficient and economic uses of water and land and other inputs. Drought conditions have existed in Morocco for the past two years, and have been especially severe during this past year. Information from secondary sources (FAO technicians) indicated that droughts of present severity occur in 25-year cycles, and that droughts of greater severity occur on 50- and 100-year cycles. Field examination of soils at all sites visited by the consultant revealed generally acceptable quality for fish pond construction and water retention.

2. Nutrient inputs

   Nutrient inputs are available in the form of prepared animal feeds, animal manures and inorganic fertilizers. There are competing uses for these nutrients and it has not yet been determined if aquaculture is a more efficient use of these nutrients.

3. Social factors

The most obvious social factor which may be constraining is the unfamiliarity of aquaculture, although there is a familiarity with fish due to its distribution far inland from the coast. Objections to eating fish are apparently found principally among older, more traditional persons in inland areas, although Cyprinids of the genus Barbus are often found in the limited natural waters of inland areas where they are caught and consumed.

It is unfortunate that those rural areas that could benefit most from fish culture, appear to have the most limited potentials for this activity.

4. Governmental factors

The principal governmental constraint at this time is a lack of experience in aquaculture. Conditions traceable to the lack of experience include a lack of clear objectives for aquaculture development and a slow response to needs of the present project. Also recognition of aquaculture is not given within the formal structure of the Ministry of Agriculture. Aquaculture is within the Division of Hunting, Sports fishing and Enforcement, and under the Direction of Water and Forests and Soil Conservation. Nonetheless, interest by GOM in aquaculture has been expressed in their financial support of the PC/M project, the

mention of aquaculture in the present five-year plan for economic development as a potential source for needed protein and the creation of informal reporting channels within the Direction of Water and Forests to improve access to the director by the chief of inland fisheries.

5. Economics

Economic constraints to aquaculture at present are speculative. In-depth surveys must be made of the economic conditions affecting aquaculture, and fish production and marketing trials must be undertaken and evaluated to determine if aquaculture is sufficiently attractive economically to promote its adoption.

6. Institutional Base

The institutional base is virtually non-existant. As far as the consultant is aware no formal research, extension and education/training in aquaculture or inland fishieries in general is taking place in Morocco.

7. Facilities and Aquaculture technology

These factors are presently limited to application of coldwater fish propagation.

8. Species available for culture

This is not a constraint as two varieties of common carp, the species of choice, are available in-country.

9. Agriculture technology

This factor is sufficiently advanced in Morocco as to not be a likely constraint to aquaculture development. Cultivation of the basic grains and food crops is well done. Application of fertilizers (organic & inorganic) is common, irrigation schemes are in use even in isolated areas, and mechanization for tilling, planting and harvesting is available in some areas through government sponsored "cooperatives".

III. U.S. Peace Corps Fish Culture Project

A. Project Background

In response to GOM expressions of interest in fish culture as a potential source of needed animal protein in the diets of poorer Moroccans, PC/M investigated the possibilities of assisting with a fish culture program.

In the Spring of 1980 PC/W conducted a pre-feasibility study "... to determine the potential for warmwater fish culture...and how PC/M could best assist in its development". In this study general observations were made relative to fish culture suitability, and six regions were visited and evaluated for possible fish culture demonstration fingerling production stations and extension sites. Recommendations were made to initiate a PC/M effort in four (two conditional) of the six regions involving five PCVs and their counterparts. Recommendations were also made relative to future site analysis and overall project strategy. A tentative time frame and budget were proposed.

In the summer of 1980 a second visit by PC/W staff added information on two previously selected regions, and one previously unconsidered region, which was consequently added to the list of regions recommended for PC/M involvment. Possibilities for project expansion were discussed briefly, and a fish station design proposed.

In November 1980 a supplementary report on the proposed project was prepared by the newly arrived Associate Peace Corps Director for Agriculture. Additional information was provided on three of the provinces targeted for PC/M involvement, detailed budgets were prepared, a schedule of project implementation proposed, and other issues addressed relative to fish species to be cultured, additional fish culure sites and health considerations.

B. Project implementation

At the present time the first group of five PCVs in the fish culture project have been in-country for one year and at their sites for nine months. All five PCVs participated in a nine-week fish culture training course at the University of Oklahoma. Upon completion of 11 weeks of language training in-country the PCVs were assigned to their sites. Four of the PCVs have devoted most of their time to the construction of three stations, which are now in various stages of completion, and to learning more about future extension possibilities in their provinces. The fifth PCV was assigned to the existing government coldwater fish propagation station, where he has succeeded in spawning wild-caught brood of the local mirror carp variety, and the production of fingerlings, some of which have already been sent to one of the stations together with fingerlings imported from Hungary.

It was projected in Peace Corps planning that fish station construction would be finished by September of this year, at which time the first extension contacts would be made, with the first farmers receiving fish by March 1982. This projection was unrealistic, as is now realized by PC/M. Delays in station construction are not out of the ordinary and are to be expected. The more important point, however, is that projections should allow a period of time for identifying potential extension sites and determining their feasibility, and a trial culture period at the stations before undertaking extension activities. This situation is easily correctable at this stage, and is addressed below under "Recommended project strategy".

C. Present PCV sites

Partial site descriptions are found in the prefeasibility reports and will not be repeated here. Attached to this report are forms tabulating site/region charateristics as they are now known. Complete descriptions will be prepared by the PCVs as part of the feasibility studies for their respective regions. The regions are discussed below briefly in order of increasing attractiveness for fish farming in so far as it is presently known.

1. Province of Errachidia

This region has the least potential for Aquaculture, and a full feasibility study is probably not justified. Rainfall is reported in 1978 to be 53.4 mm. and for the past 12 month period it has been 23 mm. The vegetation cover is very sparse, and is described as pre-Saharan Steppe. Over all water availability is very low, and with the exception of the river

Ziz valley, agriculture is concentrated largely in small, isolated oases at permanent springs. The river Ziz is dammed, and the reservoir at present is dry and is never expected to live up to its reported potential for providing irrigation water.

2. Province of Ouarzazate

Rainfall under normal conditions is about 400 mm per year, vegetation is sparse and classified as pre-Saharan plateau. Estimates from a 1:200,000 map indicated that aquaculture would be limited to about 200 km^2 of watered agricultural land. Water is available along much of the river Dades valley, numerous runoff streams from snowmelt in the mountains, shallow wells which are used for small-plot irrigation and permanent springs. The Dades river is dammed, and reservoir water is available for irrigation. The water table varies from approximately 5 to 10 m.

3. Province of Azrou

Rainfall records for 1978 indicate 931 mm. There are numerous rivers, streams and springs. The topography is hilly, and vegetative cover is grass and low shrubs. In many places the topography lends itself to the construction of contour ponds or small water catchment structures. The neighboring provinces of Meknes and Khemisset are similar. There are at present no plans for fish farming extension in this province.

4. Province of Beni-Mellal

This region is considered to have the greatest potential for fish farming. Rainfall in 1978 was 457 mm. Irrigation water from a large hydroelectric dam is available. Topography is flat. Agricultural practices are well-developed, and a variety of crops are produced within the irrigated perimeter. Dryland farming outside the irrigated perimeter is principally wheat. Of concern for future aquaculture development is the localized blanket aerial spraying of crops. This should be carefully considered in identifying feasible extension sites in this region.

D. Project Budget

PC/M contributions for the initial three years of the project include direct personnel costs, motorcycles and maintenance and fish culture equipment and supplies, for a total of US $185,732.

The GOM counterpart budget includes direct personnel support for construction laborers, station managers and station workers; operating costs for PCV motorcycles; all material and equipment costs for station construction; equipment for station operation; and miscellaneous operating costs, for a total of about US $110,000 for the initial three-year funding period. The grand total for all project costs for the first three years is about US $300,000.

V. Constraints and Recommendations

A. General observations

Peace Corps has undertaken the difficult task of introducing fish farming to a country with no tradition or history for this activity, and a physical environment in which the potential for fish farming is not immediately obvious. This is not to say that there is no potential for fish farming, but that it will be uncovered only by a patient, careful and methodical approach in addressing the issues affecting the development of this activity. Guidelines developed at Auburn University have been introduced to PC/M to assist them in approaching this task.

It is natural, and a peculiarly western response, to be in a hurry with a development project of this nature, especially so when the need for it is appreciated. This is a problem within Peace Corps (though not exclusively so) due to the short PCV tour of duty (two years or less) and the problem of discontinuity it poses. Pressure to hurry is sometimes also brought to bear by host country governments, often for legitimate political, social and economic reasons. The tendency to rush things, however, should be resisted wherever possible as it tempts one to ignore issues that may spell success or failure for the project.

It would also be unwise for PC/M to consider expansion of the project to new regions, or to involve larger numbers of PCVs than are presently involved, until the first project increment is demonstrating the potential and feasibility of aquaculture.

The principal reason for GOM interest in fish farming is to improve nutrition alternatives for the poorer rural people. It must be realized, however, that while improved nutrition is usually a real need,

it is also usually an unfelt need within the rural population. Thus an appeal to nutrition improvement as a reason for fish culture may not obtain the desired results unless it is accompanied by a nutrition education program which is designed to change this unfelt need to a felt need. An appeal to income improvement as a reason for fish culture is more readily accepted as it is more often than not a felt need among the rural poor who see very clearly the relationship between material poverty and low income. A cash crop (income motivated), as opposed to a subsistance crop (nutrition motiviated) will provide the basis for economic development as well as the basis for nutrition improvement.

B. Program planning

PC/W and PC/M performed pre-feasibility studies in six regions. These studies resulted in three reports containing essential information, and posing important questions relative to project feasibility. It is recommended that detailed feasibility studies be conducted to answer questions posed by the pre-feasibility studies. Guidelines for doing this have been formulated by AUICA (Auburn Univ. International Center for Aquacultuare). Helpful guides for aquaculture development are also available from UNFAO, and complement the AUICA approach. This subject was discussed in detail with PC/M during the consultants visit, and consensus was reached that the above approach is necessary. While PC/M would perform the information gathering exercise, PC/M expertise could be complemented by outside technical assistance (USAID, FAO, etc.) in analyzing the results when the data has been collected. The results of this analysis will be used to formulate a project implementation strategy which will have a high probability of success.

C. PCV training

PCVs involved in the present project are without question bright, highly motivated and well-trained in selected basic skills. It is recommended that this training be supplemented in-country by the presentation of information specifically on aquaculture principles as they relate to carp culture before the PCVs are assigned to their sites. This should be conducted by experienced persons. At the very least practical literature and reference materials should be made available to each PCV to carry to his or her site. This has already been done to some extent by PC/M, but needs to be supplemented. It is also recommended that all PCVs undergo a one-week training course in extension methodology, either in-country or in the US, preferably conducted by an extension specialist with experience in aquaculture. At the very least PCVs should each be provided with practical references on extension methodology, although this alone may not be adequate.

D. Recommended project strategy

1. Feasibility of fish farming

This last year for the present PCV fisheries group should be utilized in thoroughly documenting the conditions relative to fish culture within their respective regions using the methodology discussed above. As a result priority areas for future extension activities will be identified within each of their regions. In Azrou this should also include the analysis of sites for a possible demonstration/fingerling production station.

In as much as fish farming in many in cases Morocco will involve integration with present agricultural activities, or replacement of less efficient utilization of land and water, special attention should be given to the technologies and economics of present uses of land and water.

This data will be evaluated at the completion of service conference in September 1982, and will provide the basis for planning the activities of the incoming PCVs.

2. Fish culture stations

Ideally station site selection and analysis should be made concurrently with fish farming feasibility studies, and station construction should not begin until it has been thoroughly determined that all factors relating to fish culture development are positive. Inasmuch as station construction has already begun in three of the four regions where PCVs are located, the following recommendations are made:

- fish culture station development in Errachidia should not continue. The potential for fish farming at this time appears to be very limited, possibly not justifying a full feasibility study. Water is scarce and the distribution sparse. This has been aggravated by drought conditions in the past two years that show no signs of improvment for the immediate future. In the past twelve-month period there has been only 23mm of rainfall. PC/M and the PCV assigned to the region have expressed concurrence with this decision and action to implement it has begun.

-Development of the fish farming station at Ouarzazate should continue concurrent with feasibility studies for potential extension areas. At present seven ponds are completed, three are filled and carp fingerlings are present.

-Development of the fish farming station at Beni-Mellal should continue. At present two demonstration/trial ponds are nearly completed and two more are under construction. GOM has proposed this station as the central hatchery for warmwater fish farming due to favorable location, good conditions and ten hectares for station expansion. The consultant concurs with this, and further recommends that the services of a hatchery specialist be obtained as soon as possible to assist GOM in designing a comprehensive warmwater hatchery facility to be developed in phases as feasibility studies for extension possibilities indicate the need.

-Utilization of Azrou coldwater propagation station for producing carp fingerlings should be an interim solution only, and should cease when the proposed hatchery at Beni-Mellal becomes capable of taking over this function. GOM resistance to carp culture in the vicinity of the coldwater station should be accepted as a legitimate expression of GOM desires. If the Azrou region demonstrates feasibility for fish farming, a station site should be sought in the warmer, lower elevation areas.

3. Yield trials

Preliminary yield trails are already being conducted by the PCV at Azrou. As soon as station ponds are completed at Ouarzazate and Beni-Mellal yield trials should begin. It is important that this is done before extension efforts are initiated. Conducting the trials will give the PCVs and their counterparts the confidence and credibility needed to maximize effectiveness in extension, and trial data will be essential in deciding the economic feasibility of fish farming vs other economic uses of limited available resources.

Due to the initially limited pond space for conducting trials only two treatments can be considered. These should be fertilization only, and fertilization plus supplemental feeding, with three replications of each treatment for a total of six ponds. Stocking rate should be constant and the same strain of fish used. It is hoped that trials now being conducted at Azrou will give indications as to which of the mirror carp strains to use in the first trials. Subsequent trials will use the most favorable management level (fert. only or fert. + supplemental feeding) as determined in the initial trials, and vary stocking rates, strains, and other factors. Yield trial results should be evaluated at the COS conference, and this evaluation utilized in planning and formulating objectives for the in-coming PC/fisheries group.

4. Extension

When yield trial data has been obtained and areas for extension have been identified, the extension program can be planned and implemented.

It is not expected that the present PCVs will be directly involved in extension. Their principal contribution will be laying the groundwork and establishing the basis for extension to be performed by the succeeding PC/fisheries group.

The stages people go through, largely independent of cultural considerations, when introduced to a new technology are awareness of the new technology, interest in it, evaluation of its benefits to them personally, willingness to give it a trial, and finally adoption of the new technology, which is the ultimate goal of extension. People pass through these stages at differing rates. Innovators are willing to be the first ones to try something new; early adoptors will adopt a new technology as soon as they see it successfully used, and so down the line to laggards, who because of backwardness, suspicion, superstition and other traits take years to reach adoption, if ever.

An example of an activity designed to create awareness and interest is to hold village meetings to show slides of fish culture station activities from pond construction through marketing of the production, which will have been thoroughly documented on film. Slide projectors made for village extension work and which run on a 12v car battery are available. A next step would be to invite these individuals to the station for demonstrations. By this time the innovators in the village may be ready to try it. If they are successful the early adoptors will be the next to try it.

5. Fingerling production

The critical aspects of fingerling production is timing, so that fingerlings are available when needed by the station and the farmers. To allow for unexpected delays and for intervals between spawns, fingerlings can be stunted by crowding into ponds and feeding a maintenance ration (for carp abouat 1% body weight daily), taking great care to maintain good water quality. Fingerlings distributed to farmers should be large enough to withstand the rigors of transport, and small enough to permit the transport, of large numbers (2.5 to 5 cm for carp).

It is expected that spawning will take place in Azrou initially, and Beni-Mellal ultimaely, and that fry will be shipped to the other stations for rearing of fingerlings and distribution. This project has already had experience in spawning, fingerling production and transport, and problems are not expected with this as long as facilities are available.

E. Project continuity

Providing continuity to the Peace Corps fish culture project is a matter of concern. Considerable investment is made in PCV training. Adjustments in the early months to a new cultural setting and "learning the ropes" of a new job are time consuming. Whenever PCVs have worked well and express an interest in extending their tours, this should be encouraged. Also, as much overlap as possible should be provided at the work sites to provide replacement PCVs the maximum opportunities for learning the job and getting to know farmers and government officials with whom they will be working.

It is unfortunate that GOM has been unable to respond to PC/M desire for counterpart technicians, as they would faciliitate project continuity and communication and greatly assist extension activities. PC/M should continue to push for the provision of counterpart technicians.

Continuity will also be enhanced through continuing cooperation with USAID and private vountary organizations, such as the Catholic Relief Service which has already contributed substantially to the PC/M fisheries program. Such cooperation should be strongly encouraged.

F. PC/M and GOM cooperation

Cooperation in general has been good; however, there are rough edges, most of which have resulted from inadequate communications. The following recommendations are made as possible means of minimizing thes problems.

- every effort should be made to solicit GOM participation in planning and implementing project activities, whether this be be at the national or provincial levels. Where this not successful the GOM should be fully informed in writing of PC/M objectives and intended actions, and their concurrence obtained, in writing. This takes time, but often less time than trying to sort out misunderstandings.
- The Morrocan administrative/supervisory system is the structure within which the PCV must function, unless the GOM explicitly permits a greater range of freedom (an unlikely situation). This is difficult to swallow for energetic persons anxious to get on with the job, especially if the

system is awkward and unresponsive, but there are usually few alternatives.

G. Other issues

1. Fishery PCVs should be strongly encouraged to begin study of French or Berber language after completion of Arabic language training. French would be useful for PCVs whose work is principally at the stations and who have frequent dealings with government officials. Berber should be considered essential for PCVs working primarily as extension agents.

2. PC/M has been encouraged by U.S. government policy directives to place female PCVs in the fisheries program. This has been rejected by the GOM. Discussion of this issue with GOM officials in the consultants presence resulted in negative responses. This issue should not be pressed upon the GOM as it may be interpreted as cultural insensitivity and might further complicate already difficult working relationships.

3. GOM perceptions of PC/M fisheries assistance are generally positive because of the expectation that PCV technical skills will make up for deficiences within the GOM. PCV participation has been more active than expected by GOM, which originally thought their participation would be in an advisory capacity only. This has been welcomed. The only complaints from GOM have been the degree of PCV independence from the Provincial Services, and inadequate communication with PC/M both at National and Provincial levels. These issues are discussed above.

4. Before the extension phase of the project begins PC/M should understand clearly how GOM intends to implement extension activities with respect to the responsibile government department (e.g. under Water and Forests or the existing agriculture extension service?), chain of command at the provincial level, the strategy for administration and support of extension and the extension strategy/methodology to be used. The results of these decisions will be incorporated into extension program planning. It is stressed here that all aspects of extension planning should be thoroughly documented and agreed upon by PC/M and GOM before implemention begins.

5. Training of Moroccan counterparts in fish culture, extension methodology and warm water hatchery management is essential. The responsible GOM agency should be encouraged to explore all possible means of accomplishing this. An appropriate five-month training program is conducted annually at Auburn University. If candidates do not have English language capability, alternative programs should be sought in French or Arabic speaking countries. Training programs could possibly be conducted in Morocco utilizing trainers from foreign sources.

Itinerary and Officials Met

Nov. 30 (Mon): Arrival of consultant

Dec. 1 (Tues): Check in briefing at Peace Corps

Walter Ogrodnik, Associate Peace Corps Director for Agriculture

Baudoin de Marken, Country Director

Check in briefing at USAID/Ag

Alan McSwain, Chief of Agriculture

Doral Watts

Check in briefing at Ministry of Agriculture, Direction of Water & Forests

Mr. Rajad, Chief of Inland Fisheries

Dec. 2 (Wed): Travel to Azrou coldwater propagation stations (National Center for Hydrobiological and fish culture research).

Mr. Mouslih Mostafa, Director

Dec. 3 (Thurs): Attend and participate in PC/Fisheries mid-term conference.

Dec. 4 (Fri): Travel to Errachidia

Side trip to Oasis Village Zaoiat Sidi Hamsa to examine aquaculture possibilities.

Dec. 5 (Sat): Visit Errachidia fish culture station

Visit possible extension sites in vicinity

Dec. 6 (Sun): Visit market in Errachidia

Depart for Ouarzazate

Dec. 7 (Mon): Visit Quarzazate fish culture station

Depart for Zagora to examine aquaculture possibilities

Dec. 8 (Tues):	Depart Zagora for Marakech
Dec. 9 (Wed):	Depart Marakech for Beni-Mellal
	Visit market, possible extension sites and fish culture station
Dec. 10 (Thurs)	Depart Beni-Mellal for Rabat
Dec. 11 (Fri):	Begin report writing
	Meeting at PC/M to review fisheries project
Dec. 12 (Sat):	Report writing
	Discussion of technical problems with PCVs at PC/M
Dec. 13 (Sun):	
Dec. 14 (Mon):	Private meeting with GOM official to discuss project issues.
	PC/M meeting with GOM to discuss project issues arising from mid-term conference and consultants visit.
Dec. 15 (Tues):	Travel MeKnes, Azrou and Kemisett, Visits to farmers.
Dec. 16 (Wed):	Finalize report writing
	USAID exit briefing
Dec. 17 (Thurs)	Discuss draft report with PC/M staff
	Exit briefing PC/M director
	" " with Director of Water and Forests (Zaki), and Island Fisheries Chief (Rajad)
Dec. 18 (Fri):	Depart from Morocco