

## Chapter 7

### ***TRADITIONAL ECOLOGICAL KNOWLEDGE: RESOURCES AND ENVIRONMENTAL MANAGEMENT***

Introduction

TEK in practice in Thevaram Basin

Land and Water Management:

Prevention of soil erosion

*Karambai* (Tank silt)

Improving soil quality

*Theppam* (a traditional, improvised water management technique)

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### **Traditional/ Indigenous Knowledge Systems**

Traditional Knowledge (TK) has existed for as long as human society has existed, but it is only in recent decades that it has been recognized and defined as such by the scholarly and scientific community. Over the last quarter century, the focus on people's participation in the research and development process began to build a parallel appreciation for traditional ways of doing and learning. Outsiders came to recognize that community evolved strategies of meeting such diverse needs as health, food production, water security, etc, were not only adequate, but perhaps even more effective than "objective" scientific research, especially in the local context (Berkes, 1992). The current emphasis on indigenous, local and environmental knowledge has sprung from this more general awakening to the value of traditional knowledge. However, being able to determine what the terminology really refers to is the first challenge of being able to effectively access and use TK in research and development work at all levels, locally, nationally and internationally.

To begin with, the term *traditional* can be problematic. It is often an arbitrary judgement as to what belongs to tradition and what is the result of practice and innovation over the years. Traditional implies a concept that is

rooted in the past and intricately connected to the culture and values of a particular group of people. However, this approach to defining traditional knowledge tends to exclude the fact that culture and conditions change over the years and that human beings have an innate capacity to adapt and modify their behaviour and experiences to meet their changing needs (Berkes, 1992). Thus, neither culture nor traditions are static concepts or realities. They have a dynamic component that enables their survival and effective continuation as they evolve over time. Often though, this fluid aspect of tradition is not considered to be valid or "as genuine" as the other artefacts of culture, simply because it is so changeable.

Both the instinctive adaptation of TK that takes place over just a few years, as well as the more stable body of knowledge transferred from generation to generation, can be valuable in a given process of research and action. It should be noted, however, that current day knowledge is sometimes undervalued or dismissed by social science researchers, who see it as inauthentic compared to older forms of knowledge. In cases where this more recently evolved type of knowledge, generally referred to as local knowledge (LK) (Ruddle, 1994a in Berkes, 1999), is considered as valuable and is brought forward along with TK or TEK. The main issue, however, is essentially whether or not the knowledge is still relevant or useful in the current local context.

The utility factor contributes to the valuation of traditional knowledge as a legitimate area of research and exploration as well as a tool for future development and community action. The adaptability of traditional knowledge to the circumstances it faces should also not be taken as an automatic assumption that the people involved in the research and project/action will "naturally" be able to adapt to any situation they are put in with relative ease (Wavey, 1993). While there may be elements of truth to the levels of adaptability demonstrated by people, it is certainly not the case that traditional societies can simply be moved around and relocated without concern, as happens too frequently in the name of development.

Another point raised by the use of the term traditional is the element of faith or belief that often accompanies traditions. When questioned about traditional practices, people may not know exactly why they do things in certain ways. What they do have, however, is the belief that this tradition is the correct way to carry out a given activity, just as it has always been done that way. While traditions are usually based on experiential knowledge,

there is an inherent connection between the secular and the spiritual. Thus, the empirical experience of how to do something acquires the layer of belief or faith that it is the correct process or procedure to follow. This melding of secular activity with a moral and ethical context, in particular the spiritual valuation of the environment, has been termed 'sacred ecology' (Knudson and Suzuki, 1992, in Berkes, 1999).

To deal with the ambiguity that stems from trying to define the term traditional, there has been a trend towards the use of the term indigenous to describe locally evolved, intergenerational knowledge. However, indigenous often implies that the people who are the keepers of such knowledge are native to the area and usually of a particular ethnic or religious group (Warren et al, 1995 in Berkes, 1999). This term has sometimes been taken to refer solely to tribal or First Nations populations, discounting the fact that other local peoples may also possess valuable insights and understandings. In fact, the interpretation of the term indigenous can eliminate from consideration the knowledge of people who are migrants to the area, as they would be considered non-native or non-indigenous populations. In many parts of the world, this effectively restricts recognition of women's roles in traditional knowledge generation, possession, and transmission. In the context of the Thevaram Basin and indeed in India generally, this is a consequence of the fact that women usually migrate after marriage to their husband's locale and are therefore not usually native to the area they inhabit for the majority of their life.

However, the emphasis on indigenous knowledge rather than traditional knowledge is important in terms of its broader philosophical implications. It reflects a conscious attempt to support indigenous peoples in their efforts to reclaim and establish control over their own knowledge. This support extends through the process of collecting and communicating knowledge and is based on the understanding of IK as 'lived knowledge', grounded in ancestry and relationships between people (Holmes, 1996, in Berkes, 1999).

Defining knowledge also poses semantic problems in that there are a number of different scientific and social ways of legitimizing what is truly knowledge and what is simply considered to be fact, common sense or even superstition. These latter elements tend to be at the least, undervalued, or at worst, outright dismissed, regardless of the fact that they may in fact have significant understandings to offer to a holistic research approach

(Hountondji, 1997). This is particularly the case where environmental and ecosystem issues are concerned. In general, however, systems of knowledge and learning that do not follow the conventional positivist model of research tend not to be highly valued in the academic realm. This occurs regardless of whether or not their ground level results are successful, as has been the case with many traditional and localised knowledge systems (Berkes, 1999).

Once it has been determined that traditional knowledge is to be an integral part of a project, the immediate challenge becomes how to set up a process of drawing out people's traditional strategies and experiences. The first step in trying to access TK is to clearly articulate to the local people what kind of information is being requested. Often, defining what types of knowledge TK or TEK (traditional ecological knowledge) refers to is done by contrasting it to the more common types of scientific knowledge. The characteristics of TK and TEK that are normally used to differentiate it from scientific knowledge are as follows: TEK is generally quantitative, intuitive, integrated in its consideration of mind and matter, holistic, moral, spiritual, and based on empirical observation, data generated by resource users and diachronic data (Berkes, 1992). In addition, TEK is usually preserved and transmitted orally, through observation and direct experience, views all life forms as interdependent, is based on cumulative, collective experience, and is rooted in a social context of reciprocity, mutual obligation and shared knowledge and meaning (Johnson, 1992).

In trying to gather TEK information to use for community level development planning, the social context, particularly the gender division of roles and responsibilities, is an important consideration. These patterns of interaction with the natural environment as well as the patterns of social responsibility and interaction have existed over the generations and will shape the domains in which men and women have traditional knowledge. The recognition of difference should, however, not be confused with the romanticized and essentialist view that paints women as the natural keepers of traditional lore (Rocheleau, Thomas-Slayter and Rangari, 1996) nor should it ignore the differences in levels of TK between and among members of different societal groups. Women and men, children and elders all have potentially valuable contributions to make to the body of TK and TEK in their communities, if given the opportunity to do so. In assessing traditional knowledge, everyone's experience becomes potentially valuable, as nothing can be completely proven beyond a doubt. It is also explicitly recognized that change is an element of any living system. As a result, there

is always room for variation and difference in this framework, a theme that coincides neatly with the principles behind participatory research.

The importance of collection and documentation of traditional knowledge has come to be recognized at a national and global level in recent years. Foundation documents such as the World Conservation Strategy and Our Common Future testify to the international level commitment, at least on paper, to supporting TK and TEK initiatives (Johnson, 1993). On the Canadian scene, statements by the President of CIDA, Huguette Labelle, in 1997 confirmed the adoption of a TK focus in development work, supported by policy development and the generation of manuals and best practice guidelines. The materials developed were applicable not only to the traditional knowledge encountered and sought out in CIDA's international commitments, but also addressed the issues of working with indigenous groups within Canada (Emery, 1997; 1999).

The importance of TK is acknowledged not only from a conceptual and cultural perspective, but also from a practical perspective. There are a number of key ways in which TEK has been seen to directly contribute to meeting tangible goals and needs within society. TEK can provide new perspectives on biological and ecological functions, it can provide much needed input for resource management strategies, it can support conservation initiatives and protected areas, it can aid in development planning, and it can assist the process of environmental assessment (IUCN, 1986, in Berkes, 1992). All of these categories of direct usage for TK and TEK demonstrate the need for a more integrated approach to working with TK and well as the critical information that is potentially being lost when traditional perspectives are overlooked.

The question of ethics is one that needs to be raised in terms of the utilization of TK in general, as well as TEK more specifically. When dealing with such sensitive information as people's life histories, experiences and intimate knowledge built up over many generations, it is important to address the issue of what becomes of that knowledge once it is disclosed. In addition, there is the issue of who benefits from the process of collecting, documenting and utilizing knowledge that for years has been common practice of a given family or community. Ultimately, credit must be given where credit is due, but the judgement of how and when and to what degree that happens depends almost entirely on the goodwill and integrity of the researchers. If they are committed to a process of sharing and an equal level

of acknowledgement to the community members who have contributed their time and effort and experience to the project, then there will be high degree of reciprocity and mutual benefit derived (Berkes, 1999). At the opposite extreme, if there is no real commitment to the community members on the part of the researchers, there will not necessarily be adequate acknowledgement of the people's ownership and control of the information they have shared. Informed consent, communication and commitment are the key considerations in terms of the ethics of accessing and using traditional knowledge. These ethical considerations should be clarified from the start of the research project in order to ensure maximum flexibility and transparency throughout the process (Emery, 1999).

### **Traditional Knowledge**

One final aspect of the information generated through the transect walks that warrants a special mention is the element of traditional knowledge. In addition to being an opportunity to gather historical information on the environment, the transects were seen as a way in which to begin to access and draw out aspects of traditional practice in natural resource use and management. However, as the following comment illustrates, the local people do not feel as if their traditions have served them well, and in fact tend to discount the value of whatever traditional practices and understandings they may have.

*"Local people's own knowledge is best, not traditional knowledge, because only people now in the area have current knowledge of the situations they are facing and so can draw on their own experiences to solve their problems."*

*- middle aged woman on transect near Sundararajapuram*

Variations on this theme of the lack of value of traditional ways were frequently heard over the course of the research project. Either traditions were dismissed as being no longer relevant to the vastly altered environmental landscape of the present, or they were simply written off as being backward and outdated, often regardless of their previous effectiveness. The first of these arguments does certainly have some weight given the dramatic shifts in the kinds of agricultural and environmental conditions people face in the study area today as compared to the past. However, the second argument of *backwardness*, particularly from an

outside perspective, appears to be a legacy of the imposition of external development perspectives, government, organizational and otherwise. In addition, it is related to the prevalent attitude that without formal education people do not have valuable knowledge or perspectives to add to the community action planning process.

Attempts to explore traditional knowledge and its potential of being adapted as local knowledge suitable for present day needs (Berkes, 1999) were often not well received either. Even if local people took the first step of acknowledging that they did in fact have knowledge of practices that had been passed down to them over the generations, many still felt that this knowledge was not modern and sophisticated enough to be of any use to them. The same comments continued to be raised in that this type of knowledge, being largely informal and based on belief, was considered to be unrelated to formal education and real *intelligence*. The well-delineated differences between TK and scientific knowledge (Berkes, 1992; Johnson, 1992) were thus discounted rather than appreciated as strengths. Unfortunately, these attitudes permeated both women's and men's observations about their lives and livelihoods, making it difficult from a project perspective to integrate an element of traditional knowledge about the environment into the overall action planning process. This is a challenge to the project that still remains.

### **Shelter Belt Construction**

Both women and men described the historical changes in the environment in their area. These ranged from the *zamindari* period of large scale, semi-feudal landholders over 100 years ago, in which the first shelter belts and roads were constructed in the area, to the government sponsored shelter belt scheme 30 years ago. Most agreed that the shelter belts had been a worthwhile project but that the community on its own could not take up the task of trying to implement a new shelter belt programme. The lack of knowledge, time, and money were cited as major constraints to the process, as was the lack of community unity and organization. Rather, the need for outside intervention was a recurring theme in this discussion, particularly in addressing the question of protecting the seedlings and trees once fully grown.

*"Local people can't do anything. The government should take action to build shelter belts again. If we have our own land then we can*

*protect the trees and take care of the plants, but for common land the government should appoint a watchman and other labourers to take care of the shelter belts and protect them from the tree cutters.”*

*- middle aged woman from Pottipuram*

Women and men in the study area do not see themselves as agents of change but rather as recipients of assistance, as they have been for generations at the hands of government and international schemes and subsidies. As well, a major factor in the equation is the fact that a project such as shelter belt planting requires a concerted community level effort. It needs not only a common space in which to plant, but also a considerable investment of time and cooperation on the part of the local people. While people might be willing to invest this level of time and energy for the potential long term benefits of shelterbelts on their own land, they do not feel the same degree of commitment to trees that would be planted for the common good. The fragmented sense of community loyalties and the demands of subsistence living make environmental and cooperative efforts low on the priority list of most people in the area.

### **Changing Environmental Conditions**

In addition, both sexes highlighted the same shifts in sand and wind patterns over the years. They both noted that the previously high sand dunes and high wind velocity in the area, although they posed significant challenges in the past, were also accompanied by high water table levels, high soil fertility and high levels of rainfall. When these factors were weighed out, many interviewees concluded that the situation had in fact been more favourable in the past, particularly in terms of being able to make a living off the land.

*“We have land on the northern side of the hamlet. We have two acres of irrigated lands there and then three acres of rainfed land on the eastern side. We left the northern side of our lands for lease. This rental money is the only thing that gives us some income because we are not getting good rainfall to do our agriculture. In the past we could also get manure easily and the soil quality was very good. I used to be able to get 50 bags of cotton from only two acres of land.”*

*- middle aged woman from Bodi Ammapatti*



In contrast, nowadays, the winds and sand dunes have decreased, but people have experienced a corresponding decrease in water tables, soil fertility, and rainfall. In the view of the majority of interviewees, scarcity in these crucial areas has more than mitigated any positive impacts enjoyed as a result of the shifting environmental conditions. An interesting footnote to this information, as previously noted in the qualitative data, was that very few people identified their own role, or their community role, in creating changes in environmental conditions. Only one or two of those interviewed acknowledged, for example, that the destruction of the shelter belts and community forests (*kuduvals*) had been done by the local people themselves. While it could certainly be argued that it was in some cases done out of necessity, as a subsistence income generating activity, the fact remains that the forests were cut down by individual, local hands, not by outsiders to the community.

### **Adoption of Environmental Strategies**

Women and men provided accounts of the problems encountered as a result of the high winds and the way in which they dealt with these problems. They outlined the traditional strategies they followed in order to try and mitigate the damage caused by the winds, and, if possible, to prevent it from happening at all. Included in their comments were often matter of fact statements about the class differences in their communities, which dictated what kinds of preventative activities people could afford to take:

*"Rich people will usually build cement roofed houses (to prevent wind damage). Poor people will keep heavy stones on the roof and also tie down the roof with ropes. Even though we do that, the wind velocity is so high sometimes the wind will still take away the sheet metal roofs. We can't even sleep well during the windy season. We are always scared that the wind will take away our roofs in the night."*

*- young woman from Maniyampatti*

### **Agricultural Learning Patterns**

Large amounts of procedural information were also gained through the interview process, dealing with the exact ways in which crops were sown, weeded, and cared for through their life cycles. Women respondents

mostly gave this information. They have been traditionally responsible for those kinds of tasks and have also had to take on increasing agricultural responsibilities over the years. As a result, they were able to provide information on very specific cropping cycles and procedures. Women respondents also delineated the learning process by which this very detailed information was gained by them. Formal learning, not unexpectedly, played a negligible role in their learning about agricultural information, an important consideration given the increasing professionalisation and formalisation of extension practice in recent years (Jones and Garforth, 1997). Rather, women described going into the fields with their mothers or relations, observing the activities for a few days and then being expected to work alongside the others to carry out the needed tasks. The following is a quote from a girl with three years experience in the field:

*"In the beginning I would just go and observe the other labourers in the field. I would do that for three days and then I would start doing work. The work will come to our hands through experience."*

*- 14 year old girl from Maniyampatti*

Over the years, through many cropping cycles, they absorbed and analysed not only their environmental conditions but also the responses of the crops to those conditions. Thus, women developed strategies for dealing with the problems they faced in agriculture, as well as simply making their annual practices more and more effective, in theory, as they gained more experience.

### **Women and Men's Agricultural Work**

The men, in contrast, provided most of the information on land reclamation techniques, the use of *karambai* and other fertilising methods, the construction and use of the *theppam*, the increasing costs of agricultural inputs, and the role of middle men and government in the agricultural process. Much of this information dealt with large-scale work, construction and manipulation of equipment, as well as with external players in the process those women had little connection to or interaction with. In this way, the interview information played into and supported the highly entrenched gender stereotypes of what constituted women's work and men's work. This point is driven home by the following comment on the work done under the auspices of the shelter belt project:

*"We (local women) were working on the first shelter belts. We used to do the watering of the plants for 15 rupees per day back in the 1960s. This was the only women's work allowed. We are able to do the work that men do also, we know how. But people are used to doing things a certain way and doing certain kinds of work. The men and the elders won't allow us to come forward to do other things that are normally their responsibility. Now the daily wage for men's agricultural work is 60 to 80 rupees per day while the women's wage is 30 rupees."*

*- middle aged woman from Therkkupatti*

It also contributed to the delineation of the *technical* aspect of men's work that is valued at a much higher level than that of women's. This despite the fact that those women provided extensive and intensive knowledge of crops and agricultural production. Since their knowledge was of the field, from experience, and men's knowledge was of the larger context and community, often from outside sources, the latter was seen to be more important, justifying again the significant division of both wage and labour between the sexes. This valuation of outside or scientific knowledge over practical knowledge is an all too common practice in development (Hountondji, 1997).

### **Traditional Practices**

In the interview process, women also spoke more about traditional practices such as the customary medicines used to treat minor illnesses and more serious problems like snakebites. A few of them also mentioned a traditional connection between the environment and spiritual beliefs, an integrated perspective characteristic of *sacred ecology* (Berkes, 1999). In particular, one *pooja* (prayer ceremony) was described wherein the community asks for rainfall and better weather conditions for their crops. In this particular *pooja*, offerings used to be made and prayers would be said at a community gathering, in order to ensure good conditions for all people living in the village. This example offers a sharp contrast to the lack of community activities and events that are now taking place in the study area.

### **Organisational Issues**

Men, on the other hand, raised some practical issues related to land ownership and fragmentation of land holdings that have made it more difficult to build hedges and shelter belts, due to increasingly small parcels of land owned. Men also mentioned more frequently the role of, and importance of, government schemes, loan programmes and external support for the agricultural process. For example:

*“It was only five years ago that I started doing this [mulberry cultivation and silkworm] work. One government agricultural officer from Theni came here and taught us about this occupation... Those government officers came on their own, we didn’t have to take any action to get them here. Also, if you want to start up and try out this occupation, the government is giving the necessary equipment free of cost under a rural development scheme. The only thing we need is to have the space to grow the worms.”*

*- middle aged man from Silamalai*

Not only did men indicate more general awareness than women of the institutional support available to them, many, like the farmer quoted above, had availed themselves of the new opportunities. The difference between men and women in terms of awareness of and access to external agencies in this case, reflects more generally the spheres of interaction of male versus female in the area and in fact throughout most of rural India. Men are generally more involved in and accepted in community and societal affairs, while women are more occupied with the household and the immediate neighbourhood unit and do not often have the wider organisational connections that men do. Levels of education, expectations of *modest* and *adjustable* behaviour, and concerns about female *virtue* and *safety* are all part of the reasons behind these historically defined gender roles.

### **Social Welfare and Livelihood Alternatives**

Overall though, there were many common issues that emerged through the interviews across both female and male respondents. One major recurring comment was that although the environmental conditions of the area certainly deserved attention, the most pressing issues in people's minds were those of social welfare nature, particularly sanitation, transportation, income generation, and access to credit. This situation has especially

developed over the past ten years as the environmental conditions have decreased in severity (that is, in terms of high winds and sand dunes) and the livelihood and level of agricultural productivity of the people has become more difficult. A corresponding concern noted in the interview process was the lack of alternative livelihoods and options for people who wanted to take up something other than agriculture as an occupation. Without viable options for new employment, the people of the area remain largely dependent on the land as their means of making a living, as pointed out in the following:

*"Throughout the year we have work, we are busy, but there is no profit from our work. The soil quality has become much worse than it was in the past. Besides that, we also have problems with the water and with the winds. Most people have a loss from the agricultural work that they do. So, nowadays people are searching for some other kind of work."*

*- middle aged woman from Pottipuram*

## **Illiteracy and Education**

Another major difficulty cited in the interviews was the concern with the level of illiteracy among the people, which ranges between 50 to 70 per cent, depending on area, gender, and caste community. Demographically, the people who are now the decision-makers in the study area, and those who will take up current development projects, whether environmental or social in nature, are still largely without formal education. This situation especially applies to the women of that age group. In fact, not only are men more likely than women to have attended formal schooling at all, they are also more likely to have reached a higher level of education, for example tenth standard completion plus one or two years, than are their female counterparts (Narasimhan, 1999).

While the current level of illiteracy among the population does not preclude people from having the knowledge and understanding to be able to carry out social welfare and environmental projects, many tend to feel that they are incapable of taking on projects as a result of not being "*book educated*". They express the lack of self-confidence because they do not know how to read and write, they cannot adequately represent themselves to the government or other formal bodies, far less take up initiatives on their

own, in order to address some of the problems they have articulated. This privileging of certain types of knowledge, in this case formal knowledge, over others, is one of the major challenges to effective PRA practice (Leurs, 1996).

It should be noted though that among the younger generations, the educational situation is changing. Now at the primary and early secondary school level there is more of parity between girls and boys attending school. Most children, both girls and boys, will have the opportunity to go to school at least until 9<sup>th</sup> or 10<sup>th</sup> standard. Many will even make it to Plus 1 or Plus 2 levels, although this high a level is still very uncommon for girls, as evidenced by the following statement:

*"There is no difference between girls and boys up until the 10<sup>th</sup> standard. If they have enough money, people will send their children to school. Otherwise they won't. But if women study any more than 10<sup>th</sup> we can't really find a suitable and educated person for our marriage. Also there is the problem of dowry. How can we spend money for a girl's education when we have to also spend for the marriage?"*

*- middle aged woman from Maniampatti*

Unfortunately, among poor families access to education still remains highly limited at all levels, due to the cost of educating a child as well as the necessity of children's economic contribution to the household. Girls are particularly affected by this situation and still tend to leave school at an earlier age than boys, whether to help out in the household, to go out to work for wage labour, or simply to be married. As the contribution of female labour to the household is integral to its functioning, girls are often considered to be of more value to the family at home helping and/or working, than learning in school.

*"For three years now I have been going to do agricultural work. My family is very poor so I couldn't continue to go to school. I had to go to work to help my family."*

*- 14 year old girl from Maniampatti*

An additional factor that impacts on levels of education attainment is the lack of future employment opportunities in the area that rely on literate or otherwise skilled labour. If girls, or boys for that matter, are to continue through to higher levels of schooling, there is little scope for them to make use of that knowledge in the immediate future. Thus, parents see little direct economic value to compensate for the costs of sending their children to school. Understandably, this is a major disincentive for continuing education and higher education for both females and males in the area.

### **Destiny**

Another perception articulated by a large number of interviewees and people in general throughout the study area was that it was their fate to have such a difficult lot in life. This destiny perspective, influenced by the predominant Hindu religious perspective, and cultural values of *adjustment*, removes any need or utility for people to be proactive, since their future is already laid out for them. Their strength of character is in accepting their position in life without trying to change it or make a difference. It does not mean that people need not work or toil, it simply means that the suffering that they face is considered as their manifest condition, rather than as a difficulty that is able to be rectified. Indeed, many people express that there is a certain sense of honour in being able to reconcile one's self with one's fate and make do with what one is given.

Needless to say, this type of perspective does not particularly support the attempts at community motivation that have been a fundamental component of the project. In fact, to a large degree it runs contrary to the premises of participation and personal agency upon which the research has been based. Moving beyond these perceptions to negotiate a middle ground where people can see themselves as being somehow involved in the development planning and action process, without directly challenging their fate and the faith on which it is founded, will be a major challenge for the future.

### **Responsibility**

An extension of the idea of fate is the idea of responsibility. It was found in the interviews, both with women and girls and men and boys, that there was a consistent shifting of responsibility from the individual to someone else, usually the panchayat administration or the government. The

general consensus among the local people is that they have elected a government so that it will take care of social welfare and development issues for them. People feel that it is not their responsibility to take up development tasks, rather, they feel that it is the job of their elected representatives and they rely on them to do so. Many people expressed the sentiment that they are already overburdened with the work they must do in order to simply survive, and should not have to do take up the tasks of social welfare and community development on top of all their other obligations.

*"Besides, if we do all the work locally to solve these issues ourselves, then why are we voting for government representatives? It's unnecessary. The election candidates won only because of us, so they have to do something for us. They should take action. We can only give them the petitions and tell them about our issues."*

*- middle aged woman from Kariappanpatti*

This statement was continually brought up, even in situations where the government or panchayat demonstrably has no intention of doing anything about the issues that are important to the people, and time and time again have made election promises to the people that they never keep. Regardless, people continue to depend on government intervention and direction in dealing with local issues.

Another factor in this equation, internal to the community, was that sometimes the responsibility was shifted among community members themselves. This took various forms, including a shifting of responsibility from one caste group to another, from the youth to the elders, from the women to the men or vice versa. Unfortunately, the relegating of responsibility from one group to another effectively means that no one person or group takes it upon himself/herself / itself to try to address the issues at hand, leaving the situation in the same state it has always been in.

### **Lack of Unity**

Combined with the shifting of responsibility and contributing to it, is the lack of unity that is consistently identified within the area.

*"There is no unity among the people and they are also very poor. That's why people haven't come forward to work on the community*



*action plans. Here, we can't get any support from others in order to do that kind of community work. The panchayat office and the NGOs don't help us and also the local people themselves are not cooperating with each other."*

*- middle aged man from Pottipuram*

*"In order to carry out community action plans, we need unity among women. Now, if individual women come forward, others will tease them by asking if they don't have anything else to do, asking if they are the collector come to solve all the problems or simply tell them to go and do their work at home like a good girl."*

*- women's group member from Thimminaickenpatti*

Even among members of the same hamlet of a particular panchayat, interviewees report strong and long-standing divisions between people on the basis of caste and socio-economic status, not to mention the divisions between landholders and labourers. This fragmentation makes it difficult to work towards a community based action plan since there is no real sense of community spirit *per se*. People tend to identify with their particular sub-groups, be they caste, religion, or class-based, rather than with the hamlet or panchayat as a whole. The recognition of the lack of homogeneity within the boundaries of a defined community is an important one in being able to work constructively at the local level (Cornwall, 1998).

### ***Panchayat Union Abuses of Power***

In addition to this perception of difference between people, there was disillusionment expressed in a number of the interviews with the *panchayat* administration of their particular areas.

*"People are not unified here and our panchayat president also will not come forward to do the work. No one is asking anything about welfare activities. The president is completely corrupt. He is taking all the money from the panchayat. But what can we do? We are poor and illiterate. You should help us."*

*- middle aged woman from Bodi Ammapatti*

The difficulties reported ranged from direct corruption and misuse of government money for personal gains, to harassment and intimidation of local people not to go forward with the information and knowledge they have about corrupt activities. The power of the panchayat administration within the social fabric of the community, usually due to caste and/or class influences, makes it so that there are few, if any, who are in a position to contest their practices. These conditions contribute to the fact that local people have very little faith in their *panchayats* in the study villages. Even if there are schemes available or programmes being promoted they will not go forward to find out about them. Worse, they may try to inquire only to find that promises are made but nothing ever happens. This is, despite the fact that on paper the programmes are recorded as having been carried out successfully.

The *panchayat* union also controls the administration of such programmes as the *Public Distribution System (PDS)*, upon which many people in the study area rely for basic rations. As a result, local people, especially the poorest of the poor, have a lot to lose if they choose to try and challenge the abuses of power and bad practices that go on within some of the panchayat unions.

*"The functioning of the ration shop also is not done properly, correct measures of the rationed goods are not given. Sometimes, they just won't issue the goods to the people at all. Many people in the area are affected by this problem. We in the hamlet have approached the panchayat President about this and he assured us that by next month he would ask the ration shop people to do their work correctly. We gave a petition to the district Collector and he also gave us assurance that the problem would be taken care of, but it still continued."*

*- women's group in Thimminaickenpatti*

In this instance, again, as in many other previously outlined, the traditional gender roles and responsibilities play a visible role. They mean that it is the male responsibility to deal with administrative issues of this nature. It is however women who have to deal with the direct outcomes of the process, for example, not having enough staples like rice, salt, and sugar to make daily meals for their families.

## **Caste Disparities**

Caste disparities also play a significant role, both explicitly and implicitly, in shaping the socio-economic situations and environmental issues described throughout the interviews. In some cases, people hesitate to mention caste divisions, knowing that they are officially not supposed to matter anymore, but for the most part people are actually quite frank about the reality of caste structure's influence on their lives and interactions.

*"In the 1920s, people in Rasingapuram all lived together... (they) had some misunderstanding among themselves and split into two groups. The whole Rasingapuram area is occupied by these two main communities, Okkaligar and then Kurumba Gownder on the eastern side of the hamlet. Both groups are Kannada speaking, but we don't have any marriage relationships between us. Also, since my grandfather's time, the people gave a separate space for the S.C. [Scheduled Caste] people to live, towards the northern part of the hamlet."*

*- middle aged woman from Therukkupatti*

Scheduled caste women feel the brunt of discrimination particularly acutely, often not having access to even the most basic amenities that women of other caste groups claim. For example, regular access to clean water and proper drainage in the streets was common complaints for village women. For Scheduled Caste women, who live in colony housing on the outskirts of the village, there is sometimes not even the basic water pipe scheme of the government, sporadic as the supply of water may be. They have to travel further to get their water and are sometimes treated with hostility if they try to get water from the village pipes that are ostensibly available to all people. Often the colonies are also near the area where village people dump their garbage or along the road that is used for toilet purposes.

These women report feeling even less powerless to take any remedial action than higher caste women, due to their traditional status and occupational positions. Not only do they see themselves as having a low status within their own caste group and familial structure, but they also see themselves as being looked down upon by the women of other castes and as having no voice at all in the village as a whole. The multiple effects of illiteracy, of traditional lack of decision making power, and of exploitation by employers and officials have been well documented (Narasimhan, 1999).

These factors have made it so that this particular segment of the study community has been the hardest to reach and the most difficult to mobilise towards any kind of action. A strong commitment to confidence and skills building is required in working towards strengthening scheduled caste women's groups. However, internal changes are necessary but not sufficient to change the conditions of day-to-day life for scheduled caste people. The wider community also has to shift their attitudes towards this segment of the population in order for any concrete difference to be made.

Another factor in the caste equation, which correlates with the divisions among caste groups, is the strong sense of family and solidarity that exists within caste groups. On the one hand this can be a beneficial factor, potentially creating a cohesive unit from which to begin action planning. However, it can also contribute to a lack of willingness to take action, if that action is perceived as being in any way threatening to a caste group member or leader. This sense of identification with one another was often cited as the reason behind the chronic corruption within many panchayat unions. In the case of the study villages, these administrative bodies will tend to be dominated by the most powerful caste group in a particular area, who will then patronise their own caste people. This happens all too frequently, despite the fact that the union is officially supposed to have at least one scheduled caste and one female representative. If these two candidates are even named, they rarely have any substantive influence on how the panchayat conducts its affairs and are often not even present at the union meetings.

Another way in which this internal caste politicking manifests itself is in the fact that people are generally very hesitant to speak out against their own caste members if wrong doing is occurring.

*"Most of the people here are relations of the president or else they belong to his caste. So, because of that they will never give petitions. Even though the president is involved in some corrupt activities, no one will question him about this since he is from their own caste. They think, just let him live comfortably with his money. This attitude is a very big problem here."*

*- middle aged man from Silamalai*

In effect, the silencing that occurs as a result of the inter-caste loyalties make it extremely difficult to ever reach a point where the panchayat structure, set up to represent the concerns of the larger administrative community, ever effectively fulfils its mandate. In some areas, where there is a more balanced distribution of population numbers and relative status between different castes, there is sometimes a more accountable panchayat. This is the case in other villages around the area. However, within the five study communities, more often than not, the people were unsatisfied with their ruling body and felt as if they had no recourse to deal with their concerns.

## **Summary**

In assessing the quantitative and qualitative research that was carried out, the results of the research activities were measured against the objectives that had been set out. It was found that while certain aspects of the information desired were in fact obtained, there were also some major gaps in terms of building the kind of comprehensive framework for action that had been hoped. This was particularly evident in looking at the question of traditional ecological knowledge, which ended up not being explored nearly to the degree that had been anticipated. However, in place of the explicitly TEK focused information that was aimed at, a large body of more broad historical, contextual and socio-economic information was gathered. In this way, the foundation necessary for working towards determining how women and men could best contribute to the action planning process, was still established.

The major themes that can be drawn out of the results are summarised below in relation to the three main objectives of the research.

## **Gender Roles and Relations**

- Women play a significant role in terms of the labour they contribute to potential environmental and socio-economic development activities, while men are the decision-makers and those with responsibility for initiating new projects.
- Women's spheres of interaction and influence are centred around the household units and their immediate surroundings, in contrast, men's

influences are seen in the public sphere and at the community and administrative level.

- Women's roles in agriculture are the "*light*" and "*easy*" tasks like planting and weeding, while men's roles are to do the "heavy" and more "technical" tasks such as ploughing, and applying pesticides and fertilizers.
- Women and men's wage differentials are socially constructed such that women work longer hours than men, for less pay, and are considered marginal to the economy, despite the fact that their labour is acknowledged as being essential by women and men alike.

### **Traditional Knowledge and Environmental Conditions**

- Traditional ecological knowledge (TEK), while it is acknowledged to exist, is no longer deemed useful or relevant because of the vastly different environmental conditions under which people are now living as compared to the past.

### **Land and Soil**

- There is general agreement that the land is good, but that the quality of the soil has markedly decreased over the years.
- Soil improvement strategies are becoming more expensive and less effective due to the long-term effects of chemical fertilisers and pesticides on the land.
- Traditional land reclamation methods are discounted as a viable agricultural improvement strategy because of prohibitive time and labour costs as well as a sense of futility in that they are not lasting measures, but rather, temporary interventions.

### **Water**

- Rainfall in the area is much lower now than in the past, causing a moderate level of water scarcity although the quality of the water remains relatively good.

- Traditional water management strategies such as the *theppam* are less widely known and less utilised than more recent strategies like the pumpset and the bore well, due to lack of dissemination of information and lack of interest in traditional practices.

## **Winds**

- High winds still continue to disrupt daily activities in the study area, however, they are perceived to be more moderate now than in the past.
- The majority of people are aware of environmental strategies for wind prevention such as hedge building and shelter belt construction, even if they do not have direct experience of them.
- People feel as if they do not have the expertise, nor the time and land available to take up hedge and shelter belt initiatives of their own; instead, they feel that the government should reestablish an appropriate scheme.

## **Challenges and Opportunities for Community Development**

### **Livelihoods**

- Agriculture is no longer a viable option for the majority of the rural population to adequately meet their subsistence needs, since crop yields and soil quality are lower than ever before.
- Alternative livelihood options are highly desired by the local people in order to strengthen the economy and their conditions of day to day life.

### **Education and Learning**

- High levels of illiteracy among the population as a whole and among those currently in authority exacerbate the people's sense that they are powerless to act on their own.

- Learning, whether a trade or an agricultural occupation, usually occurs informally through direct observation and hands on experimentation until the desired level of proficiency is attained.
- Lack of formal learning and a perceived lack of "*knowledge*" on the part of the people support their feelings of a lack of self-confidence and a lack of personal agency.

### **Governance**

- Government, at the local level and higher, is expected to act on behalf of the people, for their benefit, by establishing and carrying out development initiatives.
- *Panchayat* administrative structures do not generally function as they are supposed to, with the most commonly reported abuses of power being the failure of the Public Distribution System designed to help people meet their subsistence needs and the inadequate operationalisation of government schemes.

### **Community Development**

- Socio-economic development is seen as the paramount concern of the local people and is not generally considered to be a part of an integrated approach to natural resource management.
- Only with socio-economic improvement do people perceive that they will have the time and the money to work towards social welfare and environmental restoration issues and even then, welfare activities, particularly those related to health, hygiene, and infrastructure are prioritised over environmental considerations.

### **Community Dynamics**

- Deep and long standing divisions between caste groups, class groups religious groups and families all contribute to the lack of a cohesive community identity, both at the hamlet and at the *panchayat* levels.



- Community decision-making is usually undertaken by the dominant caste / cultural group of the area and there is considerable pressure on other groups not to voice their concerns and ideas.
- Inter-caste loyalties among local people support widespread patronage and corruption either because of the direct benefits gained or because of an unwillingness to speak out against one's own group.
- Scheduled caste people, in particular women, bear the brunt of discriminatory practices, leaving them in a much more precarious financial and social position than other groups in the area.

### **Destiny**

- Fate and determinism play a strong part in people's conceptions of themselves and their lot in life, with a high value being placed on the ability of the individual to adjust to the difficulties they face, rather than challenging or taking action to make changes in their situations.

These composite results of the research process cover the three main objectives of the study, to examine gender issues, traditional knowledge related to the environment, and to determine the constraints and opportunities women and men face in effectively contributing to the community development process.