

Gender Dimensions of Community Livelihood Strategies

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M.S. SWAMINATHAN RESEARCH FOUNDATION
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Report of the Workshop

Introduction

A one and a half day workshop on **Gender Dimensions of Community Livelihood Strategies** was organised by the Smt. Uttara Devi Chair/Resource Centre on Gender and Development from 10.06.97 noon to 11.06.97 evening at M.S. Swaminathan Research Foundation, Chennai.

Objectives

This in-house, self-reflexive workshop was intended to help participants to understand the extent to which gender and other social dimensions have been incorporated in the three main projects at the Foundation which have a bearing on Community Livelihoods (i.e., Eco-Technology, Bio-villages and Coastal Wetlands) and to map out future directions. Besides in-house participants representing the three projects, and the Resource Centre, several resource persons invited from outside contributed to the discussions. (Appendix-1)

The detailed programme of the workshop is in Appendix - 2. The objectives, scope, approach and strategies of the three projects were presented on 10.06.97 afternoon by Jayashree Vencatesan, Ruchi Bhandari and Kalaiselvi on behalf of the project teams and later Amalan Stanley added a case-study (pp 11 to 46) after which the main issues for discussion were identified (pp 47 to 49). On the second day, each of the projects were discussed in depth and conclusions and recommendations for future action were drawn up.

As an experience of sharing, this workshop brought together persons from varied disciplines on one platform - scientists, social scientists, gender specialists and others. The mood was one of concern and commitment to objectives, though opinions differed and perspectives varied.

Issues of Common Concern

The following questions cut across all work at M.S. Swaminathan Research Foundation and are of relevance to all projects. None of them has 'one' right answer, or an answer for all times. They are points to which one has to keep referring at different levels at each phase of work.

- * **Are we dealing with gender roles or gender relationships?** 'Roles' refer to the gendered division of labour and activities that pervades any system. 'Relationships' on the other hand, deal with power, and with the changes that occur in men, women or operating systems? as a consequence of heightened gender sensitivity and structural changes in the socio-economic order. Both have to be seen in the context of the prevailing patriarchal system, with the awareness that all interventions can trigger change.
- * **Do we isolate women by having them as our 'priority targets'?** Shifting from a 'Women in Development' approach to a genuinely gendered approach would prove to be much more credible and functionally viable in the long run, but is more difficult to begin with. Unless gender awareness is made part of the social psyche of both men and women, developments will get subsumed in the hierarchic power structure, and may lead only to short-term change and superficial benefits.
- * How can we define our gender perspective in terms of short-term and long-term goals within the framework of our projects?
- * Is there a linear one-to-one relationship among employment - income - decision-making processes as regards women?
- * Does improving the livelihood of people at large automatically mean improvement of women's status? How do we see women's condition and status in society? And how do changes in community livelihood affect them?
- * How does one come to terms with multiple identities (such as caste, class and gender) operating in society and deal with gender as one of those multiple identities?

- * Can technology be gender neutral? Have we developed tools to measure the differential impact of interventions by gender and other factors?
- * Is our identification process of target groups gender-oriented?
- * How do we differentiate between the 'expressed' needs and 'unarticulated' needs of the community at large and of women in particular? Do we have the tools to do so?
- * What are our community mobilisation strategies? While the existing social systems may be convenient to provide an entry point, most of them reflect the existing hierarchic patterns. How can we address these?
- * Is there flexibility within the projects to accommodate changes according to the varying societal contexts?
- * Are we conscious of the differences in our communication modes, including language, and that of the communities we are working with, and how do we try to bridge the gap?
- * How can we promote gender equity and awareness within the institution as well as in our projects?
- * In emphasising attainment of goals, are we in danger of losing sight of process, which is equally important but "messy" and more difficult to deal with?

The following sections sum up the discussions centring on each project.

A. *Bio-villages* :

Presentation : K.T. Kalaiselvi, Dr. R.S.S. Hopper, S.V. Santhy and R. Rajasekara Pandey

Discussant : Ms. Nitya Rao

- * Welfare → Equity → Empowerment cannot be a neat, linear process, though this demand is sometimes made by funding agencies. In reality, one may have to start with small immediate practical needs, which contribute to the process of

empowerment. But it is important to ask who is determining "needs" and what role the participants are playing in this. For example, who identifies 'beneficiaries' and by what criteria and process?

It was clarified here that there are mechanisms to rule out people, for example, who already have taken bank loans. Women from resource-poor background get the first preference. Acceptability by the local community is another criterion taken into account. Once the first set is formed, later groups are formed by the members of the first set. However, strategies of selection vary from village to village.

- * What is the impact of these programmes on women's workload? Do they increase women's burden during certain seasons? Is this a limiting factor?

In the mushroom programme, the technique of cutting the stalks, considered difficult by women, was altered, and this does not alter the quantity of output. These programmes are structured taking into account the seasonality of work load of women and only cause problems during harvesting season. But the net increase/decrease of women's work has yet to be studied. So also the question of drudgery reduction both in household and productive work, and of support services for women.

- * Are the groups adequately equipped to function autonomously? How will they be affected when the project withdraws?

This was considered a very relevant question, since already feelers have started coming from big-wigs in the villages to that effect. That is why the group is trying to link the groups into clusters and form an apex body. Other ways also need to be found to smoothly continue the activities in the long-run. Although a start was made with women's groups, it is important to gradually bring in men also and build support for women's empowerment.

- * Though the project may not see itself as an "agent of change" we are also stakeholders and hence must proceed with partnership with the people, a two-way process involving learning from each other.

- * Are women's control over assets like fish pond well-established, since control over assets may be as or more important than control over income by women.

There are problems in assuring that women have control over these assets. However the women are now bold enough to face any crisis that might arise in future, having learnt how to handle it by collective action. The women's groups also became fora for discussing of other issues, handling different situations and building confidence.

- * When the productivity of the assets is proven, vested interests begin to take hold of the situation. Often men become interested when assets begin to yield cash. What kind of alliances and networks are visualised to encounter such situations? How can co-operation of men be sought?

This is an area to be reflected on. Much help will be needed to meet and deal with conflict situations as they arise, and they should be anticipated and prepared for. Threats from political powers and vested interests can also be tackled by transparency and openness and involving the group in handling them as "their" problem.

- * Do women control their time and labour, or also income and assets? For example, in the mushroom project, who produces, who bears the labour burden, who markets, sells, keeps the cash and spends it are all important questions, especially for the future. Knowledge-based technology may not be gender-neutral, since often women have control only over their own labour.
- * The varied experiences of the project range from dealing with the constraints of the bank conditions and a subsidy-dominated environment to marketing and caste/class conflicts. A changed strategy with the fodder bank, for example, turned it from failure to success.
- * While women are deeply involved in the income-generating and credit/thrift activities, what is their role in the natural resource management aspect of the project? This question also has to be pondered over.

It should be mentioned here that the Bio-villages project, with its experience of three years at hand, has already addressed these issues at the pragmatic level. What is needed now is a conceptualisation of those experiences, documenting carefully both success and failure stories, and evolving a replicable model of intervention for economic development on the one hand and natural resource management on the other.

B. Eco-Technology :

Presentations : Ms. Jayashree Vencatesan and Dr. V. Amalan Stanley
 Discussant : Mr. S. Ravindran.

- * Why were certain villages chosen for introduction of the technology? What is the conceptual framework?

The choice of the project areas largely depended on several environmental features that opened up space for careful technological intervention. For instance, the 'waterless' lands of Kavadiatti were chosen for the water harvesting project. In each case, after the location is chosen, a considerable amount of time is set aside for rapport-building between the project staff and the local community and studying the local characteristics. There is enormous diversity, even within the State, in social and cultural conditions, patterns and relationships. The aim is not to work for the development of a particular village, or small area, but to use it as a base to build models that can be adapted and adopted in varying situations.

- * Since neutrality of technology itself is being questioned, how is gender-sensitivity ensured from the beginning, even at the lab level?

Even though one may not begin with such intentions, one is gradually drawn into gender-sensitive concerns, at both macro-level and micro-level concerns. For instance, the study of flurosis showed that women were more susceptible to the disease as well as more seriously affected and this was linked to the prolonged periods of retention of urine by women as a result of culture conditioning. This led to understanding of how lack of sanitation facilities affects women's health. The responses are at several levels - first, by the use of drumsticks to purify the water at testing level, while at the macro-level, it would mean creating awareness about this method of purification, and also about the need for toilets for women. Thus interventions have to be simultaneously at several levels and with different approaches. For example, have we specifically defined men's roles in the project?

- * Field methods need to be self-reflective. Are these methods shaped with a consciousness of the 'outsiders' factor and the danger of eliciting 'predictable' responses?

The approach followed is in six stages: Mobilising and organisation are the first two, when the project staff are expected to stay with the community much before the intervention actually begins. Sharing the available facilities helps in building a rapport between the project personnel and the community. Next comes the technology 'incubation' when the technology is reviewed and evaluated by the community. Training or capacity building comes later. Indigenous specialists, local know-how and indigenous institutions are also involved. This is one mode by which the 'outsider' aspect is reduced to an extent.

* How is the possible divergence between "expressed" and "unarticulated" but real needs tackled?

"Expressed" needs also change as rapport is built. It may start with the expression of what is expected, or the most obvious and superficial needs, but later go on to the deeper "real" needs. People can also be helped to "express" through innovative methods of exploration, like the use of drama, games, oral history, PRA exercises, etc. Over time, and through participation in discussions, other needs also begin to get expressed. Needs of different genders, classes, castes and other groups also may vary, so research tools should be sensitive enough to identify these.

Threats to or changes in the power structure, which involve not only gender, but caste, class and religion are bound to lead to conflict and tension. Is there enough flexibility in the project to adapt itself as needed? The approach is flexible and is constantly being adapted. For example, beginning with the idea of forming women's groups, the work has now gone on to try to build in gender from the earliest stage. Feedback also is sought gender-wise.

As the project is still at a very early stage, it is too soon to talk of impact, though work should start on indicators. But it is the right time to take various dimensions into consideration and try to build them in. For instance, questions of women's work load; control over time, labour and income; drudgery reduction; support services like child care; thrift and credit groups; moving from women-only to mixed groups; communication efforts at various levels have not yet been addressed, but will definitely be included in future planning.

C. Coastal Wetlands Management :

Presentation : Ms. Ruchi Bhandari

Discussant : Ms. Ranjani Krishnamoorthy

* What are the objectives of this project - Is it efficiency of mangrove conservation and management? or improvement of livelihoods? to improve women's efficiency and effectiveness or multiple? Is there conflict between the various objectives especially between Natural Resource Management and Livelihood Security? Can they be reconciled?

The primary objective of the project is mangrove conservation and management and not to address gender or poverty issues per se. But the experience in the forestry sector, especially the "protected areas" management, has clearly shown that forests and wild life cannot be protected without the active support of communities, women and men, living in the concerned areas. Since the livelihood of the poor is linked to the erosion of mangroves, alternative income earning opportunities and an economic stake in conservation are essential for success. This may not be as easy as it is in the case of Joint Forest Management, for example, where benefit flow is linked to involvement, but still has to be tackled.

If gender and community concerns are not addressed by the project, even the basic objective of mangrove conservation cannot be achieved. And since needs, problems, and possibilities are gendered, gender too has to be a major concern.

* To whom is the programme targeted? Is the targeting gender-sensitive?

The ultimate aim is not to work with a fixed number of communities but to develop a model of sustainable development that can be offered to the Forest Department, since most of the mangrove wetlands belong to the Forest Department. For sustainable development, there has to be a gender perspective, otherwise it becomes inequitable. So gender-sensitivity has to be built into the project from this initial stage.

* Several of the concerns and the questions raised in relation to this project projects are have already been mentioned in the previous sections, since they were relevant to all three projects. Some of these are :

- Who are we targeting? The whole community, or the poor? Women only, or both men and women? Among women - Women leaded households, Women supported households, disabled women, minority women?
- Identify the causes of poverty so that interventions can be specifically designed to address them.
- Working with existing groups may be convenient at first, but could lead to dangers, both in terms of reinforcing inequitable structures and supporting vested interests.
- What are the strategies for linking with markets, Government, other NGOs, and for interventions at the macro-level?
- What are the research methods used for arriving at resource mapping, need identification etc and for input, process and outcome indicators, for monitoring and evaluation?

Some of the process indicators suggested were :- Poverty; Intra household access to health, education; decision making; mobility.

Other indicators :-

1. Decrease in women's drudgery and labourload
 2. Access to resources
 3. Control over
 4. Support structures
- * Why do we single out women's needs? What are men's needs and how do they differ from those of women? How can both be addressed?
 - * How do we identify the needs? Who identifies them? Are the community members involved in identifying needs and are the methods used to collect data gender-sensitive?

This project is still at a very early stage and is planning to keep these perspectives in mind right from now.

Gender in Ecotechnology¹

Preamble

This paper is a collective effort by the staff of the JRD Tata Ecotechnology centre. It reflects our understanding of 'Ecotechnology' and goes on to describe the practical positions. It is therefore narrative in its style and does not conclude with generalisations or recommendations. There are however, a number of queries raised. Questions emerging from different experiences and stand points, which in turn reflect the diversity of our work at the JRD Tata Ecotechnology Centre. Admittedly, many of these are rather basic and simple - not because we believe that the issue of addressing gender dimensions of livelihood strategies is simple, but because these emerge and re-emerge at every level of our work.

For clarity, the paper has been structured into three distinct parts. The first part describes the origin, goal, and the programmes of the JRD Tata Ecotechnology Centre. Part two details the premise and approach of the Centre in addressing gender dimensions in programme implementation, with relevant examples and Part three raises issues for discussion.

PART ONE- ORIGIN, GOAL, AND PROGRAMMES OF THE JRD TATA ECOTECHNOLOGY CENTRE²

Origin

The JRD-Tata Ecotechnology Centre was established in April 1996 with the support of the Sir Dorabji Tata Trust. The programmes were formally inaugurated in July 1996

Goal

The major goal of the JRD Tata Ecotechnology Centre is to address the following maladies of contemporary development pathways.

- Environmental degradation
- Potential adverse changes in climate and hence sea level
- Endemic hunger and extensive human deprivation
- Feminisation of poverty
- Rapid expansion of population resulting in human beings exceeding the supporting capacity of the ecosystem
- Jobless economic growth

Mission of the Centre

The overall mission of the JRD-Tata Ecotechnology Centre is to develop methods of promoting a job-led economic growth strategy based on a *pro-nature, pro-poor and pro-women* orientation to technology development and dissemination. It strives to operationalise sustainable development.

¹ Paper presented at the workshop on Gender Dimensions of Community Livelihood Strategies, June 10-11, 1997

² M. S. Swaminathan, 1996-97

Pathway

The pathway adopted by the centre concentrates on the development of *ecotechnologies* based on an appropriate blend of traditional technologies and ecological prudence and frontier technologies such as biotechnology, information, space and renewable energy technologies with market - driven management principles.

The alphabet 'E' in ecotechnology therefore refers to the following:

- Ecology
- Economics
- Equity (Gender and Class)
- Employment and
- Energy

JRD-Ecotechnology Centre

The programmes/projects of the Centre have been represented in figure 1.

PART TWO- THE PREMISE AND APPROACH OF THE CENTRE IN ADDRESSING GENDER DIMENSIONS IN PROGRAMME IMPLEMENTATION

The Premise

We recognise that many of the effects of poverty and deprivation are confined to women. The number of poor women, world-wide, continues to grow both in absolute terms and in relation to men who are poor. According to one estimate, poverty has increased by 47 percent among rural women over the past 20 years, compared with 30 percent among rural men.³

We recognise that women continue to be triply disadvantaged: as poor people, they live under the same harsh conditions as their male counterparts; as women they suffer from cultural and policy biases which undervalue their contribution to development, and as heads of households, they face the same problems while having to carry out the full burden of household management and production. In all the above mentioned capacities they are deprived of participation in decision making.⁴

We recognise that the complementary division of labour which supposedly existed in the earlier part of the century is no longer in existence, specially in the poverty context.

We recognise that women are more sensitive to household maintenance and in order to maintain this, they are forced to execute multiple roles. With rapidly changing socio-economic and ecological degradation, these roles are increasing in complexity. There are a few of us who believe that while men's roles and responsibilities have remained virtually uncomplicated, women have had to take over many of the typical male roles thereby increasing the burden on themselves. Research studies at the MSSRF have revealed that in

³WRI, 1994-95

⁴IFPRI, 1995, Women - The Key to Food Security, Rome

poverty situations, 86% of households, to varying extents are dependent on women's contributions⁵.

We acknowledge that the failure to recognise this serves as a remainder that much of women's work is unpaid or non monetised. It also fails to account for women's time use and availability, resources, priorities, problems, needs etc. and resulting in inability to devise suitable and appropriate interventions. Working as much as 16 hours a day, in various domains, women continue to remain unrecognised and deprived. A recognition of the domains of women's work can serve as a basic input towards a gender perspective in planning.⁶ (Annexure 1)

We recognise that it is imperative to consider the multiple roles of women while devising programmes and strategies with a gender perspective. The conceptual framework developed at MSSRF focusing on three main roles of women⁷ serves this purpose. These are as follows:

- ⊘ economic activity, or productive role
- ⊘ homemaking and housekeeping, or consumer role and
- ⊘ child bearing and rearing, or reproductive role

In the context of rural women's labour, these can be also characterised as follows:

- ◆ primary production including agriculture and raw material extraction
- ◆ value added production encompassing post-harvest operations and food processing
- ◆ domestic maintenance, i. e., cleaning and repair of the residence and its surroundings, and preparation and distribution of consumption goods to the family and household members
- ◆ child bearing, child care and education
- ◆ and transport from agricultural fields and raw material sites to places of domestic consumption and for marketing.

A Glimpse of the Diverse Project Areas

While it is beyond the scope of this paper to present a comprehensive profile of each of the project areas, a glimpse of selected areas is being presented herewith with the aim of presenting the diversity in project sites.

Kavadipatti in Ramanathapuram district:

Kavadipatti is the project site for the FICCI-SPIC-MSSRF project on water harvesting and management. It is a remote village, situated 70 kms from Madurai. This village is the domain of one endogamous community. The women of this village are '*protected*' to the extent of excluding public transport, community televisions and cinemas. No stranger, whatever be his

⁵ Vencatesan J, 1996 Food Security along the continuum of Female Dependency (unpublished)

⁶ MSSRF 1995-96, Unpublished Report of Project ACCESS

⁷ MSSRF 1995-96, Unpublished Report of Project ACCESS

stature and position, is allowed into the village without the prior permission of the village elders.....

Visalur in Pudukkottai district

Visalur is a village in the 100% Literacy district of Pudukkottai. It is a heterogeneous village, and has witnessed a number of interventions for development. It has no apparent gender discrimination. Interventions by the Centre, have led to the evolution of a women's *sangha*, which is currently monitoring and evaluating the project on water harvesting and management.....

Keelamanakudi

This village, which is close to Chidambaram, is predominantly inhabited by people thriving by fishing. *Women are engaged in diverse occupations*, but continue to hold the *attitude that only white collared jobs is 'work' and 'honourable'*.....

Pudupatti

Pudupatti village is guided by a socialist ideology and also *a system of multiple marriages and hidden forms of gender bias*.....

The Approach

“Technology for development needs to be economically viable, ecologically sustainable and socially equitable”.

Removing the veil of invisibility on womens' work is the guiding principle. This we believe can only be through 'adding value to women's work'. The term 'work' in this context, is not restricted to mere physical labour. Participation in planning and decision making are seen as more vital and a necessary precondition.

This approach, we believe, has to be multipronged . It would therefore mean,

- Eliminating segregation by gender, and instead working with communities as units as typified by all the projects of the Centre. Gender is not an add -on component in the project.
- Adding value to women's work through skill upgradation, essentially implying higher incomes/unit of time and effort, as in the project Ecoacquaculture.
- Adding value through new technologies, which would reduce drudgery, for instance monotonous, unintelligent, arduous work. This is evident in the project 'Seed Villages'.
- Providing the necessary support services, especially in terms of child care, drinking water etc., as corollaries of the project.
- Acknowledging that maximising the benefits can take place only through provisions for a flexible and adaptive management by local womens' groups, efforts are being made towards evolving such groups. For instance, the women's sangha which is

currently the evaluatory body of the FSM project on water harvesting is a result of such planning .

PART THREE - ISSUES FOR DISCUSSION

- Working within the constraints of extremely rigid social systems. What would be the priority - locating the project in a 'hostile' area and be satisfied with the immediate success in terms of economic and ecological variables, and hope for long term social success? or shifting operations to a more favourable area where success is all round and within the time stipulated by the funding agencies?
- Sensitising the communities on issues of gender and developing indicators for assessing change/impact. The period of technology incubation should also necessarily include the component of gender? If yes, what would be the nature of indicators - equal number of men and women participants or one woman leader?
- Time constraints limiting the flexibility of the approach.
- In the context of valuing the traditional knowledge and skills of women, how does one fit in gender sensitive or neutral technology.
- When the approach involves the participation of a number of other organisations/groups, how exactly a common wave of thinking be achieved, especially under constraints of time and predetermined project modes.

COASTAL WETLANDS :
MANGROVE CONSERVATION AND MANAGEMENT

GENDER DIMENSIONS

Report compiled by :

Ruchi Bhandari

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COASTAL WETLANDS: MANGROVE CONSERVATION AND MANAGEMENT

GENDER DIMENSIONS

1 IMPORTANCE OF MANGROVES

Mangrove wetlands, the fragile but dynamic ecotone between the land and the sea in tropical and subtropical coastlines, constitute an important ecological asset and invaluable economic resource to the coastal communities. Mangrove wetlands :

- act as a barrier against cyclone
- restrict the entry of saline water inland during storm surges
- act as a buffer against flood and thereby avert soil erosion in the coastal zone
- provide nursery ground for several commercially important prawns, fish and crabs
- enhance the fishery productivity of adjacent coastal waters by supplying nutrients
- provide habitats for wildlife ranging from migratory birds to estuarine crocodiles.

The economic value of mangrove resources stems from the availability of :

- wood products ranging from timber and poles to firewood
- non-wood products such as fodder, honey, wax, tannin and dye
- aquatic products like fish, prawns, crabs, clams, molluscs and oysters.

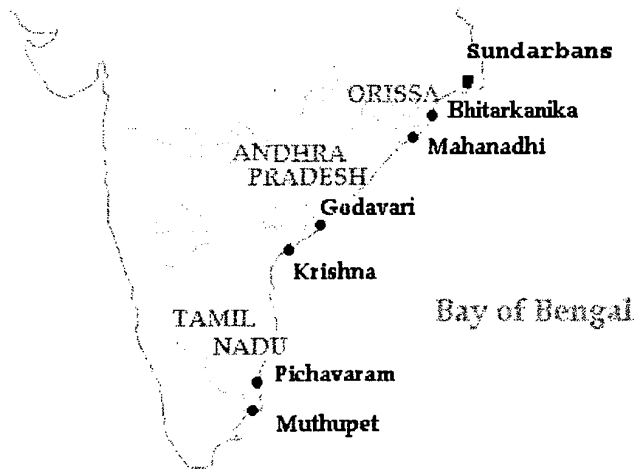
2 THE PROJECT

2.1 CONTEXT AND SCOPE

Due to a variety of biophysical and human induced stresses, resulting from unsustainable activities both within and outside the mangroves, many of the mangrove wetlands, throughout the world, are rapidly getting degraded. It is possible to utilise the mangrove resources on a sustainable basis if development and restoration activities are integrated with conservation policies.

With the objective of enhancing national capacity and national action in the conservation and sustainable management of coastal mangrove wetlands, a project was launched in May, 1996 known as "Coastal Wetlands: Mangrove Conservation and Management".

This project is financed by India Canada Environment Facility, New Delhi for a period of 5 years and is operating in the following mangrove areas :



PROJECT AREAS

Tamil Nadu

Pichavaram (1,400 ha)
Muthupet (13,000 ha)

Andhra Pradesh

Krishna (16,500 ha)
Godavari (33,000 ha)

Orissa

Bhitarkanika (15,500 ha)
Mahanadi (4,000 ha)

West Bengal

Sunderbans (2,00,000 ha.)

2.2 OBJECTIVES

The objectives of the project are:

- a. to build enough capacity in local communities, voluntary organisations, grass-root level democratic institutions (*Panchayats* and *Nagarpalikas*), M.S. Swaminathan Research Foundation and the government agencies to conserve, restore and sustain mangrove wetlands in an integrated manner through participatory research, training and extension.
- b. to link the livelihood security of coastal communities and the ecological security of coastal areas in a symbiotic manner.

2.3 METHODOLOGY

Before making any specific intervention in the mangrove areas, benchmark surveys will be done in all the sites to:

- establish the extent of dependency on the mangrove forests for food, shelter and livelihood
- determine the socio-economic profile of the mangrove forest dependent communities.

The survey has been conducted in Pichavaram and Muthupet mangrove areas of Tamil Nadu.

Participatory Rural Appraisals are being conducted in various sites for resource mapping and for understanding the areas of concern of the local people as the entry point for seeking community participation.

We have done a survey of gender issues separately in Tamil Nadu that looks into the share of women and men in various tasks, the decision making power for these tasks, their perceptions of the benefits of mangroves and their status, their membership in various organisations etc.

In order to share the views of women about themselves and about men, *we hear not only women's version but also men's version and vice versa.*

Culturally women are expected to avoid men (e.g., extension/ project personnel) in public or to be subdued by them because men do not like their participation, certainly not as their equal. What might be needed is to use different approaches when working with women and with men. Not all approaches are equally suited to encourage women to articulate their opinion. *Hence, women and men are interviewed individually in the baseline survey.*

Local intermediaries are being used as a way of communicating with women and men. The villagers easily interact with these intermediaries since they are a part of the same social fabric. Particularly, in the case of women, it helps to employ a local woman intermediary. This approach has been found useful in our studies in Orissa.

3 FINDINGS

3.1 CAUSES OF MANGROVE DEGRADATION

During the first phase of the project, causes and extent of degradation of mangroves and the potential for restoration in the above 6 sites are being identified through surveys and Participatory Rural Appraisals, review of published literature, consultations with local communities, forest officials, scientists and non-governmental organisations who have been working in this area. The causes of degradation have been identified as follows:

1. **Physical causes** like seasonal closure of the mouth of the estuary. This reduces the quantity and periodicity of the freshwater inflow causing increase in soil salinity.
2. **Human induced stresses** like :
 - Felling of mangrove trees for fuel, charcoal making and occasionally for timber and poles is the major human induced pressure on mangroves.
 - Heavy damage to mangroves is caused by grazing by domestic and feral cattle.
 - Diversion of land for agriculture, human settlements, saltpans and aqua culture is very high in some sites.
 - Indiscriminate fishing and collection of prawn seeds is depleting the fishery resources.
 - Diversion of fresh water flow leads to reduction in the inflow of freshwater, nutrient input and sediment supply which adversely affects the water regime and quality of water.

3.2 WOMAN'S WORKLOAD

The idea behind studying woman's contribution to the household and the society is to do an objective assessment of her tasks, her daily schedule so that the project objective of sustainable partnership of women and men in mangroves conservation can be achieved. Three things are aimed at while doing such a study:

- to find out the scope of reducing her workload arising from daily chores both within and outside the household (so that time is spared for additional activities entailed in the project)
- to find out the perceptions of both women and men about their own work and about each other's work
- to make them share and recognise their contributions so that corrective measures can be taken where women are over stressed.

The survey revealed that all tasks like grain production, separation, storage and preservation, fuelwood collection, fetching water, buying household necessities, cooking, cleaning (house, vessels), washing clothes and child care are largely (70% to 90% as obtained from the survey in Tamil Nadu) done by women. Tasks like savings, and some social and religious duties are performed jointly.

A majority of the households do not have drinking water tap and toilet facility. Fetching water from the community water tap or pond is solely a woman's job. Women walk about 1-3 km. to fetch drinking water. Besides, they fetch water from common pond for cleaning and washing purposes. It is considered a woman's traditional role to collect fuelwood. So, only women go for fuelwood collection. Women gather about 30 kg. of headload per visit which is once a week. Men collect wood for fencing purpose.

Stall feeding usually involves transporting grass and crop residues over considerable distances. Women's traditional role as load carriers leads to their co-option in this activity.

During the lean season (March to June), men farmers leave their homes and migrate to other villages/ towns to work for wages. This means that the number of female headed households is increasing and that the women are taking over men's tasks such as clearing land .

The above tasks are not ideally suited to their biological constitution and are rarely commensurate with their nutritional level.

The relative volume or importance of tasks carried out by men and women is not the only issue. The issue is recognition of each other's contribution. A preliminary finding is that men tend to understate the role of women in economic activities as is indicated by the perception of men regarding women managing fish and aqua culture ponds :

- Most routine operations involved in managing these ponds, like fertilising, cleaning, feeding, could easily be managed by housewives
- Men are often busy in some other work that takes them away from the house for long hours.

Daily harvest of fish is also done by women with the help of children. Husbands help only when they are at home or when the pond water is too deep requiring the operation of more specialised gear for catching fish. The general consensus among men is that fish

culture being fairly less labour-intensive and more recreational, day to day management can be done better by women than men.¹

3.3 VILLAGE WOMEN'S CONCERNS

Another important finding has been the requirements of local women. In most of these group meetings organised in coastal Andhra Pradesh, village women revealed that they want :

1. smokeless stoves (*chulhas*)*
2. assistance to set up fish vending shops
3. milch cattle
4. to learn leaf plate making
5. to teach their daughters tailoring as a means of augmenting their husband's income once they are married
6. legal document (*patta*) from the revenue department for their land
7. bus shelter
8. school teacher
9. hospital
10. temple
11. toilet

Their major problems are:

1. Drinking water scarcity
2. Low income and unemployment for 5 months (March to July) in a year

* The women said that they wanted these *chulhas* because they consume less fuelwood, produce no smoke, conserve time (as two vessels can be put at the same time) and do not dirty the vessel. It will protect them and their families from smoke inhalation and reduce their labour load to collect fuelwood.

4 PROPOSED STRATEGIES

4.1 COMMUNITY MOBILISATION

The surveys revealed that in order to have full support and participation of the community, action has to be taken on the following lines:

1. Generating awareness of the benefits of mangroves and the devastating effects of their degradation
2. Providing alternative sources of fuelwood, fodder, fencing and thatching material
3. Employment generation through conservation activities (like nursery raising) and other income generation activities
4. Conservation of mangrove forests through participatory management

¹NAGA, October 1994; Article : Role of women in small scale aqua culture development in South eastern Cambodia - M.C.Nandeasha, Ngan Heng, Kuong Yun

4.1.1 GROUP FORMATION

In social science, social institutions are usually conceived of as "the basic focus of social organisation, common to all societies and dealing with some of the basic universal problems of ordered social life"². The first step in order to train women and men to become managers of mangrove is to bring them together in a group. The strategy is:

- to associate with the existing formal and informal groups, or
- to form women's, men's and joint groups based on their social concerns/requirements, where these groups do not already exist.

The first activity being done is exploration of social concerns for forming these groups. Awareness campaigns are on in all the sites of the project area. In some of the sites, youth groups have been formed to take up issues of local concern like providing drinking water, constructing a road or establishing a school. Village Development Committees already exist in the villages for developmental work at the community level.

Besides, Forest Department (FD) has formed Eco-Development Committees (EDCs) and Forest protection groups (e.g., called *Vana Samrakshana Samitis* in Andhra Pradesh) for the protection of mangrove forests. VSS is a Joint Forest Management programme undertaken by the FD. In a village in Krishna mangrove area, VSS has all women members in its management committee.

In most of the sites, women's groups have been formed and they have opened savings accounts in banks. They are now eligible to get loans under the various government schemes like *Rashtriya Mahila Kosh*. Women's groups formed under DWCRA (Development of women and children in rural areas) scheme deal with savings and credit function and also participate in social activities like adult education, family planning etc.

It has been the experience of most of the programmes in the past, that through collective organisation, women can develop their confidence and power in making demands to village councils and expressing their needs to Government offices. Even in Orissa where women play a very submissive role, men respect the views of leaders of *Mahila Samiti* when expressed in community meetings.

The benefits of associating with existing groups, NGOs and other government schemes are considerable:

- The villagers have a reference point when meeting us and therefore do not hesitate to interact.
- We do not have to spend extra time, effort and money in forming the groups.
- We can help expedite the delivery of certain services to the villagers.

² "Gender and Forestry - Important Issues" in Wastelands News, Vol. XI, No.3, Feb.-Apr. '96, Published by Society for promotion of wastelands development

- The groups have their own leaders, rules and regulations. So, a system is set to achieve the tasks.

However, where no such organised groups exist, we are forming women's groups and youth groups. We are now having interactive sessions with these groups where they give voice to the problems that they are facing and their prioritised areas of concern. Given the sex segregated and hierarchical nature of Indian society, women's views are shared in women's groups separately also.

During a PRA conducted at *Edapalayam* village in Tamil Nadu, the villagers aired their problems as well as their probable solutions.

1. *Unemployment* is a major problem in the village. The probable solutions suggested were:
 - Introducing income generating enterprises for the village youth during the lean season.
 - Effective utilisation of wastelands and backyard by raising fodder trees and grasses to meet the fuel and fodder requirement.
 - Using common land for coconut plantation with fodder trees in the early stages.
2. *Fuelwood scarcity*: Villagers cut trees from common land and forests and also spend one-third of their daily wages in purchasing fuelwood. Probable solutions:
 - Growing fuelwood trees on community land
 - Setting up a common biogas unit
 - Smokeless *chulhas*
3. *Drinking water scarcity* : Probable solutions:
 - Periodical cleaning and maintenance of the water tank at the pumping station.

Besides, the group members are apprised of the various government schemes and discussions are held as to how best to utilise the facilities available in such schemes. Views are shared on mangroves : their importance, their present status, people's role in arresting degradation and in conservation. The awareness and training has its focus on :

- the importance of mangroves in protecting the coastal ecology especially its role in protecting villages from cyclones etc. and its role in developing fishery resources
- non-conventional sources of energy that can help reduce fuelwood consumption and the drudgery involved in using traditional energy sources
- savings and credit, micro-enterprises
- various development programmes designed by the government

We can train them by using traditional methods e.g., street plays, folk dances, and audio-visual methods on these aspects.

In *Deendayalapuram*, Andhra Pradesh, the project staff recommended to the *Mandal Parishad* Development Officer for appointing an additional school teacher and it was done. This established the credibility of the project staff as is reflected by the fact that the people have started using *prosopis* for fencing instead of mangrove branches.

In some villages, educated, unemployed youth have been identified and their services can be utilised for data gathering, mangrove regeneration and conservation activities. Most of the women (above 40 years of age) are illiterate. Women in the age group of 20-35 are usually busy in child care besides various domestic and field tasks. Almost all children (both boys and girls) go to school in Andhra Pradesh and Tamil Nadu. In Andhra, people are so progressive as to send their boys and even girls to nearby town/village where there is a hostel.

4.1.2 ROLE OF NGOs IN COMMUNITY MOBILISATION

Community mobilisation for sustained community participation requires a close interaction with the local NGOs who already have their base in the area. Non-governmental organisations have been identified and shortlisted in most of the sites for joint action. In Tamil Nadu and Andhra Pradesh shortlisted NGOs have prepared draft plans of action for collaborating with MSSRF in sustainable management of mangroves in the concerned villages. In Andhra Pradesh, the experience of shortlisted NGOs is that the fisherwomen:

- are often exploited by the middlemen
- lack collective efforts
- lack funds for investment

NGOs have formed women's Self Help Groups (SHGs). We shall be working in collaboration with them (utilising their experience and goodwill) for income generation activities as in micro-credit programme like dairy development, fish drying and vending shops, petty grocery shops, and rope making.

4.2 ENERGY CONSERVING COOKING STOVES

We can help women to use wood conserving stoves with the help of NGOs/Govt. agencies. The energy conserving stoves would protect them and their families from smoke inhalation. This will help slow down the felling of trees, the main source of fuel, and thereby reduce fuelwood consumption and also reduce the labour load on women whose chore it is to collect fuel wood. NEDCAP (Non-conventional Energy Development Corporation of Andhra Pradesh) released 250 smokeless *chulhas* to VSS members and to the villagers recommended by MSSRF and the Village elders.

4.3 ALTERNATIVE SOURCES OF INCOME GENERATION

Livelihood needs of the poor women are preconditions for sustainability of natural resources. Participation of the poor and women is improbable unless their benefits are secure.

Savings association or an income generating activity is a good starting point to form the groups. Women groups can help in replenishing local forest resources through the establishment of tree nurseries. Income generating opportunities depend on local needs and circumstances and also on the ingenuity of women and men in tapping them. Local

demands for low cost tailors, for simple handicrafts such as baskets, shrimp paste etc. could be converted into cash by enterprising villagers. Besides, there are a variety of activities like fodder farm, kitchen garden, horticulture, fresh water fish culture, fish farming, fish drying and marketing, raising chickens, ducks and goats, growing fruit trees, making coir-rope, combed raw fibre, laces, nets, crab vending, vegetable vending, pickle selling, petty grocery shops etc.³

In almost all such activities, villagers have identified **credit** as a major need. Since the institutional credit system operates on formal lines, village women who operate informally have shied away from it. So, access to credit should be made as simple and convenient as can be for an illiterate village woman. For this reason, we have started the savings and credit associations with women's groups in Andhra Pradesh so that they can have easy access to credit and also avail of credit through the existing government schemes like *Rashtriya Mahila Kosh*.

Marketing opportunities are as important as training in production skills. Bryceson stresses the advantages of spreading innovations via unmarried and teenage girls who, without children and husbands, have more time to participate in training. Their involvement would have multiplier effects since they will become mothers and household provisioners themselves.⁴

The cash outcome of income generating activities in the past has not been spectacular but it has enabled women to analyse their own status, organise themselves, work in groups, discover their potential and develop a more positive approach.

4.4 LAND BASED ALTERNATIVES

Land based alternatives aim at two things:

- providing alternative source of fodder and fuelwood to reduce pressure on mangrove forests
- providing alternative source of employment and income generation by propagating economically important species

Apart from other factors, grazing and fuelwood cutting are causing extensive degradation. Therefore there is need to provide fuelwood and fodder alternatives for the mangrove dependent communities. The project has introduced land based activities such as silvipasture to meet the requirements of fodder, agro-forestry and farm-forestry to meet the requirements of fuel and to help improve the livelihood security.

In some sites, land has been identified for such demonstrations to educate and motivate local farmers and NGOs.

³NAGA ICLARM Quarterly, April 1989; Article : Fisherwomen of the Bay of Bengal - S.R.Madhu

⁴Gender Technology and Development, Jan.-Apr. 1997, Vol.1, No.1

Article : Lightening the load on rural women : How appropriate is the technology directed towards Africa? - Deborah Fahy Bryceson and Michael K. McCall

- Land based activities will be on private, common and vacant land which will be closer to households. It will reduce women's task of walking long distances into the mangrove forest.
- Helping the villagers grow fodder trees and grasses will reduce their expenditure on purchasing dry and green fodder and make livestock enterprise more remunerative.

Through PRAs, people's preference for livestock and tree species is being discerned. While implementing land based activities, technical advice of the project staff will be combined with the preferences of the local people.

There is a world of difference between planting eucalyptus or *prosopis juliflora*. Eucalyptus benefits urban markets and industry, whereas *prosopis* can not only solve the fuelwood problem of poor families, but would also generate self employment for women, as they prune the branches and sell them in urban areas. What is significant about *prosopis*, *agave* or other low market-value but high bio-mass trees is that they do not require decisions about market shares between the rich and the poor. Their usufruct is not of much interest to the rich, or is available to them only through gathering by the poor, so that by default the benefits are available for the poor.⁵

A further advantage of planting "female" trees (which are essentially employment augmenting trees, as they require labour for gathering and collection as opposed to "male" trees which are clear felled) on forest lands is the likelihood of improved co-operation. People are reluctant to protect trees which will be auctioned or clear felled, to the benefit of government, contractors and forest staff. They are more likely to collaborate in protection of trees from which they, more than others, are in a position to benefit.⁶

However, we have to be sure that the interventions bring results to the target group. A group of village women in Himachal Pradesh involved in an improved dairying scheme developed an area of wasteland for fodder for their animals. Once it became productive, however, the men of the village began pressing private claims to this now valuable land. Hence, it is vital to raise women's awareness about their rights through conscientisation programmes.⁷

5 ADDITIONAL ITEMS TO BE STUDIED

- a) Probable gains to women from planned interventions e.g., increased availability of forestry products, availability of new products for subsistence and/ or market oriented income generation, generation of wage-labour opportunities⁸
- b). Differences and potential conflicts between probable gains and losses for women and men, households in general or the community as a whole⁹ e.g.:

⁵Women and Afforestation Programmes in India - Policy Issues : N.C.Saxena

⁶Women and Afforestation Programmes in India - Policy Issues : N.C.Saxena

⁷Women and Afforestation Programmes in India - Policy Issues : N.C.Saxena

⁸Women and Afforestation Programmes in India - Policy Issues : N.C.Saxena

- potential conflicts arising between commercial users (men) and subsistence users (women) (men's strong preference for timber species crowding out women's need for fuel and fodder trees)
 - potential distortions in male female competition for new employment
 - men's command over the labour of women in their household forcing women to reduce their time allocations to other family care and/or income earning tasks.
- c) The project aims at arresting mangrove forest degradation. Our interventions aim at providing alternative sources of fodder and fuelwood. We need to study:
- whether there would be availability of grazing land particularly for the landless
 - time required for gathering the alternative source of fuelwood
 - whether the alternative source involves a loss of income for head loaders
 - the quality and type of cooking fuel available

6 EXPERIENCE OF THE PROJECT

Probable implications on gender dimensions in other community livelihood systems:

1. *The distribution of activities in agriculture like sowing, weeding and harvesting is determined by traditional gender roles and not by who can do it best or more conveniently at a given point of time.*¹⁰
2. *Women's labour time transferred to working on fields, or to small scale food processing, or crafts to earn cash, means that less time and effort can be devoted to 'domestic' labour, notably child care and family nutrition. Both children's and women's health can suffer.*
3. Usually, men continue to command female labour as a supplement to male work activities.¹¹ Women's participation in commodity markets, often on behalf of their husbands, is a major contributor to the labour imbalance between men and women. *Women get involved in many former male tasks with a cash orientation, whereas men are not participating in former female tasks with a subsistence orientation. Men are usually not responsible for helping with women's tasks.*
4. *Joint family system has given way to nuclear households, and women now have less time to help their female neighbours on a reciprocal basis. (Meagher and Mustapha, 1994). Furthermore, women's command over children's labour, both male and female, is also decreasing. Children, both girls as well as boys, are more likely to be*

⁹Women and Afforestation Programmes in India - Policy Issues : N.C.Saxena

¹⁰NAGA - The ICLARM Quarterly, April 1989, ISSN 0116-290X

Article: Fisherwomen of the Bay of Bengal - S.R.Madhu (Pages: 3-5)

¹¹Gender Technology and Development, Jan.-Apr.1997, Vol.1, No.1

Article : Lightening the load on rural women : How appropriate is the technology directed towards Africa? - Deborah Fahy Bryceson and Michael K. McCall

- attending school than was previously the case. Thus daily tasks like fetching water and gathering fuelwood, with which girls assisted, become more arduous for women.¹²
5. *The growth in scale and introduction of new technology in small enterprises sometimes means a switch in responsibility from women to men.* Enterprises such as grass or cane business often involve women and the change is mostly towards new businesses, while furniture business more commonly is a male domain where change more frequently involves growth.¹³ But in certain communities like the *Kuruvars* (in Tamil Nadu), women and men share equal responsibilities to a great extent.
 6. Two sets of factors influence the role and status of fisherwomen¹⁴ :
 - a) *As a group, in a community, women owe their status to four factors* :
 - economic (their performance in fish marketing)
 - technological (their role as net makers)
 - ownership of assets
 - traditional socio-cultural factors
 - b) *The status of an individual fisherwoman, on the other hand, is determined by her* :
 - employment position
 - marital status
 - level of education
 7. Intervention strategies vary according to site-specific situation. For example, in Andhra Pradesh, FD has taken strict action against prawn farming. So, if we go with forest officials to meet the local people, they are reluctant to interact with us. Contrasting this with the situation in Tamil Nadu, when we went to meet the local people without the FD, people wondered why we were bothered about mangrove conservation more than the FD.
 8. It has been our experience that when we live in the village and visit the people frequently, they gain confidence in us and are willing to exchange ideas.
 9. If we can demonstrate anything of value to them (e.g., agroforestry or some other income generating activity), they actively participate in our project activities.

¹²Gender Technology and Development, Jan.-Apr.1997, Vol.1, No.1

Article : Lightening the load on rural women : How appropriate is the technology directed towards Africa? - Deborah Fahy Bryceson and Michael K. McCall

¹³Wastelands News, Feb.-Apr.'96, Gender and Forestry - Important Issues

¹⁴NAGA - The ICLARM Quarterly, April 1989, ISSN 0116-290X

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GENDER DIMENSIONS IN BIOVILLAGE PROJECT

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GENDER DIMENSIONS IN BIOVILLAGE PROJECT

Introduction

In our country many of our community development projects have failed to bring the expected results due to lack of qualitative and quantitative participation of men and women for whom the community development projects were planned and implemented. The success and failures of community development depend on the equal participation of men and women both in terms of quantity and quality. Most of our community development projects were planned within the four walls by the so called intelligentsia and hence it's viewed by the target population that those projects were not of them, but brought from outside by somebody.

The community development projects which are not evolved from among the people will end up in confusions and failures. The strength of the people, (quantitative & qualitative) should be seen from the planning till evaluation. The community development projects which are evolved and implemented based on what the people know and the resources that they have, could help the people to feel that they are the partners of the project and in turn take the responsibilities for failures and success on their shoulders. Imparting knowledge and developing skills among the target population becomes an essential component in eliciting the qualitative and quantitative participation of both men and women.

The attitudinal change, and the increased aptitude of the target population are the base for bringing any community development project to a success. In the existing gender biased community development projects, the biovillage project's approach sets an example as how the women of the project area are being helped to extend their participation both in quality and quantity for their own family and community development.

Why Focus on Women

It is unfortunate that the women cutting across all castes and class in India has occupied a sub-ordinate status conditioned by the social expectations of men and women. Even within the family, there operates gender based division of labour which determines WHO DOES WHAT, WHEN & WHERE. Gender is an important factor in the allocation of roles, status and power in our society, which discrimination is a highly restrictive mechanism that affects the development of women's potential.

In this context when we accept the fact that the failure of many community development programme is due to the lack of partnership feeling between the planners and the target population, we should also accept the fact that the absence of men and women participation on equal terms is another important reason.

Human development should be the prime focus in community development projects which means the 50% of human beings who are women should get equal opportunity to develop themselves, and there by contribute for their own family and community development. Hence focusing on women, is considered as an important component in Biovillage project.

Policy Approaches to Women Development

Development has meant different things at different points of time. In the 1950's and 1960's women were primarily seen as reproducers and were the targets of welfare programmes utilised by them as mothers and wives. All development efforts were largely directed at men, who were seen as the bread-winners. By the mid 1970's development was perceived as economic development. The realisation that women in India are not just reproducers but play a crucial role in production was emerging. These developments lead to a shift in policy approaches to women's development, from welfare to 'equity' between men and women in the socio, political & economic spheres.

When poverty alleviation programmes were introduced for resource poor UN agencies studies on India preceding the UN decade for women, highlighted intra-house hold inequality in access to resources , knowledge, skills and modern means of production..

In this historical context various women movements and NGOs felt the need to incorporate gender sensitivity in all the development programmes and designed an alternative policy approach i.e, ' **Empowerment of women**' which stresses the role of women in decision making process. The policy approach is slowly changing into various phases from welfare to equity from equity to empowerment.

Empowerment can be done at two levels; material and ideological. At the material level, empowerment refers to women's access to resources , power and decision making. At the ideological level it is concerned with conscientisation of women and organisation for change. There could be many ways to achieve human development in community development. But Bio- village project is aiming at sustainable human development by addressing the twin development issues i.e. resource degradation and poverty alleviation. We believe that economic development, social development and environmental protection are interdependent and mutually reinforcing components of "Sustainable development".

The Biovillage Approach on Empowering Women

1. Through technological empowerment ,women are accessed to the knowledge asset and enabled to translate technology in to employment and income generating production activities which add value to their principal assets, labour and time.
2. Enhancing their skills through training activities.
3. Accessing women to credit institutions.
4. Reducing the drudgery of women.
5. Increasing the participation of women in decision making.
6. Fostering group action for improved work environment and mitigate social disability.
7. Quantitative data will be given during presentation.

Operationally a mix of enterprises appropriate to the resource endowment of the area are identified and the resource poor are enable to translate them into income and

employment generating activities. Various projects like mushroom goat rearing, dairy, floriculture, pisciculture and poultry are introduced for landless women. These women are motivated to form associations and take over common property resources for their development in future

Strategy Adopted

1. Identification of women for various enterprises.
2. Formation of women groups [Activity based]
3. Initiate group savings and credit.
4. Leadership training programme.
5. Promote knowledge on other social issues.
6. Formation of registered societies [Activity based]
7. Apex body

This is not a rigid strategy but totally flexible to the field situations.

Biocentre's ownership and management will be handed over to the apex body where men and women represent equally.

Success and Struggles

Success

Illustrations

Value addition for time and labour

Case Study - I

We add value to time and labour of our women participants. One of our mushroom participants Panchali is 45 years old used to go to construction work in near by private mills. She found her eight hours work tedious, but earns Rs. 40/ per day. She found very difficult to attend the work continuously and able to attend only 15 days per month. Now after seeing her income in mushroom and promotion of a household poultry she feels confident of getting more money by doing these income generating activities in less time. Per day she is able to get Rs.20 which involves maximum two hours work. She has a plan to expand the poultry unit "from 50 to 100 birds in the near future". Now she is earning Rs. 250 per month from mushroom and get Rs. 400 from backyard poultry [50 broiler birds] in a month. In her own words she expressed that

"I have given up my hard physical work and like to earn the same amount through the biovillage programme. My health is improved and I am reducing my daughter's work load in the family and allowing her to study well."

Skill Training and Knowledge Promotion

Our experience reveals that the skill training and knowledge promotion boost women's self respect, confidence and social status even among the socially deprived women.

Case Study - II

Vijaya is a doobby woman [29 years old]. She is educated upto X std. Her husband has no permanent job. Earlier due to the caste stigma, she never used to mingle with the community, not even interacted with neighbourhood. After our involvement she has been chosen as a Leader for mushroom and pisciculture associations. She availed the opportunity extended by the District Industrial Corporation and received training on coir rope making. Later on she became a trainer for her own village. Subsequently, she attended two months training at Tanjore organised by DIC on coir rope making by machine. Since she received the training she got Coir rope making machine worth of Rs.10600/- through DIC by paying Rs.2500/- only. She has been selected as a member in Village Development Council. Now she enjoys the respect from her family and village community.

“Earlier my husband used to comment about my frequent visits to Bank. Now he feels proud of my involvement , tries to help me in my responsibilities”

Vijaya has keen interest on gender issues and even today she represents women's problems in VDC without any hesitation. Now she is fully prepared to contest in the local panchayatraj election.

CREDIT AND SAVINGS PROVIDE AN OPPORTUNITY TO TAKE ROLE IN DECISION -MAKING,TO EXPAND SOCIAL MOBILITY.

Case study - III

In the annual evaluation meetings of sivaranthagm and kizhur mushroom associations they have expressed a definite qualitative change among their group members.

"In the existing social structure only men used to conduct meetings. Now we are conducting our women meetings even in the late evenings. Often decisions were taken by considering the majority opinions. Earlier we never visited near by villages. Now we visit other villages, bank, organise mushroom demonstrations for various women groups and we feel happy about our own development."

ROLE IN THE DECISION MAKING

After Bio-village's intervention the role of husband's in sharing the responsibilities of women participants income generating activities paves the way for joint decision making. Wife battering is reduced in many families and almost stopped in a few families.

Case study - IV

Selvi one of our mushroom association leader is an illiterate [28 years old] belongs to marginal farmer category. Her mother used to help her during economic crisis. After our involvement she is now having a mushroom hut, a poultry shed, and a jasmine garden.

She is able to earn monthly income of an average of Rs. 250/- from mushroom, gets to Rs.10 daily from the jasmine garden. She has expressed her gratitude many times for the attitude change in her husband.

In her own words "My husband used to beat me violently never treated me as a human being. He often left home for many days totally neglecting the family. After your involvement and the introduction of multiple sources of income changed the attitude of my husband. Now he stopped beating me and co-operating with me in all the income generating activities.

Case study - V

ROLE IN DECISION MAKING : Two awareness programmes *on gender discrimination* were conducted for selected women leaders. They realised how women themselves perpetuate gender discrimination in bringing up their children. This self-realisation of our women participants on gender discrimination helped them to play a role in decision making. They worked out a strategy to combat gender discrimination in future.

A 28 years old Poongothai is an illiterate landless woman has three female children. Her husband is an agri labour. Her mother and her husband were unwilling to send her for sterilisation after the birth of the third female child since they wanted a male child. Poongothai refused to accept the decision taken by them and went for sterilisation. she vehemently expressed in one of the meetings as

“We, women should change our attitude from now onwards. Hereafter while bringing up children, we should inculcate the idea of *gender equity from the childhood*. Only when children are taught about gender equity, the women will acquire equal status in the future”

She slowly helped her husband and her mother to understand that there is no much difference between male and female child. Now she enjoys more support from her family members for all her activities.

Formation of Groups adds Strength to Women

Case study VI

Formation of women groups is essential to promote good work environment and mitigate social disabilities. In Kizhur we formed two strong pisciculture associations while the first set of participants were selected with the strong recommendations from the local Natanmai. the second set of participants were selected by our women group. Since the pond is a common property resource, in roster every two years a new set of participants are selected. One share of income is given to the community. By seeing the attractive income gained by landless women in the pond, the local leaders have decided to take the pond on lease. When we interacted with our women groups about this attitude, Lakshmi one of our women leaders said

"we will join together to form a single association and claim our rights to take the pond on lease in future. As far as this place was a wasteland, no one bothered about this. But after your involvement with our hardwork and effort we started the income generating activity and we will never give up our rights. In roster we will allow each association to utilise the pond for two years. We know Fish farmers development agency officials and bank authorities. Even in your absence we will continue this activity.

Lakshmi is educated upto 5th standard. She has three female children and her husband is a mason. She is actively involved in mushroom, pisciculture and in tailoring. She is also willing to contest in the local panchatraj election.

STATUS OF WOMEN GROUPS

Total number of groups	-	16
Exclusive women groups	-	14
Dalit women groups	-	3
Landless women	-	85%
Marginal farmer	-	15%
Dalit women representation	-	25%
Literacy among group members	-	30%

HUMAN DEVELOPMENT IN BIOVILLAGE PROJECT

Value addition

1. Skill
2. Time & Labour
3. Decision making

Mobility expanded

Trainer's trainee

Formation of groups adds strength

Promotion of leadership qualities

Social status - enhanced

Gender consciousness promoted

'Partnership feeling' - Evolving new strategies
'Learning by doing'

Struggles the Project Faces :

I. Government's Subsidy Driven Programme

Almost all the government's economic programmes carry subsidies. In this context our project with zero subsidy policy do not get much support from the people. No doubt in certain villages it has been successfully implemented but still it is a struggle in many of the villages.

ii. Vested Interests of Politician and Community Leaders.

Interventions of politicians and local community leaders[Nattanmais] in the selection of participants by suggesting their own whims and fancies create lots of misunderstanding and tension. The genuine attempt of biovillage project personnel to select the right participants is being disturbed and to some extent slows down the process.

iii. Troubles faced from Big Farmers

Multiple source of income generating projects implemented by the biovillage project has increased the fear in the minds of big farmers that there will be increased scarcity of labour towards their agricultural activities . This creates lots of tension and misunderstanding between the project personnel and the big farmers . Efforts are being taken to reduce this tension .

iv. Unequal contribution by Men towards Family Maintenance

When the entire income of women is being spent towards family maintenance major portion of men's income is being spent for alcohol . In this context the envisaged danger is that by seeing women's increased income through income generating activities, the men may reduce the material contribution towards family welfare. Till now, no such case was reported.

FUTURE PROGRAMMES

1. Projects will be implemented to reduce drudgery of labour for women.
2. Efforts will be taken to improve the existing child care services.
3. Programmes will be organised to increase men's participation towards family and community development
4. Programmes will be organised to improve health and sanitation.
5. Awareness programmes in general, family counselling and counselling for alcohol addicted men will be organised.
6. Programmes to involve more women in Farmers Field Schools.

Gender Implications of Inadequate Sanitation Facilities with Reference to Fluorosis in Ennore

V. Amalan Stanley

M.S. Swaminathan Research Foundation, Chennai

Abstract

Like most of the diseases, fluorosis affects people with poor nutritional status and leads to eventual physiological ailments. In an epidemiological study conducted in Ennore on fluorosis, it was observed that female members of the population are more affected than male members due to fluorosis. As there is no proven sex related differences between the them with regard to fluoride toxicosis it was purported due to inadequate sanitation facilities in which females are more vulnerable.

Introduction

Fluorosis is a disease caused by excessive intake of fluoride, particularly through water, which is termed as 'hydrofluorosis'. 50% of all our water resources contains abnormal levels of fluoride potentially harmful to cause adverse effects on human beings and livestock.

Though the control of fluorosis is one of the primary objectives of Technology Mission of Rural Drinking Water (TMRDW) set up in 1986 by the government of India, the disease has often been ignored or not given much attention because of the public unawareness. In India, 14 states have been identified as endemic states for fluorosis. It affects more, particularly during the growth phase, thereby affecting younger generations than the older. Fluorosis leads to crippling of legs, called as '*genu valgum*' and browning and pitting of teeth. The long term effects include neurological complications, genetic aberrations and bone cancer.

Study profile and Results

The dental lesions were scored according to the dental lesion index recommended by Teotia and Teotia (1991). The urinary excretion of fluoride was also determined among the affected groups using fluoride ion selective electrode.

Dental Fluorosis

A total of 1982 (Males - 937; Females - 1045) individuals were screened for dental fluorosis and 234 were found to have affected of which 38 % constitutes male members and 62% constitutes females (Table 1).

Table 1. Total Children Affected with Dental Fluorosis

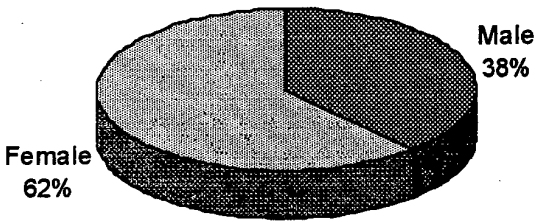
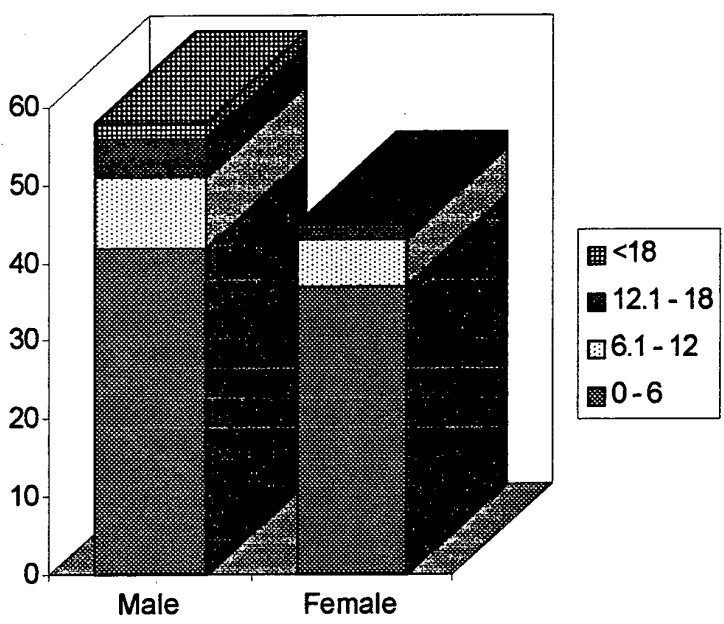


Table 2. Urinary Fluoride Level among Residents in Ennore



Urinary Fluoride Analysis

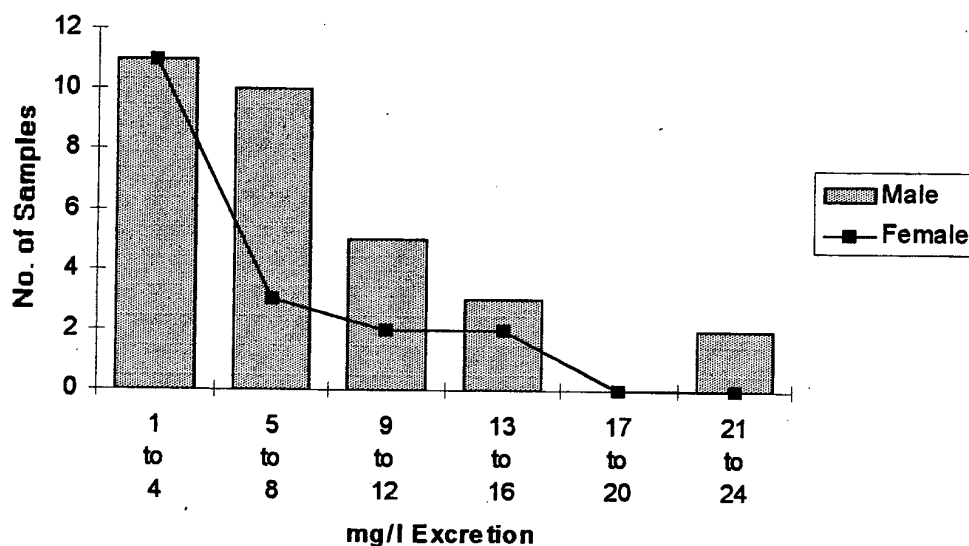
Estimation of fluoride in urine is recognised as one of the best indices of fluoride intake. The spot urine samples were collected from 103 randomly selected members of the fluorosis afflicted population, between the age group of 6 - 26 years (Male-58;Female-45). The fluoride levels ranged from 1 - 24 ppm (parts per million) and as evidenced from

the result, majority of them had abnormal levels of fluoride. Comparatively females excreted lesser amount of fluoride than male members (Table 2).

Discussion

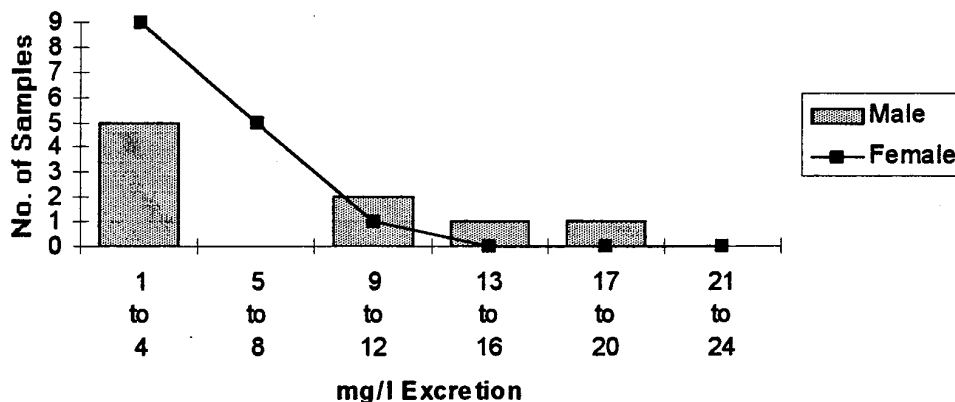
Interestingly it was observed that the female members of the population are more affected by dental fluorosis though not statistically significant, than male members and at the same time they excrete lesser amount of fluoride through urine (Table 3 & 4). Physiologically it is absolutely appropriate if there is more accumulation, there is lesser urinary fluoride. But the much intriguing question to be answered is what has really happened to the female members of the population which makes them more vulnerable to fluorosis than male members.

Table 3. Comparison of Urinary Fluoride With Dental Lesions (Moderate Group)



The urinary fluoride concentration is highly dependent on the rate of urine excreted. One of the most common findings is the positive relationship between urine flow rate and renal clearance rate of fluoride (Chen *et al.*, 1956). While exploring the probable reasons for the more vulnerability of female members, it was observed that there are very poor or no sanitation facilities provided for the inhabitants of the study population. Mostly, female members are more affected due to poor or inadequate sanitation facilities. During the day, they are forced to retain urine which leads to low rate of urinary excretion when compared to male members. This high retention time leads to increase in pH level of urine which increases the reabsorption rate of fluoride. This increased reabsorption rate ultimately leads to more accumulation and hence more vulnerability among female members.

Table 4. Comparison of Urinary Fluoride with Dental Lesions (Severe Group)



Secondly, The tubular reabsorption rate of fluoride is directly related to the acidity of the tubular fluid. If stated another way, the renal clearance rate of fluoride would be directly related to urinary pH level (Whitford *et al.*, 1976). Due to the high retention time, the urinary concentration is bound to become high in pH among female members which led to high absorption of fluoride.

Therefore it is appropriate to have a holistic approach while addressing fluorosis problem, including gender dimensions of the problem. Through JRD Tata Ecotechnology Centre the problem has been addressed from the etiological point of view, i.e., defluoridation of drinking water, which is the major source of fluoride. It has been suggested that using drumstick seeds is a better alternative for aluminium sulphate for defluoridation. While aluminium sulphate removes 19 % of fluoride in drinking water kernels of drumstick seeds absorb 25 % of fluoride.

Other alternatives to mitigate the severity are:

1. Provision of good sanitation facilities
2. Establishing rain water harvesting units at the household level
3. Constructing percolation ponds at the village and household level
4. Provision of smokeless chulahs - burning of coal produces fluoride

References

1. Chen, P.S., JR., Snuia, D.E., Gardaer, J.A., O'Brien and Hodge, H.C. (1956). Renal Clearance of fluoride. *Proc.Soc.Exp.Biol.Med.* 92: 879 - 883
2. Teotia, S.P.S. and Teotia, M. (1991). Endemic fluoride: Bones and teeth - update. *Ind.J.Enviroin.Toxicol.* 1; 1- 16.
3. Whitford, G.M., Pashley, D.H. and Stringer, G.J. (1976). Fluoride renal clearance: a pH dependent event. *Am.J. Physiol.*, 230: 527 - 532.

Issues for Consideration

Short-term

1. Targetting Programmes
2. Women's work load
3. Employment and income

Long-term

1. Expenditure and quality of life
2. Conflict and its management
3. Social consequences (unintended)

Short-Term Issues

1. Targetting Programme

Community - by class, caste, gender disaggregate

Women - by caste, class, age, occupation (educational levels?)

data on men's / women's time use

2. Employment / Income

more? less? same? men's? women's?

Check if it is at expense of any other group / male migration / child labours

Who brings income - share of men / women

3. Work loads of women

more? same? less?

Drudgery reduction

domestic

productive

both

Support Services

drinking water

fuel / fodder

toilets / sanitation

health care

Value addition

skills

higher wage

Long-Term Issues

1. Expenditure and quality of life

- food and nutrition
- education
- health
- consumer goods
- drudgery reduction

Who takes decisions - Share of men / women

Conflicts and their management

within household? withing community? Within State?
 between castes, classes, gender?

Alliances and networks

Social Consequences (unintended)

increase in? - alcoholism
 - female infanticide
 - polygamy

Women's status better? same? worse?

List of Invited Participants

Workshop on Gender Dimensions of Community Livelihood Strategies
June 10 & 11, 1997

Sl. No.	Name and Address
---------	------------------

- | | |
|----|---|
| 1. | Dr. S. Anandhi
9-A, V.J. Flats,
Valmiki Nagar,
Thiruvanmiyur,
Chennai - 600 041. |
| 3. | Ms. Nitya Rao
Flat 18, Jeevam Satyaham,
57-D, Dr. Ambedkar Road,
Bandra West,
Mumbai - 400 050. |
| 4. | Mr. S. Ravindran
Katha -- South,
31, 2 Main Road,
Karpagam Gardens, Adyar,
Chennai - 600 020. |
| 5. | Ms. Madhu Sarin
48, Sector IV,
Chandigarh - 160 001. |
| 6. | Ms. Ranjani Krishnamurthy
16, Srinivasamurthy Avenue,
Adyar,
Chennai - 600 020. |
| 7. | Dr. N. Sugumaran
2/3-B, Ganesh Nagar,
N.G.O. Colony II,
Turticorin - 628 008. |
| 8. | Ms. Kanchan Mathur,
Institute of Development Studies,
8-B, Jhalana Institutional Area,
Jaipur - 302 004. |

List of In-house Participants

**Workshop on Gender Dimensions of Community Livelihood Strategies
June 10 & 11, 1997**

S.No.	Project Name	Name
1.	Eco-Technology	1. Dr. K. Balasubramaniam 2. Ms. Jayashree Vencatesan 3. Dr. Amalan Stanley
2.	Bio-Villages	1. Dr. R.S.S. Hopper 2. Ms. K.T. Kalaiselvi 3. Mr. R. Rajasekara Pandey 4. Ms. S.V. Santhy
3.	Coastal Wetland Mangrove Conservation & Management	1. Mr. S. Sankaramurthy 2. Ms. Ruchi Bhandari 3. Mr. K. Johnson
4.	Uttara Devi Chair & Resource Centre for Gender & Development	1. Ms. Mina Swaminathan 2. Dr. V. Padma 3. Ms. Srividya Natarajan 4. Ms. J. Latha
5.	Gender & Biodiversity	1. Mr. S. John Joseph 2. Ms. Geetha Rani 3. Ms. Sumi Krishna 4. Dr. T. Ravishankar
6.	Personnel and Administration	1. Ms. Sudha Umapathy

**WORKSHOP ON
GENDER DIMENSIONS OF COMMUNITY LIVELIHOOD STRATEGIES**

Chennai

JUNE 10 & 11, 1997

PROGRAMME

Tuesday, June 10, 1997

Session - 1

3.00 P.M. to 5.00 P.M.

Introductory

Chair : Prof. M.S. Swaminathan

Introduction: Objectives of the Workshop

Prof. M.S. Swaminathan

Group Presentations:

(On behalf of Project teams)

1. Eco-technology

Ms. Jayashree Vencatesan

2. Bio-villages

Ms. K.T. Kalaiselvi

3. Coastal Wetland Mangrove
Conservation and Management

Ms. Ruchi Bhandari

General Comments :

Ms. Madhu Sarin

Ms. Kanchan Mathur

Summary: Issues for Discussion

Ms. Mina Swaminathan

Wednesday, June 11, 1997

Session - 2

10.00 A.M. to 3.30 P.M.

Plenary Discussions

Chair : Dr. S. Anandhi

Discussants

- | | |
|---|---------------------------|
| 1. Coastal Wetlands Mangrove
Management and Conservation | Ms. Ranjani Krishnamurthy |
| 2. Eco-technology | Mr. S. Ravindran |
| 3. Bio-villages | Ms. Nitya Rao |

Session - 3

4.00 P.M. to 5.00 P.M.

Valedictory

Chair : Prof. M.S. Swaminathan

Group Reports

- | | |
|---|--------------------------|
| Eco-Technology | : Ms. Srividya Natarajan |
| Bio-Villages | : Dr. A. Mangai |
| Coastal Wetland Mangrove
Conservation & Management | : Dr. Prabhakar Rao |

Looking Ahead

: Prof. M.S. Swaminathan

Rapporteurs : Eco-Technology

: Ms. Srividya Natarajan / Ms. Anuja Gulati

Bio-Villages

: Dr. A. Mangai / Dr. L. Vedavalli

Coastal Wetland Mangrove
Conservation & Management

: Dr. Prabhakar Rao / Mr. S. Raja Samuel

