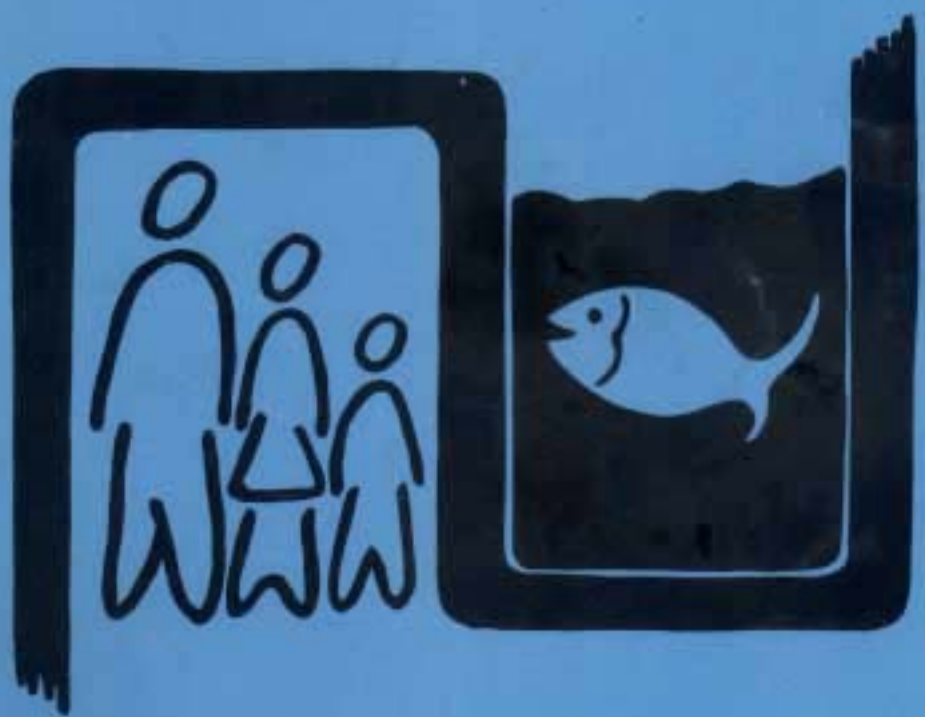
Consultation on Social Feasibility of Coastal Aquaculture

Madras, India
November 26 - December 1, 1984



NATIONAL SWEDISH BOARD OF FISHERIES
AND THE BAY OF BENGAL PROGRAMME

CONSULTATION ON SOCIAL FEASIBILITY OF COASTAL AQUACULTURE
Madras, India
26 November - 01 December, 1984

Organized jointly *by*

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PREFACE

The Consultation on Social Feasibility of Coastal Aquaculture, reported in this document, was organized jointly by the small-scale fisheries project of the Bay of Bengal Programme (BOBPI and the National Swedish Board of Fisheries (NSBF).

The small-scale fisheries project of the Bay of Bengal Programme is funded by SIDA (the Swedish International Development Authority) and executed by FAO (Food and Agriculture Organization of the United Nations). It covers five countries bordering the Bay of Bengal – Bangladesh, India, Malaysia, Sri Lanka and Thailand. It is a multi-disciplinary project, active in craft, gear, aquaculture, extension, information and development support. The project's main goals are to develop, demonstrate and promote appropriate technologies and methodologies to improve the conditions of small-scale fisher-folk in the BOBP's member countries.

The NSBF acts as an "institutional consultant" to SIDA in matters related to fisheries development. The tasks of the NSBF in its cooperation with SIDA are to offer advice; carry out studies for strategy development; planning and evaluation of fisheries projects plus technical backstopping during implementation; purchase of equipment, and recruitment of consultants and field personnel.

In 1983, SIDA requested NSBF to review the status of aquaculture in developing countries and the potential for its development and for Swedish support to the sector. The study not only showed clearly the potential of this growing sector but also that aquaculture techniques and development projects were not always socially feasible in terms. of the benefits accruing to the intended beneficiaries.

The Consultation originated from a proposal endorsed by the 8th meeting of the Advisory Committee held in Chaka, January 1984. The proposal was based on the growing need to understand the social implications of coastal aquaculture which emerged from the experiences of countries in the region and from BOBP activities which had shown that though technically and economically feasible methods of aquaculture could be evolved, their social feasibility was not always ensured. BOBP and NSBF therefore agreed to organize the consultation as a joint activity. Thirty-five participants – scientists. aquaculturists, planners and administrators from the region and representatives of international organizations (ICLARM, SEAFDEC, ADB and ODA) – attended the consultation.

There was a week of lively discussion on ail aspects of the subject. As anticipated, due to the complexity of the subject and the varied backgrounds of the participants, a consensus was not arrived at *on* all aspects. However, the consultation highlighted a number of problems and opportunities regarding social feasibility.

Social feasibility of coastal aquaculture is a new and difficult discipline. The Consultation, naturally, could not conclusively answer the question : How to design aquaculture projects? This report is essentially meant as a basis for further discussion and work in the field. Its conclusions and recommendations will, hopefully, give planners, administrators and decision makers, both in developing countries and in donor agencies, an idea of the right questions to be asked when designing socially feasible coastal aouaculture projects.

We would like to thank all participants for their valuable inputs and efforts to make the Consultation a success. In particular we would like to thank Dr Ian Smith of ICLARM for preparing and presenting the keynote address, the resource persons for preparing the case studies and the Secretary of the Consultation, Mr Rathindra Nath Roy, for organizing and executing the Consultation. We would also like to thank Dr P Dehadrai, Development Commissioner of Fisheries, Government of India, for inaugurating the Consultation and taking part in it.

Finally, we wish to acknowledge SIDA's generous financial support to the Consultation

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National Swedish Board of Fisheries

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SUMMARY

Various ideas, methods, strategies and questions concerning social feasibility, discussed at the consultation, are listed below. Development agencies can choose from this list, those ideas and strategies that are appropriate from the standpoint of their *policies,* the *countries* they operate in, the *projects* they are concerned with, and the *communities* they cater to.

1. *When* is a *project socially* feasible?

   A project is socially feasible when :

   - its benefits reflect the felt and actual needs of the people it sets out to help;
   - the benefits actually reach the people they are meant for;
   - the project does *not* exclude others in the region besides the target group and tries to answer their just needs. This minimizes the social conflict that often ensues from helping some and not others;
   - the distribution of benefits is equitable;
   - the project involves the people in deciding objectives and priorities, in planning and implementation;
   - the effort begins where people are at but does not keep them there. The project should consider and respect existing traditions, mores and attitudes in important areas like seasonal behaviour, leisure time use, sax-caste labour divisions, and cultural taboos while designing the effort, *to* ensure minimal conflict at entry;
   - the development should be self-sustaining. It should not develop a state of dependency on the project.

2. *Coastal aquaculture* for *whom?*

   There is too much focus at present on projects and technologies, and insufficient concern about the overall strategies which would lead to the development of coastal communities. Development agencies should shift their emphasis from the development of technologies to the development of people; in this case from the development of fisheries to the development of fisherfolk.

   SIDA, for example, views aquaculture in the context of rural development and has a clearly stated rural development strategy that defines the target as the socially and economically weaker sections of the population.

   The SIDA strategy recommends that a majority of the benefits should flow to the specific target group but it does not suggest that all the others should be excluded as that would be neither socially feasible nor just. The strategy focusses on resource growth through people's participation. It works towards greater *economic and* social *equality, better access to services for all, greater influence on* decision *making,* especially in the political arena; it promotes self-sustaining development and requires the community to get involved in the process by organizing itself and taking independent decisions.

3. *Technologies should be evolved only after target groups are identified.*

   Development agencies, especially those that evolve and transfer technologies, often have no idea or knowledge of the *particular* communities to whom the technology will be extended to. Target communities are selected on the basis of prevailing government policies or even for the convenience of the concerned development agency – and invariably *after* the technology is ready for extension and transfer.

4. *Questions to be asked before deciding on the technology and process of extension.*

   An agency should ask certain questions before it decides "which technology" and the "process of extension".

   - For whom is the effort?
   - Do we know them and about them?
   - Do they know us, and understand why we are trying to assist them in their development?
   - What are their stated needs and how do they prioritize their needs?
   - Are the causes of their problems known to them and to us?

- How is the community organized socially and commercially to carry the new technologies into the mainstream of its life?
- What are the people willing to do for and by themselves?
- Do we understand the communities' concept of advantage?
- Will one particular technology ensure equitable spread of benefits or would a range of technologies be required?
- What constitutes 'appropriate' technology for the community in terms of its social, cultural and political attitudes and mores?
- Are we (the agency) committed to (and will the people) participate in the planning, choice and development of technologies and implementation?
- Keeping in mind the existing social and power structures in the community, who will get which benefits and why?
- How, if at all, can we ensure that those who need the benefits the most get them while reducing social tension and conflict along the way?

In the very process of asking these (sometimes difficult) questions, the planners of the agency will begin to put into practice socially feasible projects, for the questions and their answers would not only help in the selection of technologies and programme but, more importantly, suggest means and methods of developing and transferring such technologies.

5. *The need for a mediating agency to take part in project negotiations of behalf of target populations.*

Governments, development agencies and funding agencies communicate freely with each other, negotiate objectives and considerably influence each other's decisions. But the target population rarely has the ability and the means to participate in the negotiations and influence them. There may be a need for some form of a mediating agency to ensure such participation. Non-governmental service agencies and people's movements could take up the mediation role.

6. *Development agencies should reorder their organizational structure. . . .*

Concern for socio-economic aspects of development is usually the responsibility of the extension department which often comes into the picture *after* the scientists, technologists, economists and administrators have selected, developed, tested and convinced themselves about the technology.

The new socially feasible approach would require the agency to build into its structures a group concerned with understanding and working with the community. They will have an opportunity to affect basic policy and literally write the briefs for the scientists and technologists on the kind of technology to be evolved. Such a group would also look after extension and work with the community. Ideally, such a group would study social feasibility, plan for it, programme it and evaluate the social impact of programming. This is an important and difficult task – impossible unless the organization as a whole believes in the concept and supports it.

7. *Instruments should be developed to implement the social feasibility approach.*

A few instruments should be developed to help agencies to operationalize the social feasibility approach. They could be :

- A community status and needs statement, which could be used by the agency at the stage of negotiating the objectives and methods of the project ;
- A socio-economic impact statement, to help in the preliminary selection of technology and in deciding whether the scheme will be socially feasible at all ;
- In-process social impact appraisals, to monitor the social impact along the way and to indicate mid-course corrections;
- A socio-economic audit at the end of the project to guide future efforts of the agency, and to make the agency accountable for its efforts and impacts; and,

The development of rapid cost-effective appraisal techniques that save time and money without compromising on the quality of analysis.

8. *Social feasibility is a contradiction in terms. (Dissenting view)*

Underdevelopment can only be understood in terms of the social, political and economic structures in society that expropriate and channel benefits to the few at the cost of the many. For any 'real' development, these structures will have to be addressed and reordered. Such reordering will be resisted, the process will generate social conflict.

Thus a process that sets out to develop people in a 'socially feasible' manner is a contradiction in terms for the only way it would be 'socially feasible' would be by not 'really' developing people.

REPORT OF THE CONSULTATION ON SOCIAL FEASIBILITY OF COASTAL AQUACULTURE

Background

Late in November 1984, 35 aquaculturists, project administrators, government officials, social scientists, international donor agency representatives, bankers and representatives of fisherfolk came together in Madras, and spent six days exchanging experiences in coastal aquaculture, especially in terms of those social and cultural factors that affect the success of such projects. The idea was to arrive at recommendations on how this type of fishery technology could be used so as to benefit the socially and economically weaker segments of society.

The Consultation on the Social Feasibility of Coastal Aquaculture was organized by the National Swedish Board of Fisheries (NSBF) and the Bay of Bengal Programme of the FAO (BOBP) and brought together participants from Bangladesh, England, India, Malaysia, the Philippines, Sri Lanka, Sweden, Thailand and international agencies such as the ADB, ICLARM, ODA and SEAFDEC."

Why social feasibility?

The NSBF and BOBP were concerned about certain trends that they had begun to discern from experience with aquaculture in general and coastal aquaculture in particular. This concern led to the Consultation. The main issues were :

– Aquaculture tends to be a complex enterprise and often requires considerable capital. This makes it more accessible to the upper social and economic groups, which tends to concentrate incomes and wealth in the hands of the few instead of distributing it amongst the more needy, as several development programmes set out to do.

– The products of aquaculture, like shrimp, fish and shellfish are expensive and often beyond the reach of those who toil to produce them, and who need it to enhance their nutrition. So the products find their way to those who can absorb the high prices – urban and export markets.

– In spite of technical viability and economic (or, at least financial) feasibility, some aquaculture projects have failed to meet the social equity and development needs of the very communities that the programmes set out to help.

In spite of all these problems, aquaculture has great promise, and it is necessary to understand social factors and, more importantly, to devise socially feasible means of utilizing a valuable resource. With fish supplies dwindling as limits to capture fisheries are reached, many countries are viewing aquaculture as the primary means of achieving increases in fish supply to match increases in population and demand.

Dr. P.V. Dehadrai, Fisheries Development Commissioner, Government of India, inaugurated the meeting by describing India's experience with coastal aquaculture, and underlined the need and urgency to better understand the social dimension of the task.

In his keynote speech, Dr. Ian Smith, Deputy Director General of ICLARM, addressed the task of building the fouhdation of ideas and issues on which the discussions and deliberations of the Consultation could be built. With a group of participants drawn from diverse environments and functional specialities, the address had to not only review the state of art of the subject; it had to provide the bases for discussion of the major issues relevant to assessing the social feasibility of technology for coastal aquaculture in the tropics.

Dr. Smith began by looking at the role of technology in development : for technology, and the structural change it has wrought, is the centrepiece of claims to current prosperity in the developed countries and is, therefore. espoused by planners and policymakers as the solution to underdevelopment and poverty elsewhere. He felt that at the heart of the discussion regarding development should be concern for the means of development and its purpose and impact : we cannot measure development solely in terms of increase in total output or monetary value, but need to

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- ADB : Asian Development Ban&, Manila
  ICLARM : International Center for Living Aquatic Resources Management, Manila
  ODA : Overseas Development Authority, UK
  SEAFDEC : South East Asian Fisheries Development Centre. Iloilo, Philippines.

determine the fashion in which such benefits are distributed and their impact on various strata of society.

Focussing on coastal aquaculture in the tropics, he pointed out that there was a critical need to determine its social feasibility because of several factors :

- Many countries are actively promoting aquaculture by creating favourable economic conditions because they view it as a means to overcome the constraints that capture fisheries are facing;
- The expansion of export markets for the products of coastal aquaculture (especially shrimp) is further fueling this expansion;
- The fragile nature of the coastal zone, particularly mangroves, and the potential competition for its use that aquaculture development can lead to; and
- The general lack of institutional preparedness to deal with this competition in the coastal zone.

Coastal aquaculture for whom?

Dr. Smith said that at the heart of deliberations on social feasibility is the question : "Coastal aquaculture for whom?". A socially feasible aquaculture system, he added, required that coastal communities participate in decentralized planning for the adoption of aquaculture technologies and that benefits be widespread. He warned that the interests of coastal communities were being overlooked in the drive by many nations for foreign exchange earnings from such coastal cultured species as shrimp which require large-scale investments.

Learning from the "Green Revolution"

Determining social feasibility required prediction and being able to judge ***a priori*** whether or not to proceed down a particular path – a difficult proposition in the best of times. However, it was suggested that valuable lessons for aquaculture development planning and implementation could be learned from experience with the "Green Revolution" in agriculture and the 'appropriate technology' movement. He identified and examined the factors that need to be taken into account when planning socially feasible coastal aquaculture systems. These include :

1. Informal and formal institutions, especially those of a legal nature, that govern property and use-rights in the coastal zone;
2. Source and degree of concentration of wealth in the coastal community;
3. Male and female labour use patterns and availability;
4. Extent of previous community collective action and the strength of local leadership;
5. Previous experience with aquaculture or technological change in other sectors;
6. Present technical and managerial skill levels;
7. Extent of community linkages with external institutions such as those concerned with credit, extension and markets; and
8. Socio-cultural aspects of community power structures, role of local elites, and consumer preferences.

Aquaculture can benefit the poor if . . . .

Dr. Smith concluded his presentation by suggesting that coastal aquaculture systems of an extensive rather than intensive type that could be integrated with existing community activities be developed. Examples : shell fish culture, pen culture of finfish and integrated poultry-fish and pig-fish pond culture. To facilitate this, he felt the need for legislative change or enforcement to reserve parts of the coastal zone exclusively for small-scale aquaculture activities of coastal communities which might otherwise be displaced by large-scale,capital intensive, corporate managed shrimp farming; long-term support; subsidies; and, of course, decentralized and participative planning and implementation. All this will bring about the type of change which may disruptive to existing community structures, but, as Dr. Smith pointed out, this change can also be liberating for the majority of coastal residents, who presently live in conditions of poverty and oppression.

Case studies

The keynote address had raised several issues, and there was need for a debate which would firmly root these ideas and concepts in the reality of planning and implementation of coastal aquaculture

projects. The participants formed themselves into smaller groups and spent the next three days discussing four cases that had been specially researched and written for the Consultation. The cases were developed around four coastal aquaculture projects in various stages of planning, implementation and functioning, and were drawn from Bangladesh, India and Thailand. Background materials for each case were provided, and each case study session was preceded by a presentation by the authors of the particular case study. The task set for the participants was to identify the social and cultural factors that could affect the success of the project under study and to suggest a strategic plan to make the project socially feasible. The groups had the option of rejecting the project as socially infeasible.

The first case was of a planning study undertaken prior to extension of shrimp pen culture in the backwaters of Killai in Tamil Nadu, India. A technical effort undertaken by the BOBP and the Government of Tamil Nadu had indicated technical and economic viability, and the case described a social feasibility study and the subsequent planning effort.

The second case was quite different in that it was not about a project. Local farmers and entrepreneurs of Satkhira in south-western coastal Bangladesh had responded to market conditions and had upgraded the existing technology of shrimp-paddy culture, which has been practised locally for years. The technology used the special environmental conditions created by a series of protective dykes that the government had built to prevent infiltration of brackishwater into agricultural land. What had begun as a means of protection had turned out to be an ideal way of containing the brackishwaters for shrimp culture. The question in this case was to look at the impact of such development on the local economy and the poor of the region and then to recommend regulations and modifications.

The third case concerned a project in Orissa, India. The Brackishwater Fisheries Development Agency in that state had developed a technology of contained tank shrimp culture, which had been discovered quite by accident, and had begun a successful extension of the technology along the shores of the Chilka lake, India's largest brackishwater lake. The programme seemed to be technically and economically viable and was obviously being transferred to the poor of the region. Here, the participants were asked to identify potential social problems, recommend policies and programmes and to learn from the effort the methods if any that had been used to ensure successful implementation of the project.

The last case was from Phang Nga in southern Thailand, a tourist resort made famous by a James Bond film that was shot in its beautiful surroundings. The poor fishermen faced with depleted stocks were in trouble, when the Government of Thailand and the BOBP developed and introduced cage culture of finfish and various forms of shell-fish farming. The idea seems to have caught on and several communities have taken up culture. The participants discussed the case with an eye to social and economic problems that the project expansion may cause and suggested strategies to overcome the problems.

Out of the discussions, multi-disciplinary in perspective and often heated, there seemed to evolve a consensus that technically viable and economically feasible projects can, and often do, fail to meet the social equity and social development needs of the very people the projects set out to help. More importantly, the discussion threw up several ideas and strategies that could be used to create socially feasible coastal aquaculture projects.

Findings **and recommendations**

The final sessions of the Consultation required of the participants a shift in logic, as it were. They had to take their findings and recommendations from the case studies and raise them out of their particular contexts in order to evolve general guidelines and recommendations which would enable agencies to develop, plan and programme socially feasible coastal aquaculture projects.

Out of the discussions emerged ideas, issues, questions and recommendations from which agencies could choose those relevant to their circumstances. Such an open-ended process is necessary when dealing with a complex area such as social feasibility with its subjective nature, dependent as it is on the particular social milieu, the project under consideration and its characteristics, the agencies involved, policy frames and objectives.

What is social feasibility?

The case studies and their personal experiences helped the group to evolve a consensus that technically and economically viable projects. have sometimes failed to meet the social equity and development needs of the very communities that the projects set out to help. With increasing levels of awareness and with Governments and major international agencies being held accountable for their efforts, such failures of a socio-cultural and political nature are becoming serious problems, and, therefore, need to be avoided. Development is no more an act of goodwill or charity which goes unquestioned. The group agreed that it was important that agencies evolve strategies which would enable them to plan and programme projects which are 'socially feasible'.

Social feasibility, most generally stated, seems to mean that :

- benefits of a programme should reflect the felt and actual needs of the people it sets out to help;
- the benefits actually reach tne people they are meant for;
- while focussing its activity and benefits on the target population, the programme does not exclude others in the region and tries to answer their just needs, which also minimizes the social conflict that often ensues from helping some and not others:
- the distribution of benefits is equitable;

  the programme involves the people in deciding objectives and priorities, in planning and implementation;
- the effort begins where people are at but does not keep them there. The programme should consider and respect existing traditions, mores and attitudes in important areas like seasonal behaviour, leisure time use, sex-caste labour divisions, and cultural taboos while designing the effort, to ensure minimal conflict at entry;
- the development should be self-sustaining and should not develop dependencies on the agency of development.

While these might sound idealistic and even impractical, they are nonetheless important as they focus on the correct attitude that an agency should adopt. How practical these factors are, of course, varies from agency to agency and project to project.

Social feasibility is a complex idea and while most of the participants agreed to the need for social feasibility and what it generally constitutes, it is important to balance such agreement with the dissenting voices that raised some very basic questions. Fr. Thomas Kocherry, the Chairman of the National Fishermen's Forum, said that underdevelopment can only be understood in terms of the social, oolitical and economic structures in society that not only expropriate but also channel benefits to the few at the cost of the many. Any 'real' development will have to address itself to these structures and reorder them. And it is safe to assume that such reordering will be resisted and the process will generate social conflict. Would not then, Fr. Kocherrry asked, a process that set out to develop people in a 'socially feasible' manner be a contradiction in terms, for the only way it would be 'socially feasible' would be by not 'really' developing people?

Aquaculture for whom?

At the heart of deliberations on social feasibility is the question : "Coastal aquaculture for whom?" Development agencies need to have clear and well thought out policies and strategies which precisely define the target, the concept of development being adopted and the means to achieve it. The participants felt that there tended to be too much focus on projects and technologies, and insufficient concern about the overall strategies which would lead to the development of coastal communities. It was even suggested that development agencies should shift their emphasis from the development of technologies to the development of people; in this case from the development of fisheries to the development of fisher-folk.

Arne Andreasson of NSBF and Lasse Krantz. consultant to SIDA, pointed out that SIDA sees aquaculture in the context of rural development and has a clearly stated rural development strategy that defines the target as the socially and economically weaker sections of the population.

The SIDA strategy recommends that a majority of the benefits should flow to the specific target group but it does not suggest that all the others should be excluded as that would be neither socially feasible nor just. The strategy focusses on resource growth through people's participation. It works

towards greater economic and social equality, better'access to services for all, greater influence on decision making, especially in the political arena; it promotes self-sustaining development and requires the community to get involved in the process by organizing itself and taking independent decisions.

The problem in most cases, however, is that development agencies, especially those that evolve and transfer technologies, often have no idea or knowledge of the particular communities to whom the technology will be extended to. Target communities are selected on the basis of prevailing government policies or even for the convenience (in working) of the concerned development agency and invariably after the technology is ready for extension and transfer.

In effect, solutions are often first generated, which then look for problems to solve!

Development agencies have their own objectives deriving from their particular ideologies, their understanding of underdevelopment, of national and regional needs, the physical environment and of course of the state of the art of science and technology. The needs and problems of the people they set out to help are often only understood in general and aggregate terms. More often than not the objectives of a programme are negotiated by the development agency (especially if it is an international one) and the concerned government. The target communities who have their own felt and actual needs and problems cannot really be sure that their needs will be met by the programme unless of course their own needs fit the objectives negotiated by the agencies and governments. As Figure 1 shows, the need profile of the community can be in at least four different locations in the objectives map but will be satisfied only in position 4 where it coincides with the common negotiated objectives. The group recommended that agencies should identify target communities to the extent possible before they begin evolving technologies and involve them in the process of deciding on the technologies that should be evolved.

A second problem was identified in this respect. The different government, development and funding agencies communicate freely with each other, negotiate objectives and have considerable influence on each other's decisions. The target population or, to be specific, any particular community, even if it is identified and known, rarely has the ability and the means to participate

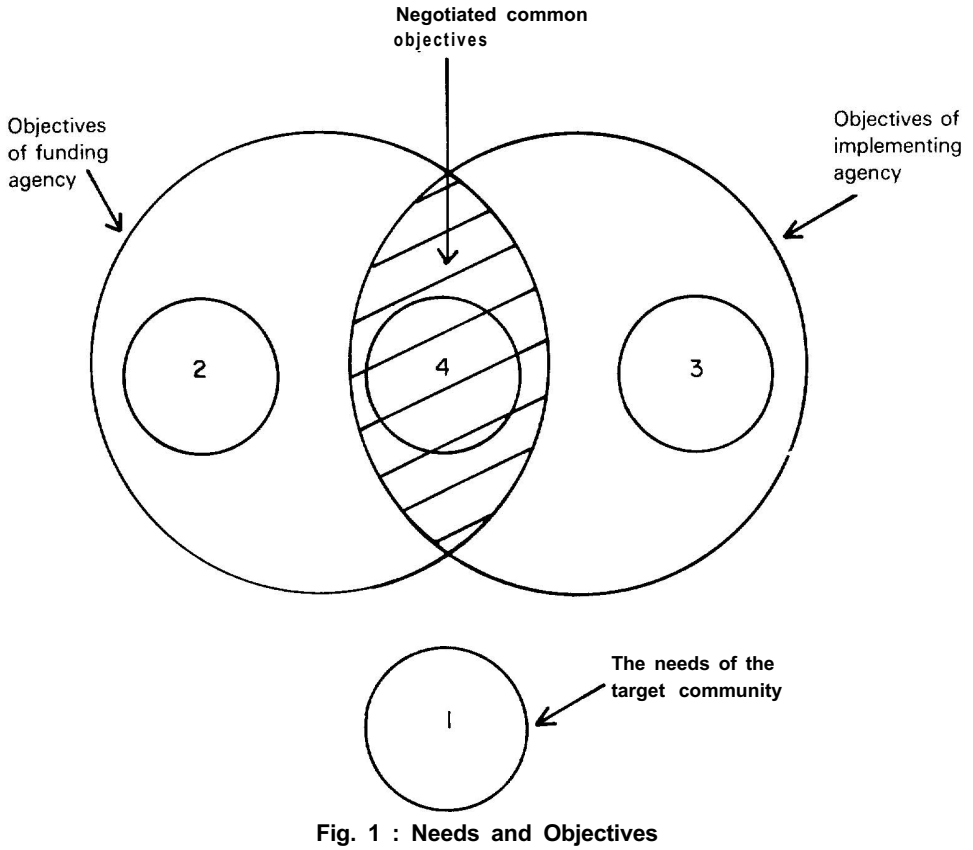

Fig. 1 : Needs and Objectives

in the negotiations and influence them. Figure 2 visualizes this problem and it can be seen that there may be a need for some form of a mediating agency if the social feasibility requirement of participation has to be taken seriously. Some participants suggested that non-governmental service organizations and people's movements could take up the mediation role. However, it was pointed out,that should they not exist, the agency may have to take the responsibility of mobilizing and organizing the community to secure its participation in the development process.

A third problem, and one that might have far reaching policy implications for development agencies was pointed out by the participants and this revolved around the question : why aquaculture?

Why Aquaculture?

At its most simple level the question "why aquaculture?" c.nmes up because the communities' needs are not matched by the agency's abilities. People live their lives, rarely separating and articulating their needs and problems into neat functional areas. They prioritize their needs and problems based on their own logic frames. For them one technology or even a group of technologies that satisfy only a sub-set of their needs and problems may not be a very attractive proposition especially if the sub-set addressed is low on their priority list.

Development agencies on the other hand are usually specialized groups working in one or at best a few functional areas, for example fishing. They do so because such specialization is not only

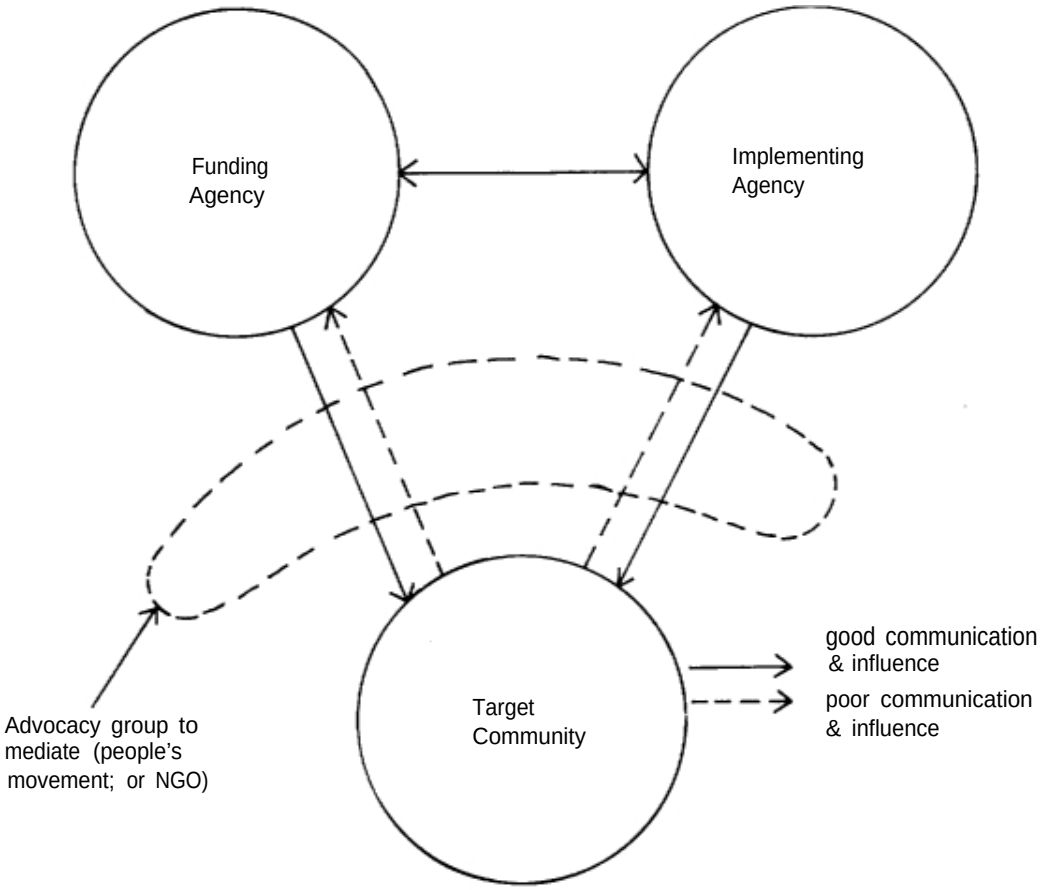

Fig. 2 : The need for a voice for the target community

efficient and easy to manage but because it reflects the logic frame of scientificdevelopment. Thus the insufficient concern about overall strategies, a complaint that has often been levelled at specialist agencies, is an organizational problem which can only be overcome with basic policy shifts. The participants suggested that either the agency could widen its role and consider a range of technologies or it should develop collaborative superstructures with other agencies to provide the community with a range of technologies to answer their range of needs – a cafeteria approach that will give the community opportunity to choose and answer several of its problems simultaneously with the organizational ease of working with one organization.

An agency, the participants recommended, ought to ask certain questions before it decides "which technology" and the "process of extension" :

- for whom is the effort?
- do we know them and of them?
- do they know us, and understand why we are trying to assist them in their development?
- what are their stated needs and how do they prioritize their needs?
- are the causes of their problems known to them and to us?
- how is the community organized socially and commercially to carry the new technologies into the mainstream of its life?
- what are the people willing to do for and by themselves?
- do we understand the communities' concept of advantage?
- will one particular technology ensure equitable spread of benefits or would a range of technologies be required?
- what constitutes 'appropriate' technology for the community in terms of its social, cultural and political attitudes and mores?
- are we (the agency) committed to (and will the people) participate in the planning, choice and development of technologies and implementation?
- keeping in mind the existing social and power structures in the community, who will get which benefits and why?
- how, if at all, can we ensure that those who need the benefits the most get them while reducing social tension and conflict along the way?

It was suggested that in the very process of asking these (sometimes difficult) questions the planners of the agency will begin to put into practice socially feasible projects, for the questions and their answers would not only help in the selection of technologies and programmes but, more importantly, suggest means and methods of developing and transferring such technologies.

Organization for Social Feasibility

Most of the participants realized that the organizational structure of development agencies, not to mention their policies, would have to be reordered to meet the new requirements. For example, concern for socio-economic aspects of the development process usually is the responsibility of the extension department or division which more often than not comes into the picture after the scientists, technologists, economists and administrators have selected, developed, tested and have convinced themselves of the techno-economic feasibility of the technology earmarked for extension.

The new socially feasible approach would require the agency to build into its structure a group concerned with understanding and working with the community and which will have an opportunity to affect basic policy and literally write the briefs for the scientists and technologists on the kind of technology to be evolved. Such a group would also look after extension and work with the community. Ideally such a group would study social feasibility, plan for it, programme it and evaluate the social impact of programming. This is an important and difficult task which, the participants felt, would be impossible unless the organization as a whole believed in the concept and supported it. Figure 3 suggests an organizational form that incorporates such activities into an agency.

The new orientation also requires agencies, particularly those divisions and departments who have responsibility for technology development, to rethink their modus operandi. With the needs of the community deciding the selection of technologies to be developed, a very strong case may be made for not only involving the community in developing and testing the technologies but also for doing it in *situ* rather than in centralized laboratories and centres. This concept should make particular sense in aquaculture where the technologies are extremely environment-specific and

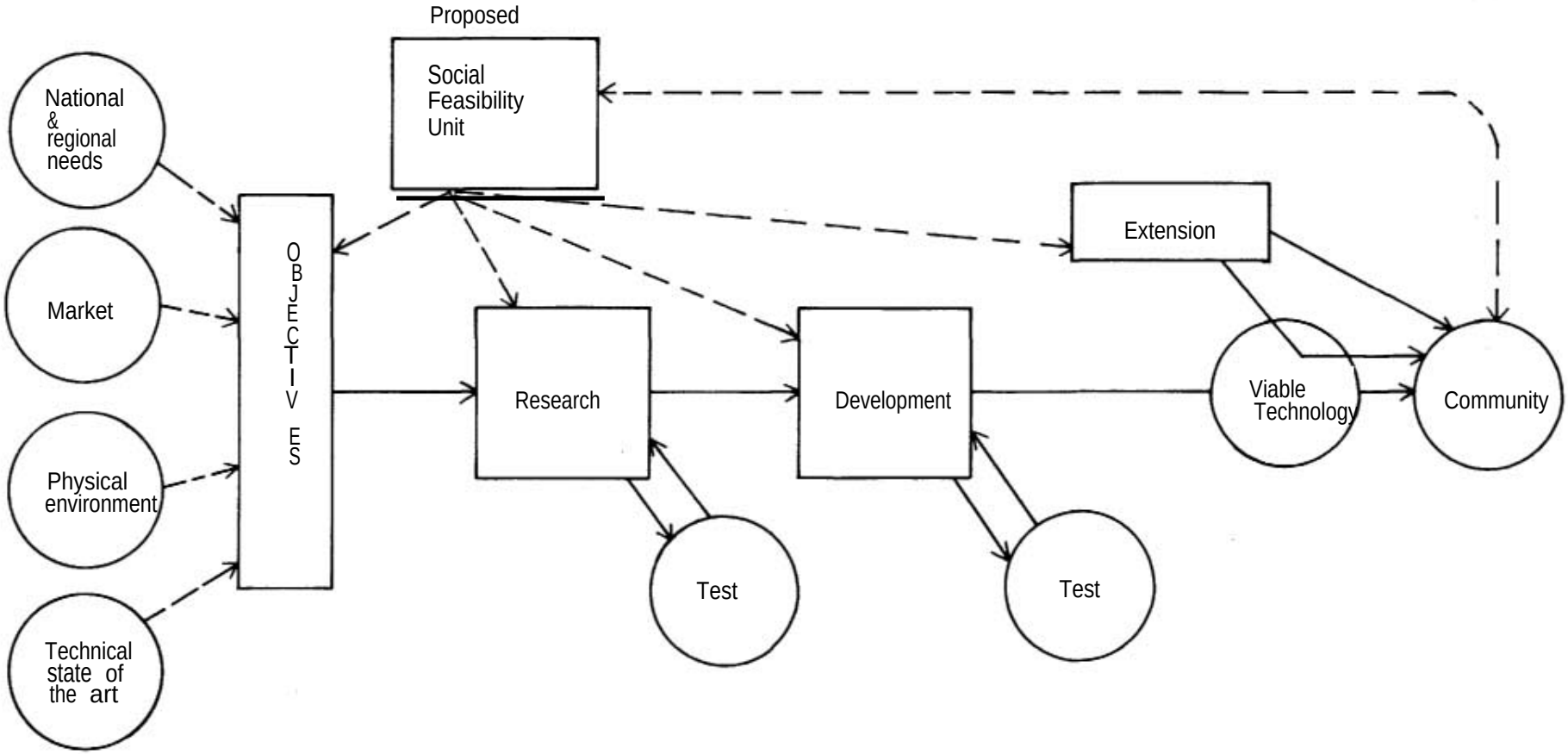

Fig. 3 Incorporating social feasibility

their success depends to a very large extent on the ability of the community to manage them. Both these factors would get incorporated and eventually resolved in decentralized participatory research and development. Ultimately the strongest case for such an approach would be that the community would need very little convincing and would transfer the technology by word of mouth and practice faster and better than any organized extension process. Further, the self sustaining aspect of the technology would be ensured to a certain extent because of the 'transparency' of a technology locally developed with the people.

Practicability of Social Feasibility

In the final analysis an agency would incorporate social feasibility considerations into its working only if it is practical for it to do so. The participants realized this and dwelt on the topic and came up with ideas and recommendations. The success in operationalizing a concept such as social feasibility, that is in danger of becoming vague and intangible, lies in being able to observe it and to measure it. This would require the agency to have a clearly stated policy and strategy which spells out the ends and means of various developmental activities. It would also require that the agency evolve indicators to measure the achievement of social feasibility in quantitative and qualitative terms.

A few instruments should be developed to help agencies to operationalize the social feasibility approach. They could be :

1. *A community* status and needs *statement,* which could be used by the agency at the stage of negotiating the objectives and methods of the project;
2. *A socio-economic impact statement,* to help in the preliminary selection of technology and in deciding whether the scheme will be socially feasible at all;
3. *In-process social impact appraisals,* to monitor the social impact along the way and to indicate mid-course corrections; and
4. *A socio-economic audit* at the end of the project, to guide future efforts of the agency and to make the agency accountable in a sense for its efforts and impacts.

Organizations are constrained by time and funds. And no agency would accept social feasibility if it inordinately delayed its efforts and cost a lot. This, of course, requires the development of rapid, cost-effective appraisal techniques that save time and money without compromising on data, analysis quality. Finally, and perhaps most importantly, agencies would have to develop manpower in sufficient numbers to undertake these new and difficult tasks to make an impact on development. All this, the participants suggested, requires a concerted push by those who are convinced of the need for social feasibility in development programming to persuade and enable agencies to take the right steps.

Finally, the participants realized that they had raised more questions than they had answered, but this was to be expected considering the complexity and 'newness' of the subject. They felt that the Consultation had provided them with an opportunity to articulate thoughts, feelings and ideas which in the course of their work they would hesitate to, because of the sensitive nature of the subject and for the fear of political implications. In articulating the problem they felt a begining had been made. A problem had been stated and the first few tentative stepstaken in understanding it and evolving solutions.