GREENING AT THE GRASSROOTS: CONFRONTATION OF ORGANIZATIONAL CULTURES AND KNOWLEDGE SYSTEMS. RECLAIMING SUBSISTENCE FORESTRY THROUGH VOLUNTARY ACTION IN ANDHRA PRADESH, INDIA.

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Abstract

India's afforestation efforts have consistently privileged urban requirements for construction, fuel and paper and ignored the rural needs for fuel, food, fibre and fodder. This can be directly attributed to the extractive colonial model of forestry which has replaced the indigenous subsistence model. In practice, afforestation efforts in India have been confrontations in organizational cultures and knowledge systems between a western model and indigenous models of development. India's voluntary sector is strategically placed to play a catalytic role in rural efforts to reclaim alternative models of forestry particularly when the focus of such voluntary action is on organizational culture and traditional knowledge as sites of struggle and resistance.

Using a case studies approach this thesis examines the activities of three voluntary organizations in the state of Andhra Pradesh to reclaim traditional concepts of subsistence forestry. The framework of this thesis is based on data collected in South India during the period 1989-1992 as Coordinator for a program which linked the work of these, and many more such voluntary agencies. The data consist of field documents, observations of village meetings, as well as group and semi-structured interviews with staff and villagers. Clarifications and further interviews were conducted in a subsequent research visit in 1994.

My analysis shows that the organizational cultures of these voluntary agencies contribute to the establishment of participatory, interactive and empowering relationships with villagers and provide a context in which concepts of subsistence forestry emerge out of

local knowledge. What are the elements in their organizational cultures which play a significant role in this? How do these relationships affect the process of dialogue, problem analysis and planning for change? How are concepts of subsistence forestry informed by local knowledge? Why are these factors integral to the development of an alternative model of forestry which emphasizes trees as savings and security in the rural economy?

This thesis concludes that forestry practices which reflect rural people's knowledge must manifest an integrated view of forestry as a part of the rural ecology, maintain a relational view of nature and be embedded in the social, economic and political values of the rural people. In the context of the diversity and complexity of the Indian subcontinent such micro-level studies are important documentation of grassroots action in subsistence forestry.

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Chapter One

SETTING THE SCENE

Introduction

This thesis is an analysis of voluntary action towards greening at the grassroots, which operates parallel to and often outside of development projects based on the dominant paradigm of modernization and run by the state bureaucracy and supported financially by international funding institutions. The work of three voluntary organizations in the Indian state of Andhra Pradesh has been examined closely with special focus on their organizational cultures and knowledge systems as these contribute to reclaiming a concept of subsistence forestry. This examination of voluntary work is set in the context of a brief critique of the Social Forestry Program of the Andhra Pradesh Forest Department (APFD) in which confrontations of organizational cultures and knowledge systems have led to a breakdown in people's participation and a lack of benefits for the poor.

Resolving Methodological Difficulties

The major part of the data and part of the analysis resulted from the three years (1989-1992) I spent in India where, as the Program Coordinator for a Canadian non-governmental organization (Hope International Development Agency), I worked with twenty-five Indian voluntary groups in Andhra Pradesh to coordinate their forestry activites, design a training program and act as their liaison with government departments. These activities were partially funded through CIDA and intended to support voluntary action in forestry efforts. The three case studies of voluntary action have been

constructed out of participant observation, group interviews, field documents and attendance at inumerable village meetings. This was supplemented by hundreds of informal interviews with villagers, staff and government officials. Over my three years in India, I visited these organizations on an average of once every three months for the duration of three to five days each time. In addition, there were discussions held with them at training sessions three or four times a year and coordination meetings held twice a year. The observations I made of their organizational practices were further corroborated with information provided by field staff, who visited these organizations on a monthly basis. During this time, I also held discussions with government officials, C.I.D.A. officials and personnel of international donor agencies. This field experience was followed by a year (1992-1993) of academic study and reflection during which time the theoretical framework for analyzing the data was formulated. The resulting interpretations were shared with the villagers, the three voluntary organizations, and focus groups of key individuals from related institutions during a subsequent research visit in early 1994.

There were a number of methodological questions associated with such a project which did not follow the traditional framework for research. One question was the issue of possible distortion due to the lapse of time and memory. Unlike the formal research process where lengthy notes could be taken immediately, my interviews and observations were recorded as part of a management tool. The field notes consisted partly of summaries of the day's conversations and partly of important comments recalled from weeks or months ago. While acknowledging the problem of accuracy in this approach,

this time lag allowed for reflection on the implications of what was heard and observed. It also helped to put the observations into a larger context of voluntary work in Andhra. In dealing with problems of selectivity and distortion in asking interviewees to recall past experiences in Indian residential schools in B.C., Celia Haig-Brown offered this consideration:

> "Rather than seeing time as distorting, we might consider it as a filter which allows clearer vision of the matters of importance..." (Haig-Brown, 1988, 142)

The passage of time also enabled her informants to recount painful experiences with a certain amount of composure. Although, the latter reality did not apply to my research experience, her Resistance and Renewal and Kirby & Mckenna's Experience, Research and Social Change helped me to think through some of the issues arising out of formulating research from one's own participant experiences.

Another methodological question could be raised about the sequence of the research procedure. The first stage of data collection occurred prior to the formulation of research questions. Research questions were developed subsequently from analyzing this data and studying relevant theories. The second stage of data collection focused on sharing my interpretation of the earlier data with participants, recording and analyzing their responses. In spite of differences in chronological order, the research for this thesis fell, broadly speaking, within the methodological framework of case study research [1]. Robert K. Yin,

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[1] The case study method referred to here is a research tool and distinct from the case study method used in teaching, and also distinct from ethnographies and participant observation. (Yin, 1989: 11)

in his social science methodological text Case Study Research: Design and Methods, defines case study research as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context" [2] (Yin, 1989: 23). According to Yin, there are three types of case studies - exploratory, explanatory and descriptive. He supports the use of case studies in specific research situations because:

> In general, case studies are the preferred strategy when 'how' or 'why' questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. (Yin, 1989: 13)

This description appeared appropriate for the subject of this thesis in that it was a study of the real-life contexts of the relationships between voluntary organizations and rural people, posing questions about the processes of planning and decision making concerning subsistence forestry activities. The purposes of studying the three voluntary organizations were consistent with explanatory case studies since they also sought to explain how and why these processes worked in the context of the apparent failure of government social forestry programs. The inclusion of multiple cases also strengthened the comments and conclusions drawn from such a study. Yin's work was particularly helpful in suggesting ways to build case studies out of a collection of data.

Research Methods from the Margins

Some of the field data has been gathered using a PRA(Participatory Rural Appraisal)

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[2] Yin went on to distinquish it from experiments, which separate phenomenon from context in a controlled setting; history which deals with past events; and surveys, which have limited scope in investigating context.

approach, which has emerged in Asia and Africa in the late 1980s and early 1990s. Since it is a relatively new approach, pioneered by field workers, it has yet to gain much recognition in current academic literature. Thus it may be appropriate to give a more detailed description at this time. Robert Chamber's 1992 work is one of the most comprehensive sources on PRA to date. PRA is defined as "a family of approaches and methods to enable rural people to share, enhance, and analyze their knowledge of life and conditions, (in order) to plan and to act" (Chambers, 1992, 1). The emphasis on 'approaches' is intended to convey its flexible and innovative nature in contrast to the rigidity sometimes associated with methods and tools. PRA is evolved from a 'family' of sources and traditions. These include Participatory Research (PR) and applied anthropology from the social sciences, as well as agroecosystem analysis and Rapid Rural Appraisal (RRA) from the physical sciences (Chambers, 1992, p.2-8).

PRA can be considered to be conceptually informed by Participatory Research and methodologically informed by Rapid Rural Appraisal (Chambers, 1992, 3). PRA is conceptually informed by PR in that it explicitly states a belief in the ability of rural people to investigate, analyze and plan changes to their situations (Chambers, 1992, 3). Although the dualism between subject/object cannot be entirely eliminated, it is redefined in terms of outsider/insider. Insiders are those whose lives will be impacted by any actions resulting from the process, and outsiders are those for whom this is more of a learning environment and improvement of professional skills. In PRA, the hierarchical relationship is minimized with both being considered learners learning together. The

objective of PRA is to share decision making, from setting agendas to investigation, analysis and planning, a process historically dominated by outsiders in their role as resource providers.

Methodologically, PRA relies heavily on earlier RRA (Rapid Rural Appraisal) techniques of semi-structured interviews, diagramming, direct observation, mapping, modelling and matrix scoring. PRA extends the methodology of RRA by bringing in several innovations. The first is 'village stay' where all the participants in a PRA stay in the village for the duration of the four/five-day session instead of having the outsiders go off at the end of each day. There are many benefits in this practice, among which are building rapport, decreasing separation of insider/outsider, and giving more opportunities for direct observation. This has been particularly characteristic of the PRA sessions in South India. The second innovation is open sharing of all the interviews, charts, diagrams each evening at a village meeting. This achieves a dual purpose of allowing correction of mistakes (or triangulation) by a wider representation of villagers and informing those who have not taken part in the interviews earlier. The third innovation is the increased emphasis on visual representations. Maps and models built on the ground become focal points for discussion, correction and planning. These are useful for a number of reasons, the most important of which is that it reduces the disparity between the literate and non-literate since little or no writing is involved. Both the literate and non-literate could draw equally well or equally poorly. Villagers are generally shy of using pen and paper. A map drawn on the ground, however, lends itself to changes and correction without the fear

of wasting expensive paper. Other innovations which enhance the visual representations are the use of pictures instead of writing, and the use of local material (stones, sticks, seeds) in ranking and measuring. PRA does not claim, through these techniques, to have equalized the power relations between male and female, educated and non-literate, village elite and lower castes. This approach merely promises to acknowledge that power relations exist in the production of knowledge and to emphasize the complexities inherent in any exchange of knowledge between different ways of knowing.

The application of PRA has been useful in a variety of exploratory, analysis and planning processes in at least four major subject areas. The first is natural resource management which includes watersheds, forestry, fisheries, wildlife reserve buffer zones, rural energy needs, village land use plans The second area is in agriculture and covers cropping practices and patterns, animal husbandry, irrigation and marketing. Credit is the third area with PRA being used in women's savings groups, identifying credit needs, rural development loans and cottage industries. The final area is health and nutrition where PRA has been used to understand seasonality of diseases, local medicines, food consumption patterns and sanitation (Chambers, 1992, 28-30).

Implicitly, PRA frames development as a confrontation of knowledge systems. Embedded in the PRA approach is the idea that somehow, indigenous knowledge and modern scientific knowledge are contesting for territory in the minds and realities of rural people. The competence of science to predict and prescribe are questioned. Value is placed on

knowledge which is local and tested by adaptation to specific situations (Chambers, 1992, 65-66). Given the focus of this thesis on opposing knowledge systems, the PRA approach seems to be particularly appropriate as one of the field research methodologies.

Documentation of A Process

Finally, there is the problem of documenting a process, which Collins Concise Dictionary defines as "a series of actions which produce a change." By definition they are ongoing, ever evolving entities that are some distance from reaching their goals. Therefore, a study of processes is similar to a still photograph. At best, it can only hope to capture the essence during a single historical moment. As soon as the shutter has closed, what has been recorded will change. In the case of grassroots voluntary action, this process was ever changing. I could describe, with a certain degree of certainty, the work and organizational cultures of the three organizations as I observed and interpreted them during the years 1989-1992. I could even make an estimation of how these three years fit into the overall history of their work by cross-checking with knowlegeable individuals. What I could not do was to predict how these processes might have been transformed through the passage of time.

Therefore, it is important not to overstate the claims of these case studies. This thesis cannot claim that these organizations are without problems or that they will always function in the way described in the case studies. What this thesis attempts to do is to offer one version of possible interpretations of events. Eisenberg & Goodall put it well in

saying that:

> Clearly, organizational stories represent the interests and values of the tellers...There is seldom, if ever, one story (interpretation) of a company's culture; there are many stories. When the organization is viewed as a culture, these competing stories represent different voices. As such, they represent potential dialogues among individuals and groups within the organization. Therefore, it is best to conceptualize an organization's culture as a potential dialogue of subcultures, as a many-sided story (Eisenberg & Goodal, 1993, 140).

These case studies then, can be viewed as my interpretation of the version as told by the villagers and voluntary organization staff. That they were eager for their side of the story to be told was evident in their willingness to be interviewed, not only during the three years (1989-1992) when I had an official relationship with them, but also when I returned in 1994 for additional research. I had fully expected a difference in their perception of me and in our relationship. But, I found them to be just as eager to discuss the same issues with me, and possibly even more open, because I have now come as a friend. In both situations, they were fully aware that I hold positions of power over them: in the first instance as a resource provider and in the second as someone who could write about and disclose their concerns positively and negatively. Although it was a difficult and at times unsuccessful process, I tried to share my research findings with them. This effort was appreciated and seemed to confirm in them a conviction that I should tell their version, one which has not been taken seriously by policy makers.

Chapter Two

MAPPING THE TERMINOLOGY

Confrontation

The choice of the word 'confrontation' in the thesis title is intended to highlight certain aspects of the struggle between knowledge systems. Its meaning is consciously separated from other possible choices like 'contradiction' and 'conflict'. The word 'contradiction' traces its roots back to the Latin, 'dicta' which means words, sayings. Coupled with 'contra' (meaning against), it emphasizes the act of speaking out against something and to oppose in argument.[3] The struggle between knowledge systems described in this thesis is often implicit rather than explicit. It is, in fact, for the most part, not expressed verbally. The word 'conflict' shares a common root with other English words like afflict, inflict and emphasizes the act of striking out at someone. It is often used in the context of fighting and war, being synonymous with clash, competition, incompatible forces. The opposition of knowledge systems in the context of Andhra forestry does not involve any physical striking out, at least at this stage.

The word 'confrontation', however, has the meaning of facing one's enemy. It traces its roots to the Latin 'frons' from which we also derive the words front, and forehead. It emphasizes the clashing of ideas and forces, meaning to challenge and to stand up to enemies or accusers in opposition. The struggle in this case is not over tangible property but over ways of

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[3] The etymologies of these words are constructed by consulting Webster's Third New International Dictionary and the Oxford Dictionary of English Etymology, 1966.

knowing. Steve Marglin describes it as consciousness. The maintenance of the superiority of scientific knowledge system is an effort to colonize the minds of those who hold alternative knowledge systems (Marglin 1990). He describes the central problem in these 'encounters' as:

> the imperialistic pretension to universality made on behalf of Western (knowledge) and the total inability of its adherents to regard competing systems with anything but contempt, the inability indeed even to contemplate the existence of competing systems. Other systems of knowledge particularly when they are embedded in myth and ritual, become superstition, the very antithesis of knowledge. The encounter is often fatal for indigenous systems because the supreme confidence of Westerners or Westernized elites in their knowledge is coupled with the superior means of political and economic force at their disposal. (Marglin, 1990, p.25).

This is a form of epistemological violence achieved by putting one alongside the other in the process of comparison.

Knowledge Systems

Knowledge systems are ways of defining reality. Banuri and Apffel Marglin define knowledge systems as "ways of understanding, perceiving, experiencing, in sum, of defining reality, which includes the notions of one's relationship not only to the social milieu but also to the natural environment" (Banuri and Apffel Marglin, 1993, 9). This term has been intentionally used in the plural to emphasize that there are many different ways of knowing. The differences lie not in the divisions between disciplines, such as between economics or sociology, but in acceptance of different ways of knowing and the plurality of knowledge systems. There are many ways of knowing in each society. The knowledge referred to in this case embraces both implicit and explicit knowledge, perceptions of reality which are

expressed or which are implied in the actions taken (Banuri and Apffel Marglin, 1993, 10). Use of the word 'system' further underlines the fact that this knowledge and actions informed by it are not random but rational and systematic (Banuri and Apffel Marglin, 1993, p.10).

Indigenous/Traditional/Local Knowledge Systems

The use of the term 'indigenous knowledge system' first surfaces in the development dialogue after more than two decades of international development practice. This in itself is noteworthy because it characterizes the unequal power relation between modern knowledge systems and indigenous knowledge. The term was first used by David Brokensha, Oswald Werner and D. Michael Warren in their 1980 publication Indigenous Knowledge Systems and Development (Maryland, University Press of America Inc.) Robert Chambers calls it 'indigenous technical knowledge' (Chambers, 1979). In his later work, Rural Development: Putting the Last First, Chambers revises his terminology to include knowledge which is other than technical by using the term 'rural people's knowledge' (Chambers, 1983, p.83). This is intended to be an inclusive term referring to concepts, beliefs and perceptions of rural people of different gender, class and ethnicity, which are generated, accumulated and transmitted orally with no written record. This can include knowledge about local wisdom, history, economics, politics and the environment. Rural people's knowledge then becomes 'insider's knowledge' because it is the knowledge on which people base their management systems to survive in their local physical and social environment. Often it is also not easily accessible to outsiders because it is orally transmitted from generation to generation (Chambers, 1983, 84).

Indigenous knowledge has also been called 'community environmental knowledge' by Paul Richards (Brokensha, 1980, p.181). This terminology refers to knowledge about the environment generated and accumulated by the local community. Other suggestions include plain 'community knowledge' or 'local knowledge' (Lori Ann Thrupp, 1985, p.140) which highlights 'local knowledge' as the result of years of experience on the part of both men and women within their local environments.

All these attempts to define knowledge outside Western/modern/scientific systems share a common recognition that there are other ways of knowing which have an important contribution to make. This recognition, however, has political implications, of which the issues of ownership and power are at the forefront. The question of who exercises control over these knowledge systems is paramount. Outside recognition of alternate ways of knowing can either empower the knowers or expose them to further exploitation by those who market their knowledge for financial gain. Thrupp expresses this well when she poses the question:

> "Is it necessary for scientists and development agencies to view local knowledge systems as underused resource - gems or mines of information - to be exploited, packaged and sold in development projects?" (Thrupp, 1989, 149)

Extractive studies of these knowledge systems only serve as a new colonialism, commodifying them for consumption. Knowledge systems are also tied to power relations. (Marglin, 1990, 16) Modern scientific knowledge is an integral part of the economic, political dominance of the Western world and indigenous/traditional/local knowledge systems are an integral part of the marginalized Third World rural population. In this context, alternate knowledge systems can be accommodated as long as they acknowledge the

hegemony of modern science and technology. The question of "Whose knowledge?" remains unanswered.

The Context of the Confrontation

This confrontation of knowledge systems takes place within the context of 'development' which has been equated with modernization by both protagonists and critics (Banuri, 1990; Black, 1991; Escobar, 1992; Kothari, 1990; Marglin, 1990; Rogers, 1976; Sachs, 1992; Schramm & Lerner, 1976; Sheth, 1987). Kothari calls this the 'doctrine of modernity' in which all societies are called to discard the traditional and become modern, a state of economic prosperity (Kothari, 1990, 48). Steve Marglin sees 'development' as the processes of economic, political, social and cultural change which are deemed necessary for modernization of Third World societies. These changes are characterized by:

> "on the economic side, industrialization, urbanization and the technical transformation of agriculture; on the political side, rationalization of authority and the growth of rationalizing bureaucracy; on the social side, the weakening of ascriptive ties and the rise of achievement as the basis for personal advancement; culturally, the 'disenchantment' of the world (to use Max Weber terminology), the growth of science and secularization based on increased literacy and numeracy." (Marglin, 1990, p.2)

Early development work was founded on confidence in the abilitiy of scientists, both social and physical, to "help the people of Third World countries banish their inherited problems and construct a new social reality from scratch." (Banuri, 1990, p.29-30) It is believed by the proponents of modernization that a certain set of social norms are also necessary preconditions for modernization. These include changing the traditional value systems and people's beliefs about their environment. Sometimes, these changes occur with the use of

force, which can be explicitly or implicitly justified (Marglin, 1990, p.8). Apffel Marglin's analysis of a development success story, the eradication of smallpox by vaccination, is constructed as an example of such coercion. The indigenous alternative of variolation, embedded in worship and religious practice, was outlawed by the British, thus forcing Indians to 'choose' vaccination as the exogenous, scientific and superior solution (Marglin, 1990, Chapter 4).

In the mid 1970s, critics began to argue that the development enterprise had failed (Sachs, 1992, 6). Banuri describes the uneven record of development efforts. Firstly, poverty has persisted in the poorest countries in Africa and Asia (Banuri, 1990, p.30). Many argue that these countries have become poorer because of development. Secondly, development has become increasingly associated with environmental degradation as witnessed in the depletion of tropical forests, desertification and dislocation caused by construction of dams (Banuri, 1990, p.30). Thirdly, conflicts and political repression often resulted from development projects. Finally, the two major founding disciplines of modernization (political science and economics) are embarking on a search for new paradigms (Banuri, 1990, p.31).

There are many critiques of the development/modernization process from a variety of perspectives. Important contributions have been made by the World System Theory approach (Gunder Frank 1967, Samir Amin 1974 and Immanuel Wallerstein 1974) and the Dependency Theory approach. Others include internal critiques (Meadows et al. 1972, E.F. Schumacher 1973), Participatory Action Research or the PAR approach (Orlando Fals Borda 1985,

Gustavo Esteva 1984) and the works of Third World intellectuals (Rajni Kothari, Ashis Nandy, Majid Rahnema and Vandana Shiva).[4]

A more recent perspective constructs development/modernization as domination in which Western, modern scientific knowledge is introduced and represses local, traditional, non-scientific choices (Marglin, 1990, p.10). Marglin sees this as a continuation of colonial power relations whereby the political dominance of the West reinforces the domination of Western values and attitudes. Deference to western knowledge systems is another form of colonization. This is the 'dominating knowledge' which is the focus of study in Marglin's 1990 essay. Marglin recommends critical evaluations of both systems and the encounters between them as a means of 'decolonizing the mind' (Marglin, 1990, p.26). The issue is not to preserve traditional cultures as static, unchanging systems, but to create space for the "relatively autonomous transformation of indigenous cultures" (Marglin, 1990, p.16).

Banuri critiques the development/modernization project as one in which the goal is to 'rationalize' the world. (Banuri, 1990, p.82) This is similar to Marglin's concept of the 'impersonality postulate' wherein the impersonal map is assumed to be superior to the personal one (Banuri, 1990, p.83). In fact, personal relations are viewed as an impediment to efficiency, growth and innovation (Banuri, 1990, p.87). These critiques trace their roots to the Weberian terminology of 'rationalization' and 'disenchantment' (Weber, 1958, 51, 148).

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[4] For a more detailed treatment of the different perspectives, see the works of Rajni Kothari Rethinking Development, India, Ajanta Publications, 1990, and Blomstrom and Hettne Development Theory in Transition, ZED Books, 1984.

Weber sees 'rationalization' as man's linear progress towards a kind of technological rationalization. 'Disenchantment', conversely, is the displacement of magical thinking by systematic, rational thinking. Disenchantment can be viewed as a negative measurement of the extent of rationalization of a society. The results of this hierarchical relationship between impersonal and personal knowledge can be seen in the growth of technocratic power, for example, in which the trend is towards specialized and compartmentalized knowledge controlled by 'experts'. The more impersonal the knowledge, the more highly developed and universal it is assumed to be.

Framing the Confrontation

The objective of the analysis in this thesis is not to promote one knowledge system over another but to focus on the politics of knowledge within forestry programs. It is simplistic to suggest that all traditional knowledge is good and all modern scientific knowledge bad. There are many traditional practices which are unjust and harmful. However, this does not justify the rejection of these ways of knowing as superstitious and 'backward'. Furthermore, the confrontation is not only between local and modern scientific knowledge systems but also between ways of knowing resulting from differences in gender, class and ethnicity. Any given culture is comprised of many knowledge systems.

There are two separate, but sometimes overlapping discussions about this question of opposing knowledge systems. One is the discussion about the neutrality and objectivity of scientific knowledge. Thomas Kuhn, in his 1970 publication The Structure of Scientific

Revolutions, is most commonly associated with questioning the ability of scientists to be objective and free from personal biases. Others like Herbert Bernstein and Marcus Raskin, have also raised similar issues relating to the underlying values and assumptions of modern science. The other discussion is about 'modern' versus 'traditional' societies by scholars like Daniel Lerner and Robin Horton. In juxtaposing these two 'modes of thought', the focus has been on the characteristic of rationality, where 'modern' societies are considered rational, and 'traditional' societies are considered irrational. In more recent years, scholars like Sandra Harding and Vandana Shiva have especially critiqued scientific knowledge from a feminist perspective. Third World thinkers like Ashis Nandy have viewed the imposition of western science and economics on Third World societies as part of the domination of colonialism. The hierarchical implications are unavoidable where modern knowledge is considered superior and non-modern knowledge is considered backwards and inadequate.

For the framework of my analysis of these opposing knowledge systems, I draw heavily on two works: Dominating Knowledge: Development, Culture and Resistance edited by Frederique Apffel Marglin and Steve Marglin (1990, Clarendon Press), and Who Will Save the Forests? Knowledge, Power and Environmental Destruction, edited by Tariq Banuri and Frederique Apffel Marglin (1993, ZED Books). This is because Banuri and Apffel Marglin have developed the analysis of knowledge as a form of domination in the 1990 publication, and applied it specifically to the area of forestry in the 1993 work. These works contain contributions from important thinkers in this field like Ashis Nandy, Shiv Visvanathan, Arjun Appadurai and Ramachandra Guha.

Both Steve Marglin and Tariq Banuri frame the confrontation in different terms in their earlier work. Banuri frames it as the opposition between personal and impersonal maps (Banuri, 1990, 78). Banuri likens culture to a map in our heads, a 'design for living' through which we filter our experiences and which influences our actions (Banuri, 1990, p.78). A personal map is characterized by **relationalism**, wherein an individual sees himself/herself through relationship with others and meaning is constructed out of a web of social relationships (Banuri, 1990, p.80). A personal map is flexible and evolving;it emphasizes 'spontaneity, fluidity and bilateral vulnerability'. It views the world as unique and irreplaceable by human efforts and technology alone. On the other hand, an impersonal map is characterized by **instrumentalism**, wherein an individual sees himself/herself as separate from the social and physical environment. 'Others' are meaningful only as a source of gratification for oneself (Banuri, 1990, p.80). An impersonal map is discrete and rigid;it emphasizes 'organization, rationality, linearity and control' (Banuri, 1990, p.79). It views the world as replaceable, something which can be destroyed and reproduced by human efforts. Both personal and impersonal maps exist in any given culture and different knowledge systems balance the tension between the two which leads to different ways of seeing (Banuri, 1990, p.78). It has particular implications for the man/nature relationship which is central to a discussion of forestry. I will return to this point at a later stage.

Steve Marglin frames the confrontation between knowledge systems as between **episteme** and **techne**, words of Greek origin, used by Aristotle in Nichomachean Ethics to describe a similar dichotomy (Marglin, 1990, 253). According to Marglin, episteme is impersonal, based

on logical deduction and empirical data, emphasizing analysis and verification. Episteme is articulated in theories and universally applicable. An example of episteme is the principle of 'scientific management' common in the West (Marglin, 1990, 24). Techne, on the other hand, is personal, based on intuition, emphasizing discovery. It is practical, often implicit rather than articulated and limited by context (Marglin, 1990 24). Craftsmen's knowledge and technique, or labourers' tacit knowledge are characterized by techne. Marglin is less concerned about the differences between the two than the systematic subordination of one to the other. He views the Western capitalist system as based on the subordination of techne to episteme (Marglin, 1990, 254).

In the 1993 publication, Banuri and Apffel Marglin integrate some of this earlier thinking in a discussion of the distinguishing characteristics of the two opposing knowledge systems in the context of forestry. Banuri and Apffel Marglin sketch the 'ideal types' of the modern and non-modern knowledge systems in the first chapter of Who Will Save the Forests? These are described as 'ideal' types because not all the characteristics are found in one society and totally absent from another. In fact, Banuri and Apffel Marglin argue that all societies use both forms of knowledge (Banuri and Apffel Marglin, 1993, 1). The difference is that generally in modern societies, non-modern knowledge is considered inferior (Banuri and Apffel Marglin, 1993, 10).

Modern knowledge systems manifest the characteristics of "disembeddedness, universalism, individualism, objectivity and instrumentalism." Non-modern knowledge systems exhibit

characteristics of "embeddedness, locality, community, a lack of separation between subject and object, as well as a non-instrumental approach" (Banuri & Apffel Marglin, 1993, p.1).

The first important distinguishing characteristic between modern and non-modern knowledge systems is the degree of '**embeddedness**.' Banuri and Apffel Marglin explain that within this perspective of embeddedness "actions or thoughts (which) are perceived to have social, political, moral and cosmological implications" (Banuri and Apffel Marglin, 1993, 11). Non-modern knowledge systems are embedded in the social and cultural realities of their particular community, while modern knowledge systems do not recognize these realities as relevant to the construction and use of knowledge. Modern knowledge systems are conceptualized as **'disembedded.'** This has certain implications. The assumed disembeddedness of modern knowledge systems means knowledge is regarded as separate from the society from which it springs and to which it is applied. Technical knowledge is assumed to be capable of answering questions of cause and effect and can be introduced without consideration of social, moral and cultural impacts (Banuri and Apffel Marglin, 1993, 13). Generally, such technical decisions privilege productivity and the economics of growth, while disregarding cultural and moral concerns. On the other hand, non-modern knowledge systems regard all aspects of life as interconnected. Agriculture, forestry and village community structures are important parts of the same system in rural economy. Banuri and Apffel Marglin cite the example of how the productivity and regeneration of forests and agriculture is linked to the rhythm of festivals and social interaction as well as the cycles of female fertility (Banuri and Apffel Marglin, 1993, 12).

The second important distinguishing characteristic between modern and non-modern knowledge systems is **contextuality**. Banuri and Apffel Marglin define this as the boundaries of 'space, time and contextual and moral factors' (Banuri and Apffel Marglin, 1993, 13). They go on to say that non-modern knowledge systems are anchored to a particular epistemological framework, constructed and used by a certain social group living in a particular setting at a particular time. Modern knowledge systems claim to be universally applicable. Is is assumed that technical knowledge can be separated from its context and applied across social, cultural, time and space boundaries. Continuity with local communities is not considered crucial to the construction and use of knowledge. A key consequence of this universalism is the bureaucratization of knowledge (Banuri and Apffel Marglin, 1993, 13). Knowledge, particularly technical knowledge, is constructed and used by experts for their own professional ends (Banuri and Apffel Marglin, 1993, 14).

The third distinguishing characteristic between modern and non-modern knowledge systems is summarized in their views of the humanity-nature relationship. Modern knowledge systems hold basically an **instrumental** view of nature and non-modern knowledge systems hold primarily a **non-instrumental** view. Banuri and Apffel Marglin describe factors which influence the formulation of these differing views. Modern knowledge systems emphasize the **individual** as a functioning unit. Just as knowledge is 'disembedded' from social and cultural context, the individual is 'disembedded' from the community (Banuri and Apffel Marglin, 1993, 15). A result of this emphasis on individualism is an increase in mobility and a decrease in **commitment** to one's immediate environment (Banuri and Apffel Marglin, 1993,

16). In this environment, a **subject/object dichotomy** is created wherein the subject (humankind), views the object (nature) as passive and to be mastered (Banuri and Apffel Marglin, 1993, 18). There is not only separation but hierarchy inherent in this relationship (Banuri and Apffel Marglin, 1993, 16). The final result is an instrumental view of nature focused on market value and exploitation of natural resources.

In contrast, non-modern knowledge systems emphasize **community** as a key factor. Individuals are shaped by the collective life of their community. There is greater **commitment** to one's environment because there is no other place to be called home. In one of the case studies in Who Will Save the Forests? an elder of the Krenak tribe explains that:

> "The only possible place for the Krenak people to live and to re-establish our existence, to speak to our Gods, to speak to our nature, to weave our lives, is where God created us. It is useless for the government to put us in a very beautiful place...." (Banuri and Apffel Marglin, 1993, 17).

As a result of this commitment to one's environment, there is a lack of separation between subject and object in the view of nature (Banuri and Apffel Marglin, 1993, 15). Nature and culture are inseparable and form the conditions for survival. The non-instrumental view of nature sees nature as active and the desirable humanity-nature relationship as one of harmony and mutual dependence (Banuri and Apffel Marglin, 1993, 21). This view of nature can be called **relational**, a term used by Banuri in his earlier work on personal and impersonal cultural maps.

Banuri and Apffel Marglin view the politics of knowledge as central to environmental crisis and deforestation (Banuri and Apffel Marglin, 1993, 2). The failures of present forestry efforts are failures to examine critically the dominant modern knowledge system. They

suggest that societies which recognize the legitimacy of alternative knowledge systems are more successful in nurturing the regenerative capacities of nature. As examples, they cite cultural groups in the Amazon forest, the Kalahari Desert, the Australian outback and the Indian jungle. In the face of immense hostility, these groups have attempted to maintain a subsistence livelihood based on traditional knowledge systems and local practices (Banuri and Apffel, 1993, 3). Banuri and Apffel Marghlin recommend a restoration of 'local arrangements based on alternative conceptions of reality' (Banuri and Apffel, 1993, 2) as a means to stem the tide of environmental degradation and marginalisation of local populations. The solution is not merely to replicate the specific local practices but also to study and adopt the **rationale** behind these alternate knowledge systems (Banuri and Apffel Marglin, 1993, 4).

It is important, at this point, to acknowledge the problematic use of the terms 'modern' and 'non-modern'. This could, in fact, be criticized as a further entrenchment of the dualism which is characteristic of modern/scientific thinking. The use of 'modern', instead of 'scientific' or 'Western', certainly is more inclusive and covers ways of knowing outside the realm of scientific knowledge and geographic boundaries. In many cases, the ways of knowing of Third World urban elites have more in common with Western knowledge than with the local knowledge of their own country's rural populations. Banuri and Apffel Marglin wish to emphasize the distinquishing characteristics of the two kinds of knowledge and not the implication of superiority of modern over non-modern knowledge. Yet the hegemony of modern knowledge is still reproduced by labelling all other ways of knowing as

'non-modern'. The earlier discussion about indigenous knowledge systems has documented the use of various terms to refer to this type of alternative ways of knowing. These include indigenous, traditional, local and rural people's knowledge, none of which convey the sense of innovation and dynamism of knowledge arrived at through years of experimentation and adaptation. For lack of one satisfactory term to refer to this type of knowledge, I will use all the above mentioned terms interchangeably in this thesis in an attempt to convey the breadth and depth of these knowledge systems.

Confrontation of Knowledge Systems and Gender

It is impossible to ignore the question of gender in a discussion of the confrontation of knowledge systems in environmental and forestry issues. The analysis in this thesis acknowledges that the confrontation is not simply between scientific forestry knowledge and subsistence forestry knowledge. In fact, it is between modern and non-modern knowledge systems represented on both sides by a diversity of class, gender and ethnicity. There are differences in the ways of knowing within and between classes, (and in the case of India, different castes), men and women and ethnic groups.

Carolyn Merchant was one of the pioneers in using a feminist analysis of environmental issues in her work Death of Nature (1980). She views the capitalist domination of nature as being integrally linked to modern science and the oppression of women in a patriarchal society (Nesmith and Radcliffe, 1993, 381). Bina Agarwal has successfully argued that an understanding of environmental exploitation cannot be achieved apart from a study of gender

hierarchy in society (Agarwal, 1992). Critiques of the Indian government's social forestry efforts have shown that the imbalance of gender power relations are reflected in the uneven access to resources and benefits (Shiva 1989, Nesmith 1990). Environmental feminists[5] like Vandana Shiva have portrayed modern science as reductionist and masculine in its violent domination of nature and traditional knowledge (Shiva, 1989, 15). In contrast, Shiva sees nature as the feminine principle (Shiva, 1989, 38) and women's ways of knowing as the producer of life. (Shiva, 1989, 42) Although I reject the essentialism of much ecofeminist thinking, I consider it important to analyze the village communities and forestry activities in the case studies in terms of gender hierarchy. I will also attempt to document the differences between women and mens' ways of knowing about trees.

Confrontation of Organizational Cultures

Marglin defines culture as "a set of rules, largely tacit and unconscious, that structure our social interaction and at another level the values that underlie those rules and give them - and our actions - meaning" (Marglin, 1990, 24). Steve Marglin takes this definition further and defines culture as ways of knowing; each culture has within it many different ways of knowing, or knowledge systems (Marglin, 1990, 24). Organizational cultures, then, refer to the sets of tacit rules which shape the way organizations function. These underlying values can be accessed through the study of how people act in organizational practices (Eisenberg & Goodall, 1993, 152).

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[5] Other terms include ecofeminism, ecological feminism, feminist ecology and spiritual environmental feminism. This term is preferred by Agarwal, Nesmith and Radcliffe.

The term 'organizational culture' became a buzz word for American corporations in the 1980's as part of the recognition of organizations as human enterprises and not merely systems of production (Pace & Faules, 1989, 61). Early discussions of organizational cultures primarily sought to augment powers of prediction and control in order to increase efficiency (Pace and Faules, 1989, 67). More recent theorizing emphasizes the interpretative and subjective aspects of the concept and the purpose of its study becomes to understand and provide space for dialogue (Eisenberg and Goodall, 1993, 152). It is this latter use of 'organizational culture' which is applied in this thesis.

It is also recognized that there are different cultures in an organization, just as there are different knowledge systems within a society (Eisenberg & Goodall, 1993, 140). Eisenberg & Goodall describe two ways in which dialogue and empowerment are explored as alternatives in organizational cultures. The first is the contribution of PAR (participatory action research) in democratizing the workplace, equalizing power and maximizing human potential (Eisenberg & Goodall, 1993, 331). The second is the contribution of ecofeminism in "identifying and promoting emergent, alternative forms of organizing that are decentralized, small, and egalitarian, and focus on local concerns" (Eisenberg & Goodall, 1993, 332). How these ideas translate into practice is yet to be studied. It is important to note that theories about organizational cultures are more prevalent than actual studies, partially because studies of this kind take a long time to complete (Eisenberg & Goodall, 1993, 152).

In the context of my thesis, the concept of organizational culture is closely tied to knowledge systems and both seen as underlying values and assumptions about the world. While the term

'knowledge system' is more generally applied to ways of knowing about all aspects, organizational cultures emphasize ways of knowing about the social world of relationship building. In fact, it can be argued that the different ways of knowing are exemplified implicitly in assumptions about trees and more explicitly in the way government departments or voluntary groups relate to rural people who plant and use the trees. In my discussions about the organizational cultures of the Andhra Pradesh Forest Department and the three Indian voluntary groups, I will be focusing on the impact of bureaucracy (or lack of it) in influencing the outcome of forestry activities. Banuri and Apffel Marglin contend that one of the results of assuming universality in modern knowledge systems is the creation of bureaucracies to administer this knowledge (Banuri & Apffel Marglin, 1993, 13). Bureaucracies tend to be centralized, standardized, hierarchical and often work against the poor. (Chambers, 1986, 28) Bureaucracies also privilege the role of experts who can be obsessed with their narrow professional goals and are often alienated from the problems they are hired to solve (Banuri & Apffel Marglin, 1993, 14).

Two works by Indian authors have been useful in exploring the concept of bureaucracy. Both Organizational Theory and Behaviour by V.S.P. Rao (Delhi, 1987) and another book by the same title written by R.A. Sharma (Delhi, 1982) draw heavily on Robert Merton and Max Weber in their discussions of bureaucracy. They describe the Weberian concept of bureaucracy as characterized by specialized division of labour, impersonality, hierarchy of authority, and centrality of rules and regulations. The employees in bureaucracies are hired on the basis of their technical certification. They view their work as a career path whereby

they rise to the top ranks based on seniority. The maintenance of official records is the bench mark for all activities (Rao, 1987, 210-213). Bureaucracies evolve when social roles are highly differentiated in a setting wider than the traditional kinship and territorial settings where there is competition for resources in the environment (Sharma, 1982, 166). In my analysis of the Social Forestry Wing of the Andhra Pradesh Forest Department, I will be examining the extent to which it conforms to these characterizations of bureaucracies and the subsequent impact on the interaction with villagers.

The organizational cultures of voluntary groups, on the other hand, are more responsive to local priorities and needs. Instead of the centralization, standardization and hierarchical relationships characteristic of bureaucracies, voluntary organizations emphasize local institutions at the village level, differences from one context to another, and a participatory approach to decision making. It would be overly idealistic to suggest that these objectives are achieved by all voluntary organizations in all cases. The larger context of Indian society is patriarchal and hierarchical where authority is attributed to maleness, higher economic status and caste. But, within the confines of these limitations, the three voluntary organizations in this study succeeded in escaping the tendency to build bureaucratic relationships with the villagers.

This chapter outlines the authors and perspectives which inform the thesis. This will be used as a framework to examine the forestry initiatives of the Andhra Pradesh Social Forestry Program and three Indian voluntary organizations. Chapter Three will give a brief critique of

the Andhra Pradesh Social Forestry Program (1983-1991) examining confrontations between knowledge systems and organizational cultures. Chapters Four, Five and Six will be devoted to examples of alternative organizational cultures and subsistence forestry exemplified by the three voluntary groups. Attempts will be made to answer the following questions. What are the elements of their organizational cultures which play a significant role in building relationships with rural people? How do these relationships affect the process of dialogue, problem analysis and planning? How do these relationships contribute to reclaiming subsistence forestry? How are concepts of subsistence forestry informed by local knowledge?

Chapter Three

THE STATE'S RELATIONSHIP WITH FORESTS, PEOPLE AND TREES

History of Colonial Forestry in India

The confrontation of knowledge systems in forestry in the Indian context can be traced back as early as the onset of British colonial forestry in the nineteenth century. At the time the British came to India, Europe had undergone radical changes in the Industrial Revolution. One of the results was a change in the pattern of resource use from the previous subsistence mode to an industrial mode characterized by the domination of commercial use of forests, a declining population relying on subsistence agriculture, the atomizing of traditional rural communities and unrestrained resource exploitation using new technologies (Gadgil & Guha, 1993, 115-116). When this European perspective entered into the Indian knowledge system, commercial values and scientific methods were elevated above subsistence values and traditional knowledge about trees. This did not mean that deforestation and commercialization were unknown before the colonial period and it would be important to avoid an overly romanticized view of pre-colonial forestry. However, the earlier approach to forestry emphasized sustainable resource use with religious sanctions (for example, the protection of the sacred ficus trees) and social regulations (restricting extraction of fuel and fodder from village forests to established quotas) (Gadgil & Guha, 1993, 207). The extent of pre-colonial deforestation is difficult to assess, but it must be acknowledged that it existed as early as the Aryan and Mauryan periods (Nesmith, 1990, 45-51). However, this earlier deforestation did not reach anywhere near the same level as that which occurred during the colonial period.

Colonial treatment of Indian forests has been described as an onslaught of destruction to meet three different requirements of the state (Guha, 1992, 119). The first requirement was for Indian teak for shipbuilding for the Royal Navy in Britain. The second requirement came from the need for revenue from agricultural land, which could be assessed for taxation. This dovetailed beautifully with the ongoing deforestation since forest land could be cleared to provide timber for the navy and converted to revenue land for taxation (Gadgil & Guha, 1993, 119-120). The third requirement came after 1853 for Indian sal to build the railway, which would provide increased access to the hinterlands for resource exploitation. This demand increased the deforestation exponentially. To give a sense of the scope of the requirement: 250,000 railway sleepers (or the equivalent of 35,000 trees) were needed annually during the Madras Presidency; and the railway expansion rose from 1340 km. of tracks in 1860 to 51, 658 km. in 1910 (Gadgil & Guha, 1993, 120-121). Both European and Indian private contractors were responsible for cutting the necessary trees to meet this demand. Later, wood was also needed to provide fuel for the train engines.

The Forest Department - Birth of a bureaucracy

The demand for timber was so great and increased so rapidly that the first colonial forest department was established in 1864 with the help of German foresters to safeguard the continuing supply of forest products for the empire (Gadgil & Guha, 1993, 122). Earlier, the colonial state had attempted to manage the forest by appointing a Conservator of Forests to perform a similar task (Shiva, 1989, 62-63). The objective of the forest department was to use the principles of scientific management to maintain India's natural forests as a resource

for the colonial state. Prior to this, the policy had recognized the claims of village communities to forests and wastelands which fell within their boundaries (Gadgil & Guha, 1993, 123). The watershed of state control over forests was marked by the passing of the Indian Forest Act of 1865 and a further revision in 1878. This later Act successfully established a state monopoly over all the subcontinent's natural forests, now classified into three categories: reserved forests, protected forests and village forests. Reserved forests covered areas forested with commercially valuable species, accessible to towns and roads, which could be easily exploited. Protected forests covered areas on rough terrain, with no roads (like the ridge section of the Western Ghats in Karnataka). Village rights were accommodated but the state reserved exclusive ownership of certain valuable species and could close the forests to grazing and fuel collection as it deemed necessary. A third category of village forests were provided for in the Act but not designated by the state to any significant degree. Village forests would have maintained some recognition of traditional rights by tribals and forest communities. With one stroke of the executive pen, the colonial state acquired 76,000 square miles (roughly equivalent to 197,000 sq. km.) of forests under its monopoly (Gadgil & Guha, 1993, 134). This figure grew to 679,590 sq. km. by 1951, out of a total declared forest area of 734,441 for the entire country (GOI, 1980, 66). As roads were built and local species were increasingly replaced by commercially valuable species, protected forests were re-classified as reserve forests. In 1878, 56,000 sq.miles (145,077 square km.) of reserved forests and 20,000 square miles (51,813 sq. km.) of protected forest were declared by the the Forest Act. Estimates for protected forests dwindled to a mere 3300 square miles by 1890 (Gadgil & Guha, 1993, 134). The forest department had firmly established its

monopoly over India's forest resources and became the bureaucracy set up to enforce the Forest Act through a detailed list of state administered penalties for violations.

Post-Independence Industrial Forestry

After India's independence in 1947, commercial interests in trees as timber continued to gain ascendancy. Forest-based industries increased in the country's effort towards modernization, supplying raw materials for pulp and rayon factories (Gadgil & Guha, 1993, 186). In order to keep up with demand, emphasis was placed on planting fast growing species which yielded commercially valuable biomass with minimum cost (Saxena, 1991, 28-29). Eucalyptus and tropical pine became the 'desirable' species. The strategy of post-independence industrial forestry was to clear-cut existing forests and replace them with commercially valuable species like eucalyptus without adequate consideration for the local context. Some parts of the rainforests of the Western Ghats in Karnataka were thus turned into deserts as the newly planted eucalyptus saplings were attacked by fungus (Gadgil & Guha, 1993, 189).

The continuity between colonial forestry practices and post-independence practices was evident in the system of ownership which maintained a monopoly of state rights over local claims. Community participation in forestry management was not welcomed. Foresters became the experts of forestry knowledge and local knowledge about trees was delegitimated. The Five-Year Plans of the Government of India continued to be concerned with generating income and raw materials for forest-based industries like paper and synthetic fibre. Over-exploitation became the norm in order to meet the growing demands of factories (Gadgil &

Guha, 1993, 193-198). The Third Five-Year Plan (1961-66) introduced plantations of fast-growing species and established a trend towards the conversion of natural forests to monoculture (Nesmith, 1990, 52). This conversion was accomplished by completely cutting existing multi-purpose species and replanting with a monoculture of the 'desired' species.

Confrontation of Knowledge Systems in Forestry

The colonial exploitation of Indian forests and its extension as post-independence industrial forestry could be presented analytically as a confrontation of knowledge systems as well as a competition for resources (Guha, 1993, 88). This was evident in the shifting of meaning assigned to trees and forests (Banuri & Apffel Marglin, 1993, 85; Guha, 1993, 85). Trees simply became a marketable commodity called timber and were no longer an integral part of the subsistence economy. Certain trees were labelled 'valuable' based on their usefulness to the colonial powers. Slow-growing and other species of little commercial value were deemed 'inferior.' The criteria of desirability became defined by commercial value (Gadgil & Guha, 1993, 186). The natural forest was considered 'abnormal,' diversity of species seen as 'chaos' and indigenous trees useful for medicine, fodder and fertilizers labelled as 'weeds' to be destroyed because they have no market value and replaced with more'desirable' species (Shiva, 1993, 22-23). The hegemonic relations which existed between the colonial powers and the colonized were reproduced in the confrontation of knowledge systems about forests (Shiva, 1993, 7). Modern forestry knowledge placed value on fast-growing species that were competitive on the market. Non-modern forestry knowledge placed value on a diverse range of priorities depending on the local context. The domination of the commercial and industrial

interests of modern forestry knowledge was predicated on the subjugation of the non-modern knowledge about subsistence forestry. The displacement of local species for multipurpose use by commercially valuable species to meet the needs of a market economy could be viewed as a manifestation of this subjugation and was presented as logical and necessary.

This confrontation was also evident in the physical and social exclusion of people from the forests (Gadgil & Guha, 1993, 135). The significance of the Indian Forest Act was not only in establishing state monopoly over resource use but also in eroding people's rights to their micro-environment (Shiva, 1993, 18). The legal apparatus of the Indian Forest Act and its administrative structures frustrated forest people's relationship with nature. Their previous socially regulated access became mediated through the bureaucracy of the forest department who decided what, when and how they could interact with the forest. This was summarised in a poignant description of a tribesman's interaction with the Forest Department:

> He was forbidden to practice his traditional methods of cultivation. He was ordered to remain in one village and not wander from place to place. When he had cattle he was kept in a state of continual anxiety for fear they should stray over the boundary and render him liable to what were for him heavy fines. If he was a Forest Villager he became liable at any moment to be called to work for the Forest Department. If he lived elsewhere he was forced to obtain a licence for almost every kind of forest product. At every turn, the Forest Laws cut into his life, limiting, frustrating, destroying his self confidence (Guha, 1992, 61).

Not only were people's rights eroded, but local needs (for fuel, fodder, fertilizer and food) were replaced by the needs of pulp factories; local knowledge replaced with the modern knowledge of forest officials and foreign experts (Shiva, 1989, 61; 82). FInally, the diversity of species was reduced to 'miracle trees', such as eucalyptus and tropical pine.

Fragmentation of knowledge was also a result of this confrontation. Forestry became increasingly disembedded from the other aspects of the rural economy (Shiva, 1989, 1993; Guha, 1992; Gadgil & Guha, 1993). Grazing and shifting agriculture, which were part of village forestry practices were banned and fodder problems considered the domain of the agriculture department (Gadgil & Guha, 1993, 141). This separation of departmental jurisdiction was consistent with the disembeddedness which characterizes modern knowledge systems. While this fragmentation existed at the policy level, there were, at the same time, district foresters who maintained a more integrative concern for fodder and fuel. It is important to recognize that there were many differences in the way state-level forest departments functioned. Nevertheless, one of the impacts of modern scientific forestry was its fragmentation from other areas of subsistence. Natural forests were seen by the Agriculture Department as obstacles to the expansion of agriculture which would generate revenue and therefore be subjected to taxation (Shiva, 1989, 62). Shiva describes this fragmentation as the removal of the category of food production from forestry knowledge, and with it, the disappearance of knowledge about food-providing capabilities of trees (Shiva, 1993, 14). Forestry and agriculture overlapped in providing food, fodder and fertilizer for rural consumption. When the woody biomass of trees for commercial purposes became the dominant value, the ability of trees to provide food, fodder and fertilizer were discounted.

It is noteworthy that this domination of modern forestry knowledge did not meet with passivity. Resistance has been communicated in different forms, from a kind of 'avoidance protest' in the form of migration and petty violations of Forest rules (Gadgil & Guha, 1993,

177-180) to more confrontational encounters in the late 1980s in Karnataka and Bihar where farmers uprooted commercially valuable saplings like eucalyptus and teak and replaced them with locally usable species like sal, mango and tamarind (Parajuli, 1990; Guha, 1989; Agarwal, 1986). For the indigenous people, whose rights to forests were most severely curtailed, conflicts between them and government were longstanding. For example, the tribals of Bastar, Madhya Pradesh, trace their resistance to forest administration to as early as 1910 (Anderson & Huber, 1988, 38-40). Although the tribal greivances were judged to be genuine, no efforts have been made for redress. The conflicts between local and state rights to forest land continue to be important issues.

The Rhetoric of Social Forestry

India's social forestry programs were constructed on a rhetoric which analyzed the problem of deforestation as being caused by the behaviour of rural people (Tewari, 1991; Gulati, 1990; Blair, 1986; Saxena, 1991; Agarwal, 1986). Village forests were considered to have been destroyed by growing numbers of rural poor and livestock, which in turn, exerted pressure on the reserve and protected forests. This resulted in environmental deterioration, droughts and soil erosion (Tewari, May 1991, 294). D.N. Tewari, the Director General of the Indian Council of Forestry Research and Education, Dehra Dun, summarized the causes of deforestation thus:

> Most of the forest destruction is caused by the poor people who are denied access to good agricultural land or other means of production for themselves and their families, (who) have no choice but to clear forests in an attempt to eke out an existence (Tewari, April 1991, 230).

The poor did this by overgrazing and fuelwood collection. Although, Tewari later expanded his statement to include bad logging practices as one of the causes of deforestation, nonetheless, for him and many other senior foresters in India, population pressure and uncontrolled fuelwood collection continued to carry the major portion of the blame. This assignment of blame was also replicated in the popular press by such comments as:

> Ignorant villagers cut down trees for firewood...If illegal felling of trees continues for a few more years, the forest will disappear altogether (Indian Express March 23, 1992).

Social forestry was seen as the solution to both the fuelwood crisis and the crisis of environmental degradation (Agarwal, 1986, 106). The Report of the National Commission of Agriculture (1976) defined the goals of social forestry as intended to meet the needs of "fuelwood supply to replace the use of cowdung; small timber supply; fodder supply; protection of agriculture fields against wind erosion and recreational needs" (Tewari, May 1991, 293). The term 'social forestry' was first used in India in the Fifth Five-Year Plan (1974-79). Ironically, it was intended to be associated with the idea of social justice which was the stated objective of that Plan (Nesmith, 1990, 57). During the successive Five-Year Plans which followed, the concept of social forestry was firmly established by the early 1980s as forestry 'for the people, with the people and by the people.' This concept became useful for the Government of India in its appeal for the financial support of international donors like the World Bank, Swedish International Development Agency, Canadian International Development Agency, Overseas Development Agency (U.K.), and U.S. Agency for International Development. In the period between 1980 and 1991, there were twelve externally funded social forestry programs in fourteen Indian states for a total of U.S. $

906.76 million (Tewari, May 1991, 301-302). It is inconclusive whether social forestry has been conceived as a strategy to help the rural people or as a mechanism to seek funding for state expansion of commercial forestry. It has also been suggested that since there was little experimentation with social forestry on reserve and protected forests, it could be viewed as a strategy to keep people out of the forests, thus relieving the pressure on state-owned forest lands (Saxena, 1991, 29-30).

The confrontation of knowledge witnessed in colonial and post-independence forestry practices was also evident in social forestry. Valuable trees meant fast growing species like casuarina, eucalyptus and tropical pine, all of which have high market value. Species for fuel, fodder and fertilizer were described as 'minor forest products.' The meaning of 'minor' was clearly not defined by the rural poor, for whom these 'minor' forest products were a source of survival. Social forestry was, by definition, not 'production forestry,' which was being carried out in state-owned forests by planting commercially valuable species. By inference, non-commercial forestry was unproductive. Advocates of social forestry confirmed scientific forestry's instrumental view that knowledge about nature was disembedded from social and cultural knowledge.

Yet, even the most sympathetic assessment acknowledged that there were important areas of failure in these social forestry programs. The most common criticisms were focused around three issues: the lack of people's participation; the disproportionate accrual of benefits to the richer farmers; and the lack of results in increasing fuelwood supply (Agarwal, 1986; Blair,

1988; Chowdhry, 1989; Gadgil & Guha, 1993; Guha, 1992; Shiva, 1989, 1993;Tewari, 1991). In an organizational behavioural pattern characteristic of bureaucracies, the approach of the Forest Department was focused on targets, being tree-centred, not people-centred. Consultation and sharing of decision-making was not part of the bureaucratic culture (Chowdhry, 1989, 148-149). In spite of the slogan that social forestry was 'for the people, with the people and by the people,' the departmental personnel were better at planting trees 'for' the people. They were less able to do this 'with' the people due to old animosities, and unable to accept forestry 'by' the people which implied sharing of resources, knowledge and decision-making power (Agarwal, 1986, 111-117). Even foresters themselves acknowledged this shortcoming (Tewari, May 1991, 294), but they attributed this lack of people's participation to 'bad cultural practices' and lack of understanding on the part of villagers about the 'adverse impact of deforestation on their agriculture and survival' (Tewari, May 1991, 298). This was merely a continuation of the rhetoric of blaming the victims.

The historical relationship between forest department personnel and villagers has been antagonistic. This antagonism was best exemplified by the role of the forest guards (the lowest level of department personnel and therefore closest to the people), which was to keep people out of the forest by enforcing the Indian Forest Act. This was accomplished by fines and force, if necessary. Even when villagers entered the forest to collect fuel and fodder legally, forest guards routinely collected a 'service charge'. Villagers were also asked to work without wages cutting trees for the forest department (Agarwal, 1986, 114). At the same time, there were frequent incidents of corruption where forest guards and logging

contractors over-cut their quotas for personal profit (Banuri & Apffel Marglin, 1993, 31). In addition, the organizational culture of the department was para-militaristic in manner (salutes and military protocol), as well as dress (khaki uniforms), carrying of weapons and military ranking. It was simplistic to assume that social forestry rhetoric could change this long history of animosity overnight, or that people working in such an administrative culture could, by themselves, transform their values and assumptions which had been the result of much training.

Critics of social forestry have also claimed that relatively richer households have benefited from the program (Chowdhry 1984; Nesmith, 1990; Blair, 1988). This criticism was made on the basis of several factors. The most obvious factor was that social forestry could not benefit households who have no land, and since poverty in India was closely linked to landlessness, this in effect prevented the poor from participating. In the Gujarat program, it was found that forty-four percent of the forest department's total output of seedlings were distributed to households with more than five hectares and seven percent distributed to farmers with less than one hectare (Blair and Olpadwala, 1988, 8).[6] Only big farmers with tractors or access to trucks could transport seedlings from the government central nurseries, over great distances, to their land (Chowdhry, 1984, 149). Richer farmers were also more willing to take a risk in converting their farm land to tree plantations, which necessitated a loss of income from this land for a minimum of three years.

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[6] This division is commonly accepted in the Indian context where those who own five hectares or more are considered big farmers.

The claim that social forestry has benefited rich farmers could best be demonstrated in the success of the farm forestry component of the program (Gadgil and Guha, 1993, 190). Most social forestry programs consisted of three components: farm forestry (plantations on individual's land), bund/strip plantations (on state and public land like canals, roads, tanks etc.) and community woodlots (on common land). The farm forestry component has consistently been more successful than the other two (Saxena, 1991; Blair, 1986; Gadgil & Guha, 1993). In both the Utter Pradesh and Gujarat programs, the targets were met beyond expectations (Blair & Olpadwala, 1988, 7; Gadgil & Guha, 1993, 190). The high market value of eucalyptus for pulp factories has been the single most important incentive. The success of the farm forestry component of social forestry meant that agricultural land was converted to eucalyptus plantations producing wood biomass for pulp and rayon factories. Both the goals of growing fuelwood species and benefitting the poor were subverted (Blair, 1986, 1317-1318; Blair & Olpadwala, 1988, 10). Not only did the landless poor receive no benefits from farm forestry, they were negatively impacted because the conversion of agricultural lands to eucalyptus plantations meant a loss of food production, a loss of wages and potential employment, and a loss of food for consumption for those who also received a portion of their wages in grains (Gadgil & Guha, 1993, 190). In addition, they also lost access to agricultural waste for fodder and fuel.

Most critics agree that social forestry has not met its objective of providing fuelwood, fodder and small timber for rural people (Gadgil & Guha, 1993; Gulati, 1990; Chowdhry, 1984). The predominant species planted was eucalyptus, which has high commercial value but cannot

meet the diverse rural needs for trees. Agarwal has questioned the rhetoric of social forestry which constructed the fuelwood problem as a perceived need of the rural people (1986, 131-132). The Indian state and foreign donor agencies have assumed that if there was a depletion of fuel at the macro-level, there must exist a corresponding need felt by rural people at the micro-level to plant fuelwood trees. Other critics, including Blair, Chambers and Saxena, have suggested that in fact rural people placed higher priority on trees to replace small timber needs for which they have to purchase wood(farm implements and house construction). They suggest that domestic fuel (small logs,twigs, dung, crop wastes), on the other hand, are generally collected rather than purchased (Blair, 1986, 1318-1319; Saxena, 1991, 31). Therefore, in the logic of the rural economy, it is more desirable to plant trees which either yield income or replace expenditures, rather than increase supply of fuel. Fuel supply is not rural people's most urgent need in the context of other priorities like food, employment and income (Chambers, Saxena & Shah, 1989, 166).

Furthermore, the claims of eucalyptus as a miracle tree have been questioned. Shiva, particularly has disputed the assessment of growth capability and biomass production of the eucalyptus (1989, 77-82; 1993, 31-33). She also argues that transformation of wastelands into eucalyptus tree plantations has in effect privatized common land traditionally used to meet rural needs for fuel and fodder (1989, 83-89).

Social forestry has failed particularly to establish woodlots on community land because of a lack of understanding of competing interests in a heterogeneous community (Agarwal, 1986,

126) and the failure of local panchayats to manage these woodlots for common benefit (Tewari, May 1991, 299). The confusion about categorization of land has also been exemplified in discussions about community land. In social forestry, the value of trees has continued to be determined by the market and not by their usefulness for fuel and fodder. The question could be raised as to whether social forestry has been co-opted by special interests to expand the plantation of commercial species to private lands (Saxena, 1991, 30).

Anti-social Forestry

Social forestry was first greeted with enthusiasm by development planners and voluntary groups, but it has gradually become a questionable strategy since it appears unable to meet rural needs for fuel and fodder. In practice, it is indistinguishable from 'production forestry' on government land for the purposes of meeting commercial and industrial needs. The word 'social' "conveys no sense of obligation or control; its apparent neutrality avoids the politics of rights in forests and trees and the unequal economics of their use" (Anderson & Huber, 1988, 130). Social forestry has frequently been labelled as anti-social forestry in that it has been based on a historical relationship of animosity between the Forest Departments and the people; it did not allow adequately for people to participate, and it could not deal with the issue of equity in distribution of benefits. In fact, social forestry could be said to have brought adverse effects ecologically and socially for the rural poor. The example of the Andhra Pradesh Social Forestry Program shows how the objectives of social forestry need to be examined closely in terms of their social impact on the rural poor.

The Andhra Pradesh Social Forestry Program (1983-1991) was part of the overall Indian social forestry effort. CIDA (Canadian International Development Agency) was the donor agency supporting the establishment of a Social Forestry Wing within the APFD (Andhra Pradesh Forest Department) through a combination of grants and loans. Monitoring and training functions were carried out by a Canadian forestry consulting firm, who maintained personnel in Hyderabad for most of the duration of the project. The objectives of this project were consistent with the national social forestry rhetoric:

> 1. To fulfill the urgent requirement of fuelwood and to provide poles, small timber, fodder, fruits and other minor products to meet the basic requirements of the rural population.
> 2. To induce community participation in creating, maintaining and protecting plantations raised under the project so as to share the benefits of the contemplated joint management of such assets.
> 3. To provide employment, particularly for the landless agricultural laborers, including women, Scheduled Castes and other traditionally weaker sections of rural communities.
> 4. To generate additional income for rural communities through the sale of surplus wood products so that the overall standard of living may increase progressively.
> 5. To improve the economic condition of weaker sections of society such as small and marginal farmers by encouraging tree farming on a part of their marginal and submarginal holdings.
> (CIDA End of Term Evaluation, 1991, 10)

The physical achievements of this project were calculated to be 24,752 ha. of woodlots on communal lands; 3250 km. of plantations on public rights of way (canals, roadside); 13,762 ha. of degraded forest land reforested; conversion of 3,913 ha. of degraded farm land to plantations; and 50,300 ha. of farm forestry on private lands. The APFD social forestry program was also most successful in meeting its targets for farm forestry, which accounted for over 50% of the total 100,000 ha. of plantations (CIDA, 1991, xiv). The category of community woodlots was not as successful and a closer examination of data revealed that the

majority of the 24,572 ha. of communal plantations were established on tank foreshores (land in the immediate vicinity of village ponds or tanks). These areas were traditionally under the jurisdiction of village panchayats who were described in project documents as being unwilling or disinterested in plantation management (CIDA, 1991, 35). A total of 234.3 million seedlings were distributed to individuals for plantation on private land (CIDA, 1991, xvi). Species included casuarina (47%), eucalyptus (43%), subabul (3%), bamboo (1%), cashew (1%) and the remaining 5% all other species which may include fruit, multipurpose trees and indigenous species (CIDA, 1991, ix).

Although the goals of the APFD Social Forestry project reiterated a concern for fuelwood and small timber supply for the rural poor, the rationale behind this concern suggested other interests. Project documents quoted the forest department newsletter APFD, 1991 in proposing a rationale:

> By the mid-seventies, the realization became clear that if people's demands were not met, it would be impossible to save forests. This was to be achieved through social forestry on lands accessible to village people. Production of industrial wood remained the "raison d'etre" of reserved forests and social forestry was to release industrial forestry from social pressure (CIDA, 1991, 25).

This could be interpreted to mean that the goal of social forestry was to keep people out of the state forests in order to relieve pressure on reserve forests which promoted commercially valuable species. It appeared that the employment of the term 'social' referred to the relief of social pressure, not to the meeting of social needs. The lack of APFD departmental understanding and commitment to the goal of meeting social needs was confirmed in discussions with senior and district level Forest Department officials as well as the Canadian

personnel assigned to monitor the program. The original project goals were considered mostly technical and social goals were perceived to have been added by CIDA in a mid-term review (personal communication, McFarlane, Feb. 1994). Further study of internal documents would be necessary before making conclusive statements, but this offers a possible explanation of why social forestry programs in India have consistently failed to meet their stated objectives while continuing to draw a massive influx of foreign funds. This interpretation also found resonance in critiques of the stated objectives of other social forestry projects (Saxena, 1991, 29-30).

In terms of physical achievement, the APFD Social Forestry Program was considered successful by the End of Term Report. However,it was inconclusive whether the 24,572 ha. of communal woodlots planted were merely communal in legal status of land ownership or successfully managed for common benefit. Farm forestry on private land continued to account for a sizable portion of the overall achievement - over 50% of plantations. Commercial species destined for the market dominated the seedling production of government nurseries in spite of early fears expressed in project documents that these'fuelwood' species would be diverted to the pulp industry (CIDA, 1991, 14). Casuarina and eucalyptus species accounted for 90% of the total seedling production, neither of which were viewed by rural people as fuelwood species. They were valued more for the income generated as raw materials for pulp and rayon factories. The practice of cutting eucalyptus branches for fuelwood was seen as an incidental benefit. The Project End-of-Term Evaluation called for the selection of species which generated more non-wood forest products and for these

decisions to made in consultation with the people (CIDA, 1991, vi).

It was also acknowledged that 70% of the seedlings were distributed to big farmers [7] (CIDA, 1991, 69). The landless population could not benefit from this program beyond casual employment which was estimated at an impressive 169,200 person days. However, this form of employment would terminate after the initial two to three years of the program. Little analysis has been made to determine the extent to which this replaced lost employment from the conversion of agricultural land to farm forestry. The net gain to the landless poor is uncertain without taking into account the possible loss of food production and the loss of food grains for consumption which they previously received as a part of their wages.

The assessment of the social impact of the APFD Social Forestry Program proved to be more difficult. The program could be viewed as successful in engaging the participation of the people, if participation were to be gauged by the number of seedlings distributed to individual farmers, thus signifying a general popularity of tree plantation. This was the view adopted by the End of Term Evaluation, which cited that 691,000 rural families received seedlings (CIDA, 1991, xiv). It was less clear where these seedlings were planted, how they contributed to the rural economy, and whether they survived. If participation were to be judged by the willingness of communities to plant and manage plantations, then the results

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[7] In the context of this document, big farmers were listed as people who owned more than 5 ha. of land. The actual reality was much more varied. In the wet areas, a farmer with even a small holding of under 5 ha. could be above the poverty line due to higher productivity of the land. But in the arid zones, even farmers with 4 ha. had to supplement their income by working as coolies (Chambers & Saxena, 1989, 176).

could be described as poor. Aside from a few exceptions, the APFD encountered many difficulties regarding community plantation because of questions of tenure and equity (CIDA, 1991, 72). Constraints listed included the lack of panchayat interest, difficulty in ensuring equitable distribution of benefits, the lack of community organization skills of APFD personnel and the lack of species selection in consultation with 'beneficiaries'. The participation of women rarely rose above the level of casual labourers in plantation and nursery work. Even the 30% quota established for the hiring of female Village Forest Workers was unmet.

Bureaucracy in Action

There are differing views on the relationship of bureaucracy to the economic, political and social power structures of the state (Weber, 1958; Merton, 1952). It would be oversimplifying to claim that bureaucracies always produce impacts which are negative with respect to the people who are "administered". Bureaucracies are viewed as positive by management studies where they bring rationality and predictability to decisions, as well as administrative efficiency (Sharma, 1982, 168). Yet their effects are considered negative where they promote a kind of trained incapacity, displacement of objectives, avoidance of responsibility, centralization of authority and delay in decision-making (Rao, 1987, 227). It must also be acknowledged that bureaucratic cultures exist in organizations other than government departments, and NGOs have been accused of being more bureaucratic than responsive. There is basis to claim, however, that generally, bureaucracies are not sympathetic to the needs of the poor because they are established by formal authority and

conform to the norms of the dominant society (Korten, 1983; Neumann, 1952; Gupta, 1983). Indian bureaucracies have been particularly criticized for being target-driven (Blair & Olpadwala, 1988,8), delaying decision-making and avoiding responsibility (Sharma, 1982, 170). A study of the Gujarat government's attempt at poverty alleviation concluded that it was ineffective, citing problems common to Indian government bureaucracies (Gupta, 1984). Amongst problems examined were the high turnover rate of senior officers and personnel who viewed their postings as temporary and stepping stones to better opportunities (Gupta, 1984, 121). The practice of sectoral planning at the state government level also promoted rigidity in its adherence to line items according to district, project and budget, with little flexibility to meet the actual needs of the poor (Gupta, 1984, 123-124).

A bureaucracy is established to regulate and control situations where there is competition for limited resources (Sharma, 1982, 167). In the case of India's forests and its people, there was intense competition for ownership and control of resources as well as disputes over access. The APFD was the bureaucracy established to be responsible for all 64,254 sq. km. of Andhra Pradesh's forests, with 48,679 sq. km. classified as reserve forests, 14,145 sq. km. as protected forests and 1,430 as unclassified forests (GOI, 1980, 66). This was one of eight Indian states where the Forest Department established a complete monopoly over forests even when the actual land areas in question were not covered by any trees. The Social Forestry Wing of APFD was very much a part of the larger bureaucracy of the forest department, directly responsible to the Principal Chief Conservator of Forests.

The APFD social forestry program could also be examined as a confrontation in organizational cultures between bureaucracy and people. It was headed up by a Chief Conservator of Forests for Social Forestry under whom three 'circles' were created in Hyderabad:an Administrative Circle, a Training and Research Circle, a Monitoring, Evaluation and Publicity Circle. Field operations were carried out by five regional circles, which overlap with the mainstream Territorial Wing of the department (CIDA, 1991, 29). The project was intended to fund the staff required for these additional circles and a total of 777 departmental positions and 1200 non-departmental positions were budgeted. Of the departmental positions, only 463 were filled exclusively through transfers from the Territorial Wing. No new staff were hired. The non-departmental positions were recruited much later and hastily in the form of Village Forest Workers from outside the existing departmental personnel. This meant that the personnel of the Social Forestry Wing carried with them the old animosity between forest officials and people, as well as the earlier attitudes of keeping people out of the forests and assigning blame for deforestation to rural people. This did not provide fertile ground for people's participation. The frequency of transfers further aggravated this problem. The average tenure of a departmental posting was two to three years, barely long enough to establish relationships with people. Village Forest workers were considered extra-departmental and even more transient. Those who were transferred to the Social Forestry Wing also did not see it as a career track. In fact, the general attitude was that this became the dumping ground for those considered unsuitable material for the Territorial Wing (personal communication, McFarlane, Feb. 1994).

The organizational culture of the Social Forestry Wing also exemplified other characteristics of bureaucracies, described previously as impersonality, hierarchy in authority, specialization in the division of labour, and the centrality of rules and regulations(Rao, 1987, 210-213; Sharma 1982, 159-178). This kind of organizational culture was useful in meeting the goals of controlling money and resources, maintaining power, as well as keeping official records. It was not conducive to engaging the participation of people.

The process of seedling distribution in the APFD Social Forestry Wing illustrates this bureaucratic culture. A total of 234.3 million seedlings were distributed to 691,000 rural households (CIDA, 1991, xiv). The mechanism for doing this was through 150 central nurseries at the beginning of the project. This number rose to an estimated 1500 by the end of the program. Even with this increase in the numbers, departmental nurseries remained difficult to access for small farmers due to a lack of transportation. Each farmer was asked to submit a written request to the district office for the number and species of seedlings required. This 'chit' would be signed by department personnel, which allowed the farmer to collect seedlings from a designated nursery. The farmer, then, had to sort out a number of potential difficulties: the nursery could be located too far away from his fields; by the time he organized transportation to get there, that nursery might no longer have the species or numbers he wanted; in order to get the exact species he wanted, he might have to start the whole process over again. The cost in time and lost wages in obtaining these 'free' seedlings was often too high for small farmers, and impossible for women. It has been jokingly suggested by villagers that the best way for the department to distribute seedlings was to

dump tractor-loads of seedlings at periodic points along the roadside. Farmers could then come to take what they want. This would ensure that seedlings could be distributed efficiently to the people who want trees. The department's mechanism for distributing seedlings met their own goals of control and maintenance of records but could not meet the villager's goal of getting the desired species of trees planted.

A bureaucracy would require standardized rules to operate. When requests fell outside these rules, a bureaucractic organizational culture could not respond. On one occasion when two of the voluntary organizations in this study had invited the local APFD Range Officer for a meeting, a discussion was held on the availability of seedlings for plantations in their project villages. Although the range officer had over 65,000 seedlings in his nursery, he was unable to help because these seedlings were designated for plantation in specific micro-watersheds under departmental regulations. Requests for seedlings from villages in these micro-watershed had been fulfilled, yet, it was not within his power to distribute the remaining seedlings to other villages. In the end, the range officer confessed that he would have to throw the seedlings away. Similar instances were frequently cited in examples provided of people's interaction with the Social Forestry Wing. The intention of describing this incident is not to indict the APFD officer as a villain but to raise questions about what kind of organizational culture could better facilitate interaction with people to meet their needs.

It is also significant that the APFD social forestry program was characterized by impersonality and an emphasis on the individual. This could be seen in the operation of the APFD where the unit for program planning was the 'farmer', presumably a male head of household. The 'farmer' as an individual could be counted and categorized. He could also request seedlings and be paid wages for labour. This emphasis on individuals could partially account for the overwhelming success of individually-owned farm forestry and the lack of results in community plantations. The organizational culture of the APFD Social Forestry Wing, in its impersonality and emphasis on individuals, originated out of modern knowledge and is symptomatic of its rationale as a bureaucracy. The 'impersonal map' by which an individual navigated, implied a subject/object dichotomy which was manifested in an emphasis on organization, rational thinking and control (Banuri, 1990, 79). This also translated into viewing the individual as the most important functioning unit, who could then be disembedded from his/her community and become more vulnerable to control (Banuri & Apffel Marglin, 1993, 15). These considerations were important in a bureaucracy in which one of the goals was to mediate human relations so that they became impersonal and where authority could be vested in a third party, the state bureaucracy (Neumann, 1952, 152). The desired result was the virtual elimination of personal relationships and all that could be considered "irrational" (Merton, 1952, 363). Guha offers an interpretation of scientific forestry as social control where the state "preferred to deal directly with individual families rather than communities" because individual use of forests posed less of a threat to its monopoly (1990, 55). This interpretation could also be applied to the operation of the APFD. While the 'farmer' was considered an important functioning unit in his relationship to the

Department, he could not demand that the Department nurseries provide the species of trees he wanted, nor could he negotiate policy changes. As an individual, he was reduced to powerlessness.

To conclude, this chapter traces the history of the confrontation of knowledge in India's forestry from the colonial period to the present. There are insufficient records of pre-colonial deforestation to determine its extent, but an attempt has been made to avoid romanticizing pre-colonial forestry as purely subsistence in character with an absence of commercial interests. The confrontation in forestry was between modern knowledge systems and non-modern knowledge systems. It would be an over simplification to suggest that there is no evidence of non-modern knowledge in scientific forestry and no evidence of modern knowledge in subsistence forestry. It could be said that scientific forestry, the model promoted in the colonial and production forestry, was characterized by modern knowledge in its fragmentation, emphasis on individualism and disembeddedness from social and cultural values. It privileged requirements of the market over the requirements of usefulness in the rural economy of subsistence forestry. The description of the common critiques of India's social forestry effort in general is intended to highlight this confrontation of knowledge. The dominance of modern knowledge is also expressed in opposing organizational cultures. The critique of the APFD Social Forestry Program in particular serves to illustrate this. The bureaucratic organizational culture of the APFD Social Forestry Wing in essence subverted the social goals of its stated objectives and reinforced the Department's long-term goal to assert and maintain its monopoly over forests as well as to generate revenue. It also

suppresses the recognition of rural people's knowledge such as subsistence forestry practices. This chapter introduces the historical context in which the voluntary organizations in the following case studies functioned. It was in this atmosphere of confrontation of knowledge and organizational cultures that they attempted, with the rural people, to reclaim local knowledge about subsistence forestry.

Chapter Four

THREE ANDHRA CASE STUDIES

Indian Voluntary Organizations: a walk through the maze

The Indian voluntary sector is diverse, reflecting the complexities of a subcontinent with a population of 840 million people (1991 Census), 14 major languages, hundreds of minor languages and dialects, and as many varieties of cultures and customs. They are prolific both in terms of numbers and stated objectives. One of the few generalizations which could be made about them is that their financial operations are strictly regulated by the central government under the Societies Act and the Foreign Contributions Registration Act. They are part of the NGO (non-governmental organization) sector globally, although, in Asia and Africa, they refer to themselves more commonly as voluntary organizations (Tandon, 1989a, 3)

Indian voluntary organizations [8] define themselves in terms of voluntary action, which they interpret as citizen-initiated collective action or "action initiated by the founding people's own volition and managed essentially by its own membership" (Kulkarni, 1984, 6). The meaning of voluntarism refers more to people's voluntary participation than the staffing of these organizations with unpaid volunteers. They trace their roots of voluntary action back to the nineteenth century social reform movements which later became the backbone of the freedom struggles of the independence movement (Tandon, 1989b, 14-15). The best known catalyst

[8] Also commonly referred to as volags (short for voluntary agencies) a term which I shall use interchangeably with the longer version.

was Mahatma Gandhi, who, in 1920-30, inspired a wave of middle-class idealistic young people to give up lucrative careers in favour of service to the country and its people. Early Indian voluntary action was characterized by non-violent resistance and adoption of simple lifestyles. Expression of people's power was witnessed more by non-cooperation, rather than by demonstrations and force.

There have been many attempts to classify the variety of NGOs/volags in the North and South (Korten 1990, Farrington 1993, Robinson 1991,Tandon 1989a, 1989b). In the context of this thesis, it seems appropriate to use Rajesh Tandon's characterization of their differences since he addresses his discussion only to indigenous organizations in India and excludes regional offices of Northern NGOs headed by expatriate staff. Tandon groups Indian voluntary organizations broadly into four categories. The initial Gandhian motivation was one of **service** to the lower castes, those considered oppressed and disadvantaged. This philosophy is still evident in groups which work to address the needs and rights of Harijans. The 1950s witnessed **charity** oriented groups springing up in response to successive waves of disasters (floods, droughts, refugees) in an attempt to take care of their own communities in crisis. In the 1960s and 1970s, with mounting frustration about the failure of development to help the poor, **social action** groups rejected the dominant development paradigm and attempted to chart a course for alternative development by organizing grassroots communities to seek justice. Their role has been to engage in critical analysis of existing socio-economic injustices and help the poor to organize for collective action. Finally, the last category of voluntary organizations can be classified as **intermediary** organizations, who provide support

to grassroots activist groups in the form of research, documentation, training and networking. They act as intermediaries in the formation of linkages amongst groups with common causes and provide coordination for the purpose of gaining rights for the oppressed in areas of minimum wage, land ownership, forest rights and human rights (Tandon, 1989b, 15-17).

Most Indian voluntary organizations define their mission in terms of one or more of these broad categories. Very few see themselves as solely one or the other. In fact, as they respond to people-initiated actions, their sense of mission is often an evolving process. In the last decade, there has been growing recognition of the impact of voluntary organizations in the development process. Sometimes this has resulted in a new myth that volags are universally more participatory, democratic, efficient, aware of rural people's needs and effective in alleviating poverty. This is far from true. What is apparent is that voluntary organizations have the potential to be distinct from governments in their modes of building relationships with rural people and their greater freedom from bureaucracy (Rahnema, 1985, 69). The extent to which they are successful in realizing this potential can only be judged on an individual organizational basis.

Three Andhra Case Studies

Three organizations have been chosen for this study:KIPDOW (Kadiri Integrated and Participatory Development of Watersheds), RHGBMSS (Rayalaseema Harijana Girijana Backward and Minorities Seva Samajam), and GORD (Gandhian Organization for Rural Development). These three organizations represented the diversity of the voluntary groups

involved in Andhra Pradesh.[9] KIPDOW was one of ten projects of MYRADA, a major voluntary organization in South India with a staff of 400. Although its initial motivation was charity, it quickly moved on to acting as an intermediary organization. RHGBMSS typified the category of small struggling volags which have evolved as a result of successive waves of natural disasters in Andhra. These were grassroots social action groups with varying capacities for critical analysis of socio-economic conditions. GORD was motivated by a sense of service which sprang from the strong Gandhian tradition in much of voluntary and social welfare work in India and no discussion of the voluntary sector on this subcontinent would be complete without such an inclusion.

Semi-arid Anantapur

KIPDOW was based in Kadiri Taluk of Anantapur District which was part of the Mysore plateau at a height above sea level ranging from 300 to 600 metres. This is a semi-arid area with a number of bald hill ranges and little forest cover. Population density is relatively low at 166 per square kilometre [10] (1991 Census). Anantapur is one of the drought-prone areas of Rayalaseema region with the lowest rainfall in the state, an average of 540 mm annually. One in every four years has been considered a drought year. The major source of livlihood is

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[9] It is notoriously difficult to estimate the exact number of volunatry groups in India. Under the Foreign Contribution Regulation Act, 20,000 are believed to be registered with the Ministry of Home Affairs (Robinson, 1991, 25). This includes Indian religious organizations, missionary groups and anyone who is eligible to receive foreign donations. On the other hand, Indian government in Delhi lists some 2000 groups which receive funding from its programs, but this is acknowleged to be incomplete. Attempts to compile a directory have been less than comprehensive.

[10] The state average is 241 people per square kilometre.

agriculture, producing irrigated and unirrigated paddy (rice), jowar (sorghum), bajra and ragi(pearl millet) for consumption. Cash crops grown on irrigated lands included cotton, groundnuts and sugarcane. Government statistics in 1991 estimated that 15% of the population was landless. Coolie work or casual agricultural labour is the most likely means of survival for this segment of the population (Source: State Statistics of Andhra Pradesh, 1991). Migration to other places in search of coolie work is also a severe problem.

KIPDOW was one of the ten projects of MYRADA which started in 1968 as part of the Tibetan resettlement effort in South India and from 1968 to 1978 helped in resettling 15,000 Tibetans. MYRADA's success in establishing self-reliant and largely self-governing communities of Tibetans lead to invitations from the state governments of Andhra Pradesh, Tamil Nadu and Karnataka to help in their poverty alleviation programmes. A new Mission Statement was developed in 1980 which focused on "fostering a process of ongoing change in favour of the rural poor" through the following strategies:

> "-Supporting the rural poor in their efforts to build appropriate and innovative local level institutions rooted in traditional values of justice, equity and mutual support.
> -Working towards recreating a self-sustaining habitat based on a balanced perspective of the relationship between natural resources and the legitimate needs of the poor.
> -Influencing public policies in favour of the poor."
> (Ramaprasad, 1989, 46)

By 1990, MYRADA was recognized as one of the largest voluntary organizations in South India, with a staff of more than four hundred members working with 1685 Rural Credit Management Groups in some one thousand villages. The organization has established strong links with government agencies like the Council for People's Action and Rural Technology

(CAPART), National Bank for Rural Development (NABARD), Andhra Pradesh Forest Department, Karnataka Forest Department and District Rural Development Agency (DRDA). It has also moved increasingly into an intermediary role by providing training and coordination to other voluntary organizations engaged in forestry and watershed management activities. It has made important contributions to the development of PRA (Participatory Rural Appraisal) methods. By 1994, MYRADA was conducting PRA training programs for volags in Andhra, Tamil Nadu and Karnataka, as well as the DRDA and Karnataka Forest Department.

The ten project sites within the organization of MYRADA shared the same registration under the Societies' Act and the same board, policies, executive director and auditors. Funding from local and foreign sources were pursued through the central office in Bangalore which also acted as the liaison with government departments. On the other hand, each project retained a certain autonomy, with separate coordinators to carry out on-site management, accounts clerks to produce financial records, and technical staff to meet training needs in agriculture, forestry and soil and water conservation.

KIPDOW began its existence in 1982 when MYRADA was asked by the Andhra Pradesh government to assist in the resettlement of four hundred landless families from several villages in the Pedanavaripalli area to 2200 acres of degraded land nearby. This was an initiative to develop wasteland and became the basis for the project's name: KIPDOW (Kadiri Integrated and Participatory Development of Wastelands). The work carried out was

integrated because it involved house construction, water resource development in the form of borewells and weirs, land treatment, dryland farming, forestry in arid conditions, homestead plots and experimenting with natural forest regeneration. The participatory element was represented by group formation as the basis for community organizing. These groups and rural credit through group savings became an important learning experience during this period. KIPDOW has since withdrawn from the project site and handed over the maintenance and management of the area and the related infrastructures to the villagers. In 1992, this settlement was able to sustain its population in terms of livlihood and assets.

From 1989 onwards, building on their earlier experience with land-based programs, KIPDOW began working in a second area of 4300 acres, with 33 villages in six microwatersheds, much closer to the town of Kadiri. Living as a small community near the project area, the staff of nine included six university graduates with a range of skills from agriculture, soil management, and forestry to basic accounting. Many of these were committed, educated young professionals who have sacrificed more lucrative careers in order to help their people. This central core was supported by a group of fifteen extension staff and balwadi (pre-school) teachers.

Drought prone Rayalaseema region [11]

RHGBMSS stands for Rayalaseema Harijanam Girijana Backward and Minorities Seva

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[11] One of the three officially recognized regions in Andhra Pradesh, with the other two being Telangana and Coastal Andhra.

Samajam, a mixture of English and Hindi words referring to the work of this service society on behalf of the 'weaker' sections of society (in this case the Harijan, Backward and Minority castes in the Rayalaseema region). RHGBMSS was based in Rayachoty, Cuddapah District, which, similar to Anantapur district, was a part of the Rayalaseema drought prone area. Historically, it was the centre of the Vijayanagar Kingdom (1336-1649), fertile and rich in gems and diamonds. In the current period, it is more associated with rocks, cobras and extreme heat than with precious stones. This region has only 13% of the irrigated land in the state and the annual rainfall can be as low as 300 mm. Twenty-two famines resulting from droughts have been recorded since the turn of the century (Naidu, 1990). The predominant crop is groundnuts grown once a year between July and December. Despite the scarcity of irrigation and cultivable land, eighty percent of the population depend on farming for their livlihood. This means that there is high competition for land. Average land ownership is less than five acres, not enough to sustain a household of six to eight people. Most small and marginal farmers have to supplement their income with coolie work (casual agricultural labour). A recent case study of a voluntary organization active in this region considered uneven land distribution, harsh environment and limited non-farm employment as the main causes of poverty in this region (Robinson, 1991,45).

The landless from lower castes are the most destitute and exploited as they depend entirely on larger landlords for survival. They are mostly comprised of Scheduled Castes and Scheduled Tribes which constitute twenty percent of the Rayalaseema population. The first constitution of India (1951) implemented strategies designed to help the country's rural poor. The

government compiled a schedule of castes and tribes who were considered 'backward' and 'weaker sections' of society. They were designated Scheduled Castes (SCs) and Scheduled Tribes (STs) which theoretically entitled them to special government benefits in addition to quotas of reserved seats for government positions and university education. These additional benefits included land assignments, funding for house construction, and loans from government rural development programs. The balance of the landless people are from the majority caste in this region, the BC's (Backward Castes), with forty-four percent of the population. They are not entitled to these additional benefits for which SCs and STs qualify, but only to quotas of reserved seats. SC's usually live in separate 'colonies' on the outskirts of villages while BCs are usually integrated into the main village housing. Occasionally, these SC colonies are recognized as hamlets and some facilities, like schools, are provided. Often, there are no schools at all. Wells and temples belonging to higher castes are off limits to the lower castes (Wade, 1988, 53-55).

The origin of RHGBMSS was typical of the myriad of small Andhra voluntary organizations which grew not out of any particular philosophical motivation, unlike the Gandhian groups, but out of the recurring natural disasters common in this state (floods on the coast and droughts in the Rayalaseema area). These groups were usually organized around key figures who had either charisma, political connections or the ability to mobilize resources. These individuals became the linchpins in the functioning of the organization and gained merit and reputation through this activity. The ebb and flow of these organizations and their effectiveness were frequently closely tied to the personal circumstances of these key figures.

There were several large voluntary groups which were prime examples of this kind of organizational structure (Robinson, 1991, 117). Many of these voluntary organizations, like RHGBMSS, remained small and their rise and decline went largely unnoticed. The story of RHGBMSS was focused around its president, V. Siddaiah, originally a small farmer from the BC group. In addition to being a leader from his native village, he worked from 1968 to 1976 for an organization called Cuddapah District Coolie Saravadya Sangham, started by a Catholic priest to mobilize landless agricultural labourers. This experience consolidated his thinking that land issues were crucial to alleviating poverty for the lower castes. In 1978, with the encouragement of Father Alexis from the Coolie Sangham, he registered RHGBMSS as a "Non-political, non-religious voluntary social service organization devoted to human development and social justice, to give strength and voice to the voiceless by creating awareness and bringing unity and co-operation among the rural masses to fight against injustice to improve their socio-economic conditions." (From RHGBMSS 1989 Annual Report). Siddaiah recruited fourteen members for the Board and became the President. Although a Hindu himself, Siddaiah retained his strong relationship with Catholic priests and much of RHGBMSS's early support came from Catholic Relief Services in Madras. The extent of Catholic or other Christian influence could not be determined.

By 1994, RHGBMSS had a staff of forty, a small office, a central nursery and funding from six foreign donor agencies as well as support from the government agencies of CAPART and DPAP. The staff were members of the lower castes of SC, ST and BC. Ten male staff had office and managerial responsibilities, and thirty female staff worked more directly in the

field as community organizers, health animators, balwadi[12] teachers and 'ayahs'[13]. This was often cited as evidence that the organization was focusing their work on women who were seen as the most oppressed and disadvantaged, ignoring the larger issue that these were occupations traditionally occupied by women. The management style of RHGBMSS remained autocratic and male- dominated, consistent with the social context from which most of the staff have come.

In Gandhi's Footsteps

The Gandhian Organization for Rural Development shared this name with several other organizations with similar philosophical roots and objectives. They were distinquished from one another by the location of the districts in which they worked. GORD, Repalle, was based in Guntur District, which lies south of the Krishna river. It was part of the Coastal region, a fertile area of Andhra with 58% of the state's irrigated land. Unlike the arid and drought prone Rayalaseema area, Guntur had the opposite problems; it was subjected to cyclones which destroy property, animals and human lives. There had been severe cyclones (those of 1977 and 1990) in recent memory which attracted international assistance. Rainfall was plentiful with an average of 826 mm. annually, which enabled farmers to cultivate two crops a year. Soil composition was either sandy or black cotton soil. Guntur district also had a coastal belt of mostly uncultivable saline soil where prawn farms have been promoted. Paddy was the main crop, with sugar cane, cotton and tobacco grown closer to Vijayawada, the

[12] Common Indian term for day care centres for pre-school children.

[13] Helpers or assistants in the day care centres.

major centre in the Krishna delta. Although this was a fertile area, land distribution was polarized. On the one extreme, big farmers often owned more than twenty acres of irrigated land while on the other extreme, the majority were small farmers owning less than five acres of dryland (or 2.5 acres of wet land). There were a few more options here than in the Rayalaseema area for non-farm employment, such as rickshaw pulling, traditional crafts and sand excavation in Tenali, Repalle and Bapatla. Outmigration was less of an issue since there were plenty of local landlords requiring agricultural labourers. Yet, similar to other districts, dependence on landlords and moneylenders were important factors exacerbating the poverty evident in the region (Robinson, 1991, 63-64).

There is no doubt that Gandhi has inspired a strong tradition of social service, particularly among the young and educated in India. But there is less certainty about the extent to which these claims to follow his principles are justified and the degree to which voluntary organizations have remained true to his ideals. The question of what makes a voluntary organization Gandhian is complex. This question was posed to different groups in Andhra as well as two staff members from the Gandhian Peace Centre, Hyderabad. The answers varied, but by and large highlighted three characteristics. The organization should include Gandhian principles as their philosophy, promote non-violence and its staff adhere to a simple lifestyle in terms of dress, possessions and avoidance of meat and alcoholic beverages. Occasionally, 'Stree Shakti,' the emphasis on women's power, was also mentioned. In many cases, organizations claimed to be Gandhian if they applied some, but not all, of the Master's ideas in their work. Many also drew from other philosophies in addition to Gandhian ideals. In

the current climate of competition for scarce financial resources, the construction of an identity as a Gandhian organization is useful for public relations and fundraising purposes. Since there are no established criteria or a regulatory body, the validity of these claims are impossible to adjudicate.

GORD owed its existence to a one-year volunteers' training program conducted by the Gandhian Peace Centre in the early 1980s[14]. This program was part of the Centre's effort to train young development workers in skills which they perceived to facilitate what the Centre called the social transformation process. Although this particular program was conducted only once, it later evolved into several training programs carrying on into the 1990s[15]. The graduates of this first program all became involved in rural development work of some kind, and A. Prabhakara Rao was one of them. In 1983, he was a university graduate in Arts with interest in drama, street theatre and mimicry. In addition, he was a poet. After completing the GPC training program, he approached some friends at one of the larger voluntary organizations in the area for assistance. Together, they identified areas of need in Guntur district and in January 1985, GORD registered as a non-profit, non-sectarian society. The motivation of the organization was based on Gandhian principles of ahimsa (non violence) and Gramswaraj (village self development). GORD's stated aims and objectives

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[14] The GPC was registered in 1970 under the Societies Registration Act to promote the application of Gandhian ideas for social change. After the 1977 Andhra Pradesh cyclone it became operational as a channel for relief funds to areas of need.

[15] GPC's programs in 1994 included the Vikas Vahini Karyakram field placement of young people. A Fellowship program for postgraduates also carried on this form of training.

included operating as a non-profit organization, adoption of decentralized methods of planning, implementation of schemes through peoples' organizations at the grassroots level, and establishment of cottage industries such as Khadi[16]

In 1994, GORD was the smallest organization of the three in this study in terms of staff size, with fourteen staff which included four at the central office, three field level coordinators (one for general programs, one for women's programs and one for agroforestry programs), five community development workers and two village workers focusing on women's programs. Five out of the fourteen staff members were women with one in a managerial capacity. Most of the staff were young and aged under thirty-five. In addition to this core staff, village foresters were appointed, when the village committee deemed it necessary, to supervise forestry activities. These temporary staff were usually from the village and often supported by a stipend from the village common fund.

[16] Handloom cotton textile.

Chapter Five

ALTERNATIVE ORGANIZATIONAL CULTURES

Building Relationships

The three voluntary organizations described in Chapter Four functioned in a context of opposing organizational cultures, between ways of understanding social relations based on modern and non-modern knowledge systems. Chapter Three described the organizational culture of the Andhra Pradesh Forest Department as characterized by modern knowledge in its impersonality and emphasis on expert knowledge. Individualism was highlighted. This was in opposition to the social relations at the village level which emphasized kinship ties, personal interaction and community affiliations, more characteristic of non-modern knowledge systems. In the relationships between the three voluntary organizations and their project villages, it was significant that they were built on personal regular daily contacts and an emphasis on people's own ways of knowing. Group action was highlighted. The underlying assumptions shared by the organizational cultures of these volags were more consistent with traditional ways of knowing which foregrounded social and cultural values, personal relationships and community dynamics.

All three organizations believed that effective relationships were personal, built over time and through face-to-face interaction. Some sense of commitment was demonstrated by the fact that each organization had worked in its respective area for several years: RHGBMSS since 1978, KIPDOW since 1982 and GORD since 1985 under the leadership of the same senior staff. In contrast, government officials were transferred at two to three year intervals. Staff

of all three organizations either lived in or made daily visits to project villages. The interaction was always face to face, at a time and place convenient to villagers. This was emphasized repeatedly by staff as they articulated their approach towards building relationships. It was respectful to be considerate of the villagers whose time and work were important. Interaction between staff and villagers was also not restricted to functional issues but encompassed all aspects of social life, including marriages, births, funerals and local festivals. Staff and villagers freely shared food and took part in each others' celebrations. In addition, the offices of these volags were located within accessible distances making frequent visits possible. When villagers came to discuss issues of concern or ask questions, staff went out of their way to make time for these discussions. This philosophy of relationship building requires that volag staff live in remote areas, under poor conditions and work long hours: staff are thus often single and committed young university graduates. Those who are married frequently live apart from their families, choosing to leave their wives and children with extended family members in places where education and health facilities are more readily available. There are fewer women than men amongst volag staff since women are more inhibited by social conventions to live alone or travel freely.

The organizational cultures of the three voluntary organizations were also characterized by an emphasis on group formation. These organizations understood correctly that the unit of community organizing must be groups because villagers could not function as autonomous individuals. When individuals were disembedded from their communities (their social and natural environments) they became vulnerable to outside forces which decreased their

effectiveness in achieving collective action. Communities became a group of individuals seeking personal survival and life-supporting systems were transformed into natural resources to be exploited. This would create a space for outside forces to extract commercial benefits (Banuri & Apffel Marglin, 1993, 15). Although these organizations formed groups in very different ways, group formation was important to their organizational practice and the basis of all their activities.

KIPDOW's relationship with the people was initially based on the reputation of its earlier work in resettlement of landless families near Pedanavaripalli village. When the organization started working with micro watersheds in Godduvelagala, it was easy to build relationships with the thirty-three villages in this area. The villagers had all heard of MYRADA and its work and were very receptive to visits from MYRADA/KIPDOW staff during their first year of preparation, which included an extensive study of field realities and discussions with groups of men, women and youth.

The project area was situated in Gandlapenta Mandal east of Kadiri, a town of 100,000 people. The thirteen revenue villages[17] in this mandal were situated within a twenty-five kilometre-radius of Kadiri with a total population of about 21,000. It was considered to be a poor area of Anantapur district with little resources in water, forests or minerals. Soil erosion

[17] Revenue villages are administrative units within a mandal (administrative district) set up for the purposes of taxation and land demarcation. Under each revenue village there are 10 to 15 villages which can again be divided into hamlets. In the Kadiri project area there are three revenue villages: Godduvelagala, Kummaravandlapalle, and Kamthampalle.

was a major problem, further aggravated by minimal rainfall of no more than 550 mm. per year. There was no bus service and roads were few and often inaccessible especially during the rainy season. The result was that villagers living within eight kilometres of the town often had never travelled to Kadiri during their lifetimes. The project area covered thirty-three hamlets in three of the thirteen revenue villages and consisted of a population of approximately 5000 people predominantly from the Backward Castes. These people were often unable to obtain government help since they did not fall within the Scheduled Castes and Scheduled Tribes eligible for assistance from government departments. Out of 365 families surveyed by KIPDOW staff, 137 lived in semi-permanent houses and one-third of all the houses had no electricity supply. The villagers were eager to work with KIPDOW because they had, in the past, invited their involvement several times as a result of what they had seen accomplished in the earlier resettlement project. The idea of working with the whole watershed area also appealed to them. No other organization, government or voluntary, had taken an interest in this remote area before.

The first year of relationship building was centred around the work of the extension staff. KIPDOW extension staff either lived in or had daily contacts with the thirty-three villages covered in the project area. Out of discussions about village problems, several priorities soon emerged. Most notable were the issues of education, health and road improvement. KIPDOW facilitated group discussions to formulate solutions to some of these problems. Where necessary, they also helped the villagers access outside resources. Some of these early activities included extending the road to Godduvelagala hamlet, setting up balwadis for young

children and evening literacy classes for adults. KIPDOW was also instrumental in helping the villages obtain a bus service once a day. The usual practice is for KIPDOW to pay extension staff and balwadi teachers directly for the first six months after which the sangha [18] groups were responsible for providing housing and administering the payment of wages. This was seen as an indicator of acceptance and relevance of the KIPDOW staff. There were a variety of financial arrangements depending on the capacity of the sanghas. In some cases, KIPDOW made a contribution to cover all or part of the staff salaries. In other cases, the sanghas were able to support extension staff entirely on their own. The emphasis was always on establishing a direct relationship between the KIPDOW staff and villagers.

Whereas the KIPDOW approach was based on integrated activities, the relationship between RHGBMSS and the project villages was initiated around land-based issues. This could be attributed directly to Mr. Siddaiah's earlier experience of working with landless labourers. In 1978, RHGBMSS began working in six villages (Kummara Kalva, Mahadevapalli, Marellamadaka, Uppvandlapalle, Surrabhi, Chilekempalle) by helping these villages to reclaim fifty acres of land for cultivation. Then work was started on digging six open wells for irrigation in another six villages (Odiveedu, Siyala Ganganeru, Nandalurivandlaplli, Krishnapuram, Matlivandlapalle and Maddelavandlapalle) under the CRS (Catholic Relief Services) Food For Work Program. Diesel engines and sheds were obtained for these wells with the support of CCODP, Canada (Canadian Catholic Organization for Development and

[18] These are small groups organized for a common purpose, sometimes called self-help groups or credit management groups.

Peace). CRS-supported Food For Work programs became a consistent theme in the work of RHGBMS and resulted in deepening of ten irrigation wells (1982-83), clearing more than four hundred acres of barren land for cultivation (1982), construction of fifty huts for Harijans (1982), and construction of three kilometres of road (1989). Much of their early work was practical and in response to the perceived needs of the villagers.

The other main concern of RHGBMSS was with health and children. They started ten balwadis with funding from the Women and Child Welfare Board of Delhi, supplementing this with a mother/child health program supported with powdered milk from CRS, Madras. Two hundred and fifty pre-school children were cared for at these centres and 350 women and children participated in their health program which involved supplementary feeding and health/nutrition education for mothers. RHGBMSS also played a role in accessing government funding for these villages. In 1984, the organization helped ten villages of ST and SC families to construct smokeless chulas (stoves) with government funding. In 1987, the organization provided emergency aid to fire victims of a village by obtaining government support. This demonstrates that government services exist but have not been utilized due to difficulty of access by the average citizen. The delivery of these services is hindered by traditionally negative relationships between government officials and people, by constraints of regulations and sometimes by a sheer lack of information.

GORD began working in the five village panchayats of Pragnam, Kallipalem, Borravaripalem, Kuchinapudi and Pallapatla by helping the poor access credit from the local bank. It was the

observation of the GORD staff that eighty percent of the villagers were illiterate and seventy percent of them lived below the poverty line. Even though the villages were all located within a distance of ten to twenty-two kilometres from the mandal revenue office at Nizampatnam, none of the villagers were knowledgeable about the government benefits which were in theory available to them. Government social welfare programs in India are generally mediated through the dominant castes and politicians. This means that villagers usually have little hope of accessing these benefits on their own. Two types of potential middlemen are described most frequently. The first are brokers, often government appointed, who will levy a 'fee' from both sides. The second are local politicians who want to purchase votes. The voluntary sector has long identified this as an area where they can play an advocacy role. GORD, therefore, saw as their first task to inform the poor about the available assistance and facilitate access to crop loans and animal husbandry loans. The first activity was to obtain loans from the bank for milch animals. The Gram Sabha, or village committee, decided on the criteria for selection (which included the absence of outstanding loans from banks and moneylenders) and took on the selection of villagers suitable for this program. In doing so, the Gram Sabha also assumed the responsibility of enforcing the loan repayment. GORD arranged for the loans and a veterinary doctor to give basic training on animal diseases, feeding and raising of fodder. After one year, the villagers repaid their loans completely and gained a small steady income from the milk produced.

Other activities were carried out by the three youth associations and two Mahila Mandals and included savings groups for the women and contribution of 'Shramadan' or voluntary labour

by the youths for village road construction.

The next major thrust was the establishment of a 'balwadi' in August 1987. A group of twenty-five children from two to five years of age was cared for while their mothers worked in the fields. They were taught literacy and numeracy skills and given a noon-day meal. Childcare and supplementary feeding for preschool children is one of the most pressing needs for village women and can make a big difference to the welfare of the rural family. Through contact with the balwadi teacher, the mothers also became interested in related issues of health and non-formal education. The balwadi was later extended to include evening classes for women in basic literacy. Education on other issues like health and family planning also became a part of these sessions. This effort was duplicated in four other villages and altogether five community education centres were established with an average attendance of seventy students in each one. The students included children of pre-school and school age, drop-outs, adolescents and adults.

Group Formation Process.

In addition to building on MYRADA's reputation in their work with Pedanavaripalli village, KIPDOW staff also based their relationship with the villagers on the formation of sanghas. This emphasis on small group formation was part of the MYRADA philosophy of 'appropriate sociology' defined as the emergence of management systems from within, which allowed people to maximize the use of available resources without upsetting existing social relationships (Ramaprasad, 1989, 14). This did not mean that the goal was to maintain

existing social inequalities, but referred to the management of resources which were accessible to the particular caste or gender group under existing power relations. The sanghas formed were seen as distinct from the more commonly known movement of cooperatives in India (Ramaprasad, 1989, 12). Although both were voluntary associations, MYRADA found from experience that officially registered cooperatives were **heterogeneous** with members having a wide range of socio-economic status. Power relations were often reproduced within the cooperatives, where big farmers with more resources dominated decision-making and promoted their own needs, and landless labourers were afraid to oppose them because of their traditional dependence on these big farmers for credit and employment. Cooperatives were also considered too **large** for dialogue and participatory decision-making. Administration of such associations was usually left to an executive body made up of influential individuals. Cooperatives also had to adhere to a set of **rules prescribed** by the government and were often seen as government initiatives in India, with little sense of local ownership. Finally, large cooperatives were considered to be more open to exploitation by **local politicians** for the purpose of winning votes. In contrast, MYRADA's experience was that the appropriate sociology of sanghas was to be **homogeneous** where members shared similar socio-economic status (Ramaprasad, 1989, 24). This ensured more unity in needs and priorities, as well as the relative absence of domination by powerful members. Most sanghas went even further to have separate men's and women's groups in order to address issues of gender imbalance. Sanghas were also viewed by MYRADA staff to function best when they remained **small** with membership not exceeding thirty. Occasionally, there were sanghas with a larger membership of more than thirty but most eventually settled down to a permenant membership

well below that number. Attendance was considered mandatory by members and monitored carefully. With a smaller number, it was theoretically possible for everyone to speak during the discussion, which they sometimes did all at the same time. The management of sanghas of this size could be **sustained** by the group itself, with policies and rules established by common agreement, decisions taken in open group discussions. As a result there was a great deal of variation from group to group in terms of rules and regulations. The sense of ownership was potentially higher and local **political party interests** were less likely to be a part of such group dynamics. Written minutes were scrupulously maintained initially by the MYRADA field staff. As the sangha became stronger, the minutes would be maintained by hiring a local literate person for Rs. 10 per meeting. In some cases, one of the sangha members would be given basic accounting training by MYRADA and be authorized by the sangha to write the minutes. These minutes were read aloud at the end of each meeting and adopted by agreement and witnessed by the signatures of all present. Those unable to sign their names were required to put a thumb print. This became a great motivator for sangha members to learn to sign their names.

The goals of the group formation process are to achieve socio- economic and organizational development: socio development in the sense that members of sanghas develop self-reliance, confidence and a spirit of mutual support; economic development in their increased access to credit; and organizational development in creating a forum for people to meet, discuss and act on issues of common concern (Ramaprasad, 1989, 17). As rural people learn to manage their own resources and organizations, they are also able to meet other organizations and make

linkages at their own level.

The group-formation process varies from project to project and can take from three months to a year. From 1988 to 1989, for almost a year prior to the start of the project, KIPDOW staff spent a great deal of time visiting the project villages in preparation. This process follows some basic principles (Fernandez, 1993, 31-40). The first stage is to establish a relationship of mutual trust. KIPDOW staff visited the villages, sometimes on a daily basis. These visits were made at a place and time convenient to the villagers, usually early in the morning before they went to their fields or late in the evening after they returned. As they get to know the people and in turn become familiar to the village, discussions about village problems occur naturally in small groups. The second stage is to organize village meetings with different groups to discuss some of these problems. This serves two purposes, to facilitate dialogue on the causes and solutions to these problems and to study village dynamics. This part of the process enabled KIPDOW staff to understand the relationships between different groups in the village and to assess whether some kind of cooperative action was feasible. The third stage is the use of Participatory Rural Appraisal (PRA) approach for micro-planning. A PRA workshop was held in January 1990. Eighteen MYRADA staff (seven from Kadiri, and nine from other MYRADA projects) participated, as well as most of the villagers from the hamlets of Godduvelagala, Harijanwada, Palavandlapalle and Zeedimakulapalle, which lay within the boundaries of this micro watershed. Three days of discussions were held on issues including soil/water conservation, agriculture, forestry, livestock and fodder, and resource mapping. The result was a detailed plan for the treatment of the watershed including budgets and

schedules of work. Similar planning workshops were done in each of the remaining five micro-watersheds. The significance of this third stage was that a common understanding and analysis of problems developed amongst the villagers and between the villagers and KIPDOW staff. On the basis of this, the villagers formulated a plan of action. There are three more stages documented in the MYRADA experience: support of some activity towards a common objective, exposure visits to functioning sanghas in other villages and finally group formation (Fernandez, 1993, 31-40). These often occur simultaneously without a clear sequence. In KIPDOW's case, the villagers were already familiar with the sanghas of Pedanavaripalli from MYRADA's earlier work, so the fifth stage of exposure visits was bypassed altogether. By July 1990, a total of seven sangha groups for men, women and youth [19] were formed in the four villages (Harijanawada, Palavandlapalle, Zeedimakulapalle and Godduvelagala).

The focus activity of these groups was savings. Biweekly meetings were held to receive and record individual savings, approve loans and receive repayments. All financial transactions were done in the open. Gradually, this forum was used to discuss other community problems as in the example of the women's groups which dealt with issues of family planning, health and nutrition education, literacy training, problems of alcoholic husbands and domestic violence. Later, as the project progressed, issues relevant to watershed development were also discussed in these meetings. Initially, while literacy and accounts training were carried out, a

[19] The designation of 'youth' in India commonly refers only to young men between the ages of 19 to 25 but may include unmarried men in their thirties. Young women of a similar age would not be included in this category since they would already be married and a part of the Mahila Mandal, or Women's Association.

MYRADA animator or the Balwadi teacher would act as recorder, with different members taking turns to be president and secretary. By year three of the group formation process, a few sanghas had become completely autonomous when some members also took on the task of recording minutes and bookkeeping. Usually these particular villagers had some basic literacy skills and were given additional training in recording minutes and basic mathematics.

Group formation in RHGBMSS started only in 1989 as one of the dimensions of their forestry activities. Their process of group formation was based on the MYRADA model. They became aware of the importance of groups as they were exposed to MYRADA sanghas through relationship with KIPDOW and later through exposure visits to other MYRADA projects. By this time, they had already accomplished the first two stages of the group formation process. They had become known to the villagers as friends, had studied the village dynamics and engaged in activities for a common goal in their land treatment and well-digging work. It seemed a natural progression to form sanghas. They started with women's sanghas for the purpose of establishing savings groups. During the first three years fourteen sanghas were formed with a total of 379 women members and a savings of Rs. 28,349. Two women staff were hired to work with these groups. Later, parallel men's groups were formed by the male population as they saw the benefits of a savings club. These sanghas were also the forum where discussion about forestry activities took place. Male groups were more interested in land treatment issues like bunding, fencing, digging pits and constructing soil and water conservation structures, while women groups were more interested in discussing homestead trees, kitchen gardens and nursery raising. The content of these

discussions were shared from one group to another by RHGBMSS staff. The strength of the groups is related to the community organizing skills of the staff. For RHGBMSS on the whole, their staff were new to this area and weak in the appropriate skills. Subsequently, their sanghas were a long way from being self-reliant in taking their own minutes, managing their savings and taking decisions. The group formation process has been a learning experience for both RHGBMSS staff and project villages.

GORD's process of group formation took at least one year. In the beginning, GORD staff visited their assigned villages regularly to establish their identities as friends. These regular visits developed into discussion about Gandhian ideas and village life. This process was reinforced when villagers met GORD staff in Repalle bazaar or district offices. The basis of this relationship was built on regular contacts over a period of time, accessibility and indication of interest in villagers' personal lives. Sometime towards the end of the first year, the idea of Gram Sabha was introduced. This was a model followed by several Gandhian groups and considered by them to be the central unit for relationships between GORD and the villages. Gram Sabhas were usually made up of representatives from every family in the village. This was theoretically a mixed group where women from women-headed households would participate as equal members. These women could also participate in the Mahila Mandal where wives of the male members of the Gram Sabha discussed issues of interest to them. Often there was a parallel Youth Association for young men aged nineteen to twenty-five. A central committee of five or six male members would be nominated to carry out decisions of the Gram Sabha. They could be replaced at any time on the consensus of the

group. Rules and regulations were determined by each Gram Sabha.

This model of group formation was common to voluntary organizations claiming strong Gandhian ties and considered to be part of the realization of Gandhi's concept of Gram Swaraj, or village self reliance. The first step was viewed as the formation of a Gram Sabha, followed by the establishment of a Gramniti, or common fund, to which members contributed by a formula determined by the group. This could be either in the form of crops or cash per household. This was to be supported by Shramadan, a tradition of volunteer labour for work projects which benefited the entire village like road construction and sanitation. These three components were considered to be the main strategies of establishing Gram Swaraj.

In the village of Bolaganivaripalem, the Gram Sabha was formed in 1989 with members from each of the seventy-seven families represented. A separate Mahila Mandal was also formed. Gramniti was started by a compulsory contribution of one bag of rice (100 kg.) from every male head of household. This fund grew from Rs.18,000 to Rs. 40,000 by 1992. Fines levied in adjudicating village conflicts were the other source of revenue. As the Gram Sabha increased in its role as mediator in village conflicts, the levy of fines reinforced its authority and forced the contestants to invest in the community. The Gram Sabha was recognized as a local institution which oversaw the welfare of the village, facilitated discussions on proposed plans, and acted as an informal court to resolve village conflicts. It was not seen as being in competition with the Panchayat system as the Sarpanch (village leader) was likely to be from a dominant caste and represented a larger area and did not concern himself often with the

affairs of a small hamlet like Bolaganivaripalem. Other institutions like the police and the Mandal Revenue Officer retained a remote role in all village events.

GORD also emphasized the use of traditional communication patterns through what became known as 'cultural action' which involved kolattam, a village stick dance, songs, drama and quotes from Gandhi-ji and the Vedas. Because of their concern for youth, they held a series of training workshops on 'kolattam' and formed village youth dance groups. Songs and dramas were performed at evening village gatherings touching on a wide range of topics including environmental issues (forestry, fuel, sanitation), and social issues (dowry, alcoholism, wife beating). These mediums of communication were familiar to the villagers but introduced new ideas for discussion.

A New Myth or Space for Dialogue?

There has been little disagreement amongst those who study voluntary organizations that their physical proximity to local people and knowledge of rural contexts offered greater opportunities to facilitate meaningful social change. It has been acknowledged that volags could be strong, where government bureaucracies were weak, in building long-term relationships of trust with villagers. However, this thesis raised the question whether this fact alone was enough to conclude that voluntary organizations could always better interpret the needs of rural people and critically analyze the causes of their problems. The quality of their relationships with rural people needed to be examined in the light of many factors. Rahnema (1985), Sheth (1984), and Tandon (1989a) discuss some of the critical factors useful in

assessing the work of voluntary organizations. All three writers warn against volags who function solely as delivery channels for social welfare or development programs devised by the state and international agencies. They also unanimously favour voluntary action which views itself as part of the resistance against the dominant model of development.

The three volags in this study constructed their identities to a large extent as 'different from government' partly because anti-government sentiments were high amongst rural people. In their emphasis on building personal relationships, they have been able to distinquish themselves from government bureaucracies who favoured impersonal and distant interaction with people. While they maintained cordial relationships with district level officials, they did not see themselves as delivery channels. Their experiences with government was a mixture of positive and negative. It was more difficult to determine the extent to which these three volags articulated resistance to the dominant development model. Much of their internal or external documents were lacking in explicit critiques of the dominant view on development. In some ways, GORD most clearly articulated this as part of its roots in Gandhian philosophy.

In addition, Sheth suggests that effective grassroots initiatives need to spring from an analysis of poverty in India beyond viewing it as a purely economic problem. It has been, in fact, a combination of social and cultural exploitation manifested in economic and political terms (Sheth, 1984, 23). To Sheth, the work of volags should be examined in light of their focus on working with the Harijans and organizing people on the basis of caste and ethnic lines as

well as class divisions. The three volags in this study appeared to share this cultural, social and economic analysis of poverty. It was most evident in their singling out the lower castes (SC, ST, BC) and women as the focus of their activities. KIPDOW worked within an area of predominantly BC villages and its sanghas were organized based on a combination of socio-economic factors. RHGBMSS took their analysis even further by employing only staff from these social groups. GORD was active in mono-caste villages, mostly BCs (as in the case of Bolaganivaripalem) with some SC, ST villages (as in the case of Penumudi Harijanwada).

Another important criteria for evaluating the effectiveness of voluntary groups was suggested by Tandon who placed the emphasis on building locally sustainable people's institutions (Tandon, 1989a, 5-6) which could become forums for dialogue and collective action. The belief that people could solve their own problems was operationalized in the group-formation process of the three voluntary organizations. KIPDOW had the best articulated philosophy of group-formation in their concept of appropriate sociology. The composition of the groups reflected caste and gender relations without imposing outside values of equality and equity. Instead of using group-formation as a means to change existing power relations between castes and gender, KIPDOW used the process to create a space for dialogue which had the highest potential for participation. This was not interpreted by KIPDOW staff to mean that existing caste and gender relations were unproblematic. Instead they considered group-formation and the creation of space for dialogue to be the pre-condition for changing these power relations. As members of sanghas increased their capacity for decision-making and resource management (from savings to tree nurseries), it was hoped that they would increase

their ability to resist caste and gender and gender domination. KIPDOW groups had the greatest potential to be locally sustainable peoples' institutions as they drew upon a well articulated philosophy, a wide range of experiences from other MYRADA projects and were facilitated by staff with a high level of community organizing skills.

The Gram Sabha model of group formation followed by GORD was less proven by field experiences. There were a handful of voluntary organizations in Andhra Pradesh with Gandhian roots using this model. GORD was largely motivated by Gandhi's strategy of Gramswaraj; for GORD it was a philosophy composed more of ideals than built on grassroots experiences. There was generally a lack of empirical evidence against or in support of the effectiveness of this model. Several aspects could be called into question. Theoretically, women representing women-headed households sat on the gram sabha in equal capacity to men. This was difficult in practice since the social standing of these women was likely to be low because they were widows or wives abandoned in polygamous relationships. They would not speak freely in meetings because they were doubly disadvantaged as women and as social misfits. GORD has worked primarily in mono-caste villages (of Goudas from Backward Castes, and Malas from Scheduled Castes). It was not clear how the gram sabha structure would operate in mixed-caste villages where intercaste rivalry was prevalent. Although gram sabhas were not a part of the existing panchayat system, there was no evidence to suggest that they could escape the common problem of domination by local elites.

Rahnema suggests that meaningful development through empowerment could be accomplished by voluntary organizations who reject a technocratic approach to people's problems and who support instead people's ability to provide their own solutions. Such organizations see their role as being supportive and responsive to rural people by providing resources in terms of funds, linkages and knowledge which is appropriate to the local contexts (Rahnema, 1985, 71). The degree to which volags were supportive and responsive could perhaps best be seen in the manner in which they handled disagreements and conflicts between them and the villagers. Such disagreements could either create space for dialogue or become struggles for power.

Villagers at Harijanwada and Godduvelagala villages disagreed with the KIPDOW suggestion to protect a certain area from grazing in order to allow natural regeneration. KIPDOW staff pursued the discussion in order to understand the reasons behind this disagreement. They discovered that the reason was a fear of loss of grazing land without substantial benefits in other areas. Visits were arranged for some villagers to other KIPDOW projects where areas have been protected for three years. These people discussed with the other villagers the benefits from these NFRs (Natural Forest Regeneration) as well as how protection was enforced. The result was that the people at Harijanwada and Godduvelagala chose a suitable area by common agreement to be protected by social fencing. By 1994, after three years, this area was yielding some of the same tangible benefits and these villages have in turn become promoters of NFRs in other villages. Although KIPDOW staff drew from a wider experience than the villagers and knew the demonstrated success of this strategy, they realized the

importance of allowing the villagers to go through the process of discovery. People need to investigate for themselves through interaction and discussion with others In both individual and group discussions, KIPDOW staff indicated a consciousness of this importance as they recounted the process of understanding and discussions that went on before any activity was taken up by the village. They also expressed a belief that rural people have valuable ideas and must be respected for their knowledge.

Another conflict of a different nature occurred in the case of weir construction at Mustapalli. The whole village agreed on the site and land for construction since it involved some of them giving up some land. The village also agreed on a method of compensation. After the work had started, a man who had been absent for a year returned to the village. Previously he had encroached on this land to cultivate crops. When he learned the weir was being constructed there, he objected. KIPDOW staff stopped all the work and the villagers held meetings to discuss the problem. The village elders revealed that this man did not have ownership of the land. Since he had been absent during the planning stage and since the weir was for the benefit of the whole village, he had no right to object. They united against him and he withdrew his complaint. In cases where the construction was seen as imposed by outside forces, such as governments or contractors, villagers gain no sense of ownership. In this case, they were interested and able to solve the problem because the weir was perceived as their own plan. KIPDOW staff correctly discerned that this was a disagreement between village members which needed to be resolved internally. Their original agreement with the village was that the weir could only be built if there was complete agreement. This was a structure

for the common benefit which needed to be maintained by the collective action of the village. If the village could not discuss and resolve the conflict as a group, there was little chance of the weir being sustainable over the long haul.

RHGBMSS encountered differences between their priorities and the villagers' priorities in land development at Odiveedu village. RHGBMSS staff were promoting plantation of multipurpose trees and regeneration of local species from an ecological point of view. But the villagers of Odiveedu, who were landless labourers, perceived their priorities to be to decrease dependence on wages from casual agricultural labour and increase food security. What they wanted was to plant fruit trees (mango, guava) and some eucalyptus, which would provide fuel and timber. They also wanted to intercrop with groundnuts which would provide more income so they would not have to work for neighbouring landlords for as much as nine months of the year. After much discussion, RHGBMSS staff understood the villagers' perspective of their problem and agreed to help develop the land as an agro-horticultural plot. They helped villagers obtain fruit saplings and seeds for cultivation. In turn, the villagers agreed to include multipurpose species and set aside seven acres for natural regeneration. After five years, many local species have come back on this land, including date palm, custard apple, local grass and shrubs. Twenty families obtained off-season income from weaving mats with palm leaves. Grasses were available for making brooms and roofing. Regeneration of a local shrub (bandera), familiar to the older villagers, also provided fuelwood and leaves for medicinal use.

KIPDOW and RHGBMSS appeared to have considered these disagreements as opportunities for dialogue and understanding instead of as confrontations. They perceived their roles to be providing support and helping people link up with appropriate resources. In these situations their staff were relatively sensitive to people's needs to analyze their own problems and provide solutions. They were also less constrained than government officials by rules about what could or could not be done and were able to respond to the villagers' expressed needs with some degree of flexibility.

In conclusion, the organizational cultures of the three volags in this study were distinctive from government bureaucracies in their assumptions about relationships with rural people. They believed that social relations were built on personal interaction over a period of time. This was more consistent with local knowledge systems which privilege the personal and community (Banuri & Apffel Marglin, 1993, 15-16). As a result, they have generally been more successful in building long-term relationships which are personal, interactive and promote trust. Their focus on sanghas/gram sabhas as sustainable people's institutions could be seen as a result of their concern for community and commitment versus mobility and individuals. These institutions could potentially provide a forum for dialogue and action as well as help achieve a certain level of participatory decision making. Such personal, interactive organizational cultures have also contributed to the emergence of subsistence forestry practices based on rural people's knowledge.

Chapter Six

THREE CASES OF SUBSISTENCE FORESTRY

In this chapter I will present three cases of subsistence forestry, so named because they do not fit into the prevailing model of scientific forestry. Subsistence forestry is informed by local knowledge about trees which, in the confrontation of knowledge systems between the modern and the traditional, has been consistently delegitimated. Subsistence forestry is reclaimed in the sense that rural people need to regain possession of their practices as a viable and legitimate model of forestry. The act of reclaiming is different from the act of recovering, or extracting indigenous knowledge from rural people to be incorporated into scientific knowledge. The purpose of reclaiming rural people's knowledge about subsistence forestry is to validate alternative ways of knowing for both the knowers (in this case, villagers) and outsiders. Part of the act of reclaiming is to call attention to these local practices and such is the intention of these case studies.

The subsistence forestry practices which emerged in village communities with the support of these three voluntary organizations will be discussed according to the three distinquishing characteristics of non-modern knowledge systems described by Banuri and Afppel Marglin (1993). The first is the degree of embeddedness. This can be addressed by asking the following questions. To what extent are social and cultural, not just economic, concerns considered in the indigenous technologies applied by these communities? What is the relationship between their forestry activities and other components of rural economy such as agriculture, animal husbandry and soil and water conservation? The second characteristic is

contextuality, which represents the relationship between knowledge and the local context. How do these forestry activities differ because of the boundaries of space, time and local realities? What attempts are made to replicate these models in other contexts? The third area encompasses the views of nature exemplified by these village communities. Are these perspectives consistent with a relational view or an instrumental view? In forestry, a relational view of nature promotes use value of trees and an instrumental view emphasizes market value. Use value is predicated on the continued existence of the trees which yield a sustainable output for consumption. Market value is predicated on destruction where trees are harvested like crops and sold for cash.

Protection and Regeneration

The forestry model which emerged as a result of PRA workshops and discussion with villages in the KIPDOW watersheds did not emphasize the traditional elements of land clearing, planting, and after care. KIPDOW had learned two important lessons from working in the earlier resettlement program. The first was that to successfully plant trees in the arid conditions of Kadiri area was an expensive endeavour which often met with failure. There were simply not enough water resources in this region. The second was that the strategy of protection was underestimated as a method of regenerating degraded lands. Other MYRADA projects had gained additional important insights. Forestry was best taken up in the context of watershed management. Micro-watersheds were more manageable where rural people could see from ridge to valley and impact was easily observable. Finally, rural people have developed management systems in order to survive in harsh environments, Any new

strategies must be sensitive to the already established systems.

Protection as a forestry strategy was also developed out of the local context. These villages were situated amongst rolling hillocks which formed a watershed area of 4300 acres. This was an arid zone where water was scarce and insufficient to sustain large-scale plantation programs. If the focus of forestry activities was centred on tree planting, only farmers with irrigated lands, a small minority, could benefit from it. The majority of the people in the watershed owned less than three acres of dryland, sometimes supplemented by half an acre of irrigated land. Furthermore, the region was hilly with most of the flat areas considered valuable for cultivation. Wasteland was scarce and estimated at 499 acres, eleven percent of the area. Most of these wastelands were barren hills. Opportunity for developing community plantations on wasteland was therefore very limited. Protection and regeneration seemed to be more appropriate strategies in this context.

The KIPDOW model focused on three elements. The first was treatment of the watershed area for soil erosion by building boulder bunds. This was seen by KIPDOW staff as fundamental to land-based activities and confirmed to be a priority by the villagers. Rocks were in plentiful supply and farmers had for a long time been in the habit of removing rocks from their fields and using them as boundary markers. Several had even built some stone bunds, but a more comprehensive effort was required to bring about tangible results. It was clear that villagers possessed knowledge about stone bunds as a measure against soil erosion. It was less clear why the technique appeared to have fallen into disuse. Dependence on daily

wages was one factor which prevented them from applying the indigenous technology to their own land as they could not afford the time and lost wages in order to build bunds. KIPDOW responded by providing wages for bund construction through the sanghas. A plan to strengthen existing bunds and build new contour stone bunds was developed with the sanghas. Water harvesting structures like weirs and gully checks were also a part of the plan. The labour required to complete this work was supplied through Shramadan and paid wages. The wages were paid at the market rate but with a designated portion put directly into the group savings. The sanghas were the organized body through which the work was organized, inspected for satisfactory completion and wages paid out. Two other aspects were integrated with the soil conservation activity. To provide for fodder, seeds of Stylo santhesis Hemata (introduced by KIPDOW) and horse gram (suggested by the local people) were sown along weirs, bunds, tanks and in wastelands. These and the local grasses were cut for stall feeding of livestock. To promote agriculture for local consumption, seeds of castor, lab-lab and redgram [20] were obtained by KIPODW at the requests of farmers who wanted to inter-crop.

This element of the subsistence forestry which emerged at KIPDOW was most interesting because of its integrated view towards forestry. KIPDOW staff did not impose on the villagers a perspective which saw forestry only as saplings planted in the Reserve Forest or a farmer's field. Together with animal husbandry and agriculture, local people saw forestry as embedded in the rural economy and linked to soil conservation. Increasing tree assets was interwoven with the availability of fodder for grazing and the productivity of agricultural

[20] Local species of pulses for food.

land. Improved fodder seeds were provided along with measures of protection for local grasses and encouragement of stall feeding. A part of the forestry effort also included seeds to grow pulses for consumption and other agricultural inputs like credit. Thus KIPDOW was responsive to local conditions and worked with the rural people to address their needs and improve the overal rural economy. By viewing indigenous technologies differently from government bureaucracies, KIPDOW was able to recognize and strengthen local knowledge about stone bunds and provide the necessary inputs for their construction. Wages for this bund construction were calculated by the metre, at the suggestion of the villagers. In other areas government officials reportedly rejected the local technology of stone or boulder bunds because they did not conform to the guidelines established by government departments who preferred earthen bunds [21]. The main reason given for this rejection was that the government could not pay for stone bunds because the established procedure for payment was calculated by measuring the size of the pits dug to extract the soil needed for construction of earthen bunds. The need for bureaucracies to conform to established norms could not accommodate people's initiatives and local management systems.

The second element was the protection of existing trees. Villagers contructed low stone fences at the base of tamarind and custard apple trees to indicate their protected status. Thirty percent of the labour needed to build these fences were contributed by the village while KIPDOW contributed wages through the sangha towards the rest. Some 1800 trees were protected in this manner and developed into important assets for the village.

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[21] This was reported by several other MYRADA projects.

Tamarind trees take a long time to establish (about eight years before they bear fruit) but will continue producing for generations and have traditionally been important for the generation of income. Tamarind trees planted on private property are considered family property and the annual crop of fruit often divided amongst members of the family. Tamarind trees planted on village lands or roadsides are regarded as Panchayat property with annual harvesting rights for their fruit contracted to the highest bidder for a fee. Women used to bid to harvest these crops, but with declining access to credit [22] have lost their capacity to do so. Outside contractors have taken over this traditional role instead with the result that villagers often consider these tamarind trees as belonging to others. Indiscriminate cutting by villagers and outsiders were tolerated. Many of the tamarind trees looked like war amputees and produced less and less fruit. When the sangha savings fund was able to provide credit to women, they immediately thought of reclaiming the harvest rights to these trees by taking a loan to pay the contract fee. Women were not only successful in bidding for the tamarind crop, but took other loans to operate a tamarind business, where they employed other local women to remove the shells and pits. The processed fruit could be sold in bulk in Kadiri town for a higher price. Contractors from outside the area merely shifted their operations to other areas where they could still obtain tamarind contracts. A spirit of protection was also revived. Now that the women had the harvest rights to these trees, they considered the tamarind trees as part of the village and protected them from cutting with great vigilance. Those who held the harvest rights for tamarind trees were also allowed to protect them through the year and

[22] As a family became poorer, loans were increasingly taken for necessities like food, medical emergencies and marriages rather than for business purposes.

levy fines for cutting. These fines were enforced by the sangha and paid into the common fund.

Custard apples already supplemented the sparce local diet. Now they were newly recognized as a source of income as villagers realized that the fruit could be sold for a good price once the problem of transportation and marketing were solved. Protection of custard apple trees also had other ramifications. They were the locally preferred species for strengthening stone bunds because they were drought resistant, had good root systems, not browsed by animals and provided fruit and fuel. This preference persisted in spite of expert insistence on vetiver grass as a more suitable species for vegetative bunding. The gravest threat to the survival of these trees was the indiscriminate cutting for firewood. The women themselves suggested a system to protect the harvest similar to the protection of tamarind trees. A contract fee was paid into the group savings account for community use and the person awarded the protection rights had the authority to levy fines for cutting or theft. The fines were also paid to the group fund. The protected trees remained healthier and produced more fruit. The person who had taken out the original loan for the contract fee could gain some additional income as well as pay off the loan by selling the fruit in Kadiri town. This protection work was particularly suitable for women since the trees were often near the village and watching over them could be combined with their daily work. Trees under protection were marked with low boulder walls around the base which became recognised symbols in the area.

This strategy of protection as a means to regenerate forestry assets was extended to larger areas which the project called NFR (Natural Forest Regeneration). By common agreement, each village selected sites on village common lands for natural regeneration, and villagers abstained from grazing their animals in these areas. Eight sites were protected covering 51.5 acres in total. These were often marked again by a low boulder bund to signify their protected status. The regenerated grasses and trees remained village property. This strategy was seen as advantageous since it requires relatively low cost and encourages the regeneration of local species. Periodic surveys were conducted to assess the achievements of natural regeneration. At the start of the project, in 1989, 18,101 trees existed in the area. By June 1993, 21,828 trees from thirty species were recorded. The protection was enforced by the respective villages. Offenders (those who enter the NFRs for fuel, fodder or fruit) were fined and the fees contributed to the common fund. Repeat local offenders were subjected to considerable community pressure and offenders from outside the villages were threatened with physical violence.

Through these forestry practices a relational view of nature was reinforced which did not necessitate the destruction of trees for economic gain. There was variation in how villagers in the KIPDOW area viewed trees, depending on gender and economic well-being. Since KIPDOW's involvement was primarily with the lower castes, little attempt was made to document the variations in terms of economic status, but some study was made of the variation in terms of gender. Men were found to be more interested in the income generation aspects of forestry and therefore appeared to have a more instrumental view of trees. As an

example, men in Palavandlapalli and Gederla villages cited economic benefits as examples of benefits of forestry. High on their list of priorities were wages from bund construction, selling of fruits like guava and custard apples, and timber from eucalyptus for house construction. Women were found to be more interested in the household consumption aspect of forestry and therefore appeared to have a more relational view. Women in Godduvelagala and Palavandlapalli villages put more priority on non-econmic benefits of trees, such as homestead trees for food and fruit, trees for green manure [23] and trees for shade. Those who were economically better off did not generally depend on forest products for daily survival. They tended to grow trees as crops for pulp and timber, consistent with a more instrumental use of trees. The landless were looking for increased food security and were more interested in the use value of trees like the mango, coconut and custard apple.

Pattas for the Landless

A very different pattern of forestry emerged from discussions between RHGBMSS staff and the villagers of Odiveedu. Under a series of Land Reform Acts after Independence, land allotment to the rural poor has been carried out through various government schemes. The 1988 GOI figures for land allotment in Andhra was 427,200 hectares to 599,273 beneficiaries (Chambers & Saxena, 1989, 176). The assignment of Poremboke lands was one of these initiatives and the land pattas [24] given to the Odiveedu families were on Poremboke lands,

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[23] Examples cited included the use of Pongemia leaves for fertilizing rice fields, the use of custard apple leaves, neem cakes and several local varieties to 'put strength back into the soil'.

[24] Pattas are entitlements given by the government, most frequently used on land assignments, but in the late 1980s and early 1990s, some trees pattas have also been verbally approved. These

which were considered uncultivated degraded lands under the control of the Revenue Department. The classification and estimation of wastelands in India has been a highly contentious issue. The Ministry of Agriculture, the National Wasteland Development Board and the non-governmental Society for the Promotion of Wasteland Development all offer conflicting definitions of uncultivable degraded lands (Chambers and Saxena, 1989, 40-44). The Ministry of Agriculture considers any land that is *not* under cultivation as degraded. This definition would exclude land on which trees might exist for communal use. The GOI figures in 1986 estimated a total of fifty-five million hectares of wasteland, which included fallow land, cultivable wasteland, pastures and groves (Chambers & Saxena, 1989, 40). Of these thirty-five million hectares were believed to be owned privately and twenty million hectares remained unalloted (Chambers & Saxena, 1989, 44). The lack of agreement on definition and outdated assessments of the category of uncultivable degraded lands lead to much confusion with a great deal of discretionary authority left to the local Mandal officer. Although the land allotment policy was generally well known, many factors prevented those eligible from applying for pattas. Among these obstacles were the lack of literacy skills needed for filling out application forms, the difficulty of identifying lands which were designated poremboke lands, and the long process of pushing the appropriate papers through the bureaucracy of the Revenue Department. Land issues in India were viewed as a complicated maze even by the educated; for the non-literate villagers, they were a nightmare beyond comprehension.

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pattas can be passed on in the family but cannot be sold.

In the case of land pattas allotted to Odiveedu village, RHGBMS provided some legal knowledge and the ability to deal with the local bureaucracies. The people of Odiveedu village approached Mr. Siddaiah for help after witnessing the organization's work in nearby Krishnapuram village. The villagers themselves had already identified this block of poremboke land near their village and had attempted to petition the government for assignment. When RHGBMSS became involved, the government had already granted pattas to some families. This was a common strategy to partially fulfill a request in the hopes that the land assigned would remain unused due to rivalry and lack of support facilities. RHGBMSS used their access to government officials to approach the District Collector for pattas for the remaining families. The result was that a block of sixty acres was granted to the twenty families in Odiveedu village. Each family was alloted two or three acres each. Under this arrangement the pattas gave the families the right of ownership but not the right to sell. As long as the land remained within the family, the patta was considered valid.

Obtaining pattas for land is only a first step in bringing the wasteland to some productive use. In a country with such tremendous population and land pressures, any land with potential for cultivation would already have been encroached and farmed illegally. Land which requires some additional input in order to be productive often remains unused even after assignment. There is evidence all over Andhra Pradesh of assigned land where there are few or no signs of activity for many years, the main reasons being lack of additional support in the form of wages and water resources.

The land at Odiveedu was a desolate sight, full of rocks and thorny bushes with very shallow topsoil. There was no irrigation facility and without extensive work in clearing, even dryland farming could not be accomplished. The chances of obtaining funds from the DRDA for wells were slim. The level of ground water in such a drought prone area was also a concern. There would not be sufficient water for farming the entire sixty acres. In discussions with the villagers, RHGBMSS staff tried to explore several alternatives with them. The differences in priorities and perspectives between RHGBMSS and the villagers have been discussed earlier. The priorities of the voluntary organization emerged out of disembedded, reductionist technical and environmental considerations for soil and climatic conditions. The land was suitable for planting multipurpose trees and for natural regeneration of local species. The priorities of the villagers, on the other hand, emerged out of more embedded social, cultural and economic conditions of dependency and security. The strategy derived from this local perspective resulted in one of the more significant impacts of the forestry development at Odiveedu when, after four years, the villagers demonstrated that their dependence on wage labour had decreased from nine months to three months as a result of the subsistence forestry. When RHGBMSS staff understood the reasons for the difference in perspective, they were able to help villagers meet their goals without totally giving up environmental concerns. The plan for developing the land as an agro-horticultural plot would meet the villagers' goals of decreased dependence on outside labour and increased food security as well as incorporate natural regeneration and multipurpose trees. This plan resonated with the villagers, particularly the older people who had knowledge of trees and memories of the Cuddapah area as a forest. The Rayachoti area has been deforested for more than a generation and

conversations with villagers indicated a difference in knowledge about trees between the old and the young, particularly regarding indigenous species which have been replaced by commercial species.

A plan for development of the sixty acres as a forestry plantation of mixed species was discussed and agreed upon with the village. Since further help from the government was not a likelihood, RHGBMSS was given the task of finding outside resources for infrastructures like wells, pumps, piping and seedlings. The villagers agreed to work cooperatively in the development while retaining individual ownership of the land. Each family made a commitment to provide a certain number of days of free labour consistent with the concept of Shramadan common in villages. Additional labour would be required for clearing, planting, and watering and these would be done in the dry season so as not to interfere with the villagers' work on their own fields or with their work as agricultural labourers. Wages for this plantation work would be paid by RHGBMSS at the market rate. The villagers also agreed to donate a part of their wages to the group savings fund.

The land development followed several stages. In the first stage of water resource development, one open well and three bore wells were drilled. In the land treatment stage, the area was protected by thorn fencing, a natural product in the area. Soil conservation measures of bunding and building gully plugs were also incorporated into the general work of clearing the land of stones. Certain areas (with sufficient topsoil) appropriate for cultivation were identified and ploughed. A variety of seedlings were planted including such fruit

species as Mango, Badam (Indian almond), Seethapal, Tamarind, and multipurpose species like Neem, Sunkesula, Bamboo, Eucalyptus, Subabul, and Auriculous formis for fodder, fuel, medicine and oil. Crops of ragi and groundnut were planted in between the rows of trees, and even a small patch of rice paddy was cultivated near the well. Grasses, which had regenerated due to the protection, were cut for fodder and roofing material.

After the initial success at Odiveedu, RHGBMSS also helped twenty-two families in another village obtain pattas for sixty acres of poremboke land adjacent to the Odiveedu plot. These people also wanted to follow the Odiveedu model and the two villages cooperated in developing the 120-acre area. The degree to which the villagers demonstrated ownership was evidenced in the contribution of Shramadan. When RHGBMSS ran out of funds for wages towards the end of the project, all the villagers decided to complete the work on the remaining forty acres by providing totally free labour.

The forestry model adopted in the village of Odiveedu subscribed to an integrated view of forestry. Planting trees was seen as a part of land development strategies which included soil conservation (boulder bunds), water conservation (gully-checks and wells) fodder development and agriculture. It was also seen as a means to address the problems of dependence and security for landless labourers. Although government nurseries were distributing saplings (predominantly eucalpytus) in this area, these villages did not participate because the Forest Department could not provide any help with land treatment work such as wages for bunding, or funds for digging wells. As a result, in order to participate, villagers would have to

approach several different government departments for assistance with fodder, agriculture and land development. This was a bureaucratic maze they dared not enter.

When RHGBMSS maintained a disembedded view of forestry, they did not receive much cooperation from villagers. If they had imposed their model of plantation on the villagers, the survival of the saplings would have been in jeopardy. There have been many examples of rural people uprooting saplings they did not want. What was in RHGBMSS's favour was the fact that their relationship with the village had been built over time and based on personal interaction. This enabled them to create a space for dialogue and through dialogue to understand the priorities of the villagers. The strength of the model at Odiveedu was in its contextuality. Poremboke lands were available in this area, but not in others. The conditions necessary for patta assignment and land development were discussed earlier. Although considered successful, this model could not be transferred easily to areas where poremboke lands did not exist. The agro-horticultural plot at Odiveedu exemplified a relational view of nature. It was clear to the villagers that the agricultural component was for cash or consumption, and the forestry component for use. At the time of research, the mango trees had not yielded much income, but other benefits were already obvious. Women could cut branches from eucalyptus and auriculous formis for fuel. Subabul and local grasses provided fodder. Regenerated local species like date palms provided raw materials for mat weaving, thus contributing to an increase in off-season non-farm employment. Other local species provided medicine and fruit which have not been available in the area for years. In a group discussion with thirty women sangha members, they listed twenty uses of leaves from these

local species.

The most significan impact of this effort was in the decreased dependence on wage labour. Using PRA methods, social maps of labour distribution were drawn by Odiveedu villagers for the period before and after the development of the patta lands. These maps indicated that on an annual average, villagers used to rely on working as coolie labour for nine months and worked in their own fields for three. Now they have actually reversed the ratio.

The success of the Odiveedu project generated a great deal of local interest since the site was located near the Rayachoti/Rajampet highway. This location resulted in greater exposure for the organization and the group was invited by government to take on several programs of checkdam construction. This was both a blessing and a curse as this brought some direct benefits to the villages but also drew the wrath of local contractors who were in the practice of obtaining this work from the government and profiting from the assigned work by driving costs up and/or not completing the work properly.

Lanka Development

GORD's early efforts at forestry were consistent with their perceived role as a mediator in securing government benefits for villagers. The APFD Social Forestry program was well under way in 1989 and farmers were invited to collect up to five hundred seedlings per individual for planting. Yet one of the most common complaints from small farmers about

dealings with the Forest Department was the difficulty in obtaining a 'chit'[25] which allowed them to collect the seedlings and the distance they had to travel in order to bring the seedlings home. GORD staff helped farmers to compile a list of people with available land who wanted to plant trees and submitted a group request to the Forest Department for 40,000 seedlings. They also arranged for transportation of these seedlings to the appropriate villages. Twenty farmers in three villages planted casuarina and eucalyptus on the boundaries of their land. Coconut and Mango seedlings were added later from private nurseries due to popular demand.

Although this part of GORD's forestry activity was similar to government models in its focus on the individual, it differed significantly in the methods with which they worked with these individuals. Gram Sabha meetings were the forum during which discussions were held about tree planting and identification of villagers with available land who were interested in taking up tree planting. Distribution of seedlings, follow-up and nursery training were accomplished in the context of the community meetings.

The most interesting alternative forestry model in GORD's work was their Lanka land development at Penumudi Harajanawada, a hamlet of seventy-six families of Malas, a subcaste within the S.C. group. This sprang directly out of the local context of Krishna and Guntur districts. Lanka lands are islands formed by deposits along bends and near the mouth of rivers. Lanka in Telugu means 'island.' Since they are new land formations, they

[25] A piece of paper showing official permission.

automatically belong to the Revenue Department. These lankas are of varied soil quality from pure sand (only suitable for casuarina) to mixed red soil and sand (suitable for some horticultural species and crops) to good fertile soil for sugar cane. These areas have seasonal boundaries as they are subjected to periodic floods as the rivers rise and ebb. Some parts may disappear altogether while new parts appear from year to year. In a context where land is scarce, there is a lot of interest in cultivating these lankas, but demarcation for distribution is difficult.

The Revenue Department gave permission for cultivation to people from S.T., S.C., and B.C. social groups under certain conditions. If a village formed a cooperative society, then the government would entertain the society's application to develop the lanka in their immediate vicinity. These cooperative societies had to include members made up of villagers from the above mentioned castes, who pay membership dues, hold regular meetings, maintain official minutes and produce an annual audited financial statement. The Revenue Department would then either give an annual lease which was assumed by all parties concerned to be renewable automatically, or pattas which represented outright, but non-transferable ownership. Another government department, the SC Corporation, responsible for distributing benefits to the SC group, would give additional input of Rs.5000 per acre and grants for drilling borewells.

In the socio-economic context of Krishna and Guntur districts, this appeared to be an appropriate government effort to provide the landless with opportunities for cultivation. In

the fertile coastal region of Andhra, with 58% of the state's irrigated land, cultivable land was limited in proportion to the population. It was not uncommon to have entire villages dependent on seasonal labour where forty-five percent of SC's were landless. Development of lanka lands seemed to be ideal for promoting self reliance of the agricultural labourers. Yet, this government program had not made a significant impact on the conditions of the landless. This was consistent with earlier observations that government benefits might exist in theory, but because of the way that they were mediated by brokers or politicians, they were inaccessible to the average villager. Personal communication from three voluntary organizations who have worked in lanka land development projects indicated that the bureaucratic organizational culture of government departments was also an important factor in this inaccessibility. Government departments lacked understanding of and skills for organizing people's institutions. In addition, relationships between them and the villages were distant and impersonal. As long as the lanka cooperative societies existed in official records, government officials considered them to be viable cooperatives. In reality, they existed only on paper or were dominated by a few individuals who misused the funds for their own purposes. Even when officials realized that cooperatives could not be created overnight, they lacked the necessary skills to promote community organizing. Corruption by middle-level officials was also considered an obstacle by more senior, well-intentioned officers. In discussions with village groups, voluntary staff and government officials during 1989-1992, there were many instances cited of lanka land pattas assigned to fictitious lists of names, of grants obtained from the SC Corporation for land development that never reached the intended beneficiaries, and of bank loans obtained in the name of cooperative societies

without their knowledge.

In the case of Penumudi Harijanawada, GORD again built on their role as advocate to obtain government benefits. The village was made up entirely of SC families who were landless and dependent on agricultural labour for income. The men migrated in search of work for six months of the year, in the months of January, November and from June to September. Thirty-eight acres of lanka land was assigned in pattas to these families some twenty years ago, but due to the lack of additional input, this land has only produced fodder grass for cattle. Some red gram was produced for consumption, while the families remained dependent on wage labour for local landlords for survival. Since the land was neither irrigated nor suitable for paddy cultivation, it was of little interest to big landlords. A further complication in this situation was the fact that the SC Corporation had funded the drilling of thirteen borewells which were incomplete. The contractor drilled to a depth of thirty-five feet and stopped work, possibly because the villagers refused to pay a bribe. According to the official records of the SC Corporation, these wells were completed and there the matter rested.

The Penumudi Lanka Society approached GORD for help because of their well established relationship with nearby villages. GORD saw their role as strengthening the community organization of the Lanka Society and facilitating discussions on land development issues as well as linking the village with outside resources. Their first task was to reform the structure of the society to achieve full representation. The seventy-six families were divided into groups of six with each group electing a representative to sit on a central committee of

thirteen. Discussions and decisions about land development were conducted with the whole society, but day-to-day decisions in accordance with established plans were left to the central committee. GORD worked with the society to incorporate suggestions from villagers, clarify responsibilities and make plans based on mutual agreement. Initially the Lanka Society was attracted by nearby casuarina plantations they had seen and planned to plant casuarina seedlings on the thirty-eight acres. Casuarina farm forestry is common in this region where farmers will plant four thousand saplings per acre and harvest the crop after three years. These trees are sold for pulp and timber on the open market. GORD arranged for exposure trips to two other sites where the lanka societies, assisted by different voluntary organizations have chosen an agro-horticulture model. They saw mango trees had been planted with multipurpose species on the boundaries, while individual families still had enough open space on their land to cultivate crops of their choice. After the visit and discussion about benefits with the villagers involved in this agro-horticultural lanka development, the members of the Society at Penumudi related their findings to the others. After lengthy discussion and exploring the two alternatives, they opted for a similar model because this would offer them a certain degree of freedom from the dependence on seasonal labour and provide food security.

At the time of my March 1994 research visit, the Lanka society members were making plans to repair the borewells. Each family agreed to contribute three hundred rupees as well as shramadan to redig the wells until they hit water, which was estimated to be at about fifty feet. Then the land clearing work would be done as a community. The plan was to plant teak and casuarina as a fence on the outer edges of the lanka which were subject to floods.

This would provide timber for sale and house construction material. The centre portion would be planted with mango, guava, sapota, coconut, regu (wood apple) and pomegranate which would provide food and income. A local grass, pillipesara, would be grown for fodder. They also hoped to cultivate some other crops for consumption.

GORD's earlier individual plantations did not demonstrate an integrated view of forestry. Instead, forestry was considered in isolation as trees planted in farmers' fields. The result was that only those with land and an ability to take risks were able to capitalize on this opportunity. Most of the twenty farmers who planted saplings in this initial effort had more than ten acres of dry and wet lands, well above the average land holdings for this area. This indicated that they were not the poorest members of the community. Its earlier development of individual plantations shared a perspective similar to the modern knowledge of scientific forestry, emphasizing the cash value of trees planted for individual farmers. In the process of learning with the rural people, GORD had moved to a more relational view of forestry in its Lanka land development. In working with the Penumudi Harijanwada Lanka Society, GORD was able to develop a more relational view of trees based on local knowledge, emphasizing groups and the use value of trees.

A Word About Homestead Trees

In spite of their different physical and social contexts, all three cases of subsistence forestry shared one element. This was the importance of homestead trees. In addition to their strategy of protection and natural regeneration, KIPDOW villages raised their own seedlings

and planted them in 524 homesteads, which represented one-third of all the households in the watershed area. The participation rate was considered low because the hilly terrain offered little available space around house sites for plantation. Most of the seedlings required for planting were raised by women sanghas in village nurseries after training and support from KIPDOW.

The forestry development of patta land for the landless at RHGBMSS was also supplemented by extensive homestead plantations of 598 homesteads in fifteen villages. There was almost one hundred percent participation in the RHGBMSS villages. The women later branched out into growing vegetables for consumption and flowers for festivals and decoration. GORD also provided seedlings for homestead plantations as a response to the interest of the Mahila Mandal. Women wanted to plant multipurpose trees in backyard plots which would provide fruit, fuel, timber for the rural economy. Altogether 424 homesteads were planted with a wide range of species including mango, guava, sapota, coconut, lime, casuarina and eucalyptus. The additional distribution of seeds for kitchen gardens has also brought immediate benefits to enhance the nutritional intake and income of each family. Repalle is in the coastal area of Guntur district where the soil composition is seventy to eighty percent sand mixed with black soil, which is cultivable but not suitable for rice. Water is often available at a depth of only seven to eight feet. Therefore there is an established traditional culture of growing kitchen gardens and raising seedlings. Some families have even been known to depend entirely on income from selling vegetables from home gardens.

Homestead trees are significant in that they affirm the use value of trees. Homestead tree products meet the needs of household consumption and generate income which is traditionally controlled by women. The homestead trees planted in these three cases of subsistence forestry meet different requirements of the rural household. The first requirement is for fruit trees which supplement consumption and generate cash. Fruit is a luxury item and generally beyond the means of poor rural households. Yet, village women are very familiar with their nutritional and medicinal values. The most commonly acknowledged benefits include papayas, which provide vitamin A for pregnant women and papaya seeds for deworming; coconuts, which are used in cooking curries and green coconut milk for rehydration after diarrhea; and pomegranate juice for stopping diarrhea and vomiting. When these trees are planted in the homestead, the family has access to both added nutrition and medicine not previously available to them. The excess fruit can also generate a small amount of income for the women. The second requirement is for food trees of which the most common ones are drumstick and curry leaf. These are seen as distinct from fruit trees because they are part of the daily food for the poorest of households and usually shared with neighbours or exchanged for other food items. Every Indian household uses curry leaf in cooking dal each day and the drumstick fruit (a long cucumber-like vegetable) is rich in vitamin C. For a family to have a curry leaf plant and a drumstick tree in the homestead means that they have a regular supply without having to purchase them on the market. The home garden sometimes extends to growing other vegetables like tomatoes, gourds and okra. The third requirement is for trees for savings. The poor are disadvantaged not only in terms of low income but also in terms of their vulnerability (Chambers & Leach, 1987, 1-2). The middle class are usually

protected from indebtedness due to sudden or unforseen expenses by having access to kinship networks, credit or savings. The poor, on the other hand, have no such protection. When large sums of money are needed for sickness, childbirth, weddings, funerals or crop failures, they spiral further into debt and poverty. Trees have many advantages over other traditional forms of assets like jewellery, animal stock and land. According to one documented comparison using criteria suggested by the poor themselves, trees have low start-up costs, appreciate rapidly without a lot of maintenance, store well over a long period of time, are easy to divide into small portions for liquidation and some species regenerate after cutting (Chambers & Leach, 1987, 13). The common trees used as savings in these three case studies are eucalyptus and casuarina. Eucalyptus is in demand for house construction because the poles are protected from white ants. If ten eucalyptus trees are planted at the time of a daughter's birth, they will be worth Rs. 15,000 in five years, and much more by the time she is old enough to marry. They also regenerate after cutting. Casuarina can be grown close together (as many as four thousand in one acre) and are preferred where there are sandy soils. These trees, however, do not regenerate.

The following table summarizes the species of homestead trees planted in each region as documented in nursery records, PRA mapping of the villages, and direct observation during my research visits. Women were most eager to show visitors their homestead trees and visits to villages were never complete without a tour through each homestead garden. The variation in species reflects local preferences and soil conditions.

	KIPDOW	RHGBMSS	GORD
Fruit species	Papaya	Papaya	Coconut
	Guava	Guava	Papaya
	Jack fruit	Guava	Pomegranate
Food species	Drumstick	Drumstick	Drumstick
	Curry leaf	Curry leaf	Curry leaf
	Vegetables	Vegetables	Vegetables
Species for savings	Eucalyptus	Eucalyptus	Casuarina
	Tamarind	Teak	Eucalyptus

I have included some families profiles in the appendices section to illustrate the varieties of homestead gardens and the contribution of these trees to the rural household (Appendix VI).

In order to meet the needs of homestead plantations, there needs to be a wide range of species represented in nursery production of saplings. This was very much lacking in APFD's nurseries, reflected in 90% production of eucalyptus and casuarina (CIDA, 1991, ix). In contrast, the nurseries operated under the auspices of KIPDOW, RHGBMSS and GORD, at both the central and village levels, reflected a wide variety of species including many indigenous ones for which it was difficult to obtain the English common names. At KIPDOW, fifty-three species of saplings were planted, with thirty-eight percent being eucalyptus, ten percent Neem (both the common Neem and an indigenous species), and ten percent fruit saplings. The high percentage of eucalyptus was primarily due to the drought

resistant properties of the species for this semi-arid area and its popularity as poles for house construction because it appeared to resist the infestation of white ants. These were planted on extremely degraded land with little or no watering. Neem was planted in front of houses to keep the mosquito population down and for a multiplicity of medicinal purposes. Neem seeds made into cakes were also used as fertilizers. RHGBMSS and GORD kept less detailed records of percentages, but their lists of species represented at least ten different varieties each.

Homestead trees are also significant in increasing forestry benefits for women. Programs aimed at addressing gender issues in forestry have generally erred in two areas. The first is in viewing employment of women to do casual labour as real forestry benefits. The second is by not addressing the lack of land ownership by women.

Much of nursery and plantation work is done by women; they bag nursery soil, plant seeds, water the saplings, prepare the sites for plantation and carry water to young trees in the summer months. Fortmann quotes studies estimating that seventy percent of this work is carried out by women (Fortmann, 1986, 40-41). In the Andhra Pradesh Social Forestry Program, participation of women as labourers in Forest Department nurseries and village nurseries is estimated as high as eighty percent, while their employment overall in plantation work constitutes thirty-three percent of requirement (CIDA, 1991, 74-75). Women's presence beyond this level of participation is rare. When the saplings become established after three years, the women gain no benefits from these trees and they are suddenly unemployed. The

APFD program, and other similar government initiatives, have argued that by training women to raise seedlings, they are providing skills, which could be potentially used for operating small nursery businesses. The question of demand is uncertain in areas where the Forest Department is distributing seedlings free of cost. There is always a sustained demand for fruit species, specially grafted mangoes, but the Forest Department training has not included raising fruit species or grafting. In most cases, village women are identified by the Forest Department to become 'beneficiaries' and given polyethylene bags, soil mix and seeds to raise a nursery. They are paid 50 paise for each surviving seedlings each year for two years. When the seedlings are ready for plantation, the Forest Department distributes them according to their own requirements. It is questionable for foresters to assume that these women have no previous forestry knowledge and are dependent on the Forest Department for skills training. There is also no evidence to suggest that village nurseries operated by women are increasing as a result of this training. What is apparent is that most of the women I interviewed consider this merely as an opportunity for employment similar to their work as casual agricultural labourers.

It is very rare for women to own land in India. A person who does not own land has nowhere to plant trees. Therefore forestry activities aimed at addressing gender issues have to examine the niches where women have traditional access and control even if they do not have legally established rights (Fortmann, 1986, 41). The homestead is an example of such a niche. The household and its immediate surroundings fall under the management of women. Trees planted around house sites are also managed by women. Men express very little

interest in them. In conversations with groups of men and women separately in Gederla, Godduvelagala and Palavandlapalli villages in KIPDOW, the different knowledge about trees between men and women became very apparent. The men cited the usefulness of trees which yield high income, (like mango, papaya and coconut) and trees for construction of farm implements. They largely ignored the usefulness of homestead trees. In fact, in Palavandlapalli village the men tried to minimize the benefits of homestead trees by saying they were only for domestic purposes and, by implication, insignificant. But homestead trees generate food, fruit and savings for the family and are usually managed by the women for the benefit of the household. For these reasons, homestead trees need to be seen as important in subsistence forestry and as contributing to addressing gender issues.

The differences in perceptions about trees between men and women were also reflected in two matrix scorings of trees completed during a PRA workshop in Bolaganivaripalem village. One was done by a mixed group and the other completed by a group of women. Men dominated the discussion in the mixed group and they produced a ranking of seven trees, all fruit species with one exception, casuarina. Mango ranked at the top while coconut and 'Dabba', a local citrus fruit used in cooking, ranked at the bottom. Timber and cash income were considered important categories by the men. In the matix produced by the women, twelve trees were ranked. Palmyra, a local multipurpose palm tree, ranked at the top with curry leaf at the bottom. When the categories were expanded to include health, the women put coconut as the second most important because of its use for re-hydration and nutrition. (See appendix VII for details.) While men place higher priority on species which provide

income, women place higher priority on species which provide multiple uses for home consumption. This difference in perception is consistent with discussions during group interviews of separate men and women groups in villages in the Kadiri and Rayachoty areas.

In my March 1994 discussions about trees and their uses with villagers in Kadiri, Rayachoty and Repalle, one interesting aspect stood out. The use of trees for fuel was seldom mentioned by them without being prompted and the shortage of fuelwood was not expressed as one of their major concerns. It was difficult to determine the reasons for this within the scope of my research plans, but I did raise the question with volag staff. Their interpretion was that rural poor people did not perceive the same need for fuelwood assumed in much of state forestry interventions. In the arid zones, like Kadiri and Rayachoty, volag staff observe that rural poor people burn dung and agricultural waste for fuel. The practice of headloading firewood into towns for sale is a form of supplemental income during seasons of low employment. Villagers also blame contractors from nearby towns for being predominantly responsible for cutting large quantities of firewood. In the coastal wet zones, like Repalle, there is an ample supply of prosopis juli flora (a thorny, self-propagating bush) for fuel. Rural people place priorities instead on planting trees which provide fruit, food, fertilizers and fulfill domestic needs for small timber. If their observations are borne out by further research, this has serious implications for India's social forestry programs.

Conclusion

Although the three cases of subsistence forestry documented in this chapter differ from one

another in terms of species planted, soil/climatic conditions and local contexts, there are some common themes. Their perspectives of forestry are integrated with other aspects of the rural economy. Agriculture, fodder development, and soil conservation structures are all essential parts of the forestry activities. Whether the entry point is forestry or any of the other three activities, strategies for change take into consideration all the different aspects. In the cases of KIPDOW, RHGBMSS and GORD, subsistence forestry includes fodder and agriculture, predicated on soil conservation and water harvesting structures.

In the situation of RHGBMSS, where the voluntary organization did not intially understand the local knowledge on which priorities were formulated, they experienced difficulties and lack of cooperation from the villagers. Through their interactive and responsive organizational culture, they were able to explore the issues with the villagers and redirect their perspective.

Attempts to replicate these models on a wider scale are made with careful consideration for local realities. The Lanka land development model has been replicated by at least three voluntary organizations in the Krishna and Guntur districts. The focus however has been on villagers learning from other villagers through exposure visits, derived from the belief that people are best able to provide their own solutions. The voluntary organizations are well aware that what works in one Lanka may not work in another community.

In a context where commercial value of trees for the market has been the dominant model in

both production and social forestry, these three cases of subsistence forestry deviated from the prevailing perspective. They do not promote the planting and harvest of trees for timber and pulp. In fact, the village communities involved have no plans to cut any of the trees for the moment. Villagers consistently emphasize the value of food, fuel, medicine and fodder derived from the trees they plant, as well as the value of trees as savings and to meet contingencies. Their relationship with trees appears to emphasize use value over exchange value. This is most evident in the large scale homestead plantation in all three cases. The Rayalaseema region has been denuded of vegetative cover for more than a generation. Conversations with villagers indicated that there was some awareness amongst old people of the existence of forests, or at least more trees, some thirty to fifty years ago. But generally speaking, villagers have been dislocated from aranya samskriti (or a culture of forests) of which Shiva speaks (Shiva, 1989, 55). Due to severe deforestation, the basis of building knowledge about trees by experimentation and observation of nature has all but disappeared from their immediate environment. Ways of knowing about trees based on local knowledge systems and a relational view of nature is in the process of being reclaimed through such subsistence forestry models. A woman in Godduvelagala village, Kadiri, recounted her sorrow at having to cut down a eucalyptus tree which she has planted by mistake too close to a power line. Previously she would not have considered it significant to cut a tree for fuel or timber. But since she has been involved in protecting trees and raising nurseries, she feels very sad when she has to cut down any tree. Her attitude has changed since being involved in subsistence forestry.

CONCLUSION

This thesis has traced the history of Indian forestry from the colonial period to the present as a confrontation between modern and non-modern knowledge. This perspective has been taken up in the works of Steve Marglin, Frederique Apffel Marglin and Tariq Banuri, and ilustrated with case studies from Arjun Appadurai and Ramachandra Guha, among others. They view scientific forestry, the model promoted in the colonial and post-independence period, as characterized by modern knowledge in its fragmentation, emphasis on individuals and disembeddedness from social and cultural values. Scientific forestry privileges requirements of the market over the requirements of usefulness in the rural economy. Subsistence forestry, which is characterized by rural people's knowledge, is no less scientific, but has been consistently deligitimated in this confrontation. The process of reclaiming this knowledge is not only to capture rural people's knowledge about forestry for incorporation into scientific forestry. It is most significant in its validation of alternative ways of knowing for both the rural people and outsiders. India's social forestry effort in the 1970s and 1980s exemplified this confrontation of knowledge. Here, the dominance of modern knowledge was additionally expressed in opposing organizational cultures. The critique of the APFD Social Forestry Program in Chapter Three served to illustrate this. The bureaucratic organizational culture of the APFD Social Forestry Wing in essence subverted the social goals of its programs and reinforced the Forest Department's long-term objective to assert and maintain its monopoly over forests as well as to generate revenue. This confrontation of organizational cultures was widespread in government bureaucracies and resulted in the suppression of local knowledge and a long history of mistrust by rural people. The discussion in Chapter Three provided the

historical context in which the voluntary organizations in the three case studies functioned. It was in this atmosphere of confrontation of knowledge and organizational cultures that they attempted, with the rural people, to seek viable alternatives. Many Indian volags construct their identities as non-governmental and non-bureaucractic, adopting this convenient rhetoric in their public relations. But not all have been successful in practice. The purpose of these case studies is to determine if these claims are justified and the volags are doing what they say and how they are doing this. These case studies also document rural people's forestry practices as a part of reclaiming subsistence forestry.

Emerging knowledge

It is important not to overstate the implications which can be drawn from these three case studies for several reasons. India is a complex entity with a myriad of regional differences in social, economic and political realities. This makes generalizations both difficult and dangerous. At the same time, this argues for the necessity of such micro-level studies in order to document the varying contexts and strategies of subsistence forestry used. A critical mass of such documentation has yet to be achieved.

What can be concluded is that while the organizational culture of the APFD has been characterized by impersonality and an emphasis on individuals, the underlying assumptions shared by these volags foreground social and cultural values, personal relationships and an emphasis on group formation. They place a great deal of emphasis on social relations which are built on personal interaction over a period of time. This view of organizational cultures is

more consistent with traditional knowledge which privileges personal relationships and a sense of community. These volags have generally been successful in their attempts to function as alternatives to the confrontation of organizational cultures between the Forest Department and the rural people.

From observations made during the years 1989 to 1992, the three volags in these case studies appeared to be providing alternative organizational cultures for building relationships with rural people based on personal interaction and shared decision-making. What cannot be concluded is that these relationships are egalitarian in every respect. It must be acknowledged that there are implicit power imbalances in these relationships where the volags are seen as resource providers. They also experience difficulty in addressing the questions of gender and class and generally reflect the social realities from which they emerge. There are few women staff in the three organizations at the managerial level. Only MYRADA employed two female program officers and in 1994, GORD hired a woman as administrator. Even though there are more women extension workers at the lower level, they are often assigned the traditional roles of nursery school teachers.

These organizations also understand the importance of groups in community organizing because villagers do not function as totally autonomous individuals. When rural people are viewed purely as individuals, disembedded from their social and natural environments, they become vulnerable to outside forces and decrease their effectiveness in achieving collective action. This concern for community and commitment, in contrast to mobility and

individualism, result in a focus on sanghas/gram sabhas as sustainable people's institutions. These people's institutions have the potential to provide a forum for dialogue and participatory decision making. This centrality of group-formation as a community organizing strategy is an important contribution to building people's institutions. Yet, it cannot be said that the models of sanghas and gram sabhas are equally viable. There are questions about the ability of gram sabhas to represent the interests of the poor and function independently of the interests of rural elites. Sanghas also vary in terms of their ability to achieve a certain level of self-management and appear to be highly dependent on the attitudes and skills of the volag staff involved in each case.

These alternative organizational cultures have contributed to the emergence of subsistence forestry practices based on rural people's knowledge. This thesis highlights three examples of subsistence forestry practices which emerge out of the relationships between the voluntary organizations and the rural people: protection and regeneration by KIPDOW, patta lands for the landless at Rayachoti, and lanka land development at Repalle. They are significant not only because they emerge out of alternative organizational cultures but also because they represent attempts by rural people to reclaim knowledge about subsistence forestry which is appropriate to their priorities and criteria for usefulness. Although these cases of subsistence forestry differ from one another in terms of species planted, soil/climatic conditions and local contexts, there are some common themes. Their view of forestry is integrated with other aspects of rural economy like agriculture, fodder development, and soil/water conservation. In the cases of KIPDOW, RHGBMSS and GORD, subsistence forestry includes strategies for

the development of fodder and agriculture, predicated on soil conservation and water harvesting measures.

This integrated view is significant because modern knowledge compartmentalizes and specializes the different aspects of rural economy and has tended to extract forestry out of any relationship to agriculture, fodder and soil/water conservation. This separation has been further entrenched in different government departments for the purposes of budget allocations and control. It is difficult to predict the extent to which an integrated view of forestry can impact the rural development programs of the Indian government bureaucracy. There was some evidence in 1994 of a growing understanding amongst senior officials of the need to integrate the operations of several departments in order to bring about greater coordination and cooperation. This was seen in the functioning of the Department for Rural Development and Panchayati Raj in Andhra Pradesh and in the watershed management efforts of the DRDA in Karnataka.

In a context where commercial value of trees for the market has been the dominant value in both production and social forestry, these three cases of subsistence forestry deviate from the prevailing instrumental and "official" view of forestry and maintain a more relational view. They do not promote the planting and harvesting of trees for timber and pulp. This is indicated by the variety of species raised in the nurseries and actually planted. In fact, during my interviews with village sanghas in March 1994 they expressed no plans to cut any of the trees and individual villagers consistently emphasized the value of food, fuel, medicine and

fodder derived from the trees they planted. The value of trees as savings to meet contingencies was particularly emphasized in homestead plantations. Admittedly, these plantations have not reached full maturity and the question of management of benefits will remain unsettled for several years to come.

Heuristic questions

On the basis of the three case studies in this thesis, some questions can be generated in new directions for further research regarding the impact of confrontations of knowledge on different perspectives of forestry. There is immediate need for a redefinition of terminology: the meanings of and values attributed to words such as 'subsistence', 'valuable species', 'desirable trees', 'weeds', 'productive forests' and many others. The view of modern knowledge that trees are a commercial commodity for the market must be redefined according to the traditional knowledge of local communities that trees are useful for meeting a variety of needs. There are multiple perspectives on the importance of forests held by government, international agencies, voluntary groups and rural people. What are the assumptions which inform these terms? Whose knowledge is privileged in these definitions? How can terminology be clear yet broad enough to accommodate different ways of knowing? The domination of one perspective must not continue.

The question of tenure, in terms of both land and trees, is of paramount importance. Discussions about subsistence forestry practices are difficult without addressing the issues of ownership of land, access to forest land, rights to forest products, and tree pattas (ownership

of trees but not the land on which they are planted.) Until such questions are clarified to the satisfaction of local populations, rural people will always be cautious about participating in any planatation activities. This caution has been historically interpreted by the Forest Department as a lack of understanding about the importance of trees to rural survival and ecology. In fact, rural people have correctly identified tenure as central to their involvement. The successes of the farm forestry and homestead plantation components of government and voluntary forestry activities bear witness to the importance of trees to rural people. In forestry projects, planners must ask what are the land tenure assumptions made in the actvities? Do these assumptions preclude certain groups of people? Do these assumptions reflect reality or policy goals?

An integrated view of the rural economy needs to be reclaimed, where subsistence forestry is seen as a part of a rural system and closely linked to agriculture, fodder development and water/soil conservation. This means more than using the term 'integrated community development' common in development jargon. Additional research needs to be conducted on how this integrated perspective can penetrate the voluntary agencies, universities, government departments, professional training institutions and funding agencies. Recent focus on micro-watershed management in rural development in India is one example of such attempts at integration. The development of a watershed is viewed as a whole and not segregated according to government departmental jurisdiction. What are the policy and administrative implications of such a perspective? What changes need to be made to the present structures in government, universities, research institutions and funding organizations?

The whole question of the fuelwood crisis has to be re-examined in the context of rural people's priorities. Agarwal and Chambers have called into question the transference of a macro level fuelwood shortage onto micro-level needs and priorities. The assumption is often made that if there is national deforestation on an alarming scale, there must be a felt need to plant trees for fuel on the local level. Yet forestry programs based on such an assumption have not been able to plant many species to alleviate this problem. What are the priorities of rural people for planting trees? How do they perceive the causes and solutions for the fuelwood crisis? These are questions which need to be analyzed carefully.

The three case studies in this thesis are intended to be an alternative version of the forestry story, told by grassroots workers and the rural poor, recorded by one researcher. As such, it is acknowledged that there are other stories and other versions. This version hopes to generate dialogue within and amongst Indian voluntary organizations, as well as for those who work with them; and on a wider scale, to generate dialogue about forests, trees and people.

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LIST OF APENDICES

Appendix I Glossary of Terms and Abbreviations

APFD	Andhra Pradesh Forest Department
Balwadi	Pre-school nursery
BC	Backward Caste
CAPART	Council for People's Action and Rural Technology
DPAP	Drought Prone Area Program
DRDA	District Rural Development Agency
GOI	Government of India
GORD	Gandhian Organization for Rural Development
Gram Sabha	Village assembly
Harijan	Children of god (Untouchable castes)
KIPDOW	Kadiri Integrated and Participatory Development of Watersheds
Mahila Mandal	Women's association
Mandal	Administrative unit of a district
NABARD	National Bank for Rural Development
Panchayat	Village level administrative unit of government
Pattas	Assigned ownership.
Poremboke	Government wastelands.
PR	Participatory Research
PRA	Participatory Rural Appraisal
RHGBMSS	Rayalaseema Harijana Girijana Backward and Minorities Seva Samajam
SC	Scheduled Caste
ST	Scheduled Tribe

Appendix II List of Tree Names

English	Telugu	Botanical
Black wattle	-	Acacia Auriculiformis
Babul	Nallatumma	Acacia Nilotica
Casuarina	-	Casuarina equisetifolia
Coconut	Narikelamu	Coco Nucifera
Custard Apple	Seetapal	Annona Squamosa
Curry Leaf	-	Murraya Koenigii
Date palm	-	Phoenix datylifera
Drumstick	Muniga	Moringa Oleifera
Eucalyptus	Nilgiri	Eucalyptus Globulus
Jackfruit	-	Artocarpus heterophyllus
Guava	-	Psidium Guajava
Mango	Mamidi	Mangifera Indica
Neem	Vepa chettu	Azadirachta Indica
Palmyra Palm	Toddy chettu	Borassus Flabellifer
Papaya	-	Carica
Mesquite	-	Prosopis juliflora
Sacred Fig (Peepul)	Peepal	Ficus Religiosa
Pomegranate	-	Punica Granatum
Indian Beech	Ponge/ Pongam	Pongemia Pinnata
Sapota	-	Pouleria Sapota
Subabul	-	Leucaena Leucocephala
Tamarind	Chinta chettu	Tamarindus Indica
Teak	Teeku	Tectona Grandis

Sources: Bole and Vaghani, 1986; Huxley, 1992.

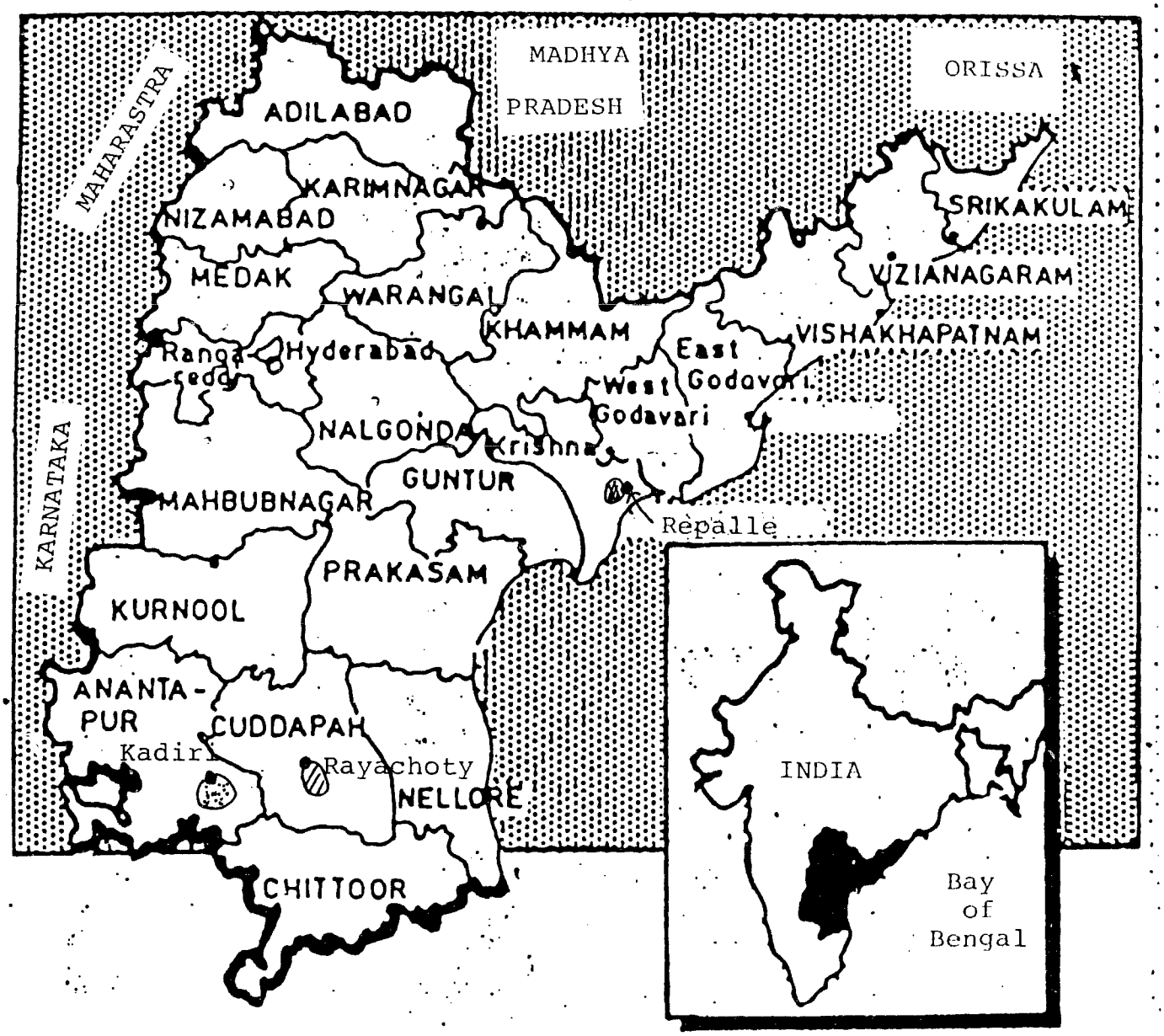
Appendix III List of Organizations and Individuals interviewed

Aloysius Fernandez, Executive Director, MYRADA, Bangalore.
James Mascarenhas, Programme Officer, " " " " .
Vidya Ramachandran, Programme Office, " " " " .
Babu Rao, Forester, MYRADA.
Shankar Naikm, Agricultural Officer, MYRADA.
Krishna Reddy, Forester, MYRADA.
Seshadri Naidu, Project Officer, KIPDOW, Kadiri.
Chandraiah, Agricultural Officer, KIPDOW, Kadiri.
Sreenivasalu, Training officer, KIPDOW, Kadiri.
S. Siddaiah, President, RHGBMSS, Rayachoti.
Venkatratnam, General Secretary, RHGBMSS, Rayachoti.
Ms. Prathiba, Community Organizer, RHGBMSS, Rayachoti.
Mrs. Josephinamma, Community Organizer, RHGBMSS, Rayachoti.
Prabhakara Rao, Secretary, GORD.
J.G. Prakasam, Rural Development Organization, Cuddapah.
Sivaji, Secretary, Sanghamitra Service Society, Vijayawada.
Ms. Vani, Gandhian Peace Centre Programme Co-ordinator.
Ms. Sharon Rebecca, Women's Center Co-ordinator, Vijayawada.
Ms. Barbara Victors, CIDA, Delhi.
Peter Hoffman, CIDA, Delhi.
Sam Kendricks, Oxfam India Trust.
Robert McFarlane, Forestal, Hyderabad, Senior Forestry Consultant, CIDA Social Forestry Project.
S. Ray, Commissioner, Rural Development and Panchayati Raj, Andhra Pradesh.
Ramakrichna Rao, Chief Conservator of Forest, Social Forestry Wing, Hyderabad.
Padamabha Reddy, Assistant Conservator of Forest, Social Forestry Wing, Zahirabad.
Rama Mohan Rao, Training Cell, Social Forestry Wing, Hyderabad.

Village Groups:

Odiveedu Village Sangha, Rayachoti.
Bolaganivaripalem Gram Sabha, Guntur Dt.
Penumudi Harijanwada Lanka Society, Guntur Dt.
Tulasi Mahila Mandal, G. Harijanawada village, Kadiri.
Sri Kanakadurga Mahila Mandal, Godduvelagala village, Kadiri.
Sri Sreenivasa Raithu Sangha, Gederla village, Kadiri.
Sri Anjaneya Raithu Sangha, Palavandlapalli village, Kadiri.
Sarojini Mahila Mandal, Palavandlapalli village, Kadiri.

Appendix IV Map of Andhra Pradesh



Area where KIPDOW operates.

Area where RHGBMSS operates.

Area where GORD operates.

Source: Economic Times Survey, 1991.

Appendix V STATISTICAL HIGHLIGHTS OF ANDHRA PRADESH

1. Population (Growth rate 1981-91 is 24%)
   - India : 844 Million
   - Andhra Pradesh : 66.3 Million
     - Female : 32.7 Million
     - Male : 33.6 Million
   - Sex Ratio (females per thousand males)
     - India : 929
     - A.P. : 972

   Population in Rural Areas : 77%
   Scheduled Castes : 15%
   Scheduled Tribes : 6%

2. Land
   - Total area : 27.5 Million ha.
   - Density (persons per square km.)
     - India : 267
     - A.P. : 241
   - Forest area : 6.4 Million ha. (23%)
     - Reserved : 4.8 Million ha.
     - Protected : 1.4 Million ha.
   - Forest Revenue : Rs. 609 Million (35% from timber) (1990)
   - Cultivated Area: 10 Million ha. (36%)
   - Irrigated Area : 3.5 Million ha. (15%)

3. Administration:
   - Districts 23
   - Mandals 1,092
   - Gram Panchayats 19,517
   - Revenue Villages 29,610

Sources GOI 1991 Census; Andhra Pradesh Survey of Economic Trends and State Plan 1991-92: Economic Times, 29, August 1991.

Appendix VI Selected Family Profiles

1. M. Venkatamma in Neerukuntlapalli village, Kadiri, has a typical homestead plantation in her area. She is 37 years old, with three children. Venkatamma is the sole income earner in her family since her husband ran away ten years ago. She works for Rs. 7 a day as a coolie labourer, augmented by leaf plate making in the off season. Her family used to eat only once a day. As a member of the women's sangha in her village, she requested seedlings from the KIPDOW-supported village nursery and planted 6 papaya and 1 jackfruit for fruit; 2 curry leaf for food; 2 neem and 1 pongemia for medicine and green manure; and 26 eucalyptus for savings and fuel. In 1993, she also sold 25 kg. of chillis, 5 kg. of eggplant and 10 kg. of tomatoes for an approximate value of Rs. 200.

(Source: KIPDOW project documents.)

2. Mrs. Ramanamma (32 yrs.) is famous for her papaya plot. She lives with her husband, two daughters and one son in Neerukuntlapalli village. The family depended on coolie work for survival even though they own three acres of dry land. Mrs. Ramanamma had been growing chillies and tomatoes on five cents of the land, not a very productive venture. After discussions with KIPDOW extension staff, she decided to plant 30 papaya trees, one drumstick, one curry leaf and six eucalyptus. At first she commplained a lot about how her husband did not help her. But now, her papaya trees are yielding 25-27 fruits each and her husband has volunteered to build a fence to protect the fruits. The market value of her papayas is estimated to be approximately Rs. 1875.

(Source: KIPDOW case studies.)

3. Smt. Lakshuma is a widow from the Scheduled Caste. She works as an agricultural labourer for landlords at ten to fifteen rupees per day. Her sangha, organized with the help of RHGBMSS in 1991, chose her as its representative. After attending training in nursery management conducted by the volag, she raised 3000 seedlings and sold them for 50 paise each to RHGBMSS for planting in Odiveedu patta lands. From the Rs. 1500 earned, she is planning to buy a milch animal and save some for her second son's education.

(Source: End of Project Evaluation Report, 1994.)

4. Meka Ankamma is 56 years old and a farmer in Bolaganivaripalem village, Nijampatnam mandal. He has been a member of the Gram Sabha since GORD became active in his village. There are 16 members in his family: is wife, three married sons and their wives and children. Ankamma originally had nine children, four sons and five daughters. All are married except one son who is still studying. His sons' families are now smaller with an average of 3 to 4 children each. Ankamma depends entirely on his land for income and survival. He owns altogether 10 acres of land in bits and pieces. At present, 60 cents of the land has been planted with casuarina trees, which he hopes, in a few years, will be used as construction materials for houses for his sons. The remaining land is all used for paddy cultivation.

From 10 acres of land, with one crop per year, Ankamma can hope to earn a net annual income of Rs. 750 per acre.[1] His annual income is estimated to be Rs. 7500, far short of the poverty line of Rs. 10,000 for a family of eight to ten members. Another problem for Ankamma in the near future is that he will have to divide his 10 acres between his 3 sons who can never hope to make an adequate living out of 3 acres of land. This is a common problem for the next generation of rural Indians. Land holdings are decreasing in size and survival becomes less and less assured even for those with a little land. By April 1994, at the end of five years, Ankamma's casuarina trees are 12 to 15 feet tall. He has added Neredu, a local species, along the boundaries. Both are popular for house construction. He has also given permission for GORD to use part of his land for a coconut and casuarina nursery to raise seedlings for other members of the village. The market value of his casuarina trees are estimated to be Rs. 30,000, a sizable investment. Ankamma has no plans to cut the trees, at least not until it becomes necessary. They are an asset which increases in value each year they stay in the ground.

(Source: Interviews with Ankamma.)

[1] Villagers in Bolaganivaripalem described the economics of paddy cultivation as follows. Per acre expenditures (seeds, ploughing, fertilizer, labour for weeding, harvesting etc.) is about Rs. 1500 to 2000. Yield per acre is about 15 bags at a sale price of Rs. 125 to 150 per bag (a bag being 100 Kgs). Maximum net income per acre is Rs. 750.

Appendix VII **MATRIX RANKING OF TREES**

	Timber	Tools	Fruit	Health	Fodder	Income
Palmyra	3	4	4	3	-	5
Coconut	-	3	5	5	-	2
Guava	-	-	5	3	-	3
Pomegranate	-	-	5	3	-	3
Dabba (Local species of Citrous)	-	-	5	3	-	1
Lime	-	-	5	3	-	3
Curry Leaf	-	-	-	5	-	1
Casuarina	5	1	-	-	-	4
Eucalyptus	5	1	-	-	-	4
Subabul	3	2	-	-	5	3
Babul	5	4	-	-	-	3
Teak	5	4	-	-	-	4

Matrix made by women from Bolaganivaripalem village:
Padmawati - 50 years
Janakamma - 70
Mangamma - 19
Tolasammi - 25
Ramulamma - 40
Easwari - 20

(Source: PRA Workshop, October, 1991.)

MATRIX RANKING OF TREES

	Timber	Fruit	Tools	Fodder	Income
Guava	4	5	-	-	5
Gooseberry	4	4	-	-	3
Mango	3	5	4	-	5
Coconut	-	5	-	-	5
Orange	3	5	-	-	5
Sapota	2	5	-	-	4
Casuarina	5	-	1	-	5
Dabba (local Citrous species)	-	5	-	-	5

Produced by a mixed group (dominated by the men) at Bolaganivaripalem village. Names of villagers have not been recorded.

(Source: PRA Workshop, October 1991.)

Note: Villagers were asked to name trees they considered valuable and the reasons why. Then they were asked to put a value on each species and each usage on a scale of one to five. This they did by putting seeds in each slot.