

**MANAGEMENT OF
DEVELOPMENT
PROGRAMMES FOR
WOMEN AND CHILDREN**

Volume II

**THROUGH
SOCIAL FORESTRY**

Editor : Rajammal P. Devadas

**Published by
SRI AVINASHILINGAM HOME SCIENCE COLLEGE**

First Edition 1988

Price : Rs. 32.00

Printed at Saradalaya Press

FOREWORD

A nation's greatness depends upon the level of education amongst its women. As Swami Vivekananda has said, a nation which does not respect women can never be great. India was great when the standards of education amongst women were high; when they had freedom, culture and learning, and when they maintained intellectual and spiritual standards. Those were days when Gargi and Maitreyi participated in the most learned assemblies of the land. Those were the days when women like Sita had the strength and will to resist evil. Those were the days when they could confront even death face to face like Savitri. In the middle ages due to foreign invasions and a variety of other reasons women lost their freedom. Along with the loss their living has become routine, like mere manufacturing machines for children. In free India all these must change and women must attain their position of prestige, courage, respect, learning and purity of life, which alone can enhance permanently their status in society.

Women in the present day face many grave problems but none that cannot be solved by a proper system of education. Inculcation of spiritual values, formation of character based on personal purity are the bases of all education, particularly women's education. A great India requires that at least some men and women should dedicate themselves wholly to serve the country, the poor and downtrodden.

Sri Avinashilingam Home Science College has been working in the field of women's education for over three decades with these ideals. The conducting of courses on 'Management of Development Services for Women and Children' has given the college an opportunity to train workers in the various fields of women's development. We are grateful to the Department of Women and Child Development of the Ministry of Human Resource Development and USAID for enabling the college to

run these courses under the dynamic leadership of Hon'ble Smt. Margaret Alva, Minister of State for Youth Affairs, Sports and Women and Child Development. We are grateful to the staff of Sri Avinashilingam Home Science College and distinguished guest lecturers from outside, who have been responsible for the successful running of these courses and to Dr. Rajammal P. Devadas, the Director of the Avinashilingam Education Trust Institutions whose three decades of hard, continued and dedicated service have made all these possible.

We hope that this publication will help towards more efficient working of the developmental programmes for women and children in the country and lead to improvement in the quality of living of women, children and communities.

T. S. Avinashilingam

Coimbatore
15-6-1988

T.S. AVINASHILINGAM
Founder - President
Sri Avinashilingam Home
Science College
Coimbatore-641 043

PREFACE AND ACKNOWLEDGEMENTS

During the years 1986-1988, Sri Avinashilingam Education Trust Institutions had been invited by the Department of Women and Child Development and the Ministry of Human Resource Development, Government of India to undertake a series of training programmes for state level officials of the Departments of Rural Development, Agriculture, Education and Social Welfare, Representatives of selected voluntary agencies and Personnel from National Service Scheme, Social Forestry and Home Science. Sri Avinashilingam Education Trust is eminently suited for this purpose, as it offers education from the pre-school to Ph.D., carries out different types of training, research and extension work and has wide outreach programmes in hundreds of villages. The institutions derive inspiration from the eminent, illustrious leadership of Dr. T.S. Avinashilingam, for developing women's education. He is among the foremost freedom fighters. In recognition of his unique services, he has been awarded the Padma Bhushan and several other honours from Central and State Governments, Universities, Rotary clubs and others.

This second publication has emerged from the training course, "Management of Development Services for Women and Children through Social Forestry" conducted by Sri Avinashilingam Education Trust Institutions from November 20th to 26th, 1986 for different categories of officials and functionaries in government and non-government services in the fields of Rural Development, Forestry Agricultural Education and Social Welfare from the Southern States of the Indian Union, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu and the Union Territory of Pondicherry. The first of the series was conducted in October 1986 with thrust on Rural Development and Social Welfare.

The objectives of the course were to understand the :

Meaning of Social Forestry, inputs necessary in social forestry programmes and afforestation programmes in the operation in different states ;

Strategies and laws necessary for the regulation and legitimate use of forests and the role of citizens in the preservation of forests ;

Type of programmes in operation for Women and Children and workout the linkages between Social Forestry and women and child development programmes ;

Benefits of Social Forestry to the individual, community and the nation, create an awareness among the general public regarding the benefits of Social Forestry ;

Implementation of Social Forestry programmes ;

Sources where materials, aids and data on Social Forestry as related to women and children are available;

Alternative resources for fuel, furniture and other needs of the community which have so far been met by forestry :

Means to prevent exploitation of child labour in Social Forestry ; and

Explore the ways and means to involve rural women and children for the betterment of their life including income generating measures.

Participants

Twenty four participants (16 from Tamil Nadu, 3 from Karnataka,, 2 from Union Territory of Pondicherry and one

each from Kerala, Orissa and Uttar Pradesh attended the course (Appendix I). Fourteen participants were Project/Programme Officers of Rural Development/Social Welfare/Agriculture Departments, two were Foresters and the rest represented voluntary organisations. The participants had varying experiences ranging from five years to more than thirty years in their profession.

The programme is given in Appendix 2

Acknowledgement

Heartfelt acknowledgements are due to :

Dr. T.S. Avinashilingam for his far-sighted vision, guidance and missionary zeal.

The Department of Women and Child Development of the Ministry of Human Resource Development, particularly Smt. C.P. Sujaya, IAS. Joint Secretary for taking up such a step and inviting Sri Avinashilingam Education Trust Institutions to organise this unique training.

The USAID for sponsoring such a useful training for Development of Women and Children through Social Forestry particularly to Dr. Zarina Bhaty, for her valuable advice for organising this training.

The State Governments and Voluntary Organisations for deputing their representatives, who found the training useful in their field of administration of women and children's programmes and

The eminent resource persons who generously gave their ideas and expertise.

Reginald P. Dhand

CONTENTS

	Page No.
1. Foreword	i
2. Preface & Acknowledgements	iii
3. Managing Women's Programme in social forestry, DR. RAJAMMAL P. DEVADAS	... 1
4. Modern Management Application to programme success, P. SUNDARAM	... 16
5. Importance of supervision in management A. ANANTHARAMAN	... 29
6. Water management by UNICEF T. KANAGARAJAN	... 36
7. Forestry Resources of India and Tamil Nadu P. PADMANABAN	... 46
8. Voluntary Agencies and Social forestry SAROJINI VARADAPAN	... 49
9. Participation of women in social forestry Problems and suggestion V. GANDHIMATHI	... 57
10. Agro forestry for women and children E.S. THANGAM	... 62
11. Social Forestry. M.S.S. VARADAN	... 69
12. Herbal Resources of South India-its Relevance in social forestry, QUDSIA GANDHI	... 71

13.	Social forestry for rural development P. MUTHIAH MANOHARAN	...	76
14.	Farm forestry in waste land role of women N. RAJAGOPAL SHETTY	...	81
15.	Potential for farm forestry in Tamil Nadu RATHINDRA N. ROY, TOR SKAARUD	...	84
16.	SIDA Tamil Nadu Social Forestry Project Working Papers	...	93
17.	Social forestry for better living Beauty for joy G. KAMALANATHAN	...	112
18.	Cottage industries and Handicrafts R. Raji	...	117
19.	Answer to firewood - Coal, Kerosene (or) Gas SATHYAVATHI MUTHU	...	121
20.	Tamil Nadu Social Forestry Project - THINAGARAN	...	129
21.	People's movement for the preservation of forest resources, SUNDER LAL BAHUGUNA	...	141
22.	New Education Policy and Women's Development M. ARAM	..	148
23.	People Participation - System approach J.C. KALA	...	154
	Appendix I	...	I
	Appendix II	...	V
	Appendix III	...	IX

MANAGING WOMEN'S PROGRAMMES IN SOCIAL FORESTRY

Rajammal P. Devadas

Women constitute almost one half of the nation's population and contribute to two thirds of its productive activity as workers and mothers. Their contribution to economic and social development is significant. The planners now realise that the development of the country will be only marginal if the active involvement of women is absent. Hence, the Central and State Governments' concerned departments and voluntary agencies have been urged to design various development projects and appropriate services to motivate women to participate fully in the economic and social uplift of the nation.

If development is to be real, it must be total. Women's development cannot be isolated from the development of the whole community. Wherever programmes have been planned exclusively for women, detached from the general development efforts they have failed to achieve their objectives. The South Asian Association for Regional Cooperation (SAARC) summit meetings has also endorsed this view.

The late Prime Minister of India, Smt. Indira Gandhi, showed great concern for the role of women in the conservation of Nature. Her birthday, 19th November coincides with the National Environments Day. Her concerns are evident in the 20 Point Programmes, Basic Needs Programme, Integrated Rural Development Programme, Integrated Child Development Services, the National Adult Education Programme, the Family Welfare measures and several other special programmes for women's development. Her successor, our young dynamic Prime Minister, Hon'ble Shri Rajiv Gandhi has expressed his deep interest in women's well being and has created for the first

time, the position of a Minister for Women and Child Development and has integrated that department with the Ministry of Human Resources Development. The recently issued New 20 Point Programme has spelt out measures to raise the living conditions and status of women.

The Thrusts of the New 20 - Point Programme

All the 20 points have direct and indirect relevance to women and children. They include the following :

A. Employment

The various attempts which have been made at employment generation are :

1. Rural Works Programme (1961)
2. Crash Scheme for Rural Employment (1971)
3. Pilot Intensive Rural Employment Project (1972)
4. Employment Guarantee Scheme (1971)
5. Food for Work Programme, redesignated as the National Rural Employment Programme (1977)
6. Employment Generation Under IRDP (1978)
7. Employment Generation Under Rural Industrialisation
8. Development of Women and Children in Rural Areas (DWCRA) under IRDP (1983)
9. Training of Rural Youth in Self Employment (TRYSEM)
10. Peoples Action for Development in India (PADI) - now merged with Council of Applied Rural Technology (CART) as Council for Advancement of Peoples Action and Rural Technology (CAPART).

The Hon'ble Chief Minister's Nutritious Meal Programme for Children (CMNMP) of Tamil Nadu is unique since it has provided employment for nearly two lakhs of women in the state.

The socio economic programmes of the Central Social Welfare Board (CSWB) and Khadi and Village Industries Commission have a vital role to play in the promotion of income generation activities for women.

B. Literacy

The programmes so far undertaken for promoting literacy are the National Adult Education Programme (NAEP), Rural Functional Literacy Programme and Non-formal Education Programmes with earmarked provisions for women and the newly exclusively set up National Committee for the Eradication of Illiteracy Among Women. In spite of all these efforts it is a tragedy that nearly 80 per cent of the Indian women are still illiterates, even after four decades of freedom. The female literacy rate increased only marginally from 18.7 per cent in 1971 to 24.8 per cent in 1981. But the number of illiterate women in absolute numbers has increased from 215.3 millions in 1971 to 241.6 millions in 1981. This is primarily due to (a) the women themselves not inclined to become literate and (b) not permitting their 'dependents' that is, daughters and daughters-in-law to improve.

C. Health

There has been a continuous decline in the sex ratio in India from 972 females for 1000 males in 1901, to 935 females per 1000 males in 1981. This is attributed to maternal mortality, which is still high in India when compared to developed nations. The following programmes have been initiated to raise the nutritional and health standards of mothers and children.

1. Maternity and Child Care Programme under the Community Development programme (1952)
2. Applied Nutrition Programme (ANP)
3. Special Nutrition Programme (SNP)

4. Composite Programme for Women and Pre-school Children and
5. Integrated Child Development Services (ICDS).

Besides these, in Tamil Nadu the CMNMP monitors the growth and health of children from 2 to 14+ years of age.

D. Community Participation and Socialisation

With the initiation of the nationwide Community Development Programme in 1952, aiming at rejuvenating the entire village community and promoting the status and welfare of women, the grassroot level community organisations have become the core of community development. Mahila Mandals (Mahalir Mandrams, Women's, Clubs) and Youth Clubs are among those grassroot organisations for bringing women together and keeping them together by creating a common interest for success and progress.

In accordance with the policy laid down by the government from time to time, a number of Mahila Mandals have been organised in different states. In 1981, there were 61,400 Mahila Mandals with an estimated membership of 17.2 lakhs. The average number of Mahila Mandals per block is 13 with a membership of 382. It is painful that reliable statistics and supportive evidence of utilisation by the Mahila Mandals of the provisions made, is not available. For instance, the financial allocation for social welfare rose from Rs. 1.60 crores in the first Five Year Plan to Rs. 271.97 crores in the VI Plan. How much of this investment has reached women? Six Five Year Plans have been completed, still the benefits of the development efforts have not percolated fully to the rural women.

The prime responsibility for translating the constitutional goals into reality rests on the government. But government gives priority to action on political and economic exigencies over social

and institutional changes which are neither spectacular nor promise any immediate benefit. The responsibility for confronting these entrenched values and institutions cannot therefore be left to the State only. It must be shared by non-governmental groups, specialised sectors, universities and other institutions of higher education and social action/development.

E. Involvement of Voluntary Agencies

There has been a good deal of voluntary effort in India, especially in the field of social welfare and rural development in the pre-Independence and post-Independence periods. These agencies have played an important role by providing a basis for innovation with new models and approaches, ensuring feedback and securing the involvement of the target population. Over the decades, voluntary agencies have also developed the expertise and competence to plan their own schemes. The VII Five Year Plan Document outlines the specific roles of voluntary agencies thus : To

1. Supplement government efforts so as to offer the target groups choices and alternatives;
2. Be the eyes and ears of the people at the grassroot level;
3. Set an example through adopting simple, innovative, flexible and inexpensive means with limited resources to reach a wider population with less overheads and with greater community participation;
4. Activate the delivery system and to make it effective at the grassroot level;
5. Disseminate information;
6. Make communities as self-reliant as possible;
7. Show how village and indigenous resources could be utilised and how human resources, skills and knowledge could be used for local development;
8. Demystify technology and bring it in a simpler form to the rural poor;

9. Train a cadre of grassroot workers who believe in professionalising volunteerism;
10. Mobilise financial resources from within the community;
11. Mobilise and organise the poor and generate awareness to demand quality services and impose a community system of accountability on the performance of government functionaries.

The human resources available in the training infrastructure of voluntary agencies need to be mobilised and used more effectively. The planners have specifically identified the following areas and programmes in which participation of voluntary agencies could be of great help.

1. IRDP, NREP, RLEGP, TRYSEM and DWCRA;
2. Land ceiling and distribution of surplus land;
3. Enforcement of minimum wages to agricultural labourers;
4. Identification and rehabilitation of bonded labour;
5. Development of scheduled castes and scheduled tribes;
6. Supply of safe drinking water;
7. Afforestation, Social forestry, development of biogas and alternative energy sources;
8. Promotion of Family Planning;
9. Primary Health Care;
10. Programmes for rural women and children;
11. Innovative methods and low cost alternatives in pre-primary, primary and middle school education and adult non-formal education;
12. Consumer protection;

13. Promotion of handicrafts and village and cottage industries;
14. Promotion of science and technology;
15. Legal education;
16. Rural housing and improvement of slums;
17. Environmental and ecological improvement;
18. Promotion and encouragement of traditional media for dissemination of information.

All the above issues are directly and indirectly concerned with women and children and require their active involvement.

The accent in the VII Plan is to professionalise volunteerism, to introduce professional competence and managerial expertise. Mutual trust, understanding and sharing must be developed between government and voluntary agencies at all levels of administration. Point 20 of the Revised 20 Point Programme also states the need for recamping administration at all levels, in order to simplify procedures, delegate authority, enforce accountability and evolve suitable monitoring systems.

Women's Role in Social Forestry

Women are the nurturers of plants. They plant and care for trees. They are also the destroyers of trees, for fodder and for fuel. All over India, the tribal women gather wood and in their great concern for the family, they ruthlessly cut down trees.

Women in the Social Forestry Project (SFP)

Women are included in the SFP as project staff, workers, participants and beneficiaries. Hence, it is necessary to strengthen the forest administration by adding an extension service consisting of young women and men from the project villages,

village Social Forestry Workers (VSFW). The female VSFWs constitute only about seven percent. As a consequence, there is a lack of involvement in the project activities, on the part of the very poor women, except as labourers.

Experience gained from other SFPs has shown that female extension workers are able to make the village women interested and involved in the project to a much larger extent than their male counterparts. The recruitment of female VSFWs has to be increased. It should be possible to ensure that one third of the total number of VSFWs are women.

The range of duties for VSFWs is already extensive and is likely to increase. Even if all these duties are essential for the progress of the project, some, such as plotwatching should be withdrawn from the job list for the female VSFWs and others should be included such as nursery management. A number of female VSFWs should be sent for special training in nursery management to be able to assist poor village women to set up small local nurseries. (See background paper on Cooperatives).

A high priority topic is village group management, that is, an effort to secure women's participation in SFP, the organising of women's groups for income-earning activities, the formation of women's cooperatives.

Women should also be informed about the objectives of the project and be encouraged to plant trees on their court-yard, and land. Special efforts should be made to explain to them the possibility to get trees for fuel, food and fodder. They should be given proper instructions on how to plant and care for the trees.

Women in the Social Forest Village Committees (SFVC)

There are very few women representatives in the SFVC and the committees do not, as yet, function in a democratic way.

Neither men nor women from the poorer strata of society have any influence worth mentioning. This is however, likely to change now that the project will be changing in so far that more stress will be put on the "incentive programme". As a consequence, the poorer village people most likely will get an opportunity to be represented in the SFVC. When this happens, it is of utmost importance that the women are properly represented, since it is they who keep the family economy under control and since, more often than not, it is their income that keeps the family alive.

The presence of more and better trained female VSFWs in the villages will result in a more correct female representation in the SFVCs and consequently also lead to an improved participation in the preparatory work and a greater influence on part of the target group on the decision-making processes within SFP.

Social Forestry in India

An important role for forestry in India is to contribute produce which can be of immediate use for the great majority of the population living in the rural areas. Forests established there can supply fuelwood but also small timber for agricultural implements and construction material for handicrafts, fodder, grazing and numerous minor forest products.

The total production of fuelwood in India during 1980, from all sources, was about 130 million cubic meters. The demand is 180 million cubic meters and will rise to 225 million by the year 2000. There is thus a great bridge between demand and supply of fuelwood. This has prompted the Government of India to extend afforestation work to areas outside the reserved forests.

The National Commission on Agriculture has recommended that development of forest resources must take into account

the goods and services that the forests will provide and be developed to meet existing demands.

The National Commission on Agriculture recommended that all efforts be made to develop forests on available land and to engage local communities, individual farmers and all departments having land available for tree plantation for the benefit of the local people.

The following are the recommendations with regard to Social Forestry Department Strategy :

- The management of village forests will aim at meeting the present as well as the future needs of the local population in respect of small timber for housing and agricultural implements, firewood, leaves for manure and fodder, grazing and edible forest products. The supply of such requirements will be made available to the local population;
- To stimulate private efforts at tree planting, the whole nation would be made tree conscious through publicity and extension activities ;
- Lands at the disposal of Defence, Railways, Public Works Departments, Universities and Colleges, Panchayats, Municipalities and other local authorities would be afforested ;
- The increasing rural employment created through social forestry, would go mainly to socially backward, un-employed agricultural labourers.

Role of Sri Avinashilingam Education Trust Institutions

Since its inception, Sri Avinashilingam Home Science College has geared teaching, research and extension of Home Science to the national needs and priorities, with extensive rural bias. All the Home Science faculties and other disciplines such as Economics and Biochemistry are conducting

baseline, applied action and evaluatory research studies on programmes related to health, nutrition, child care, resource and energy management, application of Science and Technology and integrated rural development. Collaborative action/research programmes are being conducted with voluntary organisations such as Central Social Welfare Board, Bharathiya Grameen Mahila Sangh, Women's Voluntary Service, Catholic Relief Service etc., State Government, Central Government and international agencies such as UNICEF, FAO,WHO, Ford Foundation, CARE, etc.

Publications and manuals are being brought out for use by students, researchers and field level workers. A popular Tamil Science monthly Vignana Chudar is being published to disseminate scientific information to the public.

It is against this backdrop, the institution has been given this honour to organise training for state level administrators of the programmes for women and children, sponsored jointly by USAID and the department of Women and Child Development, Government of India. The training programme is for 7 days from November 20—26, 1986.

The training programme envisages to provide the participants with opportunities to share their experience in monitoring Social Forestry programmes for women and children and get oriented to the application of management strategies and techniques in planning, implementing and evaluating women and childrens' programmes. The training is intended also to work vertical and horizontal proliferation required and also the coordination desired between government and voluntary agencies. Out of the participatory discussion, it is expected that some workable suggestions will emerge for coordinated work between the voluntary and government agencies.

F. Prevention of Deforestation

Deforestation is a real problem. People do not realise the need for preserving trees. The consequences are becoming more and more serious. Why? Is deforestation unavoidable?

1. Why does deforestation happen?

Everybody wants money. People need to produce in order to export and feed the growing population. The young people do not care for traditions : They do not see the differences between good and bad. There is no community sense or responsibility. The population is multiplying. Collective irresponsibility, along with the following reasons, has resulted in deforestation.

i) The need for wood has increased

Wood is still the main source of energy for majority of the population. The refine trees are cut for use in the kitchen. It is also cut for construction, for toolmaking and furniture. These needs are growing with the population. Trade with wood is profitable. All these lead to cutting the trees.

Selling wood to other regions is a large source of income for the wood owners. In certain regions, it is presumed that in 20-30 years time there will be no forests left.

ii) Cutting trees to make room for cultivation

The increasing populations have to be fed. Therefore more farming land is necessary. Therefore trees are cut down. The animals also need more and more grazing grounds.

iii) Land is needed for buildings

Many buildings are being built on the land which sheltered trees.

iv) Drought kills the trees

In several places, many trees die because of lack of water. However drought kills less trees than men and their animals do.

2. What is to be done to prevent deforestation?

Thus deforestation has many reasons. Decisions may depend on those who are in power. But some action can be taken by the villagers and the rural communities themselves.

i) Reforestation by planting trees

Reforestation is necessary to reestablish the natural balance, to favour a good climate and to fulfil the different needs of men. But we are aware that reforestation will take a long time before it gives the results. That is why it is also very necessary to decrease or stop deforestation. To this end different actions and measures are possible and necessary. Thus there is increasing awareness that tree plantation is a must.

Projects like 'Grow More Trees', 'Social Forestry', local initiatives like the village plantations try to increase the number of trees and village tree nurseries. People plant the trees themselves and take care of them. This is a good solution. Social Forestry should be developed everywhere, whenever we are sure that the products return to the people, who do the work.

ii) Allow the trees grow

Nearly everywhere many trees grow on their own. Some even grow in spite of men and their cattle. But that is not sufficient to substitute the cut trees. Looking after the animals, and not wasting firewood will help many trees grow and to reforest big surfaces. In four or five years' time some trees Alacia are big enough not be eaten anymore by animals, if people do not break off the branches.

iii) Reducing the needs in wood

It is difficult to use less wood for construction or tools and furniture. Therefore people must be made aware to make better

use of wood. It is now possible to use less wood or no wood cooking. There are other energy sources than fire-wood such as petrol, gas, bio-gas, electricity and solar energy.

The government must make available these products at low cost to the poor. At present solar cookers are difficult to construct and to use, they are dangerous for the eyes. But they are easy to heat water.

While wood will stay as the source of heat for a long time, improved chulahs help to use less wood, to do the same cooking. The best models can be easily built by people themselves without big expenses.

iv) Reduce deforestation to get new farming land

Shifting cultivation is the most important reason for deforestation in the tribal belts. Farming must be done by systematic rotation of crops and by using organic substances. With rotation of crops you can cultivate the same soil all the time, not only without degertilizing it, but also getting output. Therefore cutting trees can be reduced.

In certain cases, cultivation for export crops like coffee and tea or tobacco occupies too much surface. What is the use of destroying trees for planting tobacco, tea, cotton, coca or coffee when people have to pay more and more for food and development gets retarded?

II. Information and education

Population control, reducing the needs in wood, finding alternate sources of energy, settling agriculture, diminishing the number of animals are possible, if the rural and urban communities understand why these are necessary. Information and education are required in convincing manner.

Urban populations, especially the youth, need to understand the importance of trees. Schools at every level, NSS and youth movements have an important part to play in educating them.

In the villages, the leaders and elders also can do many things, they know the local species and the needs trees were fulfilling in life. They should spread this knowledge to themselves.

In the rural areas, the forester is the principal facilitator of this education but he is not the only one. Everybody is concerned, even the retired civil servants. As long as the procedures used by farmers and even town people do not change, reforestation will not happen. "Village wood projects" will help to conscientize people in respect to the use of trees. Preparing the tree nursery, maintaining it, while watching the plants grow, teaches the villagers to increasingly love and respect the trees. This education will make people save wood. They will make better use of the wood. They will construct better, simple and efficient chulahs. ○○

MODERN MANAGEMENT APPLICATION TO PROGRAMME SUCCESS

*P. Sundaram**

At the centre and in the States, everyday we see some innovative and new schemes, projects and programme evolving with the earnest hope and desire to improve the quality of life and our economy. All these can bear fruitful impact and results only if they have a pragmatic approach and indepth understanding and know how by the implementers. Organizations and various units and departments become busy with routine matters and activities to meet the goals. They get bogged down with the concern of WHAT to do; rather than HOW to do. They seem to be so obsessed with their substantive area of work that they do not pay adequate focus or attention on some other dimensions which may be equally significant in facilitating in achieving goals more effectively. This is the process dimension, which receives its strength from the management arena, including the human and behavioural dimension on an organization. And this management arena is as dynamic as the bursting technological innovations of the present day. Therefore a training of this kind, on management, for a specific programme, namely, development of women and children, is undoubtedly the most befitting, meeting the call of the hour and let us hope, more such endeavours are made throughout the country in other states as well, following the pioneer venture of Sri Avinashilingam Home Science College in Tamil Nadu.

Many concepts have changed radically by force consequent to simultaneous technological revolution and revolution of rising expectations; and among them management is one such concept. Unlike today, in the olden days, the techniques and methods of management were based on coercion, threat, intuition, whims and

* Dean, College of Home Science, Sukhadia University, Udaipur, Rajasthan, India.

fancies, hunches or hit-or miss, rule of thumb and blind faith or superstitions. Today management has begun to be adopted and accepted as crucial and essential element of life by the common man, differing only in its degree of sophistication and adaptability as conceived by the individual to a multinational firm. Therefore, in this, dialogue and deliberation before you, with you here, I propose to share, some basic fundamentals of management concepts and their importance, with meaningful applicability of some to our present training programme.

It would be appropriate to start with the query, who is the manager? Around us we find in Nature bountiful resources, both material and human. Human beings constantly endeavour to harness material resources for their own survival and growth. System becomes a Social Exploitation of the material resources in the context of social activity. Human being who look after such exploitation of material resources by the human resources are designated Managers. According to Harold Kooutz and Cyril O' Donnell, "Developing a manager is a progressive process in the same sense that educating a person is. Neither development nor education should be thought of as something that can ever be completed, for there are no known limits to the degree to which one may be developed or educated. Manager development concerns the means by which a person cultivates those skills whose application will improve the efficiency and effectiveness with which the anticipated results of a particular organizational segment are achieved".

A manager is a person who gets results largely through the efforts of others. Management is the sum of all the managers within an organization; and it is also what a manager does to make things happen. It is forward - looking, thought-provoking and cooperative in nature. It is also defined: "Management is not the direction of things, it is the development of people".

It is generally conceded that more good programmes in developing countries fail from a lack of management know-how

than because of a lack of technical knowledge. No matter how excellent a programme is technically, it is sterile unless it is put into effect.

Many nations have been deprived of an opportunity to develop their management skills because they have been under the rule of other nations. In many instances colonization developed a country physically but neglected the human resources, including management skills.

Man cannot exercise management skills and develop his full potential except in a climate of freedom. Within this expanded freedom of our present day environment man must accept greater responsibilities. This is indoctrinated in modern management which is orderly and systematic, using the inductive methods of science to optimize desired results for the people being served, with the greatest satisfaction to those employed in the enterprise.

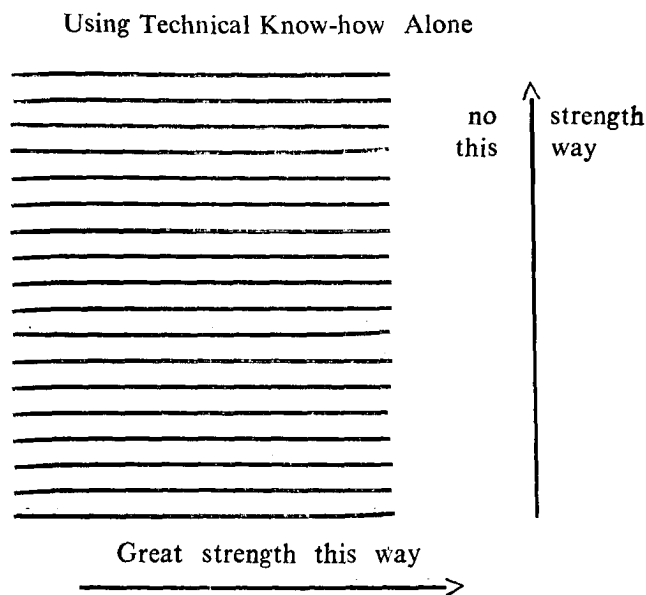
Before understanding the concept of modern management, we should look at the foundation stones upon which good management is built. They are :

1. Dignity of man as an individual.
2. Encouragement of a creative spirit.
3. Openness and respect for truth.
4. Fidelity to established objectives.
5. Recognition of the facts of life.
6. Recognition of precision in method development.
7. Faithful transmission of information.
8. Spirit of cooperation with opportunity for free criticism.
9. Application of science and its findings.
10. Systematic approach to organising work and workers.
11. Persistent desire for improvement.

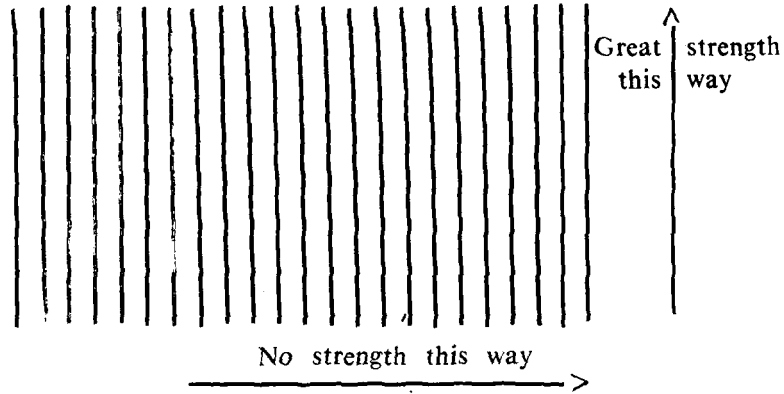
All management systems in the free world today are built, to a greater or lesser degree, on these stones as a solid foundation. Any of these stones left out or improperly fitted into the foundation will tend to weaken the management structure.

Relationship of Management know-how to Technical know-how

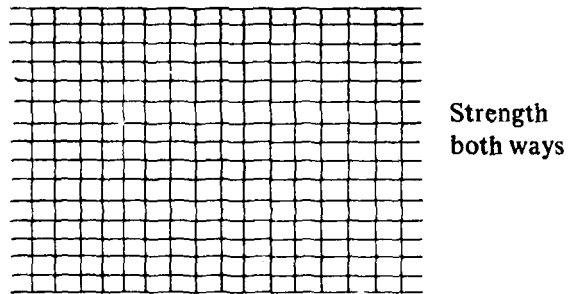
Management know-how is the vital force that keeps the complicated civilization on the move as well as it does. Still everyday we work to improve our management skills. For one who looks around with management - sensitive eyes, one will see good and bad management. More programmes fail to produce expected results because of a lack of management know-how than because of technical incompetence. Excellent programmes must have a balanced combination of good management and sound technical know-how. This is illustrated in what follows under "Weaving a Strong Fabric for programme Development" This is precisely the objective of the present training also.



Using Management Know-how Alone



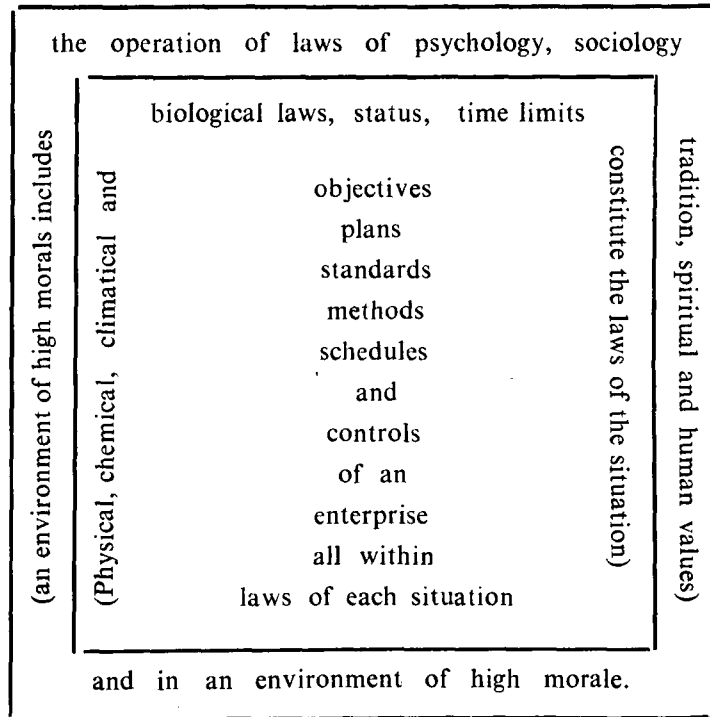
Using both Technical and Management Know-how



Technical strength alone is futile
Management strength alone is dangerous
Both are essential to programme development
and success.

Diagram of Modern Management

Modern management exists primarily as a concept and mental attitude towards achievement. It exercises a basic systematic technique for discovering and establishing



Thereby exemplifies the best use of human and material energy.

In addition to this chart explaining what we mean by modern management it is a diagram upon which almost any kind of a management problem can be applied to work out a solution. Around the inner rectangle can be placed constrictions or limitations that dare not be violated or breached-natural laws, money and time limitations and statutes. Around the larger rectangle go those factors, conditions and limitations that apply to employees and the people being served.

When the limitations within which management must operate have been established we are in a position to discover and establish objectives, plans, standards, methods, schedules and controls of the enterprise. When this approach

is understood and accepted by all members of management it becomes a way of life for the organization. It gives meaning to the statement, "We analyze a situation to a point where the situation gives the order".

The use of this chart as a management tool takes considerable skill and ability. Some suggestions for using the chart are outlined below.

The laws of the situation must be recognized and respected, for example, the manager of a chemical plant who disobeys the gas laws may end up with a wrecked plant. Certainly statutes, budgets and time limitations must be accepted. The limitations set up by the outer rectangle, while important, are not as rigid and inflexible as the laws of the situation. People are more flexible and adjustable.

Objectives

After limiting factors have been agreed on, setting objectives is the first step in the management process. Objectives determine the direction an organization wishes to go and how far to go. Objectives visualize the end product and its use. An organization without objectives is like a ship without charts. It doesn't know where it is going nor will it know when it gets there. While setting objectives is the responsibility of top management, generally better objectives are established when all managers have had a part in developing them. When objectives have been established they should be made known to all employees.

Plans

Planning immediately follows the establishment of objectives. Planning is looking ahead and devising a course of action to reach desired objectives. It is largely a mental exercise using vision and foresight. The ability to look ahead and project one's thinking makes up the most of what we mean by the term "intelligence". Ability to plan is one of the activities that sets man apart from the animals.

Steps in planning are :

1. Formulate and establish general policies.
2. Identify needs and opportunities for improvement.
3. Formulate programmes.
4. Determine required facilities and resources.
5. Design the plan.
6. Establish priorities of desired programmes.
7. Approve and launch the plan.
8. Make plans known to all employees.

Plans are not sacred documents. They must be kept flexible and be changed whenever there is a change in the conditions and assumptions on which they were prepared.

Standards

A standard, set by authority, is a rule for the measure of quantity, quality, weight, extent or value of a result or product. A successful organization must have some measure of the quantity and quality of its products. An employee is entitled to know if his work is acceptable.

Well developed standards are :

1. Based on accurate observations of the work or product.
2. Fair and equitable to organization, employee and customer.
3. Representative of a fair day's work.
4. Not changed unless methods change, but changed when methods change.
5. Understood and accepted by supervisors and employees
6. Accurately and intelligently administered.

Methods

The more we study the work of great leaders, the more apparent it becomes that these men were masters of method. All work should be done with as little human effort as is practical and economical. The development of the simplest and easiest method of doing work is the responsibility of the managers. However, it should always be done with the assistance and cooperation of the persons doing the work. The goal is not to work harder, but more intelligently. Simplification is probably the best technique for improving methods, reducing human effort and saving money. The secret of work simplification is asking the right questions at the right time and getting employees involved in determining the right answers.

The steps of work simplification are :

1. Select a job to improve.
2. Get all the facts on process chart.
3. Ask the following questions about each step on the process chart :
 - a) What is the purpose of the step? If omitted, what happens?
 - b) Where should it be done? Why?
 - c) When should it be done? Why?
 - d) Who should do it ? Why?
 - e) How should it be done? Can it be simplified?
 - f) What can be eliminated?
 - g) What can be combined?
 - h) Can we change the sequence, place, or the person?
 - i) How can necessary details be improved?
4. Develop and test the improved method.
5. Install the new method and check on results.

Schedules

Schedules are developed by projecting time values of established methods in the proper sequence into a calendar of objectives or events. Following this calendar will complete the operations within an acceptable time limit. Schedules should be recorded in some written form and distributed to those responsible for keeping production up to date.

Controls

If all the operations are satisfactorily completed according to standard and within the scheduled time limit, we say the work project is "in control". If part of the organization gets out of control then efforts must be made to bring it back into control. All this must be done with whatever laws of the situation apply, while maintaining an environment of high morale.

Decision Making

The ability to make reasonably quick and accurate management decisions is a management skill that marks the successful manager. Most of the information that goes into a decision is organized and manipulated mentally within the head of a single person. It is not open to the scrutiny of others. A manager collects facts, gets advice and suggestions, but the decision is his alone. No manager can be perfect in his decisions. A successful manager makes the great majority of his decisions correctly and corrects faulty ones as quickly and positively as he can, never blaming others for his faulty decisions.

Factors in decision making

1. Get as many facts as possible or feasible.
2. Analyze the facts for accuracy and applicability.
3. If possible, get the facts to answer questions.
4. Involve employees in developing solutions.
5. Explore all alternative decisions.

6. Anticipate the consequences.
7. Weigh and balance one alternative against all others and choose the best.
8. Announce the decision promptly or in a timely fashion.
9. Ask cooperation of employees to help put decisions into effect.
10. Give reasons, if appropriate.
11. Follow up to determine results.
12. If a wrong decision is made, change it as quickly and honestly as possible.

Dangerous practices in making decisions

1. Jumping to conclusions.
2. Getting just one side of a situation.
3. Putting off a needed decision.
4. Failing to give reasons for decisions.
5. Overlooking possible consequences.
6. Changing decisions unnecessarily.

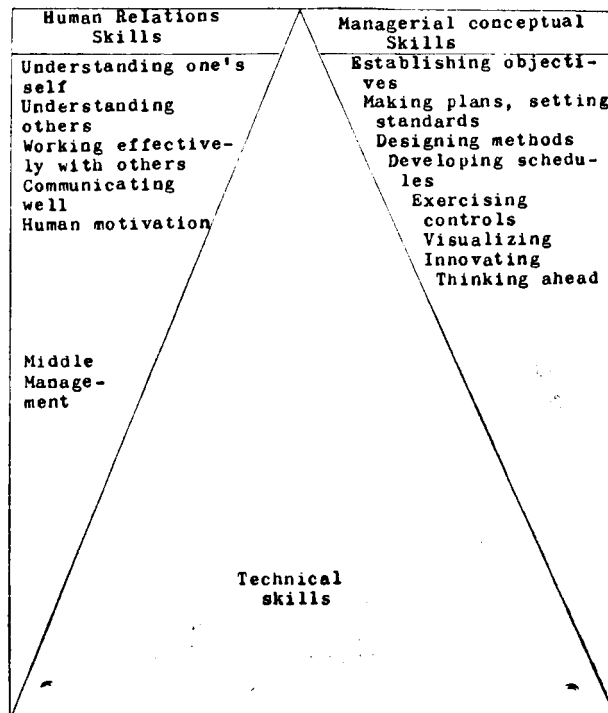
How long do you have to put off making an unpleasant decision until it becomes a pleasant one?

Developing Managers

Most professional employees come into organizations at the beginning level, where most of their work is of a technical nature. As they work up in the organization, generally they must assume greater management responsibilities and less technical work. In these positions they must exercise human relations skill and managerial and conceptual skills. Naturally they need good training in these important skills. The further a man goes up the management ladder, the more he needs management and human relations skills.

Change of needed skills as Managers Develop

Top Management



Management of change

The manager is the agent of change in his group. He sets the stage for making change. Or he may, by his attitude, prevent needed change. It is generally accepted that employees resist change. This is not necessarily true, depending on the conditions under which change is made. How many of you ever saw a group of employees resist a pay increase? This is change, isn't it? Employees resent being changed. They resent many methods of change. "He that is convinced against his will is of the same opinion still".

Changes that do not benefit the employees in the long run are seldom good for the organization. Too big changes and too frequent changes tend to upset employees. Change is an ingredient of growth. The manager may benefit from, or be a victim of change, depending on his skill of managing. Managing is a selling job, the softer the sell the better. As a general rule, employees do not resent well managed change.

Employees generally welcome change if :

1. They understand the change.
2. They know why the change is important.
3. They recognize it is to their and the organization's advantage.
4. They are involved in the development of the change from its inception.
5. They are given time to adjust to the change.
6. They have confidence in management's leadership.

When one is able to distinguish the causes of good and bad management, he is becoming a management diagnostician. One is able to see signs of illnesses in an organization, and as one relearns one becomes a specialist on how to identify, treat and prevent such illnesses. The greatest development of diagnostic skill will come when well managed organizations are visited.

Selected References

- Kooutz, Harold and O'Dounell Cyril : Management and Systems and Contingency Analysis of Managerial Functions.
- Drucker, Peter F. Management, Tasks, Responsibility and Practices.
- Glover, John G : Fundamentals of Professional Management.
- Davis, R. C. : The Fundamentals of Top Management.
- Fulmer, Robert M : The New Management.
- U. S. Deptt. of Agriculture : Modern Management the Key.

IMPORTANCE OF SUPERVISION IN MANAGEMENT

*A. Anantharaman**

In industry, in business, in Government wherever the work is being performed the Supervisor is to be recognised as a key figure. The success of the enterprise depends on how well he directs the efforts of the employees.

Who is a Supervisor? He can be defined simply as anyone in the organisation who is responsible for the work of others. This means that everyone has a supervisor other than a chief executive. There is need for supervisors as business grows and covers people in multivarious activities. Supervisors are not only responsible for the work of a group of people but also responsible for creating and maintaining environment in which individuals can work smoothly together to achieve the organisational objectives.

The old concept of supervisor as steely eyed individuals who methodically pushed the burdens without human consideration is outmoded. We can trace the origin of supervisor to that of slave drivers of Egypt. But at the same time a supervisor is not a psychiatrist as envisaged by certain people. But he is a go getter. The main job of a supervisor is to achieve organisational goals. The sum and summary of supervisor functions can be selecting the right person for each job, assessing each person, the interest in work and teaching him how to do it, measuring and rating the performance, to be sure that the job has been done efficiently, demonstrating creativity whenever there is a necessity, transferring to do more suitable work or dismissing those who are ineffective, commending wherever praise is merited and rewarding for good work and finally fit each person harmoniously into the working group.

* Personnel Manager, 'The Hindu', Madras

The qualities that are required for a good Supervisor

The qualities that are required for a good Supervisor are Thoroughness, fairness, initiative, tact, enthusiasm and emotional control. Without being descriptive and elaborate we can make reference to these qualities in a brief manner.

1. Thoroughness

It takes less time to be thorough and get the answer right from every point of view. It is a quality of success in business or profession. This includes information needed and details required.

2. Fairness

It is the last function for any lasting success in supervising people.

3. Initiative

It is a capacity for assuming responsibilities for starting and doing things, ability to carry through and undertaking without detailed supervision.

4. Tact

Most successful men and women possess the ability to get loyalty and support of those around them by doing and saying things which give others especially those under their supervision a feeling that they are playing an important role in whatever is being done. This quality that enables men to do, we call it tact.

5. Enthusiasm

An intense and cater interest in and devotion to a cause or pursuit or an ideal.

6. Emotional Control

Does not mean elimination or even curb of our feelings. Control means to exercise restraint or directing influence over anything. Emotional control is measured by not how strongly a person feels on any subject nor even by the justice and soundness of his feelings, but, how he acts.

When we analyse the work of supervisor, it gains importance because of the proximity to workers, decision given at the shop floor, role on day to day problems and through direct contact.

Status of the Supervisor

The status varies from that of a leader of men to that of a member of management. As a first line management he is the kingpin of management and he holds the key position, in the chain of management. To rank and file of employees the supervisor in most cases is the management. In a developing country he can make or mar the picture of management.

The supervisor is a mini manager. His range of activity is wide and comprehensive. He faces real challenges in his work from planning to executing and he is to control the activities on a large scale. His success will depend upon the ability to develop "team of his employees", effectively instructing them about the job and keeping up the morale. He should evolve a system which gives satisfaction and motivates employees to achieve them.

While the top management or middle management have to do long range planning and have to control people of several sections, the area of supervision is limited but none the less he also follows the same step of planning, action and control. A supervisor has got many roles to play which could be categorised as -

- a) the human aspect;
- b) the shop floor or technical aspect.

a) Human Aspect

A supervisor has got a role to play from interview of an employee selection and recruitment to that of exit.

i) **Selection and Recruitment :**

A supervisor is to be associated in selection of employees and standard of selection to be fixed in consultation with him. In fact this will be helpful in building the accountability and status of supervisor for his functions. He is given an opportunity to select his subordinates to achieve the organisational goals or targets. In case of need and necessity the supervisor should be associated with initial training. This involves equipping the workmen to do the current work.

ii) **Development of sound working habits;**

iii) **To create and provide positive attitude towards organisation work.**

Induction

Induction means exposing the person to the job or new environment, getting the employee ready to take responsibilities as the permanent member of the work team. The proper person for this work is none the less the supervisor.

Placement

After selection and initial training comes the question of placement. Placement means assignment of job to employees. This placement is to be done in coordination with the supervisor. As supervisor knows the job he will be able to do it much better than anyone else. He should be aware of the job responsibilities, job specification.

Communication

Communication with employee is a very effective tool to achieve the targets of the organisation. However much a supervisor is competent, his incompetence in communication front will defeat all other objectives. He has to communicate with subordinates, superiors and colleagues. Any negligence on one part will cause failures on the other parts. He should

learn how to give instructions, he should learn the art of giving instructions, understand the art of conference and leadership. For communication to be effective it should be two way, not to be obstructed by barriers. Choose right medium and channel. It is needless to say proper listening is a must.

Job Evaluation and Merit Rating

Even though job evaluation is done by experts in large scale industries, the association of supervisors is basic because he alone helps in building job description. The comparative worth of the job is job evaluation and that is to be done scientifically and analytically for which the role of supervisor is absolutely essential. After job evaluation is done merit rating is essential. It helps in directing the attention in an analytical and comprehensive manner to the qualities and achievement of the employees.

Inter personnel relationship

Proper Inter personnel relationship is the hub on which the organisation revolves. The supervisors has got three types of relationships. (1) dealing with subordinates - a sensitive part (2) dealing with fellow supervisors; (3) dealing with supervisors.

The duty of the supervisor as regards subordinates working under him is to handle their problems, attending their grievances, enforcement and promotion of discipline, motivating them towards work targets.

Dealing with fellow supervisors is not an easy job. All supervisors have to face the problem of cooperation and coordination and work understanding.

As regards work assignment, understanding the policy, objectives, production and set targets of the organisation, relationship with superiors are involved. These are vital and sensitive especially of relationship between supervisor and superiors.

Having dealt with the human aspect let us now see the role of supervisors in increasing and promoting productivity. He has a significant role and contribution to make here. At macro level even though he may not be able to do much with external agencies, by creating a positive attitude in the minds of employees and preparing them towards the change and development and innovative thought could take place in the organisation he has got a vital role to play. The negligence of this area will cause havoc. As regards micro level that is shop floor level (a) his duties are to ensure follow up of tools and materials (b) preventive maintenance (c) accountability for the production targets and output (d) getting records and sending reports, making changes and decisions (e) assigning work and making sure that the operator has enough work to do, handling grievances, looking after the safety and welfare of the workmen. In all the above areas effectiveness and direction of the supervisor will increase productivity.

The aid for this will be financial and non-financial incentives for which the supervisor has a dominant role to play. The skills required in these areas are know how and patience to the job, demonstrative skills and ability to work with others. The skills can be improved by sharpening the existing skills by training especially on the job, orientation and communication programme. To achieve the above goals the job of the supervisors get restructured and to relieve him of certain administrative responsibilities, incentives can be provided to supervisors, more as non-managerial compensation, career development, recognition, rewards and acceptance. Supervisors require certain personality traits such as getting along with people and have patience. He should have positive attitude especially liking for the workmen and values for

human beings, more so like handling grievances, counselling etc. A supervisor synthesis his interest in employees is likely to be the best supervisor and more effective. The success of a supervisor depends on the following qualities.

Knowledge of work, knowledge of responsibility, skills in leadership. The supervisor also should have an introspection as regards his qualities of success and failures.

What the employees think of him, what his superiors think of him, what he thinks about himself. This leads us to the question that what are the aspects that are required for a successful supervisor - integrity, loyalty, competence for the job, pleasing personality and intelligence.

Quality that ruin the supervisor are, improper behaviour, bad personality, habits, poor planning, indecision, making false promises, inaction, improper guidance, taking things easy and not assuming responsibility.

Besides this the supervisors efficiency can also be curtailed by factors on which he has no control like trouble from others by way of top management inadequacy, improper management policy, improper communication system and non-cooperation from fellow supervisors.

In the Indian condition most of the supervisors suffer from indecisiveness due to inadequacy on the part of management viz. lack of delegation of authority and proper responsibility and not creating proper working facilities, absence of work freedom and indecision. This makes a supervisor to become inefficient and ineffective.

Given authority and backed up with proper guidance and healthy policy, a supervisor who synthesises his interest in employees with those of production is bound to be effective and successful, which is the felt need of the hour.

WATER MANAGEMENT BY UNICEF

T. Kanagarajan

Introduction

“Apova Idhagam Sarvam” says Rik Veda, which means “Water is everything and water ONLY is everything”. The human body consists of 70% of water. Water quenches our thirst, grows our food, keeps us clean and healthy. Yes, water is an instrument of Health! Water plays an important role in health, economic, social and cultural developments of the community. Drinking water and sanitary facilities make an important contribution to healthier populations, more productive economics and more vigorous societies. These are adequate long term reasons for National Investment.

Global Perspective

Due to lack of safe drinking water, much ill health is caused. Millions of people, particularly children, die due to many water-borne and water related diseases like cholera, typhoid, dysentery, diarrhoea, jaundice, hepatitis and malaria, filaria, guinea worm and brain fever respectively. The infant mortality rate in the under-developed and developing countries is very high.

Statistics on Infant Mortality Rate (1983)*

Japan	:	6
Sweden	:	7
United States of America	:	11
China	:	39
India	:	110

***Source :** State of the World's children 1986 report.

* Project Officer, UNICEF, Hyderabad.

Some of the reasons attributed to high infant mortality rates are lack of safe drinking water, lack of improved environmental sanitation, malnutrition, lack of timely health facilities.

(NOTE : Infant Mortality Rate : The number of deaths out of every 1000 live births within one year of their birth)

Let me quote Dr. Mahler, Director of World Health Organisation, "The criteria to determine the health condition of the people in an area need not be assessed by the number of Primary Health Centres, hospital beds and doctors, but can be judged by the number of successful piped water supply schemes, tubewell handpumps functioning, accepted and used by the people".

Sources of Water

The sources of water can be classified into surface and ground. Rivers, streams, lakes, ponds are surface sources. Open wells and tubewells are ground sources. In rural and urban areas, drinking water is provided from the surface or ground sources, depending upon the availability and need.

Drinking Water Programme in India

In India, the population being the biggest problem, the state governments with the support of Central Government, plan and implement drinking water programmes in the urban, semi-urban and rural areas as a top priority. The problems are more to provide safe drinking water in rural areas where 70% of the population live.

During 1972, Government of India, began in a systematic way to identify the problem villages and provide safe drinking water. The following criteria is laid down by government to identify problem villages :

1. Villages where water is not available at a depth less than 15 metres or within a distance of 1.6 Kms.
2. Villages which are endemic for diseases like cholera and guinea worm.
3. Villages where water is unsafe due to excess salinity, iron fluoride, chlorine, etc., that affect human beings.

About 1,50,000 villages were identified under problem villages and the race began.

Parameters and Constraints

While implementing drinking water schemes, there are certain constraints and parameters which need to be taken care of:

Quality of water

The quality of water for drinking and cooking should be soft and free from contamination. Safe water should be pure, odourless, colourless and clear. The pollutants in the rural areas include the excreta of man, animals, sewage and washings from the soil.

Quantity of water

The quantity consumed by the people varies depending upon climatic conditions, standards of living and their habits. The recommended norm of water needed for human beings in urban areas is 30 litres per head per day and in rural areas 40 litres per head per day.

Bacteriological and Chemical Pollutants

Other chemicals in water such as iron, fluoride and chlorides are beneficial and essential to health to certain extent, if present in small quantities. Excess fluoride more than the permissible limit of 1.5 ppm causes endemic cumulative fluorosis resulting in bone and skeletal damages. In 127 villages in five districts of Andhra Pradesh, fluoride content is more than the permissible limit.

Funding

Huge funds are required to provide drinking water to the millions of people. Communities should be involved in all the phases of the programme so that maximum use can be made of the existing potential and community resources.

Human Resource Development

Human Resource Development is a critical part of water supply and sanitation projects and requires assessing human resource needs and designing and implementing the training programme. Even if sufficient funds are available, it will be very difficult unless sufficient trained skilled man power is available priority must be given towards the development of human resources by training engineers, technicians and skilled personnel.

Technology

The technology that is relevant, cost-effective, feasible, necessary and sufficient is a key element. The technology should not require materials and skills that cannot be developed within the country. Standardisation of equipment, design and implementation procedures is an important strategy for reducing costs, speeding up programme delivery, as in the case of India Mark-II handpump.

Operation and Maintenance

Operation and maintenance is possibly the most neglected aspect of water and sanitation projects. In every country, many existing water and sanitation schemes are either malfunctioning or defunct due to lack of maintenance systems. The responsibility for operation and maintenance should be delegated to the lowest level and to the community with technical support

Fields of UNICEF Support

The typical fields of UNICEF support to water programme are :

1. Survey and programming for UNICEF supported projects to be funded by Government or International or bilateral agencies.

2. Technical support for implementation.
3. Training of staff including in-service training.
4. Supplying implements - drilling rigs, pumps, trucks, etc.
5. Local manufacture of supplies (handpumps).

On a global basis, over one quarter of UNICEF assistance goes to Water and Sanitation.

Rural Water Supply Programme

Experience has shown that piped water supply schemes originally designed for urban areas and adapted for village application were too expensive to construct, operate and maintain on a nation-wide basis. Therefore, more and more developing countries have started implementing Rural Water Supply Programmes through drilled borewells fitted with handpumps.

Development of India Mark-II Handpump

A survey conducted during 1972 showed that the pump breakdown was as high as 750 per 1000. This was mainly due to the use of sub-standard, old style cast iron handpumps which were used by single families and in farms about 100 years ago in western countries. These were quite unsuited for rural village application in India.

Based on the results of this survey and as requested by the Government of India, UNICEF in coordination with several voluntary agencies involved in drilling based in Maharashtra, Richardson & Cruddas (A Government of India Undertaking) and the TWAD Board, with continuous field testing, developed during end 1976 a sturdy deepwell handpump now called the "India Mark - II". The India Mark-II pump has ultimately established a system in itself with the development of tools, accessories and training materials. The Handpump Programme must not be looked upon in isolation, as people often suppose. It should, instead, be looked upon in totality, i. e. quality of pump, quality of installation, quality of maintenance and most important of all, community participation.

In order to approve a new supplier to manufacture India Mark-II pumps and spare parts, a certain procedure is established and followed in the country.

Demand for mass production of India Mark-II and the need to standardise on design resulted in bringing up 48 qualified manufacturers in India with an annual production capacity of one lakh India Mark-II pumps to match the country's demand. This has facilitated 'inter-changeability' of the pump components and thereby created a "Manageable maintenance".

Advantages of India Mark-II Pump

The advantages of the pump are:

A pedestal that can be grouted into the concrete platform for a rigid base to prevent contamination of the borewell water.

Not even a single fast-wearing part and it can be operated even by a small child.

The Indian Standards Institution (ISI) has accepted the design as the only deepwell pump-the India Mark-II. And, therefore, all the State Governments procure only India Mark-II pumps from qualified suppliers with pre-delivery inspection.

The India Mark-II has infused confidence in the minds of the villagers that this 'petti pumpu' - box pumpu-as it is affectionately called by the villagers, ensures a continuous supply of safe drinking water. Thus, the handpump has truly become the focal point for health improvement.

UNICEF Involvement in Handpump Programme

UNICEF, under the handpump rejuvenation programme, has been assisting various state governments to replace the non-India Mark-II pumps with quality India Mark-II pumps, supported by specially developed tools, shutterings, pipe stands and

trucks for the mobile handpump teams to go to villages and carry out faster, safer and quality installations. Above all, with the regular in-field training organised by UNICEF for Water Department Engineers and mechanics with training materials, handpump installations have been greatly improved.

Handpump Maintenance

People think 'maintenance' means repairing the pump only after it is broken down. Even a quality India-Mark-II pump installed properly can fail, if it is not maintained periodically-both through 'preventive' and curaitve' maintenance. Just as with triple antigen DPT for children, we promote CGT-CHECKING, GREASING AND TIGHTENING-for the preventive maintenance of pumps. A National Conference organised during July 1979 in Tamil Nadu wherein the representatives of State Governments, Government of India and UNICEF participated, a "Three-Tier-Handpump Maintenance System" was recommended. Though many states talked about having such a system, it is never fully implemented, anywhere in the country. During the course of the past 6 years, the programme has assumed greater proportions and Andhra Pradesh and Karnataka now have 1,10,000 and 85,000 handpumps respectively. Almost all of them are India Mark-II. These states are adopting a "Two-Tier Maintenance System".

Whether a Three-Tier, Two-Tier, Single-Tir or Tierless System, it is imperative that there must be a SYSTEMATIC HANDPUMP MAINTENANCE" of one method or another the State Governments have now started giving importance as the Government of India has given emphasis on operation and maintenance of the existing water supply systems in the Seventh Five Year Plan.

Maintenance by Villagers

UNICEF in coordination with the World Bank, TWAD Board and other agencies is testing the India Mark-II handpump with modifications and light below-ground components to

develop it into a VLOM pump - village level operative maintenance - to facilitate major repairs by the villagers themselves. But as long as Rural Water Supply Programme is implemented the involvement of Government Water Department is a MUST.

The long term success of the drinking water programme depends eventually on the village based maintenance of the pumps. To achieve this, quality control standardisation, monitoring of installations, development and support of maintenance system and training on all these aspects are essential.

Community Participation

A few important factors that make drinking water programme successful are community participation, human resource development and training. Community participation is more than contribution of time, labour and money. The community must be given the opportunity to ask from the authorities what they want and involved in the planning and execution of all projects. For several obvious reasons giving high priority to water supply and sanitation is a good political choice. Community participation gives an opportunity for community education which will help the villagers to effectively use the facilities.

Social Benefits

Improving village water supplies may be an essential step in the development of village and home industries like fish processing, fruit production, coir making, kitchen gardening, live stock, etc. This can increase the productivity of the villagers by decreasing the amount of time and energy that must be spent to fetch water and by increasing the people's output because of better health. Adequate water supply and sanitation could also help to slow down the migration of villagers to the already over-crowded cities. The projects provide opportunity for community organisation and development of leadership within the community. Of course the community and country benefit from greater self-reliance and stronger leader-

ship. The people always appreciate the improvements in their lives, especially such as convenient water supply that can be enjoyed immediately.

Women and Health Education

Health Education is the step child of any health system. The focus of health education is on people and on action. Its aims are to encourage people to adopt and sustain healthy living practices, to use judiciously and wisely the health services available to them and to make their own decisions both individually and collectively to improve their health status and environment. It may not be possible to discuss health education in water and sanitation programmes without involving women in designing, implementing, maintaining and evaluating the programmes. The education of women and children and their knowledge about the aspects of water use and sanitation are important factors in the impact of Water & Sanitation services, as they are for other child care services. Women must play a larger role in community decisions and participation in this field. I would like to quote our late Prime Minister Mrs. Indira Gandhi, "I believe that no society can go ahead if half of its population is not given the opportunity. Women should play a more positive, a more creative role in all spheres nationally and internationally".

Women's involvement in Water and Sanitation projects could have potential impact. With an increase of women repairing, maintaining handpumps, it has become necessary for UNICEF to try to ensure that women receive the necessary skills to perform these tasks. The mass media available in the country like All India Radio, Television, Newspapers and the teaching institutions in the fields of health education and rural development should be used to promote health education.

Conclusion

We have seen wall hoardings that "The informer of small pox will be rewarded with Rs. 1,000/-" We look forward to a day to see wall hoardings that "The informer of

any water borne/water related disease will be rewarded with Rs. 10,000/-". This would mean a complete Health Revolution. The experience during the past 8 years has shown that the "Pump Mortality Rate" can be brought down from 75% to less than 10%. Therefore our question now is, "When Government, & UNICEF could help to achieve a low Pump Mortality Rate, would it not be possible to bring down the "Infant Mortality Rate" with the provision of safe drinking water and the convergence of other Health Related Programmes?"

The development machinery should be geared to supply quantitative and qualitative water supply for mass consumption and integrated efforts with education and productivity. This could be felt from the Declaration by the United Nations that 1981-1990 would be "International Drinking Water Supply and Sanitation Decade". That is "Water for all" by 1990 and Health for all" by 2000 A.D. to march ahead towards the 21st century.

FOREST RESOURCES OF INDIA AND TAMIL NADU

P. Padmanaban *

India is a mighty nation with a population of 684 million people it is a vast country spread 328 million hectares. With varied cultures and colourful history it stands united and integrated for the past 5000 years as a formidable power in the world.

It has the unique privilege of having the tropical warmth and temperate comfort and desert so rich rain forests. Its flora and fauna show the largest variety that cannot be found in any other Nation.

Its forest wealth is also very large and varied, But still we are short in our forest resources to meet the multifarious demands of huge population which goes on increasing, necessitating special attention and serious action to increase the quality of our forests and its extent.

We have various types of forests from dry thorn forest to the luxurious tropical evergreen forests, through deciduous and semi evergreen forests; coastal mangroves to montane forests with nearly one million species of plants. In these forests we have more than a lakh of species of animals.

India is basically an agricultural nation with 75% of its population living in rural conditions. After a long study the World Food and Agricultural Organization of the United Nations has recommended that for a country the economy of which is based on agriculture should have at least 33% of its total land area, covered by permanent vegetative cover, i.e. 'FOREST'.

* Chief Conservator of Forests (Wild life)
Chief Wild life Warden
Coimbatore - 43.

But due to the ignorance and mistake of our generation we have allowed this natural, renewable resource to be neglected and destroyed. Instead of treating forests as the "Foster mother of agricultural", we had treated it as the "hand-maid of agricultural". As a result we have hardly 20-22% of our land area under forest cover that also badly degraded.

India's national forest area is 22%. But Tamilnadu has only 16-17% of its area only under forest cover. Tamilnadu which has a population of 484 lakhs of people has got only 20 lakhs hectares of forest area. It works out to hardly .04 hectares of forest land per capita.

With this much of forest, hardly 400 sq metres per head, we have to meet the heavy and numerous demands of the population.

We have to set apart forests for environmental protection such as amelioration of climatic extremities and rainfall. The forests have to be kept properly managed for effective soil and moisture conservation. Forests are necessary for pollution control for they are the lungs of the land absorbing the CO_2 given out by the modern vehicles and factories and give out the life saving O_2 . They fix the atmospheric nitrogen in the soil as nitrates which are used by our crops. They provide the humus in the soil.

They are the decorations of the earth breaking the monotony and giving the aesthetic beauty which we enjoy and which help us to shed our boredom and relax and gives recreation to our tired body and soul.

Innumerable educational values are attributed to these forests in fundamental research and applied sciences.

It gives employment to thousands of people and is responsible for the good health of the population and other living organisms keeping the ecological balance.

Finally these wild life - forms are the source of the genetic variety and diversity which is essential for the continuous genetic improvement of our domestic crop-plants and animals.

The above mentioned are some of the indirect benefits which cannot be quantified or evaluated, but which are absolutely essential needs for the existence of life on this earth.

As for the direct benefits, forests supply the innumerable needs of the population - Food, shelter energy are obtained from forests. Industrial raw materials are taken from the forests. Forests provide all the needs of agricultural, green-manure, implements grazing and small timber. Forests provide home for our tribals and a habitat for our magnificent wildlife

But all these direct and indirect benefits cannot be made available from the 500 sq.m of forest area per capita that is now available.

Man has cut and used the forest but he has forgotten to renew the forest. Also the exploding population has made it necessary to extend the forest area. so various schemes for planting trees have been taken up, such a farm forestry, villages forestry. Social forestry and urban tree planting, outside the Reserved Forests areas. Efforts are being taken to bring the forest closer to the villages so that the pressure on the Reserved Forests may be reduced and they may be spared to do the function of protecting the soil and conserving the moisture.

It is an enormous work. Unless the public are educated unless an awareness about the importance of forests is created among the public this will not be possible. That is why we have "Tree planting week", Wildlife week" "Environment day" World Forestry Day" and such functions. People in responsible positions should treat this seriously and help educate the public. I hope this objective is achieved as early as possible.

VOLUNTARY AGENCIES AND SOCIAL FORESTRY

*Sarojini Varadappan **

At the dawn of freedom, we sincerely made a pledge to build a new India. 38 years have passed since then. It is often asked how well have we utilised our opportunities since we became free and how far our people have fulfilled their pledge.

Independent India inherited from its colonial past an economy steeped in appalling poverty and deep rooted stagnation and was also shattered by the Second World war. The growth rate of National Income over the 50 years preceeding the Independence was agonisingly slow. Agricultural output grew only marginally and that too unevenly. The need to rebuild the economy was thus immediate and the First Five Year plan was the culmination of Nation's resolve to wage an outright war against poverty, ignorance and economic retrogression.

The First Plan

Accorded top priority to Agriculture and Irrigation.

The Second Plan aimed at

- a. increase in National Income;
- b. rapid industrialisation ;
- c. expansion of employment opportunities and
- d. reduction in inequalities

Chairman, State Level
Committee for Eradication of Illiteracy Among Women
Assistant Director, WVS.

The Third Plan

Besides the Second plan objectives, tried for self-sufficiency in Food grains and agricultural production and self-reliance by reducing the dependence.

The Three Annual Plans

Thereafter were to continue the unfinished tasks of the Third plan and to ease the strains and restoring the process of development.

The Fourth Plan

Sought to attain the accepted views of increasing the National income, accelerating the tempo of the development creating larger employment opportunities so as to achieve social justice and equalities.

The Fifth Plan

Sought to implement special schemes for alleviating poverty among the masses.

The Sixth Plan

A revised one was designed to put the economy back on its path of sustaining and self-generating growth. Removal of poverty was the foremost objective.

The Seventh Plan

Subsequent plans proposed are set up with the goals of eliminating poverty, creating conditions of near full employment, satisfaction of basic needs, attainment of universal education and access to Health facilities for all. The aim is to create by the year 2,000, a proper climate for self-sustained growth.

In all these plans, there is an emphasis on economic growth, self-reliance, social justice etc. Many programmes to meet these objectives have been started over a period of years. A few of the programmes are, the Community Development

projects, the National Extension Service Schemes, Panchyat-Raj, Food for work, Integrated Rural Development programme (IRDP), Minimum Needs Programme (MNP), Labour Development programmes, TRYSEM, National Rural Employment Programme (NREP), Rural Landless Employment Guarantee Programme etc.

A large number of social, political and economic factors are responsible, that the fruits of development on these programmes have gone elsewhere, leaving a majority of our population still steeped in poverty, and living amidst misery and squalor in rural areas and in urban slums. We have to trek miles and miles to get a pot of drinking water in certain areas and people go to sleep half hungry in many parts. The task remains still unfulfilled.

The Seventh plan envisages a growth rate of 4% per annum in agricultural production, 3.7% increase in foodgrains and 2.5% annual growth rate in terms of value needs. To achieve this target, it has been stated that additional 11 million hectares land will have to be brought under irrigation. The major programme thrusts are.

- a) special Rice production;
- b) Oil Seeds development projects;
- c) Watershed development and Rain fed agricultural programme;
- d) development of small and marginal farmers and landless labourers;

SOCIAL FORESTRY

The role and importance of Forests in the general economic development of the country in terms of protection of the ecological systems and supply of various forest products as well as generating employment is now universally accepted.

The aim of the Forest policy is to bring one third of the country's total geographical areas under **TREE COVER** by the turn of the century. Social Forestry is one of the most significant instruments designed to achieve this target. It is ascertained that the State Sector Schemes of Social Forestry including Rural Fuel Food Plantations in operation in 157 districts at present will be extended to cover all fuel food deficit areas during the Seventh plan. Special attention will have to be given therefore to the identification and propagation of indigenous location specific and thermal efficiency species acceptable to the people.

Efforts will have to be taken to bring down the Unit cost of afforestation and to secure the people's participation in a very big way.

To popularise Social Forestry programmes among the small marginal farmers and even landless labourers, we have to explore the possibilities in terms of making available the financial support by way of incentives or long term loans.

To support the massive Social Forestry Schemes, adequate resource support and inputs would be needed in respect of fuel wood, fodder trees, agro forestry and genetic engineering. With a view to reversing the trend of the continuing **de-forestation**, a **National Waste land Board** has been established. This Board is expected to formulate perspective plans and proposals for the management and development of waste land in the country through a massive programme of afforestation and **Tree Planting**. The Board should encourage, promote and finance for the development of waste land 'thro' involvement of **voluntary organisations and people at large**. In U.P. the Chipko Movement has shown a lead in this how people at large can save trees.

In short, it should develop as a people's movement for afforestation.

As even during IWY CSWB organised a very big conference of Chairman, of members of all State Boards which was inaugurated by the late Prime Minister Smt. Indira Gandhi. She emphasised on Tree planting and we followed it by taking a pledge by setting up a target for each state.

In Madras, some of the Banks like Indian Bank and Indian Overseas Bank have taken up a major programme of Tree planting in the available areas. The trees planted have to be protected and this needs lot of manpower and financial support. Such attempts which are laudable may have to be undertaken with the public support and the entrustment of the protection will have to be through voluntary organisations.

Soil and Water conservation, Land Reclamation and Development, Flood control measures have to be intensified to check the soil erosion, land degradation. This will enhance the productivity of the available land. Similarly, integrated water management in the catchment of Flood prone Rivers should continue to be intensified.

The Integrated Rural Development Programme is basically oriented to help the poorest among poor, most of whom do not have any land. Either the provision is not commensurate with the needs of the farmers/landless labourers or the benefit has not reached them is a matter for debate. This programme has to supplement other schemes to improve the vulnerable economic position and keeping in view of raising the productivity and to step up overall growth so as to ensure social justice. We have also to ensure plant protection measures, control of Pests and Diseases specially in the endemic areas, strengthening of agricultural extension services for proper transfer of technology and training of farmers to improve their skills wherever necessary and to ensure substantial flow of agricultural credit and simultaneously improve the recovery performance of the loans given.

A proper credit planning and monitoring in a co-ordinated manner at all levels is very necessary, A comprehensive **Crop Insurance Scheme** is also necessary. Efforts will have to be made to strengthen the marketing programme also.

All these can succeed only, when atleast a majority of the people of the Nation are **literate**.

According to the recent projections of the illiteracy situation in the world, India's share of the world's illiterate population in the age group of 15 and above is projected to increase from about one fourth in 1980 to approximately one third of the world's adult illiterates by 2000. This would mean that approximately 49% of the world's illiterate population in the age group of 15-19 would be in India by the year 2000. It has been recognised and expressed often that a socially conscious, vigilant and literate community can play a vital role in National Development. In the words of Mrs. Indira Gandhi "Literacy is a tool of development and eradication of illiteracy is most important both for conquest of poverty and for healthy functioning of the Government System". Mahatma Gandhi considered "Illiteracy" as India's "sin and shame" more than half a century ago.

Education is considered as an instrument to transfer a static society into one vibrant with commitments for development and change. But when there is no sense of dedication, policies either good or bad become only words, without any meaning whatsoever. In this context, we should only attempt for an emergence of a learning society in which people of all ages and all sections should have not only access to education but also to get involvement in the process of continuing education.

We have therefore to motivate all concerned and to make this as a mass movement with the goal of achieving Universal Literacy by 2000 A.D. if not by 1990 as envisaged.

We are aware of the failure of monsoon, absence of adequate rain resulting in drought situations and leading to less or no production and the need for a programme of Social Forestry by involving voluntary and other organisations not only for afforestation programme and Tree Planting but also to prevent de-forestation. The voluntary institutions by themselves will not be able to do this without adequate financial and moral support by the Governments. Modern technology in Government Administration as well in agriculture and industry is continuously increasing and there is an imperative need for a high degree of literacy among the people. It will then open up avenues for adequate communications. This is a pre-requisite for the acquisition of other skills and development of rational attitudes.

I would conclude with a statement that education should be regarded as a basic human right and is essentially an exercise in communication. It is very necessary to link literacy with other basic services.

All of us must prepare to take the command and start working even on small items. The question however remains: are we really keen to help the needy and prepare them to take the command in turn?

I am happy that Sri Avinashilingam Home Science College which has achieved so many things through their dedicated services and practical experience has come forward to organise the Training Programme on Management of Social Services for Women and children through Social Forestry for State level Grant Office concerned with women and child Development.

We are very fortunate to have young and dynamic Prime Minister Mr. Rajiv Gandhi to lead the Nation at a very crucial time. He has recognised the importance of the Human Resources Development and rightly created a separate Ministry for the development of Human Resources and Women and Child Development also are given due recognition.

Even at the SAARC Chief's Meeting at Delhi, the Child Development Plans were discussed. It is also very appropriate that our Government is emphasising on Environment and created great awakening among the people. I am happy to learn that this Training Programme has been fixed during the Birth day of our beloved Indiraji. We cannot pay better homage than dedicating ourselves for the betterment of our Nation's natural wealth by way of committing ourselves in this great task of Forestry. I am sure that under the very dynamic leadership of Dr. Rajammal P. Devadas and her team of dedicated workers like Mrs. Kamalanathan this training programme will open the eyes of many and go a long way in the country's prosperity. I wish the participants all success and I am very grateful to Dr Rajammal P. Devadas for inviting me to this programme to enable me to learn something new to enrich my knowledge. Every visit of mine to this institution. I get new inspiration and like a battery charged.

I can march ahead with fresh thoughts of great enthusiasm. I always look forward to pay a visit to this great Temple of knowledge. Thank you. Jai Hind.



PARTICIPATION OF WOMEN IN SOCIAL FORESTRY - PROBLEMS AND SUGGESTIONS

*V. Gandhimathi **

Traditionally forests and trees constituted a large part of the environment of the people. Especially rural and tribal women depended very much on the products of forests and trees. In a subsistence economy major part of the food needs of the family and other essentials like fodder fuel and wood were met by the forests and women were the ones who were collecting these things for the family.

Even today rural and tribal women depend very much on forests and trees. Poor rural and tribal women are the most affected by environmental degradation and denudation of tree cover in India. The most essential needs of the rural households are water, fuel, food and fodder. The dreary work of collecting these things have been the burden of women. This is in addition to their other unrecognised, but important work of cooking, bearing and rearing children, cleaning and contributing their labour in agricultural operations. Deforestation immediately affects their three essentials-water, fuel and fodder and women walk long distances and spend many hours each day to collect these things. As it is the condition of rural women is miserable because of malnutrition, poor health and overwork. Environmental degradation leads to a reduction in their supply of nutrition food resources like wild fruits, greens and roots. Earlier in the subsistence economy women gathered these things and supplimented their daily food by spending some time. Now due to the scarcity of these things they are unable to buy these things. Deforestation also deprives the rural and tribal women of their liveli hood.

Based on the fact that deforestation affects women mostly, a regeneration of tree cover is essential for improving

* SIDA Co-ordination Programme, Madras

he lives of women in rural and tribal areas. But what kind of afforestation will be beneficial for these women who constitute a large majority of the rural population?

True, there are many schemes intended for the benefit of these women. In spite of these schemes the women in rural areas still struggle for drinking water, two square meal a day and other essential needs and some of these schemes were admitted failures. If we take the case of the Social Forestry Scheme in Tamil Nadu the benefit women got from these schemes were almost negligible. The only area of their involvement is working as wage labour in plantation activities and in some exceptional cases raising nurseries.

The developmental schemes intended for the improvement of the economy and the rural poor had in fact affected women adversely by marginalising their role in the economy. In agriculture introduction of fertilizers, pesticides, hybrid varieties of crops and mechanisation all left women out of their target and women were not the ones who got the knowledge and skills in these operations. Their role in their family became restricted and their control over resources and income became less and less. The earlier work done by women which were essential for the smooth running of the family is considered unskilled and secondary today. This could happen to Social Forestry scheme also. By imparting knowledge and skill to the men, women are further excluded from gainful activities and meaningful involvement in their own development.

How can, the planners and implementers of the scheme reach rural and tribal women? How can these schemes made to benefit women? These are not simple questions with ready-made solutions. As in the case of involving people in Social Forestry Scheme the involvement of women also needs an understanding of the factors that prevents women from getting the benefits of development programmes.

Two kinds of constraints are there. 1. The existing conditions in the village are such that excludes women from the development work. These may be cultural, economic or political though they are generally interrelated. 2. The second category of constraints are more often than not part of the schemes inbuilt during the planning process. These constraints create problems at the implementation stage of the scheme.

Let us take the case of Social Forestry Scheme and analyse what kind of constraints are there. In the village level the scene is that though the women constitute half of the population and nearly half of the work-force, their condition is not conducive for participation in any schemes fully. The literacy rate for women in any given area is always much lower than that of men. Especially in States like Tamil Nadu, even majority of rural male population is illiterate and the literacy rate of women is low to the point of being negligible. Their access to **Information and knowledge is** curtailed due to lack of education and comparative immobility, The **decision making** is not in their hands. Most decisions relating to economy of the family are decided by men. The political life of village are dominated by men. Though women have equal rights in voting few women who do get represented can actively influence much less for the collective cause of women and their development. Their lives are overburdened with household work which leaves **no time** for other activities outside their family concerns. Generally the officials and development workers are men and women do not feel free to interact with men from outside the village and men in socially advantageous position.

At the level of planning the constraints are:

1. In most cases women are not made the specific target groups of the programme.
2. Where they were the specific target groups either stipend service is paid to them or the difficulties of reaching women are not understood and specific ways were not worked out.

3. Since the planning is done by few experts without involving the people who are the target of the programmes, the programmes are thrust upon them. Consequently people are indifferent to it and do not participate in the programme.

The programmes are planned for the welfare of the village people in general and it is assumed it will reach women.

At the implementation level especially in Social Forestry Scheme, target number of trees planted is given priority over the participation of people in general and women in particular. The nature of work is new (i.e. working **with** the people and not merely working for them) to the officials and staff concerned.

These are generally the constraints in involving women in Social Forestry Schemes. Some of these problems may be difficult to handle or not in the purview of the work of the government. Some of them can be tackled at the planning stage and some at the implementation stage.

At the planning level conscious efforts should be made to analyse the situation of women and women are considered specific target group within the general framework.

Provisions can be incorporated into the plan so as to allow for experiments with all women groups. for example, Women's groups may be provided with facilities and incentive for gainfully raising nurseries and selling seedlings. Provisions should be made for special training for women in all the technical aspects of afforestation. At the implementation level women Social Forestry workers can be employed so as to reach the women of the villages without difficulty.

A very important aspect of involving women is to make the programmes relevant to their everyday life and problems. For example, apart from making Nursery Operations

economically profitable the use aspects of trees and forests should be made clear to them. They will directly or indirectly benefit from the schemes should be made obvious. For example, education about nutritional needs of the family should be given along with a scheme of planting fruit trees and other food providing trees. If fodder trees are combined with a knowledge of livestock development it will appeal to them immediately.

In community forestry, their role can be of immense value if they are fully involved. So far the rural women do not benefit from the community forestry. Their involvement is restricted to working as wage workers in the nurseries and plantations. If they are made beneficiaries, involved in the decision making process such as what to plant, how and whom to distribute, the income etc and given the necessary skills, the success of the Social Forestry Programme is assured.

To release them from the overworked domesticity, other aspects of their lives have to be made bearable. Introduction of smokeless chulas will help them consume less fuel, improve their health and save their time. Introduction of Agroforestry along with a programme of livestock development will improve their economic condition. Education and literacy will help them look for and acquire the needed skill for involving in development work.

These are some of the general suggestions as to how to involve women in Social Forestry. But, more openness is needed among the development workers in analysing the specific situations and finding ways and means of involving them.

AGROFORESTRY FOR WOMEN AND CHILDREN

E. S. Thangam,

Introduction

The tree planting programme on a massive scale was inaugurated in our country with the introduction of Vana Mahotsava in the early fifties. Since then this activity has been carried out under different names viz., Social Forestry, Community Forestry, Farm Forestry, Urban Forestry, Agro-Forestry, Energy Forestry, Agrisilviculture, Silvipasture, Agro-silvopasture etc. These different names have been adopted according to the specific purpose for which the tree planting programme was used, though all these activities fall under the head Social Forestry, which has been defined as "the creation of sustainable forest resources for the people and by the people.....". Of these, Agroforestry is a practice which covers a wide gamut of tree planting activities taken up along with agricultural practices.

In our country, more than 70% of the population live in the villages. While about 45% of the land area is under agriculture, about half this area (23%) is only under forests. Though tree planting activities are generally taken up in the wastelands (about 12%), there is scope for taking up such activities in vacant areas in agricultural lands like fieldbunds etc. Further, in dry land farming, it was seen that growing trees along with agricultural crops was often more profitable than agricultural crops alone. Thus, agroforestry *i.e.*, growing of trees and agricultural crops, has an important role to play in the economy of the rural people.

Unlike the urban area, in rural set up, women and children take active part in the agricultural activities, often helping the male members in various field operations. In this they play an important role in the agroforestry practices.

* Forestry Advisor, Madras

Agroforestry Described

King and Chandler defined agroforestry as a "sustainable and management system which increases the overall yield of the land, combines the production of crops (including tree crops) and forest plants and/or animals simultaneously or sequentially, on the same unit of land, and applies management practices that are compatible with the cultural practices of the local population". Though agroforestry is not new, during recent years its importance has increased dramatically especially as regards its potential for optimising land use in the tropics. Its primary aims are the production of food and wood and conservation rehabilitation of soil resources needed for future production, at the same time maintaining and improving the quality of the producing environment. In the coming years growing populations combined with increasing pressures on finite areas of agricultural soils might make a food supply situation even more precarious. There will not only be more people on the land to feed but there will also be an increasing demand for food and wood for the growing urban populations.

According to the estimates made by U.N. Environment programme (UNEP) upto 5,000 sq. km. of land are lost to productive use every month in the world because of erosion, flood damage, salinisation and alkalisiation, advancing deserts and other causes. In developing countries, potentially arable land is not adequate to meet the growing needs of its increasing teeming millions. In India, nearly half the land area is subjected to water and wind erosion. Since irrigation facilities are limited, the choice for future is limited with not many degrees of freedom for bringing new arable land under plough. This calls for a new approach and here, agroforestry could help to produce food and wood while conserving the ecosystem.

Sometimes, it is said that agroforestry is suitable for marginal and brittle ecosystem only. In reality, it can be practised in all types of agricultural lands, as it enables better utilisation of the nutrients and water available in the soil as well as solar energy.

The term 'agroforestry' includes agrisilviculture, silvo-pastoral system, agrisylvopastoral system, and multipurpose forest tree production systems. In this land management system, two essential and related aims are (1) the conservation and improvement of the site and (2) the simultaneous optimisation of the combined production of a forest crop and an agricultural crop.

It is considered that in agroforestry land management system, it would be possible through proper selection of tree species to minimise erosion, tap nutrients at deeper levels than agricultural crops and replace the nutrients taken out by leaf litter, atmospheric nitrogen fixation etc. According to E.F. Schumacher "a most marvellous 3-dimensional incredibly efficient, contrivance already exists, more wonderful than anything man can make, the tree. Agriculture collects solar energy two-dimensionally; silviculture collects it 3-dimensionally".

In agroforestry, the potentiality of competition among different types of species viz., trees and agricultural crop for solar energy, for soil nutrients and for water exists and so the species selected have to be compatible with each other and should be complement to each other. In this effort, selection of the ideal combination of the tree and agriculture species under varying climatic and socio-economic conditions assumes importance. Besides the various characteristics of plant species research work on their genetic aspects also needs to be done. This is entirely a new and unexplored field of activity in which breeding of forest trees and agricultural crops with the characteristics required by the system has to be taken up. In order to optimise production under agroforestry management, environmental resources and plant resources should be combined to evolve a system and an approach. The role of multiple use trees in agroforestry is significantly important because of their extreme economic and social significance on the farms of individuals and in villages.

Like any other rural development scheme, agroforestry programme has to be considered with relevance to social and economic development of the people. For successful implementation of agroforestry, the institutional requirements are also

important. The curricula and syllabus in training and educational institutions need to be properly oriented by making changes. What is essential is that scientists and institutions should be "people oriented" and they should pursue systems that are appropriate to the physical, biological and socio-economic conditions that prevail in the country. In short agroforestry is the only system, which has a dominant role to play in the rural development programmes throughout the world.

Agroforestry in Tamil Nadu

Tamil Nadu possesses a great diversity of ecozones, including semi-arid to humid lozoland, and even tropical highlands, with an annual rainfall ranging from 650 mm to 1250 mm, though in highlands, it may exceed 2500 mm.

Agroforestry practices followed in the State relate to intercropping of cereals, pulses and grasses, with multipurpose trees under rainfed conditions. The combination of the trees, pulses, cereals and grasses vary according to soil, climate and requirements of the people.

In Tirunelveli, Coimbatore, Ramanathapuram districts and elsewhere, palmyrah palm is grown along the bunds of fields, on a variety of soils, under irrigated and rainfed crops.

Tamarind is cultivated along with or without rainfed crops in Periyar, Madurai, Dharmapuri and other districts.

Kapik tree is intercropped with cereals and pulses in Coimbatore, Salem and other districts.

Mesquite is grown largely in Ramanathapuram district and in other places in the State. It is often grown to reclaim saline soils.

Delonix elata and *Glyricidia* are grown in South Arcot, North Arcot and Dharmapuri districts along the bunds to provide green manure for paddy fields.

In Anna district, neem, mesquite and tirucalli are grown as wind breaks to protect crops from the pre-monsoon winds in May-June.

Velvel is grown with various grasses in Periyar and Coimbatore districts in rainfed areas to provide fodder, fuelwood and small timber to the people.

In Tirunelveli district and pockets of Coimbatore and Ramanathapuram districts, Odai forms an economically valuable fallow species of the farmland and sorghum, pulses, peanuts and or chillies are intercropped.

Karuvel is grown along bunds of paddyfields to provide fodder pods and wood for construction of bullock carts and fuel, in Thanjavur and Tiruchirappalli districts.

The farmers in Tamil Nadu well appreciate the advantages of the agroforestry practices and are taking up integration of even more trees on croplands due to high prices for wood, high cost of farm labour and inputs required for annual crops with uncertainty of monsoon, absentee landlords and low interest credit facilities for agroforestry based investments. Since the aim of the agroforestry practice is to maximize the benefits of growing trees and crops complement to each other, agroforestry practice will be more acceptable to the farmers.

Role of Women and Children

The extension training programmes generally cater to the needs of farmers and often the women are not included in these programmes, though they also participate in their farm activities. If women are also properly trained, they would provide the necessary full support to the male members in their farm

work and increase their earnings. This deficiency needs to be wiped out by organising special programmes for women in this regard.

Sri Avinashilingam Education Trust Institutions, Coimbatore has taken up the Pilot Project on the involvement of Rural and Tribal Women in Social Forestry" for three years from 1986-87 with aid from Swedish International Development Authority. The project aims to help rural women, particularly poor women, harijans and the landless, to improve the economic conditions and standards of living of their families through participation of the members of the Women's Clubs in Social Forestry Schemes. In the first instance, the project has been taken up in Karamadai Block, Coimbatore district since April, 1986. Till now, members of 26 out of 60 Women's Clubs have been trained in nursery practice and planting seedlings for Social Forestry Schemes. One Demonstration Plot of useful multi-purpose trees like mango, jack, tamarind, kapok, etc. has been raised to enable the trainees to learn about the various tree species. Three Irular women participated in the programme till now (all the trainees showed keen interest in learning the various aspects of work).

The collection of seed, pre-treatment methods, formation of nursery beds, sowing seeds, raising seedlings, erection of shade for nursery bed, transplanting in polybags, aligning and staking for pits, digging pits, planting seedlings, watering, manuring, weeding, mulching, plant protection measures and fencing were taught to them through lectures and discussions and practical field work. Audio-visual aids like colour slides, posters, and picture cards were used in the training. The seedlings grown were also supplied to them for planting in their homestead and other lands. These women showed great interest in learning various aspects of work. They were also requested to teach their children in proper farm practices when they work with them.

The training given in the proper methods of planting seedlings and their maintenance and after-care to the women would help them to adopt better farm practices in their fields.

Since the correct methods of soil, water and crop management help to optimise the production, particularly in less rainfall areas, the planting of multiple-use tree seedlings will lead to increased overall returns through these agroforestry practices. Further, the women could raise nursery seedlings and supply them to the Forest Department and the Rural Development Department for their Social Forestry Programmes and earn an income. The children at home can help the women in filling polythene bags with soil, watering nursery beds and other activities.

Conclusion

It has been shown how agroforestry would help the farmers to increase their earnings through planting the multiple-use trees in the vacant area in their farms and through participation of their women in training programmes of Social Forestry. The farmers generally plant trees in their farms for various purposes, If all the farmers adopt the agroforestry practices in their lands, the income from nearly half the land area under agriculture would increase and this would not only lead to the prosperity of the country, but also form a major plank of achievement under Social Forestry Programme.

SOCIAL FORESTRY

Some Important Sociological Issues & Pointers

M.S.S. Varadan

1. Selection of Programme Villages
 - Criteria based on
 - * Lack of irrigation
 - * Economic status
 - * Sociological background

2. Need Structure
 - Fuel
 - Fodder
 - Small Timber
 - Short Term Vs Long Term

3. Village Social Forestry Committee
 - Formation
 - Effectiveness

4. Perceptions of the beneficiary
 - What do they think?
 - What do they want?

5. Communication and Publicity
 - Mass Media
 - Audio-visuals

Managing Director, Om Consultants (India) Pvt. Ltd. Bangalore.

- Films
 - Video
6. Enlisting Cooperation from Villagers
 - Integrated approach
 7. Handing over of Community Plantations
 - Benefit Sharing models
 - Mechanisms and Agencies
 8. Protection of Plantations
 - Natural Factors
 - Animal Factors
 - Human Factors
 9. People's Nurseries
 - Market Economy
 - Incentives
 10. Role of Women
 - Hamlet Level Extension
 - Nursery Management
 - Incentives

HERBAL RESOURCES OF SOUTH INDIA - ITS RELEVANCE IN SOCIAL FORESTRY

*Qudsia Gandhi, IAS**

Men, ever since he came into existence was in search of food for sustenance and medicine for survival.

In his search for food, he learnt that some plants brought about drastic effects when contacted or ingested. He tried to make use of these properties for his benefit. Those that were astringent in taste were employed to arrest laxation, those that were bitter were used to alleviate fevers and to remove worms, those that were acid were administered to control emesis, those that were irritant were found to be useful as counter irritant and so on. As knowledge was accrued, a system was evolved and a profession emerged.

Thus, every ancient civilization come to possess a system of medicine which from the very beginning was herbal in nature.

This subcontinent, the Indian area, where people from the subjacent areas came for trade or learning or to invade and rule, came to adopt the systems of Ayurveda, Unani and Homoeopathy along with the Siddha system.

The Southern peninsular region of India is unique in that, here all these systems are practised by the Indigenious and the modern medical practitioners.

The Southern peninsular India presents, probably, a more varied flora than any other tract of equal area in India, possibly in the world.

* Managing Director, Tamil Nadu Medical Plant Farms & Herbal Medicine Corporation Ltd.
Madras

This phenomenon is due to the combined effects of its geographical situation and its topography.

A double coast line with Arabian Sea on the West and the Bay of Bengal on the East, yet the two margins sufficiently distant from each other to allow of Continental conditions in the interspace; two main hill ranges of the Eastern and Western Ghats within the direct influence of these expanses of water and numerous other lesser connected and isolated hill masses; considerable tracts of open plain or plateau land within the said heights; elevations ranging from sea level to almost 9000 feet, the proximity of the southernmost part to the Equator; all these, together with the climatic features they cannot, are the factors which contribute to this variation.

The most interesting feature, and the one that distinguishes it from that of the rest of the Indian Peninsula, is found in the dense, evergreen forests of the West and South with their wealth of subtropical species. Over 1500 species of Medicinal Plants are reported from this area, about 300 of which are used in appreciable quantities. The rest are used by the natives of the respective tracts to which the species are restricted. Thus, ethno-pharmacology of this area is a fertile field of investigation.

Now, presently, the indigenous medical practitioner as well as the manufacturer has come to understand that these medicinal plants which were once abundant in the vicinity of towns and villages have become scarce.

The strides of urbanization and industrialisation (including agricultural) industry have had their impact on the wilderness around and the jungle got impoverished, eroded and finally receded. This kind of jungle where human habitation is prosperous always falls in the scrub-semideciduous category which yields almost 85% of the medicinal

plants recorded in this region. This is because man, in his past learnt more about the immediate neighbourhood and its natural resources and did not penetrate into the ever-green forests to any appreciable extent.

We have come to a stage where we should undertake programmes of regeneration, preservation and cultivation of Medicinal Plants. The Government of Tamil Nadu in accordance with the observations of the Government of India and the World Health Organization is giving all possible attention for the promotion of herbal medicine as it caters to a large chunk of population not yet reached by modern medical assistance and as modern medicine has untoward side effects, and because of the efficacy of herbal medicines.

The Social Forestry Programme is a Scheme best suited for the propagation of medicinal plants either as pure stands of trees or as species for intercultivation or propagation as undergrowth in forest vegetation, either virgin or man made.

Some of the species already encouraged by the Forest Department are of medicinal value. They are PUNGAN NELLI, KARUVELAN, POOVARASU, VEMBU, VAATHA NARAYANAN etc. The Department should circulate literature or audio-visual material to enable the public to make use of these species for medicinal purposes also or process them for sales for medicinal uses. Such collection and sales could be organised by the Social Forestry Department itself in consultation with Tamil Nadu Medicinal Plants Corporation. The roots of some trees are in great demand in the preparation of medicines. They are MUNNAI, PAADIRI, VILVAM, KUMIZHAM, PUNGAM etc.

Additional trees like EZILAMPALAI, VEL VAAGAI, ELAVAM, CHEVVILAVAM, KAATU MAA, PALASAM, CHENBAGAM, MANDAARAI, ASOKAM etc. could be profitably grown in suitable areas. Of these ASOKAM is

in short supply in the market presently. This could be grown in the relatively high rain fall areas or humid areas. All the others can do well in the drier areas.

For intercultivation in the Social Forests, several Medicinal Plants like ATHIMATHURAM, THANNEER VITTAN AMUKKARAM, POONAIKKAALI, VETTIVER, KATRAAZAI NITYA KALYANI, PEY PUDAL, KODUVERI, KEERAI-PAALAI, OOMATHAN, KURUNTHOTTI, KAZHARCHI, KALAPPAI KIZHANGU, CHEMMULLI, NULLI, etc. are suitable.

AMUKKURAM, ATHIMATHURAM AND THANNEER VITTAN are suitable for sandy soils. The last one requiring vegetation or support to climb upon.

The rural population could use the roots of AMUKKARAM as an anabolic and antirheumatic agent. Athimathuram is a cough remedy, also useful in peptic ulcer. Thanneer vittan and Keeraipaalai are lactogogues which will benefit the mothers breast feed their babies. All these species are required by the Indigeneous Medicine makers in sumptuous quantities and those like Nithyakalyani, Kalappai Kizhangu and Kurunthotti are exported also.

Kalappai Kizhangu can be grown in dry non-water logging soils and the seeds collected in seasons which fetch around Rs. 40/- per kilogram. At times the price soars upto Rs. 100/- per kilogram.

The selection of these medicinal plants for propagation through Social Forestry could be done taking into consideration the soil, rainfall, temperature, slope, elevation and the cultivated crops of the respective localities.

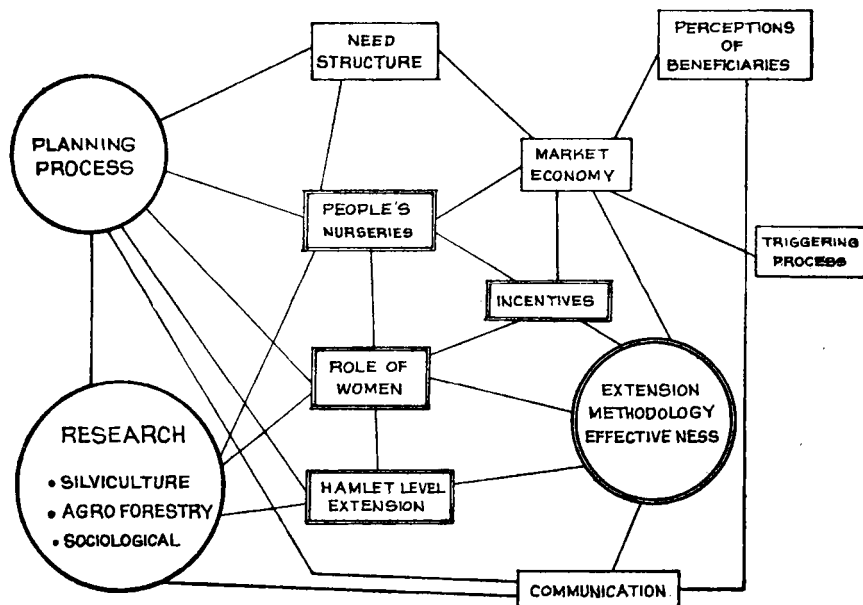
Having worked out the recommendations, we could circulate information literature and planting materials along with brief information on their immediate use as medicines or as commercial material.

In the Social Forestry Programmes, the local Indian System of Medicine Doctors and manufacturers should be involved by Official Order in the care and utilisation of the crop and product respectively.

The Directorate of Indian System of Medicine which are concerned with Herbal Medicine directly could chart out specific programmes suitable to the tracts in consultation with the Forests and Agricultural Departments.

Henceforth, the Social Forestry Programme should project the Medicinal values of the plants propagated under the schemes, apart from their fodder and fuel and timber value, so that the produce of these Social Forests are utilized to the maximum benefit of the society.

Through a few slides and Video Cassettes you are now introduced to some of the medicinal plants used in Indian System of Medicine and Modern Medicine.



SOCIAL FORESTRY FOR RURAL DEVELOPMENT

*P. Muthiah Manoharan **

The sixth and seventh plans of the Government emphasize the need for household approach in development with importance to the role of women.

Rural women work in forests, gather forest products and nurture trees and plants for their livelihood. Hence they have a vital part to play in social forestry.

1. Objectives

I. Ultimate Aims

1. To help rural women to improve the economic conditions and standards of living of their families through participation in Social Forestry Schemes.
2. This project proposal envisages to involve and benefit the rural population that have not yet been reached by current development programmes. Special target groups are poor women, harijans and landless.
3. The project will contribute to the afforestation targets set forth by the newly established National Land Use and Waste-land Development Council.

II. Specific Aims:-

1. To provide continuous employment to the maximum number of women in the target area in social forestry by planting such trees that will be productive from the early stages of their growth-leaves, barks, flowers and fruits.

* Training Organiser, Sri Avinashilingam Krishi Vigyan Kendra, Coimbatore

2. To improve the nutritional status of the target families by planting trees which give food, for example, Agathi, Drumstick.

3. To produce household fuel from forestry produce such as prosopis (fencing) Casuarina, Acacia.

4. To produce plants to give raw materials for small scale industries.

5. To train and encourage women's club members to establish hamlet nurseries and multi-purpose plantations.

6. To develop enterprises for processing of forest produces.

2 Area of Operation

The project is being implemented from the Rural Centre, namely, Sri Avinashilingam Krishi Vigyan Kendra, Vivekanandapuram, which has been imparting training for farmers and farm women and agricultural labourers for the past 8 years from 1978 onwards.

The social forestry project is being carried out in Karamadai West Block which is comprised of 7 revenue villages consisting of 84 hamlets. The area is mostly rain-fed with 30% well irrigation.

Term of the Project

The project was started on 1st April, 1986. The duration of the project is 3 years consisting of phases-I, II and III of one year each.

Activities Undertaken

The various activities undertaken are :

I. Baseline survey]

To find out the (1) existing socio-economic pattern, (2) the status of rural women, (3) extent to which trees and

other forest produce are put to use in rural life and (4) present condition of trees existence in the block.

The modus opevendi of the survey is to interview 400 home makers at random with proportional representation of the population of the 84 hamlets of the Karamadai Block.

The survey work has been completed and the findings are being consolidated.

II. Training Courses

Under the first phase training is being conducted in nursery raising.

Target group :- The target is to train atleast 2 women from each of the 60 Mahila Mandals within the year i.e., on or before 1st April, 1987.

Teaching method followed

Lecture and discussion with the trainees.
Field work.

Aids used

Charts to explain the various uses of trees.
Field work in nursery raising.
Field visit to demonstration plot.

Trainings conducted so far

1. 26th, 27th and 28th May, 1986 - 21 trainees representing 7 hamlets.
2. 1st, 2nd and 4th July, 1986 - 13 trainees representing 7 hamlets.
3. 1st, 2nd and 4th September, 1986 - 13 trainees representing 6 hamlets

4. 13th, 14th and 15th October, 1986 - 9 trainees representing 4 hamlets
5. one Refresher course
4th September, 1986-5 trainees representing 3 villages.

Coordinating with Government Programmes

Schedule caste and Schedule tribe women are given training in pitting, planting and maintenance of seedlings so that they can take up job under social forestry work planned in I.R.D. Programme of the Block Development Office.

3. TRYSEM Training

Under the Block Development programme of training rural youth for self employment, five selected rural women will be given training for 90 days in social forestry at our Centre.

Role of Mahila Mandals

Meetings of Mahila Mandals are conducted to organise their collective action in bringing up trees for shade in their village and creation of farm forestry and kitchen garden with planting of Agathi, Drumstick, Tamarind, Neem, Subabul and other fruit trees in home yard and farm land.

This work will be initiated in the I phase and continued with in the II and III phases of the project.

Demonstration plot and nursery site :-

For skill oriented training a demonstration plot has been laid down in the training centre at Vivekanandapuram.

Nurseries are being laid down by the trainees themselves during their training course.

The various species planted in the demonstration plot are Elandai, Karuvepillai, Nellikai, Mango, Jack, Pungam, Wood apple, Unjal, Tamarind, Murungai, Vilvam, Bamboo, Karuvel, Cashew, Agathi, Silk Cotton, West Indies Cherry and prosopis.

Thus activities are being carried out with the ultimate aim namely (a) afforestation of Karamadai West Block (b) develop women's action in Social Forestry Programmes and (c) develop food, fuel and fodder tree resources.

FARM FORESTRY IN WASTE LAND - ROLE OF WOMEN

H. Rajagopal Shetty

1. Function Forests

a). For domestic and constructional needs-such as fuel, fodder, agriculture implements, house construction, etc.

b) Forests play an important role in the ecological balance and for the maintenance of healthy and productive environment.

c). Forests protect the land against erosion of soil and fertility.

d) Forests conserve water.

e) Forest beautifies land-scape.

f) Forests protect against pollution by dust, sand, heat and cold waves.

g) Forests are needed for strategical defence of the country. "Trees are amongst man's most reliable friends and a country which cares for its future must take good care of its Forests" -- Indira Gandhi.

2. Forests and Man in the Historical Perspectives

Ever since the advent of agriculture about 10000 years ago, the Forests were on the defence and retreat making way for the advancement of agriculture. With the population explosion which is the phenomenon of this century, and with the need for more area for agriculture to feed the hungry millions, the devastation of Forests for cultivation has attained galloping spread

and attained devastating proportions. In India, even though we have on record about 22% of the land area under Forest, the total area with tree cover is said to be about 10% of the land area only, as per satellite imageries.

3. The Environmental Concern in India Today

Most of our perennial rivers have gone dry in the country. Our Reservoirs are silting. There is acute water scarcity every year even for drinking. The shortage of water in Reservoirs have adversely affected agricultural and power generation. The shortage of fuel-wood has not only sky-rocketed the fuel price, but also increased devastation in the Reserved forest.

4. The Need for Increase of Forest Area

At least 33% of the total land area, according to national Forestry Commission should be under forests in plains. In hills at least 66% of land area should be under forests for ecological balance and for the environmental hygiene. Our national average of forests is only 22%. Therefore, it is absolutely essential to increase the area under forests both in hills and the plains, to protect our lands against the advancement of desert or desert-like conditions.

5. Motivation

It must be realised that a lasting economic development cannot be built on the grave-yard of ecology. It is important to fully realise this, and the urgent need for all round development of Forests for the welfare of people. If the implementing authority, and men at the helm of administrative affairs should fully realise this need, then only our development programme can be implemented with correct orientation. Proper education of common man can motivate him for better success.

6. The Area of Afforestation

At least 25 million ha. of barren waste lands are available in the country. Another 25 million ha. of marginal agricultural

lands are also available for afforestation sooner or later, with the present rate of increase in wages and cost of cultivation. These lands are mostly left fallow without cultivation. These areas can be taken up for immediate afforestation all over the country.

7. Role of Women in Farm Forestry

a) The women can inculcate the love for trees among children. Nothing will make them love the plants better than entrusting the care of plants to children and thus making them involved in the rearing of the tree.

b) Women can help to raise Village Nursery.

c) They can plant or influence to plant in waste lands and Marginal lands at their disposal for afforestation.

d) Women's clubs, and schools can take up planting in communal lands such as stretch of road, temple lands, hillocks etc., through voluntary service organisations.

The people who know the art of rearing the children do better in the art of rearing the plants also, since it required the tender care as a child.

POTENTIAL FOR FARM FORESTRY IN TAMIL NADU

*Rathindra N. Roy**
Tor Skaarud

This note will try to understand the potential in Tamil Nadu for farm forestry in terms of its need, the scope and some of the constraints that may hinder its development.

Tamil Nadu can be best described as a semi-arid, tropical area which gets about 9 months of intense solar insolation and all its rain (about 950 mm on an average per year) concentrated in 3 months, distributed into the major NE monsoon and a minor SW monsoon and miscellaneous showers. Such climatic situations would suggest that land which is exposed would suffer environmental degradation through air and water erosion and through humus loss due to excessive soil temperatures and would eventually affect the water/regime as Appendix III & IV would suggest.

A look at the land use classification of Tamil Nadu (see Appendix I) suggests that at least the land classified under Barren and Uncultivable Land, Cultivable Waste, Permanent Pastures and Grazing Land, Current Fallows and other Fallows would be under varying degrees of environmental risk due to exposure to climatic factors. This is 21.9 per cent of the land, adding upto 2.847 million ha. Further, and more importantly, a look at the Nett Area shown in Appendix I and the Total Area under Irrigation in Appendix III would suggest that approximately 3.38 mha. of land are rain fed and therefore are able to grow, at best, one meagre crop during the rainy season. The data would also suggest that these 3.38 mha. must be under considerable environmental

* SIDA Forestry Project Co-ordinator, Tamil Nadu Social Forestry Project, Madras

stress, resulting decreasing yields over time and no real, economically viable options within traditional agriculture. The impression one gets while travelling around rural Tamil Nadu is that a major portion of agricultural lands not only produce less than their potential but are also liable to further environmental deterioration. "On the basis of field studies conducted on farming operations on the one hand and consumption requirements on the other, it has been estimated that the net earnings of at least 3 ha. dry land would be needed to keep a family of 4 to 5 members just above the poverty line. On that reckoning and on the basis of the fact that 90 per cent of the land owning households own less than 2 ha. it can be estimated that at least some 50 per cent of farmer households in Tamil Nadu would be on the verge of poverty". (C.T. Kurien, 1981)

These cultivators, hovering just over the poverty line, do not have the means to invest in their agriculture and have therefore not been able to participate in India's agricultural growth. What is worse is the fact that in a State where drought is a recurring phenomena with their vulnerable rainfed crops they have no safety net to tide them over a monsoon failure.

The question then is, how many of these cultivators of 3.38 mha. would rejuvenate and protect their soil, improve the water regime and move into a more economically viable cropping system based on trees either wholly or in part with other crops? Farm forestry and agro-forestry would not only be more appropriate for the given climatic situation, but would also produce more while ensuring sustainable yields into the future. The perennial nature of tree crops would also make the process less prone to drought damage and act as a safety net.

If the Government of India's policy of increasing tree cover over land to 30 per cent of all land is considered in

Tamil Nadu, it would require about 4 mha. of land to be brought under tree cover. About 2 mha. in Tamil Nadu is classified as forests, and they are of varying kinds from barren lands and degraded grass lands and scrub lands to thick forests. It is estimated that as much as 0.4 mha. of this may be in need of planting and eco-restoration, which may well be the task that the Forest Department may find itself confined to in the future. But with all this the target would still require a further 2 mha. to be brought under tree cover. Bearing in mind the fact that communal land left for such planting is rather limited, we realize that the best part of the 2 mha. would have to come out of the farm sector whose need for forestry was referred to above. Therefore the scope for farm forestry in Tamil Nadu could range from a minimum of 2 mha. (to meet Nationally set policy) to a maximum of about 6 mha. (considering the land at risk). Let us assume that 2.5 mha. is a feasible target for farm forestry in Tamil Nadu and set it in perspective in terms of achievements and targets of existing programmes.

The 'social' forestry movement had an early start in Tamil Nadu in 1960 under another name and the achievement by end April 1987 will be in the order of 0.4 mha. of afforestation. The SIDA contribution supported to this achievement is estimated at 0.25 mha. The Rural Development Department is planning to enable planting of 0.08 mha. every year. The Forest Department will have no share in communal land afforestation in the future but through their Farm Forestry components will account for 0.01 mha. per year. Over a five year period both these programmes hope to cover 0.45 mha of land. However the Prime Minister has set an all India target of 5 mha. year of which Tamil Nadu proportional part would be 0.2 mha/year. Even to meet this target Tamil Nadu will have to increase its efforts two fold.

Considering the situation the small/marginal farmer finds himself in, it would be safe to feel confident that with the right kind of promotion and programming private

land will be available for farm forestry efforts in quantities sufficient to meet the required goal. But a number of questions need to be answered or at least faced squarely before the concept can be operationalized.

Land availability does not seem to be a problem. Though public wasteland will have priority for afforestation over private 'under-utilized-land' in government programmes the reality suggests the latter category will have to cater for the major part of land to be afforested. Great care needs to be taken to avoid extensive afforestation of tank or canal fed irrigated land. The question here is whether market mechanisms are adequate to promote optimal land use or should measures like legislation and regulation be required.

If land use is not regulated properly, given the environmental and socioeconomic situation on the one hand and the market forces on the other, there is a very real danger of better quality land being used for forestry instead of agriculture, especially for food and this would suggest the need for legislation and regulations and the methods for enforcement.

Thus the efficiency of Social Afforestation seems dependent on a number of factors like :

- Land availability for afforestation
 - * Soil and climatological conditions
 - * Tenure arrangements
- Division of Labour for establishment and maintenance of plantations
 - * Government Deployment
 - * Private collectives
 - * Private individuals

- Availability of extension services and regulation
- Availability of instruments and mechanisms for guidance and regulation of the afforestation processes.

Keeping these factors in mind and especially contemplating the process in which they are interrelated we need to list some of actors involved in the total afforestation game in Tamil Nadu today :

Government of India

- Ministry of Environment & Forests
- National Wasteland Development Board
- Ministry of Finance, Department of Economic Affairs
- Ministry of Rural Development
- Ministry of Law

Government of Tamil Nadu

- Secretary to Government; Law Department
- Secretary to Government; Forest & Fisheries
- Forest Department
 - * Territorial Wing
 - * Social Forestry Wing
- Secretary to Government; Rural Development
- Rural Development Directorate
- Secretary to Government; Agriculture
- Agriculture Department
 - * Extension Wing
 - * Agro-Forestry
- Tamil Nadu Agricultural University

Non-governmental Organisations involved in Social Forestry

Indian Parliament

Tamil Nadu Legislative Assembly

Swedish International Development Authority

Towards the background outlined above there seems to be a need for a coordinating group to work out policies and strategies and propose legislation. The same group could also carry the development of a viable learning centre - a research programme aggregating knowledge from all aspects of Social Forestry - and an effective extension organisation disseminating this knowledge to people responsible for the major part of afforestation and forest management.

APPENDIX I

Tamil Nadu : Land use Classification (1978 - 79)

		Ha	%
1.0	Total Geographical Area	(1) 13 007 100	100
2.1	Forests	(2) 2 030 686	15.6
2.2	Barren and Uncultivable Land	(3) 610 381	4.7
2.3	Land Put to Non-Agricultural use	(4) 1 677 616	12.9
2.4	Cultivable Waste	(5) 361 896	2.8
2.5	Permanent Pastures, etc.	(6) 161 383	1.2
2.6	Land under Miscellaneous Tree crops, etc.	(7) 193 423	1.5
2.7	Current Fallows	(8) 1 267 381	9.8
2.8	Other Fallows	(9) 447 571	3.4
2.9	Net Area Sown	(10) 6 250 833	48.1
3.0	Area Sown more than once	(11) 1 433 397	11.0
4.0	Total Cropped Area 2.9 + 3.0	7 684 230	59.1

Source : Tamil Nadu Season and Crop Reports (1978 - 79),
Department of Statistics, GOTN

1. Based on Village Level Revenue Documentation
2. All lands whether under forest cover or not, administered as forests under legal enactment
3. Lands which cannot be brought under cultivation except at prohibitively high cost.

4. Habitats, Roads, Railways, Waterbodies, Industries, etc.
5. Lands available for cultivation or once under cultivation not cultivated currently and for the previous five years or more in succession.
6. Pastures, Grazing Lands
7. Tree Crops, Groves, Plantation Crops not included in Area Sown
8. Cultivable land presently fallow.
9. Cultivable land other than area not by covered 8 and 5 kept fallow.
10. Area Sown with food/cash crops.
11. Area Sown more than once, usually with irrigation.

APPENDIX II

Area Under Crops+Area Under crops (Irrigated) 1978-79)

	Irrigated (% of total)		Irrigated+Unirrigated
1.0 Food Crops *			
Rice	2,56	(92.7)	2.76 mha.
Other Grains	0,34	(14.1)	2.40 mha.
Total Food Crops	2,90	(56.2)	5.16 mha.
2.0 Total Non-Food **	0,92	(36.5)	2.52 mha.
3.0 Total Food + Non-Food	3,82	(49.7)	7.68 mha.
* Food Crops : Rice/Wheat/millet only			
* Non-Food : includes oilseeds, cashcrops, sugarcane, cotton.			

Source : Season & Crop Reports, Department of Statistics, GOTN, 1978-79.

APPENDIX III

Area Irrigated by various sources (1960-61) ; (1970-71) ; (1978-79)

Sources	ha 1960-61	ha 1970-71	ha 1978-79
1. Govt. Canals	880 281	882 697	919 059
2. Private Canals	1 490	964	741

Sources	ha 1960-61	ha 1970-71	ha 1978-79
3. Tanks	936 400	897 923	841 851
4. Wells & Bore wells	597 916	774 627	1 069 017
5. Other sources	46 164	35 625	42 529
Total	2462 251	2 591 836	2 873 197
Area Irrigated more than once a year	773 235	818 578	946 393

Source: Season & Crop Reports Department of Statistics, GOTN
1960-61, 1970-71, 1978-79.

APPENDIX IV

Sources of Water Supply, Tamil Nadu

Sources	1960-61	1970-71	1978-79
Government Canals			
Number	3470	2831	2392
Mileage	22399 km	23842 km	11501 km
Private Canals			
Number	33	10	13
Mileage	60 km	25 km	26 km
Tube Wells			
Govt. Number	695	177	2775
Priv. Number	944	19531	44959
Total	1639	19708	47734
Other Govt. Wells used for Irrigation only			
Masonry Number	11420	3730	3458
Non-Masonry Number	1406	756	4219
Other Private Wells used for Irrigation only			
Masonry Number	713 149	1 062 154	1 361 701
Non-Masonry Number	148 086	157 557	215 894
Total	874 061	1219 711	1577 595

Sources	1960-61	1970-71	1978-79
Wells used for Domestic Purposes No.	288 101	314 029	473 453
\ Wells not in use	58 308	272 647	88 288
Reservoirs	15	27	34
Tanks			
with ayacuts > 100 acres	7150	8544	7402
with ayacuts < 100 acres	22753	27278	30895
Total	29903	35822	38297

Source: Season & Crop Reports, Dept. of Statistics, GOTN.
1960-61, 1970-71, 1978-79,

SIDA TAMIL NADU SOCIAL FORESTRY PROJECT WORKING PAPERS

1. Reasons for involvement of NGOS/VOS and other Governmental Organisations.

The main objective of the social forestry is to gradually increase the participation of the people (target group in a general sense) and to transfer the responsibility for the project to them. This central concept implies the full involvement and participation of women, men and children both as individuals and as members of their communities.

A basic aspect of the programme is that the forestry will be done by the people, and that in all aspects of the work, in labour allocations and in access to products preference will be given to the weaker sections of the society. The task is vast and with constraints of size, distribution and bureaucracy, faced by the Government machinery, it will be difficult to achieve the physical targets without the full cooperation of the people.

In order to achieve these diverse and complex objectives of the SEP there is a definite need to involve NGOs, VOS and governmental organisations other than FD like the school system, the adult and non-formal education system.

The 7th plan Draft Document suggests that all developments should set aside a portion of their funds for adult education and the involvement of NGOs in programming. With afforestation being a specified aspect of the 20 point programme and since it is evidently a crucial part of environmental education, the involvement of NGOs/VOS in the social forestry effort will be in line with what seems to be a major policy direction of the government for the 7th plan.

In principle there is a mutual agreement between SIDA and the FD that stepping up of peoples' participation via involvement of NGOs/VOs and other governmental organisations vital to the project. In reality, however, much remains to be done to convert this principle to a concrete involvement of NGOs/VOs and other governmental organisations and to a close cooperation between them and the SFW.

2. NGOs/VOs Commitment to SFP

Social Forestry is an issue of great interest to many NGOs/VOs since the project aims to benefit categories of people, the rural poor, with whom the NGOs/VOs are concerned. Many NGOs/VOs are also deeply engaged in environmental issues. The SEP is an issue around which many NGOs/VOs have become united. They can act as agents of change in a project whose basic idea is social and economic change. The NGOs/VOs have expressed their support for the programme. The support has become manifest in a variety of activities which the NGOs/VOs have under-taken on their own initiative. The NGOs/VOs dedication to the SFP is to a very large extent an untapped resource. Many of these groups have a positive attitude towards women and a fair number of women are engaged in their work.

The following description of the activities in which the NGOs/VOs have engaged themselves in so far, is based on "A note on the potential inclusion of non-governmental organisations and other governmental organisations in Tamil Nadu's social forestry effort" written by Dr. Ratindra Nath Roy.

During the SIDA review of the SFP in May 1983 it was decided to organize a workshop to coincide with the SIDA Review of January 1984. The objective was to bring together representatives of NGOs/VOs, people's movements, FD - and SFW officials and the members of the SIDA Mission to discuss the prospects, plans and problems

of cooperation in strengthening the implementation of the SFP. The TN Government postponed the seminar to May 1984 to enable the SFW to undertake certain planning and preparatory exercises which were recommended by the SIDA Review Mission to make the workshop more purposive and constructive. The ACCF (SF) nominated a two man committee assisted by the local SIDA coordinator and two consultants to assist him in planning the workshop and in undertaking the preparatory exercises.

The committee initiated several field experiments with various types of NGOs and other governmental organisations. These included orienting and training NGO representatives as trainers, who then could train others in their involvement in the SFP training NGOs to enable them to make their constituents aware of the social forestry programme and its benefits, to motivate and mobilize them to participate in the programme, to get involved in the implementation and to monitor and to study the impact of the programme on the target groups, Training adult education animators and supervisors to enable them to make people aware of the social-forestry programme and its benefits and also to motivate and mobilize people to participate in the programme. The committee also developed a working paper to aid participants of the working in their deliberations.

The workshop on the involvement of NGOs/VOs and other governmental organisations was held in Madras in May 1984. The participants included representatives of the SFW, the Department of Education, the Department of Non-formal Education, Government of Tamil Nadu, SIDA, Swedish NGOs, Indian NGOs who were involved in the preparatory exercises, of IFPAW and its member organisations, and the Planning Commission of the Government of India. The participants worked in subcommittees and deliberated on the involvement of the school pupils' movements in the SFP.

The subcommittees presented their views and recommendations at a plenary session. In submitting their recommendations all the groups expressed their support for the concept and the objective of the SFP, and their willingness to cooperate in promoting and enabling the programme.

The Government of Tamil Nadu and SIDA welcomed the suggestions and agreed to accept some of them and study and consider the others. Further, it was suggested that the Government of Tamil Nadu and SIDA would take the recommendations to the Mid-Term Review in November 84 for its consideration, and also consider it in connection with the preparations for the next phase of the project.

Representatives of Government of Tamil Nadu, SIDA and the Project Authority met after the meeting and mutually agreed on an action plan leading upto the Mid-Term Review. The plan laid down that a strategy for cooperation should be developed for the consideration of the Mid-Term Review, and certain limited experiments would be undertaken prior to the MTR to support the logic of the proposed strategy. A committee should be formed within the SFW to initiate and supervise the activity, and to advise the Government on setting up the criteria for the identification of NGOs for cooperation. Such experiments should be funded by reallocating a portion of the funds provided in the APD for training and publicity for the year 1984-85.

The Government of Tamil Nadu officially communicated its views on the recommendations that had been made at the workshop. (Government Order Ms, No. 928). The Government, in principle, agreed to most of the recommendations. (They did, however, reserve their views and comments on certain recommendations which they felt were outside the purview of the terms of reference of the subcommittees.) The Government indicated its willingness to study the recommendations and to react to them at some

appropriate future date. The Government also issued orders for the constitution of a Committee consisting of representation from the SFW, the FD, the Department of School Education, the Department of Adult and Non-formal Education, the Department of Social Welfare and SIDA to plan, initiate and oversee the involvement of NGOs and other governmental organisations in the social forestry effort. This NGOs committee shall also be the screening committee to select the NGOs for corporation. The committee had not been constituted before the Mid-Term Review took place.

Action has been initiated by the TN Government to impart training to Adult Education Animators in Social Forestry, Action has also been initiated to involve Non Formal/Adult Education and State Resource Centres for preparing the reading materials to help Adult Education Animators in the dissemination of information on Social Forestry.

In August 1984 a meeting was held in Trichy which brought together representatives of NGOs who had been involved in the workshop to plan the limited experiment that had been recommended. The activities that followed were varied and included an orientation and training programme for school teachers from rural schools to consider how the school system could get involved in the SFP and to enable the teachers to programme such activity in their schools; a follow-up activity with the adult education animators and supervisors who had been previously trained to discuss the prospects, promises and problems of their effort in the field; activities by NGOs to make their fellow NGOs aware of the SFP and to promote their involvement in the effort by training them; activities by NGOs to work with their fellow constituents to promote and enable social forestry activity in their areas; and, the development of a large amount of teaching, training and promotional materials for the use of various groups including awareness songs, about social forestry, awareness training games, the long use of song and drama in promotion activity, puppet shows,

posters, flash cards, background pamphlets, comic books and translation of project documents into Tamil. One NGO undertook a detailed impact study of the social forestry in one administrative block in the Dindigul region. A meeting was held in Madras in late October, which was attended by many of the concerned NGOs.

The number of NGOs who have involved themselves in SF related activities has increased since the workshop and at present they amount to approximately 25.

3. NGO's Role and Tasks

The roles that NGOs can assume in the SFP are to start and take part in the creation of a process which will strengthen people's participation in the SFP; to create awareness in the target group of the objective of the SEP; that is, their rights to participation and benefits, thereby motivating and mobilizing the target groups as well as creating a sense of responsibility for the project among them.

- to make the target group realise their changing role from being primarily beneficiaries to becoming future owners and managers of the social forest
- to act as brokers or links between the target group and the SFW; to facilitate the creation of a dialogue between the target group and the SFW, thereby strengthening the SFW extension efforts. To fulfil these roles the NGOs ought to become involved in the entire SF cycle, from planning to monitoring. The concrete tasks connected with NGO-roles in the project can be any of the following:
- To engage in publicity and dissemination of information to the women, men and children of the target group, according to special needs and ability to receive information.

- To develop information material based on e.g SFW produced publicity material.
- To be consulted on how SFW produced publicity material should be designed. The NGOs have the possibility to make use of unconventional means of communication and information which may seem artificial when used by the SFW.
- To include the SF issue and environmental studies in their training programmes.
- To take part in training of SFW personnel.
- Develop training materials on environmental and SF issues.
- To develop liaison between themselves and the SFW to enable technical inputs and infrastructural inputs to the target group and to other NGOs.
- To establish and strengthen a network among NGOs who are dedicated to the SFP.

4. Women's Organisation

One important aspect of NGO involvement in the SFP lies in their potential to mobilise one particular target group, women. To ensure female participation is a fundamental necessity if the project is going to succeed in reaching its objectives, since the poorest among the poor are women, especially those who are the sole providers for their families. The number of households headed by females keeps increasing.

Women's traditional role as managers of household activities makes them true experts on matters like the use of fuelwood and other sources of energy. They also possess deep knowledge of food and fodder matters as well the use of various kinds of minor forest produce. In other words, a successful SF project would benefit them in their families.

A fair distribution of employment, generated by the SFP, among women and men would further more give more women a gainful employment, of which they are very much in need.

Youth clubs, with a membership of mainly unemployed male youth have in many instances turned out to be able to break old barriers that prevent a fruitful cooperation among villagers. They have managed to engage many different groups of village people in joint development undertakings that have benefitted the whole community. In other words, on a basis of shared experiences, they have been able to work together in spite of different social and economic backgrounds. This could be used as an example to show that certain groups have the ability to overcome barriers when strong common interests can make them stick together. Hence increased efforts should be made to organise poor women with the purpose of making them participate actively in the SFP.

Many NGOs have a progressive view on women's position in society and are promoting women's interests actively. Consequently they could be very useful in mobilising rural women. The activities of traditional women's clubs have so far been based on women's traditional roles as providers and caretakers for their families. Hence it would be quite natural for them to include questions relating to the usefulness of SF in their training programmes and eventually expand them to overall aspects of the project. These women's clubs should also be considered a part of the NGOs for co-operation.

Organising women is an effort that will meet with many social and practical obstacles. Therefore special amenities etc. meeting-venues may be required to enable these organisations to develop under socially acceptable conditions. The criteria

for identification of organizations with which the committee co-operate and would have intensified contacts could be relaxed in order to involve women's organisations for female youth.

“Actually, foresters and women have a lot in common. We are both given inadequate resources and we are ignored when it comes to policy making and conservation planning” Quotation from a well known authority on women and local community forestry (FLCD/FAO) Marilyn Hoskins, who also says that “Foresters have professional and technical skills and women have a realistic knowledge and experience of local community needs. If community forestry projects are going to get anywhere, these two will have to recognise each other and work together”.

5. Cooperation between NGOs and SFW

5.1. Concept of Cooperation

The basic idea behind the design of cooperation between the NGOs and the SFW is that it should take place at all organizational houses but with a strong emphasis on the *local level*. The relationship should be built on an increased dialogue, exchange of help and experiences. Direct relationships involving economic commitments should be very cautiously developed and for the time being we would only recommend a flow of material and institutional resources between the SFW and the NGOs, then mainly from the SFW to the NGOs/VOs. When the concept cooperation is used in the following it should be interpreted as concrete measures taken to extend meaningful communication between two equal parties joined by a common cause. The objectives of the SFP makes it necessary for the SFW to use, to a maximum, all forces that are aiming to reach these objectives. The NGOs/VOs constitute such a force, and they can put their special capabilities at the disposal of the project on a voluntary basis.

It is in the interest of the SFW as well as in the interest of the NGOs that only those NGOs which are genuinely dedicated

to the objectives of the project are chosen as partners in this working relationship. Thus it is necessary to avoid involving organizations which would only exploit the project for their own purposes.

5.2 Cooperation on Divisional Level

Cooperation on local *i.e.* divisional level and below, must be emphasised since this is where the project is implemented and where the NGOs have their base, specialised competence and experiences. This is where the key SF personnel works, where the benefits are created and where the people's participation is crucial to the success of the SFP.

Cooperation on local level would be based on knowledge of geographical, social and economical facts that NGOs and SF officials there have in common. Thus it would probably be easier on the local level to create the recognition of NGOs which is of great importance to keep their commitment to the project as vivid in the future as now.

Informal liaison is to be preferred but contacts could be more formalized in the future by letting the NGOs be represented on the VSFC's, take part in the formation of VSFC's, and by letting them take part in the formation of VSFCs. Other models for informal/formal liaison could be developed, *i.e.* letting the NGOs be represented on the employment committees which select VSFWs or be consulted by them.

In the dialogue, the SF officials should supply technical guidance and information. The input of the NGO would consist of their ability to act as a genuine link of communication between the target groups and the SF officials. Training and information at the local level with participation from SF officials, arranged by NGOs, has also proved to create a

greater understanding between the concerned parties and ought to be repeated frequently. The Madras workshop in May 1984 where SF officials of high rank and NGO representatives had a fruitful encounter could be used as a model for future sharing of experiences, ideas, information and knowledge on local level. Such meetings need not be very elaborate, it is more important that they are being performed with continuity.

A more specified model for interaction between NGOs and SFW/divisional level could be developed and tried in the experimental divisions suggested by SIDA to the HLM. In absence of active NGOs/VOs in these divisions such models should be tried in divisions where NGOs/VOs are known to have engaged themselves in the project, or where they are mobilized in the future.

5.3 Cooperation on the CENTRAL LEVEL

The dialogue on the central level could take the shape of regular meetings between the SFW committee agreed upon at the workshop in Madras in May 1984 (GQ. MS.NO. 928) and the NGOs/VOs.

The Committee should be constituted and take action without delay. The Committee could identify a limited number of NGOs/VOs with whom the cooperation could be intensified, and the modalities tried out.

Thus identified NGOs would constitute a small "core" group of NGOs/VOs which could interact with other NGOs/VOs, which want to be or become involved in the SF effort.

The dialogue between the "core" group of NGOs and the Committee would be an exchange of information about the SFW's planning and the participation-stimulating the activities of the NGOs/VOs.

It is of utmost importance that NGOs/VOs are consulted by the committee since they and the VSFWs possess the

most genuine knowledge, apart from the target group themselves, of how the SFP is functioning at the local level, particularly concerning peoples' participation. This knowledge is vital to the strategic planning of the committee. Communication between NGOs and the Committee would also be perceived as a sign of recognition by the NGOs.

An external Cooperation Unit under ACCF/SF should be established. The ECU should place SF publicity material at the disposal of the NGOs/VOs, directly as well as via the lower organisational level of the SFW. It could also arrange and invite NGOs/VOs to seminars on various SF related topics, at the expenses of the SFW. Until such time as the external contact programme is incorporated into the APD, of the second phase of the SFP, the inter-departmental committee should be the policy formulating body for the programme with the ECU taking on the executive role.

Preparatory efforts like creating working relationships with external agencies, identification of NGOs, development of materials, development of training programmes, training of trainers could be undertaken so as to be completed by March 1986 latest.

5.4 Inputs/Funding Arrangements

Direct economic ties between the SFW and the NGOs/VOs are not recommended by SIDA. The administrative chores being put on the SFW at all levels would increase a work load which is already too heavy and might also encourage unnecessary bureaucracy. The best input from SFW is rather its technical know-how about forestry and its knowledge of future plans for the projects. But until specific allocations can be made in the budget of the second phase of the project as might be contemplated a proportion of the training and publicity budget of the social forestry project should be diverted to the external contact programme.

The NGOs/VOs are by definition bodies which are independent of the government and should continue to be so.

Funding from the SFW might decrease their independence and be a potential source of conflict. (SIDA does not consider funding of SF related NGO activities as a major problem. Funding channels may be created via Swedish NGOs to mention just one possible source).

Terms of reference for the Committee and the External Contact Unit should be included in the APD of the second phase of the TNSFP.

5.5. New Government Order

A new action oriented Government order concerning the involvement of NGOs/VOs in the TNSFP should be issued.

Similar G.Os could be issued for the involvement of the School Education and Adult Education/Non-Formal Education Systems.

6. Proposal on the involvement of NGOs

6.a. Workshops or seminars and training sessions with participation from NGOs and SFW should be arranged at the divisional level.

6.b. Contacts between the SFP and NGOs could be formalized by letting the NGOs take part in the formation of USFs and by letting them be represented on the VSFCs, other models for informal/formal liaison should be developed, *i.e.* letting the NGOs be represented on the employment committees which select NSFWS.

6.c. A more specified model for interaction and cooperation between NGOs and the SFW at divisional level could be developed and tried in the experimental divisions suggested by SIDA. In the absence of active NGOs/VOs such a model should be tried in divisions where NGOs/VOs are known to have engaged themselves in the project.

6.d. The Cooperation between the SFW Central level and the NGOs/VOs should be developed in regular meetings

between the committee and the NGOs/VOs. The Committee could start with identifying a limited number of NGOs/VOs for intensified contacts and joint activities.

6. e. The criteria for identification of organizations with which the committee would have intensified contacts could be relaxed in order to involve women's organizations and organizations for female youth.

6. f. An External Cooperation Unit, to act as the executive body of the committee, should be established under the ACCF/SF.

6. g. A proportion of the training and publicity budgets of the SFP should be allocated to the external contact programme.

Terms of reference for the Committee and the External Cooperation Unit should be included in the APD of the second phase of the SEP/TN.

6 h. NGOs should be encouraged to continue and reinforce their commitment to the SFP so as to become recognised by the SF authorities.

6 i. A new action - oriented G.O. concerning the involvement of NGOs/VOs in the SFP/TN should be issued by the GOTN.

7. Involvement of the School Education System

The School education system of the government and the private sector should be involved in a programme of cooperation with the SFW to achieve.

- a critical understanding among children of the ecosystem at the local and regional level, with special emphasis on how human activity affects such ecosystems, an understanding of the role of forests, and

of the role that social forestry can play in their eco-system.

- information transfer on the SFP, its objectives, its benefits, its programme and the rights of the people to children.
- organization and motivation of school children to enable them to participate in activities related to SF, like establishing of nurseries and planting of trees, and caring for them around their households.
- To do so the TN Govt. School Education Department will have to include environmental studies in the curriculum that promotes and enables a critical understanding of the eco-system at the local and regional level - offer possibilities of extra-curricular involvement for students in nature clubs, forest clubs, trekking, etc.
- encourage socially useful productive work like growing tree nurseries and taking home trees to plant; develop teaching materials on environmental and SF issues and topics.
- develop liaison between schools and the SFW at the local level to enable inputs and information to the schools.
- develop and implement training programmes for interested teachers to enable the above activity.

The materials could be developed by the SCERT and the NCERT, with technical inputs from the SFW. The SFW could fund the mass production of such materials for distribution to schools. The training for the teachers could be provided by the SCERT and the NCERT with the technical support of the SFW. The SFW could fund the liaison and inputs of technology, infrastructure and information at the local-level.

8. Involvement of the Adult and Non-Formal Education System

The adult and non-formal education system in the government sector and in the NGO sector should be involved in a programme of cooperation with the SFW to achieve.

- information transfer on the SFP, its objectives, its benefits and the rights of people to the community.
- organization and motivation of the community to enable it to participate in and benefit from the SFP, particularly in helping with the selection, establishment and successful functioning of village social forestry committees.

To do so the TN Government Adult and Non-formal Education Programme will have to:

- Include environmental studies as a core area round which and through which literacy, numeracy and operacy can be achieved.
- Develop specific teaching materials on environmental and SF issues and topics.
- Develop liaison between the Adult and Non-formal Education Programme and the SFW at the local level to enable technical inputs, infrastructural inputs and information about the SFP to the A & NFE Programme.
- Develop and implement training programmes for animators and supervisors to enable the above activity.

The development of materials could be funded by the SFW, with technical assistance from the SFW, media and communication inputs- from the State. • Resource Centre for Non-formal Education and the A & NFED. The production could be funded by the A & NFED.

The training could be undertaken by the State Resource Centre for Non-formal Education and by NGOs with technical inputs from the SFW and funds from the A & NFED.

Women in the Social Forestry Project

Women are included in the SFP as project staff, workers, participants and beneficiaries.

Already during its initial stages in spring of 1981, when the SFP was being prepared, it was foreseen that a problem might arise in activating a democratic dialogue between the inhabitants of the villages and the staff of the FD. The project has a social tendency uncommon to forestry activities for which the Government is responsible.

For this reason it was necessary to strengthen the forest administration by adding an extension service consisting of young women and men from the project villages, Village Social Forestry Workers (VSW). The number of female VSW up to date is only about 7%. As a consequence here of there is a lack of involvement in the project activities on the part of the very poor women, except as labourers.

Experience gained from other SFPs has shown that female extension workers are able to make the village women interested and involved in the project to a much larger extent than their male counterparts.

The recruitment of female VSWs has to be increased. It is possible to establish a quota to ensure adequate representation of women VSWs.

Recommendation

Not less than one third of the total number of VSW should be women.

The range of duties for VSFWs is already extensive and is likely to increase. Even if all these duties are essential for the progress of the project, some, such as plot-watching, should be withdrawn from the joblist for the female VSFWs and others should be included such as nursery management. A number of female VSFWs should be sent for special training in nursery management to be able to assist poor village women to set up small local nurseries. (See background paper on Cooperatives).

Another high priority topic is village group management, *i.e.* an effort to secure women's participation in SFP, the organising of women's groups for income-earning activities, the formation of women's cooperatives.

Women are involved in the SFP as labourers in planting and caring for trees, and in nursery work. To a certain extent, women are participating in operations during the felling of trees.

The female labourers are normally recruited from poor families. The poorest workers are women who alone support their families, such as widows or divorcees or married women with a sick or old husband, with an unemployed husband or an alcoholic one, with a husband who some reason or other does not contribute to the support of the family.

It must be emphasized that women should be used as labourers on the plantations but that they should be paid a decent wage and that they should not be exploited. They are part of the target group of SFP.

They should also be informed about the objectives of the project and be encouraged to plant trees on their court-yard and land. Special efforts should be made to

explain to them the possibility to get trees for fuel, food and fodder. They should be given proper instructions on how to plant and care for trees.

Women in the Social forest Village Committees (SFVC)

There are very few women representatives in the SFVC and the committees do not, as yet, function in a democratic way. Neither men or women from the poorer strata of society have any influence worth mentioning. This is, however, likely to change now that the project changing in so far that more stress will be put on the "incentive programme". As a consequence, the poorer village people most likely will get an opportunity to be represented in the SFVC. When this happens, it is of utmost importance that the women are properly represented since it is they who keep the family economy under control and since, more often than not, it is their income that keeps the family alive.

If SIDA intends to give support to the poor, then SIDA must in various ways try to better the situation of the poor women. One such measure would be to insist that the share of female Village Social Forestry Workers equals the share of women in the target group. The VSFC's are key persons when it comes to reach the poorest women with the project. SIDA should also demand that the training of VSFWs is improved and that those parts of the training which concerns the social points of SFP are given priority.

The presence of more and better trained female VSFWs in the villages will result in a more correct female representation in the SFVCs and consequently also lead to an improved participation in the preparatory work and a greater influence on part of the target group on the decision-making processes within SFP.

SOCIAL FORESTRY FOR BETTER LIVING - BEAUTY FOR JOY

*G. Kamalanathan **

“A thing of Beauty is a Joy for Ever”

Beauty is imbibed by all our senses and Harmony of thoughts is the highest form of Beauty. Fragrance of flower, Taste of fruits, the swish of the trees, the gurgling of water, the song of the birds, the soft touch of Breeze - all these are aspects of Beauty.

Forest has been envisaged as a “Resource” in many angles - Economic, Sociological, Ecological and Technological. Forest is also a Resource of Beauty. In the present age, the majority of the people who are in the low Socio Economic Level have hardly any time for recreation and the recreation that they get is of a passive nature such as cinema and perhaps participation in a few festivals. Hence, we should think of other aspects of positive creative recreation and aspects of Social Forestry which will help the people and at the same time help in preserving our culture and Eco system. Forests offer wonderful opportunity to see the wild life as field trip. Forests offer wonderful opportunity to see the wild life as field trip. Seeing animals in nature is thrilling and help to regenerate the exhausted mind. More and more people should be given opportunity to develop a sense of appreciation of nature through observation.

The Sky - the beautiful sky is every man's Resources-its changes at different times from morning till night - poets all over the world have said so much about the sky “My

* Deputy Director, Sri Avinashilingam Home Science College
for Women, Coimbatore - 641 043

heart leaps up when I behold a rainbow in the sky". It is available to all - 24 hours a day! How many of us have really spent some time, some minutes to see it, see the sky with our children - Enjoy it as a family! In our tradition we do have instances - when we see the sky - on Karthigai day in the evening to see moon and light the lamp - on Sankaranthi day to see the sun and start our worship. If Industrialists took up to star gazing for beauty - there will be less of air pollution! Children should be given opportunity to appreciate the sky - so that they develop a sense of belonging to the universe, a sense of their own importance in relation to the cosmos.

The Trees and Flowers

India is abound in trees because of the varied climate and terrain. Shrubs are all around us. There are several beautiful flowers even the Adhoda, the Datura, Calotropis gigantea, cassia 'auriculata', 'Opuntia dillmil' all have beautiful flowers. These are sturdy plants that we can have in school garden. Schools should have flowering trees so that children could enjoy the shade and the beauty. Foliage plants are many in variety. The shapes of trees are so distinct that we can take lessons from them to create design. Every temple has a 'Sthala Virutchem'-sacred Tree, from palmayra tree the pipal, the Bilva tree is a must in SIVA temples, Neem for Kali - 'The Mahizhambu' in Vadakkunathars temple in Trichur gives at least one flower daily. The mango tree of Kanchi has four types of Mangoes in the same tree. We need to collect information of all trees and spread this to our people.

We have to see the tree as a source of Beauty. The tradition of looking after the tree-(We can almost say Tree worship) should be revived to save the trees.

In Sweden people are proud of the trees. In Denmark in Amstardam all trees belong to state and an owner should get permission to cut down the tree.

In Oxford University 200 year old furniture are still in use to save forest from being devoured. Let us collect old wooden furniture and renovate them. Our Founder has shown a way. He is promoting steel furniture so that we avoid using precious trees. This furniture are not so elegant. Yet are of more utilisation. When we order for our office, let us remember this. In housing also we should use the existing material as much as possible. In any carpentry work there will be a lot of wood which could be avoided.

Tree is the best example of all principles of design beauty and serenity.

Bamboo and cane

Bamboo and cane are beautiful. They are carelessly wasted. When we are starting any handicrafting with Bamboo cane or palm, we should also go in to conservation technology, how to use minimum quantity of material and avoid waste.

Stones

Stones are the nature's big gift and help in contributing soil erosion. In Japan stones in natural shapes are used to create beauty in the garden and in the home. Whenever big boulder is present - let us use them as barrier to guard the soil. Use it in its natural shape.

Shells

Sea has also a vast forest of shells-these are bounty of the sea.

Promotion of Awareness among People

There are several Folk songs and proverbs on trees - we should collect them - revive them to create an atmosphere of appreciation of trees, specially among children and adolescents. A popular folk song is;

“Two trees on side of the Road
 One friend planted long ago
 To me this Neem gives wonderful shade
 To drink & enjoy my lunch conjee”

These are given as example for wise thoughts

“When you help another man
 Do not look for reward - A coconut tree
 gets plain water but gives best sweet coconut juice”

“Do not be proud like the Rain tree on the
 River bund - A storm or floods will bring it down
 But a Billrush being meet survives”

“Man should be like a wood -
 Sacrifice himself to give joy to others”
 There are several sayings and stories/Fables
 which help to him about trees.

stories - the green proud banaian tree and the humble billrush,
 the trees which refused to give shelter to bird and so on.

Toys and Games

We are developing a video tape on Beauty of Forest.
 We can develop games with trees as example.

Drawing competition among children will enlarge their
 percapita.

Holiday camps

One good way to create appreciation in the children is to
 organise Holiday camp. But the camp must be organised in such
 a manner the forest is not mutilated and animals teased. In
 Madras Vandalar Zoo is very popular. Vedenthangal is
 another area of Tamil Nadu. We have to identify such
 areas in our states. In schools officers of Social Forestry
 should make attempt to address the children and tell them
 about their role and take them in field trips to areas
 where children can see and appreciate nature. In each state
 other than the sophisticated much known areas, a few less
 known areas can be located. The teacher cannot always do

this He/She herself needs orientation. Let us list now, how we can extend our knowledge to schools. Inter exchange of children among states can also be useful.

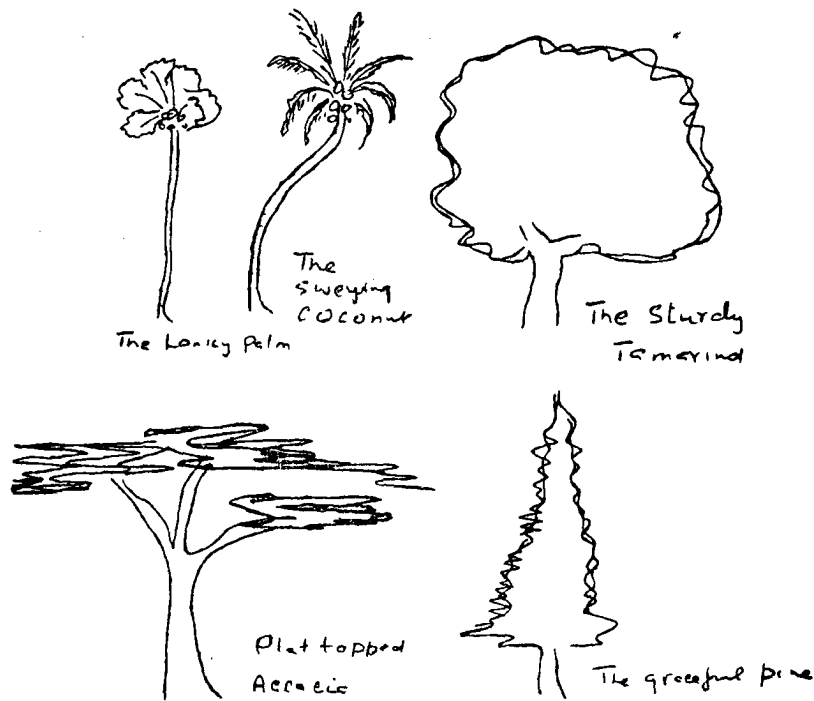
Use of Art Objects

In name of Art, ugly articles are coming up in a commercial way. Let us use dried up trees, nature's debris, shells for ornamentals so that we do not chop up young trees.

Each Institution can have a few potted plants and use them for decoration. Dried up boughs, Drift wood, dried leaves, stalks, dried fruits, berries, seeds can all be used.

Such art objects give scope for imaginative and innovative intelligence.

Forest are our natural wealth. Let us use them and make our life beautiful.



COTTAGE INDUSTRIES AND HANDICRAFTS

*R. Raji**

The cottage industries constitute an important segment of the economy, providing maximum employment next to agriculture and also account for more than one third of the total exports of the country. They provide self employment opportunities and ensure maximum utilisation of local resources.

1. Khadi and Village Industries

Khadi includes cotton khadi, woollen khadi and silk khadi. Village industries include :

- processing of cereals and pulses
- ghani oil
- village leather
- cottage match
- manufacture of cane gur and khandsari

- palm gur making and other palm products
- non edible oils and soaps
- hand made paper
- bee keeping

- village pottery
- fibre, carpentry and blacksmithy
- lime manufacturing
- gobar (methane) gas
- collection of forest plants and fruits for medicinal purposes
- shellac, and
- manufacture of household aluminium utensils.

* Professor of Textiles and Clothing, Sri Avinashilingam Home Science College for Women, Coimbatore-641 043

These industries enable the villagers to develop own initiative, cooperation and a spirit of self-reliance. They also help utilisation of the available manpower for processing the locally available raw materials by the adoption of simple techniques.

2. Sericulture

This is a cottage industry where the activities are mainly implemented by women. It has an agricultural base and an industrial structure, provided mulberry or oak leaves can be cultivated, this industry can exist.

It is labour intensive in nature and provides great scope for employment all round the year. It has very good export prospects. The industry needs greater standardization techniques, supply of good races of worms and disease free seeds. Around 1½ lakhs of persons are employed. In exports it achieves more than 130 crores of rupees.

3. Coir Industry

The coir industry in India which support about 10 lakhs of people is labour oriented, depending mainly on its exports. Indian coir enters in markets of more than 100 countries in the form of raw coir fibre, spun coir yarn, and woven coir products. India accounts for over 50 per cent of the world trade in coir. The coir industry is dispersed mainly over the west coast of Kerala where coconut tress and retting facilities exist. Now it is spreading to other states also. The central government has established the coir board, which undertakes activities for promotion and development of this industry.

4. Small Industries

A number of products are reserved for this sector. But baring upon the present and potential forest resources, the following industries can emerge :

1. Fruit and vegetable processing
2. Seed oil industry
3. Paints and varnish from nuts
4. Gum out of resins from trees
5. Starch industry
6. Paper industry
7. Soft wood articles
8. Perfumes out of herbs
9. Medicines and medicinal oils out of herbs
10. Turmeric paste, dyes and oils.

5. Handicrafts

Handicrafts of India are many and varied. The media can be of paper, wood, petals of flowers, seeds of fruits, fiber varieties, grass mats. Bamboo and Cane products are commonly made.

Toys and dolls are made out of sandal woods. Decorative curies are made out of coconut shells. Jewelleries are made out of original stones. Textiles is an area where blocks are used for printing purposes. The above have a forest base.

The All India Handicrafts Board set up in 1952 by the government takes care of the development of handicrafts, research and promotion. The employment status happens to be 27.4 lakhs of persons.

Handicrafts of India ranks as the third largest foreign exchange earner next to Agriculture and allied products and textiles. The exports have gone upto 1700 crores in VI Plan period

The main task in rural industrialisation is the organisation of rural industries. The task of organisation includes dissemination of advanced know-how to the rural artisans, supply of raw materials and collection of finished products for marketing. The production and supply, quality and finish of the products including packaging need strengthening to tap the foreign market.



ANSWER TO FIREWOOD - COAL, KEROSENE OR GAS

*Sathyavathi Muthu **

1. Introduction

The three aspects namely energy, employment and ecology influence the state of progress and development of any country. Man's efforts for well being have been centred around the production and utilisation of various forms of energy. Energy is the basic requirement of human life, agriculture, industry, transportation, communication and all other economic activities of the present day. Civilization dawned when man discovered the production of heat energy by burning wood. However, with the passage of time the earth's sources of energy have been depleted.

Today non-availability of energy to meet human needs is the pressing problem of the decade. In order to ensure the survival of our civilization to the next century, we have to take a complete stock of our energy resources both commercial and non-commercial.

In India the household sector is the largest consumer of energy accounting for 50 per cent of the total energy consumption. The major sources of fuel for rural households are firewood, cattle - dung cake and crop residue. The increase in population deforestation and the need to maintain ecological balance have restricted the availability of firewood for household use. The outbreak of energy crisis resulted in the need for finding, new vistas in alternate sources of energy.

* Professor, Department of Family Resource Management
Sri Avinashilingam Home Science College for Women,
Coimbatore - 641 043

2. Fuel Consumption Pattern

Almost all types of fuels are in use today in India for domestic purposes. The list include animal dung, agricultural wastes firewood, charcoal, lignite, soft cake, kerosene, gobar gas, liquid petroleum gas and electricity. Firewood, animal waste and vegetable waste constitute the cooking fuel over 90 percent of total households in the country.

An energy policy review in India held in 1979 indicated that domestic cooking account for 80 per cent of the fuel wood consumption in this nation and their cooking with this fuel represented more than 35 per cent of all the energy consumed.

3. Shortage of Firewood

The 1979 report of working group on Energy policy stated that approximately 90 per cent of the household in the nation use firewood and agricultural waste as fuel for cooking at a consumption rate of about 200 million tonnes per year. Fire wood has been the conventional sources of energy meeting 87 per cent of the domestic fuel needs. The remaining 13 per cent are met by coal and kerosene. The availability of firewood for cooking is also taking a very serious turn, seventy five percent of the population nearly 150 million people, fulfil 90 per cent of their energy requirement through wood. It is estimated that by the end of the century 250 million more people will be unable to get firewood for their minimum requirement of cooking. The demand for fuel wood was 184 million cubic metres in 1980 and it will increase to 225 million cubic metres by 2000 AD as against 80.3 cubic metre of fuel which is estimated to be produced by 2000 A.D. If the loss of forest at the rate of 30 million hectares a year the soil erosion, environmental degradation and general conditions of poverty continue at the present rate, the result will be catastrophic by the end of the century.

4. Role of Renewable Sources of Energy

In order to alleviate this problem along with the forest replanting schemes alternative fuels are also urgently needed

to take the pressure off poor people who are struggling to find firewood and also take the strain off the forests. The increase in the price of petroleum crude oil by the OPEC (Oil Producing and Exporting Countries) in 1973 by 300 per cent made all sectors of population from the politicians and policy makers to common men realise the urgency of developing alternate sources of energy.

The following are the alternative fuels which can be used as supplementary fuel for households and thus save firewood.

1. Solar Energy

Solar energy which is available in plenty is the oldest form of energy and there is every chance that it will turn out to be the most important answer to the present energy problems facing the world. Solar energy is inexhaustible replenishable and clean. In India abundant sunshine is available for atleast eight months during the year. India gets 3000 hours of sunshine a year and has the advantage to use this source of energy to meet the energy requirement of rural population-Solar energy can be used for cooking, water desalination, space heating, refrigeration etc. Domestic sector is an area where alternate source of energy such as solar energy can perhaps contribute to some extent. Various types of solar cookers have been developed and sold in the market. The solar cooker can be fabricated with ease using locally available material and can be an effective tool for the house wife on all sunny days which can be varying between 240 to 300 days in a year in our country, if a solar cooker is properly designed and used.

Solar water heating for domestic use is at present the most attractive way of utilising solar energy.

2. Biomass

Bio-mass could be a major source of energy for developing countries and the use of bio-mass is ecologically more

compatible. Every year about 200 million tonnes of farm residues like sugarcane leaves, rice husk, cotton stalks, etc., are produced in India. Most of this residue is used as fodder, for cooking or for construction of huts, but quite a large amount of it is still burned in the fields. This means a great energy loss and with the fuelwood crisis already hitting the rural areas are which India can ill afford. These problems can be overcome by briquetting the agricultural wastes and by products and using it as energy source for various purposes. Briquetting is a well known technique which is brought about by compression, bailing, by squeezing out moisture and breaking down the elasticity of wood and bark. Any granulated vegetable matter is compressed at high pressure into logs, pellets or blocks. These waste materials available in plenty near Coimbatore possess a big problem for disposing. The coirpith was utilised for preparing briqueller.

3. Biogas

India which has the largest cattle population in the world offers a tremendous potential for the development of biogas. The Department of Science and Technology (1981) gives the following data.

Cattle population in India	— 237 million
Average dung obtained per day	— 10 kg wet dung
Collection rate of dung	— 66 percent of the total population
Total availability of wet dung	— 5 million tonnes per annum
Production of gas through the biogas plants	— 22425 million

Biogas could supply India with an energy amount equivalent to nearly 44 percent of its projected electricity consumption and reduce its projected consumption of coal by 15 per cent and of firewood by 79 per cent.

The study conducted by Sri Avinashilingam Home Science College in selected households who installed, indicates the volume of the biogas plants biogas needed for cooking a whole day's menu.

Volume of gas consumed for the preparation of the day's menu

S.No	Item	Gas Consumption in litres
1.	Breakfast	265.6
2.	Lunch	449.8
3.	Tea	172.0
4.	Dinner	302.5

The mean volume of biogas required to prepare a day's menu for a family was found to be 1190 litres or 41.65 cu. ft

The comparison of fuel consumption per family per annum while using firewood and biogas is presented in the following table.

**Comparison of Fuel Consumption Per Family Per Annum
Using Firewood and Biogas**

S.No	Fuel	Consumption per family per day	Consumption per family per annum	Money value in Rs.
1.	Firewood (kg)	5.30	1934.5	1547.60
2.	Biogas litres	1190	434.35 cu.m	1525.60

Thus by installing a 6m³ biogas plant with the initial cost of Rs.7500, firewood of the value Rs.1,547.60 per annum could be saved.

5. Improved Cooking Stoves

a. Smokeless Chulah

The ordinary 5000 years old household open chulah has an extremely low thermal efficiency, when food is cooked. The losses are due to the unscientific method of burning wood, inefficient design of the cooking device and uneconomical cooking methods employed by the housewives. The improved cooking stoves having a combustion efficiency of more than 15 per cent drastically cut down consumption of firewood

The study conducted by Sri Avinashilingam Home Science College indicated the fuel wood saving after the introduction of smokeless chulah.

The study conducted is as follows. The response of the selected homemakers revealed that the average daily consumption of fuel wood per household was 6 kg of firewood. Therefore 6 kgms of firewood from the stock stored were weighed daily and given separately to 20 homemakers before they installed the chulahs in their houses. They were instructed to use firewood weighed stock for that day. This was repeated for a period of one week by all the homemakers. The fuelwood remaining each day was weighed to assess the the fuel consumption in that household that day.

This procedure was repeated for one week after the installation of smokeless chulahs. Thus the fuel consumption in the ordinary and smokeless chulahs used in the household could be assessed. Table gives the findings of the study.

Comparison of Ordinary And Smokeless Chulaha

S.No	Aspect	Ordinary chulah	Smokeless chulah	Fuel/time saved/day per family	Fuel/time saved for a period of one year
1.	Fuel Consumption per day (kg)	4.764	4.266	0.498	182
2.	Time spent on cooking the reference meal (minutes)	137.9	108.6	29.3	
3.	Time spent on cleaning utensils (minutes)	10.0	4.0	6.0	
4.	Total time saved in cooking and cleaning (minutes) while providing two meals a day			70.6	36 man day

The saving of fuel amounted to 182 kg of wood per family annually, that is, Rs. 100 to 119 per year per family.

b. Priagini Cook Stove

'Priagini' is a single pot metallic stove which has both high efficiency and improved combustion. The dimensions of the slotted plate and the chamber have been suitably proportioned to achieve improved combustion through mixing of combustion products and regulation of air flow through the slotted bottom plate. The result is a sustained burning of fuel yielding a less luminous, less smokey flame producing well directed heat.

The 'Priagini' stove is conserving fuel and energy. Action programmes such as introduction of these stoves in rural areas play a very effective role in reducing the drudgery of the women folk.

Fuel could be saved through the above mentioned means to a considerable extent. Our main emphasis should be on the motivation and education of the fuel saving techniques to the rural population who forms 85 per cent of the population of our country.

TAMIL NADU SOCIAL FORESTRY PROJECT

*Thinakaran **

General

In 1960 itself, the Forest Department, initiated tree planting activities under the Farm Forestry Programme in Tamil Nadu, in order to meet the increasing needs of the people for timber and fuelwood. The SIDA sponsored Social Forestry Project in 1981 paved way for taking up tree planting activities extensively and intensively in the State in the village common lands. Our Prime Minister has set a target of planting 5000 million seedlings a year and has desired that it should be made into a people's movement. The Social Forestry Wing of the Forest Department, which is implementing the SIDA sponsored Social Forestry Project, has formulated various tree planting programmes to enable the people also to participate actively as indicated below:

(i) Tree cultivation Incentive Programme (TCIP)

The small and marginal farmers and the landless people in the village are covered by this programme. This will help the economically backward sections of the society to plant trees in their uncultivated lands. Each farmer is given upto 500 seedlings free for planting to their lands, depending on the area of the land. As an incentive, they are given Rs. 2.50/- for each seedling surviving at the end of two years.

The Forest Department supplies these seedlings from their nurseries located at various places in each Forest Range. The Identity Cards given by the Village Administrative Officer to the small and marginal Farmers and the landless people under

* Conservator of Forest Social Forestry Research Division,
Madras

IRDP and other programmes could be used to obtain the seedlings from the nurseries. In the alternative, the village Social Forestry Worker/Village Social Forestry Committee would also help them to get the seedlings.

The seedlings supplied also include some fruit trees like guava, pomegranate, lime etc.

(ii) Tree Cultivation Extension Programme (TCEP)

The farmers not covered by the TCIP are eligible to get seedlings under this programme on payment of the rate fixed for each variety. While no ceiling is fixed for the supply, the aim will be to cover larger number of farmers through equitable distribution of the available seedling. No incentive will be paid to these farmers.

(iii) People's Nurseries

Villages having land and water facilities can raise nurseries for growing seedlings for the Forest Department, which will supply the necessary seeds and polybags. The Forest Department will pay them at rates fixed locally for each variety of seedling and a minimum of atleast 10,000 seedlings have to be raised and supplied by the villagers. The rates for seedlings given by the Forest Department leaves a margin of profit and this will be an additional source of income to the villager.

From April 1987, it is proposed to raise the margin of profit to the farmer to 25% over the estimated direct costs.

iv) Incentive Payment

In order to increase the target fixed for distribution/sale of seedlings in the villages, it is proposed to appoint canvassers preferably ladies, to take up this work. They will be paid an incentive of one paise per seedling sold/distributed under the TCIP Schemes. This scheme will come into effect from April 1987.

Social Forestry Programmes through Rural Development Department

General

The high cost of fuelwood and timber due to shortage all round has brought home to one and all the importance of trees and forests and the necessity to increase their area by planting them in all the available areas. In view of this, 25% of the total outlay for NREP and RLEGP has been set aside for afforestation programme. Our Prime Minister has set a target of planting 5000 million seedlings a year and has desired that it should be made into a people's movement. In order to achieve this high target, the Rural Development Department which has been made the Nodal Department in Tamil Nadu by the National Wastelands Development Board has formulated various programmes for afforestation to suit the needs of one and all and to cover all types of wastelands. The details of these programmes issued G.O.Ms.No. 14 dated here: 8-1-1986 and G.O.Ms.No. 439 dated 30.5.1986 are summarized

(a) Taking over unused, uncultivable lands, under-utilized lands of temples, Government T.B. Sanatoriums, Rehabilitation (leprosy) Homes, Colleges, All schools, standing Government Schools, Government Offices and Government undertakings:-

The lands belonging to Government Temples, T.B. Sanatoriums Rehabilitation (leprosy) Homes, Hospitals, Colleges, all Schools, Government Offices and Government undertakings shall be utilized by the Block Development Officer-cum-Panchayat Union Commissioner of the area or adjacent area, in the use of Municipal limits, with the consent of the institutional heads. In the case of temple lands, the Commissioner, Hindu Religious and Charitable Endowment will identify compact blocks of land, district - wise/panchayat union - wise with location and survey number details and furnish the details to the concerned Collectors who shall pass the necessary orders for planting trees there. The BDO shall arrange for the seedlings. Planting and planting them with the funds of NREP/RLEGP and shall hand over the planted area to the institution which owns the land, after taking an undertaking from

the head of the institution for protection and maintenance. When the plantation matures, the institution shall pay to the Panchayat Union @ Rs. 1/-(Rupee One only) per tree or Rs 2000/- (Rupees Two thousand only) per ha. whichever is less and enjoy the fruits. These amounts will be credited in the Social Forestry Funds for utilisation in the subsequent year's programme. In case of temple lands, no recovery will be made and the income shall be used for the maintenance of the temples.

(b) Taking up Forestry in lands belonging to Scheduled Castes/ Tribes free of cost:-

(i) The families of poor rural holds falling under Integrated Rural Development Programme norms will be involved in this afforestation Programme. A mixture of fuel, fodder and fruit tree seedlings according to availability upto 30 numbers will be supplied to these IRDP families at a nominal cost of Rs. 0.20 per seedling. These families, for looking after 10 to 30 seedlings, will be paid 8 man days wages per month for one year. The monthly wages for 8 days @ Rs.8/per day viz. Rs.64/-will be paid as cost Rs. 25.20 and foodgrains Rs. 38.80 (rice 8 kgs and wheat 16 kgs), as per RLEGP norms. After one year, they will look after the growth of trees without any Government assistance.

(ii) In addition to the families covered by the Integrated Rural Development Programme referred to in sub para (b) above, each beneficiary of the group houses constructed under National Rural Employment Programme and Rural Landless Employment Guarantee Programme will be given seedlings upto 30 and given the same money benefits of cash and foodgrains for 96 days for a year.

(iii) As the supply of seedlings and planting them is a continuous process in the coming years and the beneficiaries may like to go in for coconut and other fruit trees, such seedlings will be obtained from the Directorate of Horticulture and Directorate of oil seeds and supplied at production cost, meeting the cost from non-wage portion.

(iv) The targeted group of beneficiaries mentioned under item (i) above shall be only Women of Scheduled Castes/Scheduled Tribes families:

(v) The beneficiaries will be provided with a monitoring card giving the following details.

- (i) the name of the beneficiary (it shall be in the name of the woman)
- (ii) Address
- (iii) Species given with numbers
- (iv) Extent and survey Number details
- (v) Name of programme, say, farm Forestry, under National Rural Employment Programme and Rural Landless Employment Guarantee Programme
- (vi) Details of training given to the beneficiary
- (vii) Survival rate of seedlings every month
- (viii) Details of wages paid/month
- (ix) Remarks of the Inspection authority

The expenditure on this item can be met from the non-wage portion of the afforestation of wasteland under National Rural Employment Programme/Rural Landless Employment Guarantee Programme. This will help in knowing the details of seedlings given, survival rate, the wages paid to the beneficiary by Rural Welfare Officer and remarks of the Block Development Officer and by the inspecting Officer.

(vi) The afforestation programme will be implemented in all Group of Houses constructed under National Rural Employment Programme/Rural Landless Employment Guarantee Programme wherever they are and in cluster of villages selected by the Panchayat Union Council on the recommendation of the Block Development Officer, so as to have the required number of families (Scheduled Castes/Scheduled Tribes) to be assisted with reference to the funds available under the programme. These villages should be adjoining the block to facilitate easy monitoring. Then a survey must be conducted

in the cluster villages with the assistance of Rural Welfare Officers to select the beneficiaries who will be women from Scheduled Castes/Scheduled Tribes families and who are having piece of land either adjoining their house or in their piece of land. These beneficiaries at the Panchayat level can be selected with the recommendation of the Rural Welfare Officers and the Panchayat President.

(vii) After election of beneficiaries mentioned under item (i) above they must be given training with actual demonstration for 3 days in the village or nearby village about pitting, planting, maintenance of the seedlings, etc., (one day actual training and 2 days in practical training of actual pitting, planting of seedlings in the beneficiaries houses) with officials of the Forest, Horticulture and Agriculture Departments. The programme will be chalked out by the Collector and Chairman, District Rural Development Agencies and the conduct of the training will be watched at District Rural Development Agencies level, The Block Development Officer will make arrangements for the successful conduct of the training. The details of the training given shall also be entered in the Monitoring Card given to the beneficiary. For the training, Rs. 8/- per day per beneficiary may be paid as cash and foodgrains as per National Rural Employment Programme/ Rural Landless Employment Guarantee Programme norms from the funds of the programme and this may be calculated towards the mandays generated. Necessary NMR will have to be prepared by the watcher to be appointed as per instructions under (ix) below.

(viii) The beneficiaries may then be supplied with seedlings up to 30 in number with proper mix of fuel, fodder and fruit seedlings and coconut seedling not exceeding two or three. Immediately necessary entries may be made in the monitoring card issued to the beneficiary with the facsimile signature of the Block Development Officer. The details shall also be entered in a Register prescribed for this purpose in the Panchayat Union Office giving one page to each beneficiary so as to enter the details of survival of plants given every month, wages paid, etc.,

(ix) To guide the beneficiary in maintaining the seedlings given, to watch the survival rate of the seedlings given to each family, to arrange for the disbursement of wages from the panchayat to the beneficiaries, etc., local women of Scheduled Castes/Scheduled Tribes family who have studied upto Xth standard and in the age group of 18 to 25 may be selected and posted by the Block Development Officer as watcher at the rate of one for every 150 families. She should be from the same village where seedlings have been distributed. She will be paid wages every month, as in the case of labourers engaged for National Rural Employment Programme/Rural Landless Employment Guarantee Programme works at the rate of Rs. 8 per day (Cash + Foodgrains) and should work under the direct supervision of Rural Welfare Officer and Extension Officer (Social Forestry). Her main task is to supervise the condition of the seedlings given to the beneficiaries, suggest methods for better maintenance wherever necessary, record the survival rate of the seedlings every month both in the Pass Book of the beneficiaries and the register maintained for this purpose in the Panchayat Union Office and arrange for payment of wages from the Panchayat Union to the beneficiaries. She shall not be utilised for any other work as this programme will suffer for want of her guidance. She will be given training under TRYSEM for about 6 months with detailed syllabus dealing with raising of nurseries, its management, planting, after-care. etc., within the division itself. The training part shall be more of practical field work in nature and less of theory. The Collector and Chairman, District Rural Development Agency, shall organise this with the Officers of the Forest, Horticulture and Agriculture and with the active assistance of the Project Officer, District Rural Development Agency/Assistant Project Officer (Farm Management), and the Block Development Officers concerned.

(c) Allowing voluntary agencies, farmers particularly women to raise nurseries:-

A critical input for success of the programme is the availability of good quality seedlings. Since the State Forest

Department has a massive afforestation programme, their efforts in seedlings production have to be supplemented by Rural Development Department through private farmers, voluntary organisation and community as a whole. Greater emphasis has to be laid on the importance of public participation, particularly women, in raising nurseries.

(1) Involvement of Voluntary Agencies

There are reputed voluntary agencies in the districts which serve weaker sections in rural development works and which may have some infrastructural facilities to take up Social Forestry activities. The Collector of the District who is also the Chairman, District Rural Development Agency may induct such organisations to prepare a project report on establishment of nursery for seedlings and planting of seedlings in areas covered by such para (a) and (b) above. The Project Report shall be based on the instructions contained in the "Action Plan for Afforestation of Wastelands under Rural Landless Employment Guarantee Programme" Booklet.

The Report shall contain financial implication by the way of 'cash, grains, mandays generation in the case of wage component, cost of materials in the case of non-wage component, 5% of the project cost for supervision and incidental expenses in non-wage component, period of operation, physical targets envisaged by way of number of seedlings and plants involved variety and specieswise and area to covered, involvement of women and weaker section families. Such project reports shall be approved by Director of Rural Development and communicated to the District Rural Development Agency. After approval, such voluntary organisations shall receive funds and foodgrains from the Panchayat Union Commissioner of the area, as per the norms and details prescribed in the Action Plan for each plantation model and implement the programme. They shall maintain such records and registers to account for the funds and foodgrains received

and physical achievements. They shall produce an extract of them to panchayat union commissioner and project officer, District Rural Development Agency in every quarter to receive further funds. Hence, funds and foodgrains equivalent of the requirement for a quarter shall be released on receipt of accounts, physical achievements and utilization certificate. The release of funds and foodgrains shall be made within a week of the receipt of proposal from voluntary agencies. The seedling raised by them with these funds shall be used for planting on the lands either identified by them or the panchayat union commissioners as per the guidelines and instructions in the foregoing paragraphs. The plantations so established shall be maintained by the voluntary agencies with the help of beneficiaries identified as per the norms of integrated rural development programme, preferably women labourers and the income from the should be enjoyed by the beneficiaries on maturity as per the above norms set out in previous para.

(ii) Involvement of small farmers and marginal farmers in raising nurseries

The small farmers, marginal farmers who are identified under Integrated Rural Development Programme who possess viable land with water facilities shall be selected for establishment of nurseries. Beneficiaries of the target group may be given training in raising such nurseries. The cost of this training may be met from National Rural Employment Programme / Rural Landless Employment Guarantee Programme funds for social forestry.

The training can be conducted on the TRYSEM pattern. Each such nursery shall raise about 25,000 seedlings of different species per annum. The container shall be supplied to them by the panchayat Union Commissioner. The selected farmer shall arrange with the help of his family members or agricultural labour families for collection of sand, compost and fill the container, stock them as per the instructions and guidance of panchayat union Commissioner for sowing. These

selected farmers shall be paid wages as per norms and guidelines prescribed in the "Action Plan Booklet". The farmer shall arrange for weeding, pesticide-spraying and watering the plants. The grown up plant shall be handed over to Panchayat Union Commissioner for planting them in the identified lands at periodical intervals depending upon the growth of species and season for transplantation. At the time of taking delivery of the seedlings, the cost of seedlings has to be paid to the farmer after deducting the expenditure already incurred for inputs and wages to maintain the nursery. The cost of seedling has to be fixed by the Project Officer, District Rural Development Agency in consultation with forest officials at the time of taking delivery. The cost may differ from species to species and also increased cost may have to be paid for seedlings kept for a longer period in the nursery. The identified farmer should have a benefit for the proper upkeep of the nursery and also for utilising a portion of his land for nursery purposes.

(i) Entrustment of trees planted for maintenance and protection to identified farmers preferably women and cooperatives.

The lands belonging to Government, lands entrusted to panchayat union (i.e) communal porombokes shall be used for planting seedlings should be entrusted to an Integrated Rural Development Programme beneficiary preferably women agricultural labourer. A specified number of trees can be entrusted to the identified farmers in such way that they can earn around Rs. 3000/- per annum when the trees come to yield. The selection of such beneficiary shall be done by an official committee consisting of Project Officer, District Rural Development Agency, Divisional Development Officer, Block Development Officer-cum-Panchayat Union Commissioner, Tahsildar and the Rural Welfare Officer of the area. The selected beneficiary shall maintain the plants till the plants attain the height of 6 to 7 feet so as to avoid cattle menace. They may not have work for all the 30 days. However 15 days in a month can be calculated for paying wages on a regular basis i. e. $15 \times \text{Rs. } 8 = \text{Rs. } 120$ per month. They should work on these plantations attending to watering, weeding, soil

working, protection and watching. On maturity, these beneficiaries shall enjoy the usufructs, i.e. taking fruits or cutting the leaves in the case of fodder trees or cutting the trees if they are for fuel and timber. provided they undertake to regenerate in case of cutting from the benefits already accrued to them. Hence, a liberal 2.C pattas shall be granted to these beneficiaries even at the time of handing over such plantation. The condition for cutting rights in the case of fodder, fuel and timber trees on maturity is that, they should regenerate with fresh seedlings. They should raise the required number of seedlings a year in advance to transplant the seedlings immediately after cutting. These conditions shall be included at the time of awarding 2.C pattas. Each beneficiary will be given an identification card giving details of survey number, details of lands, number of plants entrusted etc., by the Panchayat Union Commissioner.

A register is also to be maintained in the Panchayat Union so that it will give full details of survey Number, extent, number of plants / species etc., entrusted to the beneficiaries preferably women agricultural labourers so that there may not be any difficulty for issue of 2.C Pattas to the individuals to enjoy the usufructs of a later date. The beneficiary shall not have the right over the land.

(ii) Milk Cooperatives :

Certain lands shall be selected for planting Subabul at fodder variety. The Panchayat Union Commissioner shall select the adjoining milk producers cooperative society for maintenance at the time of identification of site and arrange to plant seedlings with the help of members of cooperative society preferably women members and pay wages at the rate of Rs. 8/- per

day per worker. After plantation, milk cooperative society shall maintain and protect such fodder trees with the help of some members who are poor and supply fodder leaves to members (Integrated Rural Development Programme beneficiaries) on nominal cost on maturity. The fodder sale proceeds so received shall be used by the cooperative society for maintenance.

In all the above cases the beneficiary shall not have the right over the land.

PEOPLES' MOVEMENT FOR THE PRESERVATION OF FOREST RESOURCES

(With special reference to Chipco Movement in India)

*Sundar Lal Bahuguna **

Chipko (hug the trees movement) has been regarded as one of the ten most important events in India after independence. Though born in a small hill village in early seventies, the movement is deeply rooted into the culture of East. Like all ancient cultures the Indian culture was born and nurtured in the forest and so was called 'Aranya Culture'. The sages, who were the influence leaders and teachers of the Society lived in the forest. They pondered over the problems of the human - kind in these woods. There were trees, bushes and grasses, lions and deers, other wild animals and birds all around. In the midst of these, they developed a philosophy of life, according to which :

- 1) There was life in all creations, not only in human beings, but in birds, animals and beasts, trees and plants and even in the rivers and the mountains.
- 2) All life is inter-dependent and so should be respected. From this developed a worshipful attitude towards nature. This is the basis of several incarnations like fish boar, etc. Krishna in Gita said : Among steadfast I am Himalaya. Among, Rivers, I am Ganges and among trees I am Peepul.
- 3) Respect for Austerity. The most respected persons in the Society had least material needs. The Sages themselves lived a simple life, so that there may not be much pressure on nature - the other living beings.

* Chipko Information Centre, Navajeevan Ashram
P.O. Silyara, PIN 249 155 Tehri - Garhwal, U.P. INDIA

When people forgot these ideals, Budha, who was a practical social activist remind them the importance of the forests. He himself used to hold congregations under the shade of trees. Budha said 'The forest is a peculiar organism of unlimited kindness and benevolence that makes no demands for its sustenance and extends generously the products of its life activity, it affords protection to all living beings, offering shade even to the axeman, who destroys it'

In 15th century in the desert region of Rajasthan lived a cowherd saint, who realized that the anger of Nature, which was always kind and benevolent and kind, was due to human beings misbehaviour with her. He preached 29 rules of good conduct. Two of these rules were: Not to cut green trees and not to kill the wild animals. The followers of zambhoji, who were called Bishnois were so strict to follow these teachings that they sacrificed their lives to protect trees and wild life. This was called 'Saka'. The greatest 'Saka' (sacrifice) took place in the eighteenth century, when Amrita Devi - a Bishno lady of Khegadli village in Jodhpur offered her head to be chopped to save a tree from the axes of Maharaja's axemen. She was followed by her three daughters and later by other men and women. 363 men, women and children sacrificed their lives.

The material civilization, however, which regards nature as a resource, changed this outlook. With the increase in the population, the forests shrank. There was further loss to the forests with the commercialization of the forests. In Himalayan region the commercial exploitation of the forests was started when a British hunter Mr. Wilson settled in the last village near the origin of Ganges. To begin with he used to send the skins of beautiful hill pheasant (Munial) and musk deer etc. but later he obtained a contract for felling the trees of Bhagirathi Valley. The logs were floated down to Hardwar to meet the demand of railway sleepers. This happened in all the valleys of the hill rivers, as rivers provided a cheap and quick means of transport of the timber.

The commercial exploitation of the forests gave forth to the commercial management of the forests. Tree species which were of commercial value were encouraged and other species were allowed to extinct. This change over, specially two conversions of oak (panj) forests into conifers and pine forests, shattered the self-sufficient economy of the hills. In India there were revolts against the commercialization of forests during the last quarter of the 19th century and the first quarter of the twentieth century. In Garhwal and Kumaon, the region adjacent to Nepal, this revolt became the part of national movement and continued till some concessions were granted to the people. The last in this series was in Yamuna Valley in Tehri-Garhwal State in 1930. 17 peasants were killed by the Army of the ruler and 80 arrested. Though this revolt was crushed at that time, but after independence people remembered the Martyrs and discussed forest problems on that day at the same spot.

India's freedom struggle was coincided with the cultural renaissance and people were reminded of their glorious past. Acharya Vinoba Bhave, the disciple of Gandhiji and the walking saint of India walked all over the country for 14 years and spread the message of village republics. When his ideas reached the Himalayan region, the people tried to co-relate these with their problems. For the hill people real Gram Swaraj (village republic) would be re-establishment of the long-lost harmonious relationship between the human beings and the forests. On May 30, 1968, a pledge was taken at Martyr's memorial on the banks of River Yamuna to this effect. This became the basis for the famous Chipko movement, which started in December, 1972.

Here again the project was against the exploitation of the forests by the contractors and the industries. The hill people, specially the men, thought forests can provide them gainful employment in felling trees and industries. But the women, who are the pivot of the social, cultural and economic life of the hills, said, 'forest is our Mothers' home'. Later they tied sacred thread to the trees marked for felling and physically hugged the trees in the face of Contractor's axes. They challenged the traditional slogan of forest management:

What do the forests bear?
Resin, Timber and Foreign Exchange.

by saying: What do the forests bear?
Soil, water and Pure Air.
Are the basis of life.

This was the achievement of a long and continued process of people's education. Their cultural heritage, which was visible in the shape of worship of Tulsi and Peplul tree, though reduced to a ritual, was a fertile soil to sow the seeds of the scientific fact that forests give us oxygen, without which we cannot live more than five minutes. The folk-singer sang, "why do you worship the peplul tree and go around it 108 times, because it gives you long life". And the scientist said a Peplul tree with a canopy area of 162sq. meters releases 1712 Kg. of oxygen and absorbs 2252 kg. of carbon-di-oxide in an hour.

The village elders confirmed the scientific truth that 'forests are the mothers of the rivers', when they said that the flow of streams have been reduced at least by fifty percent within the last three decades.

Again the folk-singer drew their attention towards excessive soil-erosion, when he said :

"The flesh and blood of the hills, *i. e.* the fertile top soil is flowing down to the plains. And men flow their soils".

Chipko movement came in confrontation with the forces of status quo, when it raised the question of soil, water and oxygen. Its messangers were declared as enemies of science, development and democracy. They got ridicule, neglect, isolation and insult. The only solace was from nature. They would plan their strategies either in the forests or on the river banks. But this strengthened them

and helped in developing the weapons of fearlessness and selflessness to fight fear and greed, which are the sole strength of a non-violent movement.

No cultural movement can be successful through the traditional leadership, strategies and platform. The story of Lord Krishna - Shrimad Bhagwatam provided an independent platform to the movement. The story was interpreted and corelated with problems the people were facing due to the destruction of the forests. The story has a message when it says :

“One day Shri Krishna surrounded by his elder brother Balrama, and by other cowherd youths, and engaged in tending cattle happened to go a considerable distance from Vrindavan. Seeing the trees shading them all from the scorching sun with their branches held like an umbrella, Shri Krishna said to his cowherd mates :

“Friends look at these noble trees, which live entirely for the sake of others, themselves bearing all the rigours of wind, rain, heat, dew, etc. but protecting us from them.”

(Shrimad Bhagwatam : 10, 22, 29 - 34 Explained by Swami Ranganathanandji).

In spite of their busy life, women came in large numbers in these gatherings with handful of rice as offering which provided finances to the movement. They related the stories of their miserable life due to forest destruction, e. g. falling down from the cliff while cutting the grass or walking long distances to collect fodder, fuel and drinking water. In these gatherings emerged a new leadership from among themselves. This decentralized leadership provided a firm foundation to a movement, which had to face many hardships.

Though the movement was mainly against the commercial management of the forests, but it laid more importance to the regeneration of the denuded forests. If the denuded areas are protected the growth is better and faster than in the artificial plantations. Moreover, it is always impossible to build a forest by plantations, because a forest is a community of living things, in which the tree is the biggest. But there are trees of different ages and species, bushes, grasses, herbs and tubers, birds, beasts and insects, each species dependent on others. "In Chipko villages the women's organisations have appointed community forestguards. The whole village pays their remuneration each family contributing upto twenty rupees in six months. They have made their own rules to manage these forests. Their concern for conservation may be measured from the recent revival of women's militant spirit to drive away the axemen of U. P. Forest Corporation - a State Undertaking, which was exporting dead and dried trees. The women's plea was if dead trees are exported there will be scarcity for local consumption, they also opposed the planting of soil and water depleter species and species like chir-pine and polars, which do not provide fodder. The slogan is.

Chir poplar nahin legega, Dharti Maah ka Dusman hai.
 •We won't allow planting chir and poplars. These are enemies of Mother earth.

The threat to hill forests has been due to population explosion too. Agriculture is no answer to the food problem. The only solution to the problem of increasing population and decreasing crop land is adoption of tree farming. Tree species giving edible seeds, nuts, oil seeds honey and seasonal fruits should be identified. Fortunately, there are such forest trees in Himalayas, like yon chok (bean tree) in Manipur, walnut, chestnut and chilgoja, wild aspricot and cheura for oil, bird cherry and other flowering trees for honey and several wild fruit tree species. Second priority should be given to fodder trees followed by bushes for fuel and leaf fertilizer trees,

species, giving fibre for cloth and raw-material for handicrafts will help in giving full employment to the people. Self-sufficiency is the basic need from the surroundings is the key to a happy peaceful and prosperous life, in the hills. If an average hill family of five can be provided land and inputs to grow 2000 trees - 500 food and fibre and 1500 fodder, trees the hill people can bring back the lost green glory of the hills within five to ten years. The plantation programmes of the Governments are commercially oriented and so in the long run will create many problems instead of solving these. If these are managed by any outside agency the independent highlanders will be reduced to the status of labourer. The inherent spirit of independence in the highlanders should be respected in all the development plans. The forests and other resources will be best managed when entrusted to the village communities.

Foot marches (Phdyatras) played a very important role in spreading the message of Chipko and in bringing an awakening among the people. Several foot-marches by students, social workers including the ladies, the longest of these was Kashmir-Kohima Chipko foot March; were organised. The tourists and trekkers, who walk in Himalaya should have a mission to awaken the masses. The local guides and porters, who accompany may become the messengers and interpreters if they make it a point to meet the people. We all who enjoy the scenic beauty of this Great Mountain have a sacred duty towards it and that duty is to create a feeling of determination in the minds and hearts of the highlanders, who have lost hopes of reviving its old glory in the glitter of exploitative development. This feeling can be best created if we come to the mountains leaving the city behind. The Chipko activities were filled in all the districts. They were from the masses, but even those who joined them from outside identified themselves with the common people. That is key to the success of a people's movement.

NEW EDUCATION POLICY AND WOMEN'S DEVELOPMENT

*M. Aram **

“Education for Equality” is a major objective of the New Education Policy (NEP). In particular, “Education for Women’s Equality” is a very high priority in NEP. The Policy Document has two paragraphs dealing with the subject.

Education for Women’s Equality

“Education will be used as an agent of basic change in the status of woman. In order to neutralise the accumulated distortions of the past, there will be a well-conceived edge in favour of women. The National Education System will play a positive, interventionist role in the empowerment of women. It will foster the development of new values through redesigned curricula, textbooks, the training and orientation of teachers, decision makers and administrators and the active involvement of educational institutions. This will be an act of faith and social engineering. Women’s studies will be promoted as a part of various courses and educational institutions encouraged to take up active programmes to further women’s development”.

“The removal of women’s illiteracy and obstacles inhibiting their access to, and retention in, elementary education will receive overriding priority through provision of special support services, setting of time targets, and effective monitoring. Major emphasis will be laid on women’s participation in vocational, technical and professional education at different levels. The policy of non-discrimination will be pursued vigorously to eliminate sex stereo-typing in vocational and professional courses and to promote women’s participation in non-traditional occupations, as well as in existing and emergent technologies”.

* Member, University Grants Commission

A separate Task Force, one of the 24 Task Forces, set up by the Ministry of Human Resource Development prepared an Action plan to implement the above policy. In Chapter 12 of the Programme of Action, entitled "Education for Women's Equality" a detailed strategy has been spelt out.

Present Position

Before we take up the strategy for consideration, may I describe the present position regarding Women's Education.

Women constitute 57 per cent of the illiterate population in the country. They also constitute 70 per cent of the Non-enrolled children.

Look at the following Table:

LITERACY PERCENTAGE BY SEX

	Male	Female	Persons
1951	24.9	7.9	16.7
1961	34.4	13.0	24.0
1971	39.5	18.7	29.4
1981	46.9	24.8	36.2

The above Table show that as on 1981, about half the men are illiterate whereas about 75 per cent of the women are illiterate.

At the same time it must be said that the rate of growth of literacy amongst women is quite creditable. In 1951 it was 7.9 per cent but in 1981 it was 24.8 per cent.

State-wise Literacy Rates

A State-wise survey of the literacy position is revealing. In the following Table the literacy levels in the five South Indian states are given:

LITERACY PERCENTAGE BY STATES

	Male	Female	Persons
Kerala	75.26	65.73	70.42
Tamil Nadu	58.26	34.99	46.76
Karnataka	48.81	27.71	38.46
Andhra Pradesh	39.26	20.39	29.94
Pondicherry	65.84	45.71	55.85

The excellent record in women's literacy in Kerala is an inspiration to the entire country. There is no reason why the other southern states also cannot follow suit.

The situation in some of the North Indian states is very serious. For example the female literacy level in Rajasthan is only 11.40 per cent.

15 to 35 Age Group

In the field of literacy the New Education Policy concentrates on the 15 to 35 age group. This age group covers young men and women who have crossed the school going age and who are young adults but have not yet become too old.

As of today, there are about 10 crores illiterate people in the 15-35 age group. The New Education Policy aims at making them all literate by 1985.

Of the 10 crores illiterate persons, 6.8 crores are women. So when the target is achieved, there will be a substantial increase in the literacy level of women in the country.

Another aspect about female literacy that we should note is this: Though it is gratifying that women's literacy rate increased from 7.93 per cent in 1951 to 24.82 per cent in 1981, the sad fact is that in absolute numbers female illiteracy has really increased. While in 1951 there were 158.7 million illiterate women, in 1981 there were 241.7 million illiterate women.

All the above figures indicate the enormity of the challenge. However, with determination, it should be possible to solve the problem.

Some Features of the Action Plan

Under the New Education Policy, the education system will do the following: i) play a positive interventionist role in the empowerment of women; ii) contribute towards development of new values through redesigned curricula and textbooks and iii) promote women's studies as parts of new courses.

To give only a few examples of the specific programmes contemplated under the Action Plan:

1. All teachers and Nonformal and Adult Education instructors will be trained as agents of women's empowerment.
2. Special training programmes will be developed by NCERT, NIEPA, DAE, SCERTs, SRCs, and UGC.
3. Preference will be given to women in recruitment of teachers upto school level.
4. In a primary school, with two teachers, at least one will be woman.
5. The common core curriculum will become a powerful instrument for the empowerment of women through the new status of women.
6. The Women's Cell in the NCERT to be revived which will accelerate its work of eliminating sexist bias and sex stereo-types from school textbooks.
7. The UGC will give special thrust to women's studies.

In the universalisation of elementary education also female will be given a special thrust. Rural areas will be given special attention.

Future Prospects

It is true that we have a long way to go to bring about women's equality in the educational sphere. But with the New Education Policy giving a major thrust in this respect, we can hope that by 2000 AD there will be very substantial progress in female education. By that time there should be a better balance between male and female education in India.

Women in India are no doubt progressing fast. Already are occupying important positions. Indian women particularly of the higher strata of our society played a great role in the freedom movement and later in the nation building programme after independence. We have had women Ministers, Chief Ministers, Governors, large number of MPs. Indeed a woman Prime Minister presided over the destiny of our nation for many years.

When I was Vice-Chancellor of Gandhigram University I had the unique distinction of having five women bosses. My Chancellor was a woman, Dr. T.S. Soundram. Gandhigram Deemed University functioned in close association with the UGC, whose Chairman was a woman, Dr. Maduri Shah, my second boss. The Education Minister in the Central Government was a woman, Mrs. Sheila Kaul, my third boss. Very important files went upto the Prime Minister who also was a woman, Mrs. Indira Gandhi, with the boss at home. I have five women bosses. Joking apart, this truly indicates the high positions of leadership that women occupy in our country.

But the large masses of women, in the weaker sections are yet to come into their own. A proper and wholesome balance is yet to be achieved on a large scale in the society. To this end the New Education Policy will contribute.

Twenty First Century

In the 21st Century, there is no doubt women both in India and in the world at large will be enjoying equal status if not more.

At the Commonwealth Universities Congress at Birmingham, the Chancellor of the University raised a question "What will the women be like by 2050?"

He answered the question thus : "If the planet is to survive, as we hope it will by God's grace, the women will be occupying dominant positions around the world".

There will be a world government and we will be saying "Madam President".

"There will be the Catholic Church and we will be saying "Her Holiness, the Pope".

PEOPLE PARTICIPATION - SYSTEM APPROACH

J.C. Kala I.F.S

Social forestry project, designed to meet the felt needs of rural poor, can not yield sustained results unless people are actively involved in all its components. No doubt, this is the most difficult part of the programme but without this the project is likely to meet similar fate as many other community development programmes implemented in the past. The Appraised Project Document has, therefore, stressed on gradual transfer of responsibility of the project from the Forest Department to the Panchayats.

2. Will the villagers undertake the responsibility of creating, maintenance and harvesting of plantations in village common lands? What are the factors encouraging or inhibiting people's participation? What time frame this participation could be achieved? Some of these questions have been engaging the attention of Forest Department and the SIDA mission, from time to time.

Rural Scenario & Possibilities

3. Notwithstanding the fact that the people, in general have indifferent attitude to common property, that the process of development has broken communities into individuals and that the cohesive community have practically ceased to exist in Indian villages, people do join and think alike if everyone's interests are at stake. They do participate in activity where everybody is sure of getting benefit.

4. Indian villages highly complex society deep rooted with caste consciousness, barriers of economic difference and feelings of unhealthy competition and jealousy, resulting in heterogeneity

-
- Conservator of Forest, Social Forestry Research

Yet, in good many cases they are seen listening and following the leaders of established credibility in the village. Instances are not wanting where co-operatives have succeeded in Tamil Nadu in processing and marketing, if not in production activities.

5. During crisis, villagers have forgotten their differences and worked together to avert the same. The firewood and other forest products are likely to reach the point of crisis by the turn of century.

6. While the people like to be independent and free from others interference, they do display the urge to exchange ideas and interact with each other. This inherent character of character humanity could be utilised in a constructive way through a useful agency.

7. All the above give a ray of hope that the villagers could unite and participate in the activities yielding not only the direct but a host of indirect benefits. With due analysis of the factors narrated above a strategy, to seek participation in the Social Forestry project is evolved.

Strategy

8. The project is being implemented both on community lands and the individual holdings. Participation in latter is simpler as the individual is involved rather than the community. The Social Forestry Project, aims at creation of forestry based assets, viz. plantations of tree species. The following activities are involved in the process besides general planning:

- (a) Raising of nursery
- (b) Planting
- (c) Aftercare
- (d) Harvesting/Distribution
- (e) Forest based industries
- (f) Recreation

Villagers would, however find easier to organise themselves in respect of the following activities

Order of preference

1. Distribution benefits
3. Raising of nursery
3. Protection
4. Harvesting

It is, therefore, suggested that the Department starts peoples involvement from the above points in the project implementation. Since all the older plantations raised before have been brought with in the ambit of new project objectives it is possible to apply the new principles and strategies to these plantations. A broad framework of planning and strategy is discussed in the following paragraphs.

Planning

9. Planning in Social Forestry project should cover both Social and Technical aspects. Planning, therefore, becomes a creative activity which should take the project to it's Social objectives besides scheduling. The Social planning process thus not only help but force the gradual transfer of responsibility from the Forest Department to Panchayat. It is in this context build-up planning or planning from the bottom becomes relevant.

The following para attempts to operationalise the above concept:

Selection of Villages

10. The first and foremost object of planning is to identify the project areas under various component for a period of atleast 5 years. With limited resource, this, obviously cannot be done for all the villages. It is essential that a group of villages/blocks with in the Divison are choser for the purpose. The logic dictates that such blocks may be chosen where already Farm Forestry plantations have been raised in the past and where areas are available for

further planting. The idea is the villagers have already known and derived benefits from such plantations in the past and it is easier to involve them in the process.

11. At present the selection of the village is done haphazardly and it goes by the sheer ease of planting and achieving the target. During the remaining 3 years of the project period a Forester will have to cover 6* villages out of about 30 villages in his territorial jurisdiction. The first step in planning will, therefore, begin with the identification of the villages. Following criterion may be followed for the selection of these 6 villages:

- (1) There should be enough project area in these six villages for tackling in the next 3 years. (Minimum of area to be available for the purpose -

Tankforeshore	} 50ha.	
Poramboke plain and		
Hillocks		
Private lands	:	30 ha.

- (2) There should be atleast 40 ha. of plantation coming for felling during the next 3 years.
- (3) The villages should be deficit** in firewood.
- (4) There should be cohesiveness @ in the villages with regard to things of common.
- (5) The villages should form a compact block as far as possible.

* Tentatively a target of 1000 villages has been fixed for annual coverage. This works out to 10 village per Range or 2 village per section.

** According to the 2nd round of village study by monitoring agencies, over 80% of villages are deficit in firewood.

○ Condition of public hand pumps, streets lights, avenues and sanitation are some of the indicators.

- (6) The villages should serve as demonstration for emulation by other villages (Locationwise)

The Divisional Forest Officer should fix one of the above villages as Headquarters of the Forester.

Posting and training of Village Social Forestry Workers

12. The Divisional Forest Officer shall see that the Social Forestry Workers are posted in each of these villages and trained in extension methods at the appropriate centres at the earliest. All the Forester within the Range shall be supplied with a copy of manual where the planning process has been explained. The Range Officer shall assemble all the Foresters for a briefing and finalise the strategy on the broad guidelines given in the manual.

Formation of committee

13. The Forester shall then form the Committee in all the six villages and proceed with the selection of area for various components, choice of species etc. with an active dialogue with committee based on the guidelines*. He will be assisted by the Village Social Forestry Worker in this task. All these areas will then be demarcated on the village maps of these villages and annual planting programme, fixed by the Divisional Forest Officer in consultation with Range Officer, as per guidelines. Range Officer ** and the Divisional Forest Officer should also involve themselves personally in this process and see that at every stage decision is taken by the Committee after a dialogue with Departmental officials. The minutes of the meetings held should be duly recorded for future reference. Similar dialogue should take place with individual land owners for incentive and extension scheme.

* Forester manual Para 3,4

** The Headquarters of the Range Officer should be fixed with reference to the selected villages in his jurisdiction.

14. As an outcome of this dialogue and the planting programme * fixed by the Divisional Forest Officer for these six villages, the Forester should be able to furnish to the Forest Department the requirement of seedlings in each species, componentwise. This should be furnished in a tabular Statement by the Foresters with signature of Committee members.

Selection of nursery centres and raising of nursery

15. Based on the annual planting programme in the village, the Forester will locate 2 or 3 nursery centres in each village with due regard to proximity to planting sites, water availability, ease of protection etc. **Department shall not raise nursery of species which are to be raised in mass**, but the villagers shall be engaged in this activity under the technical supervision of the Department. Setting up of nursery site, digging of well fencing and other infra-structures may, however, be provided by the Department. Saplings for avenue planting, and saplings of fruit bearing trees involving techniques of grafting etc. and other difficult species shall however, continue to be raised by the Department. For all other seedlings the Department shall purchase their requirement of seedlings from the villagers both for block planting, tree cultivation Incentive and Extension. The idea is to develop the capacity of organising nursery activity with in the village. Villagers may also raise nurseries in their homestead if they prefer so. The methodology ** as successfully experienced at Nanmangalam is given in the Annexure - 5 for guidance. Nurseries should also be raised in the School by School children.

16. Under extension and incentive scheme, polythene bags and seeds may be distributed to the beneficiaries free of cost and they be guided to raise nursery by the Village

* Statement III Para 8.3 of manual

** Peoples participation in Social Forestry - Nanmangalam Experiment Annexure - 5 (methodology)

Social Forestry Worker/Forester for planting in their own lands. This is likely to get the individuals more committed to the planting and after care of seedlings raised by them. Money thus saved on raising the seedlings could be ploughed back into incentive scheme to make the component more attractive and enthuse the people to make up nursery work themselves. The revised rate of incentive is given in annexure.

17. There has been good demand for Eucalyptus seedlings for planting blocks of private marginal lands. The owner of these lands may be guided to raise motherbeds of Eucalyptus, by supply of seeds, 2 to 3 months before rains. The marginal lands should be thoroughly ploughed and naked seedlings planted at 2m×0.5m. spacement instead of going for container plants. This will save resources considerably at every stage. Publicity material to this effect should be produced and circulated.

18. A regular training programme for villagers should be conducted, once in a month at the nursery site.

19. Nursery raising is the crucial activity around which the concept of people's participation has to grow and develop. As such at every stage a bold decision is required.

Size of polythene bags

20. For raising species in mass the size of polythene bag should not exceed 6 cm × 15 cm. as a rule.

All Foresters to act as Training & Visit Forester

21. The entire energy of department staff should be spent in developing the capacity within the village for undertaking forestry activity. All the Foresters should, therefore, act as Training and Visit Foresters. This requires frequent visits of the villages and nursery spots. The existing staff is not likely to cope up with the quantum of work. It is, therefore, suggested that one Forester per Range may be added as reserve,

Planting

22. Paras 3.4, 3.5, 3.6 and 3.7 of manual describe in detail the methodology for seeking peoples' participation in the Planting programme. The Forester should have an effective dialogue with the Committee for the selection of the village forest representative as indicated in para 3.6 of manual. Planting, thereafter, be undertaken by these representatives under the technical supervision of the Department. Payment, for the work done may be made by the Forester.

Planting by Cooperative bodies (Madhar sangams)

23. Some of the women organisations in the villages are very active. They have formed cooperatives engaged themselves in marketing of dairy products. Some of the Sangams have secured loans from the financial institutions. Mrs. Ornhesdt, a mission member has met a few of these organisation near Srivilliputhur. These "Madharsangams" have expressed their eagerness to get some of the poramboke lands allotted to the sangs for planting of firewood, and fodder trees.

It is suggested that Madharsangams execute agreement, with Panchayats B.D.O. for planting a poramboke land (not exceeding 5 ha) and share the revenue with the Panchayat on 50:50 basis. The department should help in getting this deal struck.

Planting community land by target groups

24. The scope of 2-C patta and Sec. 19 B of R.S.O. should be extended further, enabling the target group individuals to enter into production activity directly. This has been discussed in Annexure - 1.

Productivity

25. Time and again the need for increased productivity* from community plantations has been stressed. Keeping this view, it is suggested that the espacement now

* Other steps to increase productivity are narrated in para 5 of the manual

adopted in Social Forestry block plantation should undergo reduction. The productivity of an area is a function of population of plants, if other variables are constant, but ultimately restricted by the marginal cost concept. The following revised espacement is suggested for various components of the project. This will incidently, take care of availability of project area.

Component	Present espacement	Espacement now suggested	Percentage increase
Tankforeshore	2.5m. x 2.5m.	2.5m x 1.5m.	66%
Poramboke plain			
Eucalyptus	4m x 1 m.	3 m x 2 m.	33%
Miscellaneous	4m x 2.5m.	3 m x 2 m.	66%
Poramboke hillocks	3.5m x 3.5m.	3 m x 3 m.	36%

Protection

26. Protection is a maintenance activity, after assets have been created. The distribution of benefits from the assets in equitable manner forms the basis for peoples' trust in the project and the Department. Therefore, it would be prudent if protection work is entrusted to the villagers after they had enjoyed benefits from the plantation and consequently developed some trust in the project. The Department would have also established its intentions by then.

It is, therefore, suggested that plantations, where distribution had been successfully attempted with the involvement of Committees for protection, during the 2nd rotation/ 3rd rotation soon after felling. The plot watcher in these plantations should be dispensed with and utilised as village Social Forestry Worker for extension purposes.

27. Fifty percent of the savings on account of dispensing of plot watcher may be paid to village Social Forestry Workers, at the end of each year, as an incentive for successful protection through village cooperation.

Pruning, Thinning and Lopping

28. Pruning and lopping will be carried out by the villagers. The pruned and lopped material will be taken away free of charge by the people engaged in operation. A model for pruning is given in the annexure - 3.

Distribution of Benefits

29. Having created the assets, by the Forest Department, harvesting and distribution benefits is comparatively a simple task. It may be noted that villagers especially the poor are more interested in *direct* benefits. Every household in the village would keenly watch the distribution of these benefits. Thus the proper and equitable distribution is of paramount importance and the key element in creating people's trust in the project. A model for distribution is attempted in Annexure-3.

People's Participation - System Approach

Operational Steps

- Step 1.** Selection of cluster of villages, for the next 3 years of the project period, based on the guidelines,
- a) Forester to contact the Block Development Officer and obtain the list of villages chosen for implementing I.R.D.P.
 - b) Inspect all such I.R.D.P. villages and gather the information in the proforma-I annexed
 - c) Range Officer to check the information gathered in 50% of the villages and D.F.O. in 20% of the villages
 - d) F.O. to decide the cluster of 6 villages for the next 3 years of project period

- e) D.F.O. to fix one of the villages as Headquarters of the Forester. Based on location of such clusters of villages within the jurisdiction of the Range. The D.F.O. to propose the headquarters to the Conservator of Forests who in turn will fix the Headquarters of the Range Officer.
(Before February end)
- Step - 2** (a) Formation of the Committee in these villages (Action: Forester)
- (b) Posting and training of Village Social Forestry Workers (Action: R.O/D.F.O.)
(Before March first week)
- Step - 3** (a) Dialogue with the village committees and tentatively decide the planting programme under different component for 3 years period
- (b) Finalise the annual programme for 1983-84 (Action: R.O./D.F.O.)
(Before March end)
- Step - 4** Dialogue with committee leading to selection of Nursery sites and identification of beneficiaries for raising the nursery-voluntary organisations to be contacted and their assistance sought in mobilising the villagers.
(Action Forester)
- Step - 5** Prepare estimates, obtain sanction for raising the nursery by the beneficiaries and providing infrastructure facilities (Fencing, Sinking of well, watering cans etc. for community nursery) for raising the nurseries
Action R.O. /D.F.O.
(Before April end)
- Step - 6** Committee to select village Social Forestry representative for raising the plantation in the project area. Identify cards to be issued to the Social Forestry Representatives.
(Action Forester/D.F.O.)
(Before May end)

Step - 7 Arrange for preparatory works in the field through the Village Social Forestry representatives. Render assistance in organising the activities including planting.

Disburse the wages through the Village Social Forestry Representatives
(During planting season)

Step - 8 Monitoring of the Work

This is to be done by the committee. Printed Post Cards may be given to the Committee Charman who will furnish the stocking, Height and general condition of the plantation with the help of Village Social Forestry Representatives. Forester should ensure despatching this report, once in 3 months, by the Committee Chairman. (See annexure)

PROFORMA - I

Name of village	Area planted	Location	Area available	Number of	Voluntary	REMARKS
	<u>Year</u>	(whether	<u>Location</u>	households	organisation	
	Extent	Tank/Por-	Extent (Tank/		in the	
		amboke	Poramboke		village	
		plains/hills)	plain/Hills)			
(1)	(2)		(3)	(4)	(5)	(6)

ANNEXURE - I**BENEFITS TO TARGET GROUPS**

The Social Forestry Project in Tamil Nadu envisages flow of benefits generated from the project to the weaker section of the Society viz. the landless and the poor.

Major portion of Project area lies in village common lands viz. the Tank foreshores, Poramboke plains, vested with Panchayats. The present method of utilising the revenue generated from the plantations raised on these community land, makes hardly any impact on the economy of target group. The poorest among the poor has a different priority.

It is therefore considered that the target group must have a direct link with the benefits. This could be best achieved by involving him individually in the forestry production activity and entitle him to the benefits generated from the activity.

The poor could be identified (Antodaya Scheme) and depending upon the availability, the village common land given to them for cultivating trees on the concept of 'energy farming' or some Cottage Industry. The production could be tied up with Bricket factory, mini-thermal plant (set up in private or public sector), in order to ensure good price to the poor and make the venture efficient and sustainable

Revenue standing order 19B and 18(2) need to be amended slightly and they are discussed. The provisions of the RSO have already been extended by the Government in respect of lands in front of home-stead Road etc, (G.O. Ms.1406, Forests and Fisheries dated 19.10.82).

R.S.O. — 19-B Planting of trees by ryots on Poramboke lands not available for assignment under Darkhast rules

Ryots are permitted, subject to their obtaining licences, to plant trees on poramboke lands not being lands under the control of Panchayat, in order to meet their requirement in regard to timber, fuel and leaf manure. The salient feature of the licence are:

- (1) Tahsildar or Deputy Tahsildar are empowered to grant the licence
- (2) Prior permission of Public Works Department has to be obtained for lands controlled by them.
- (3) Licencee does not confer any right over land.
- (4) Government reserves the right to remove trees, grown by the licensee, without compensation to loss, if any.
- (5) Licencee can enjoy usufruct, timber etc. free of charge

Amendment needed: The scope of this provision needs to be extended to suitable vacant Panchayat lands, on payment of a tax fixed by Panchayat for the enjoyment of common land by the individual.

R.S.O. 18-2(C)

Under R.S.O 18-2(C) Tahsildars and Deputy Tahsildars are empowered to issue, cancel and accept the relinquishment of grants of trees under the **Tree Tax System**. They can also order the removal of trees held under this system in village 2-C account.

The order of the grant, under the system, conveys to the grantee only the right to usufructs of the trees. The ownership of the trees continues to vest with Government. According to condition No.1 of the grant order (Appendix XI Page 478 R S.O. Vol.I), grantee shall have no right to cut down the trees or to appropriate them, when they wither or are blown out.

According to Section 18 (iii), the 2-C Tax revenue from public lands vested with Panchayat will be credited to the Panchayat. **No** new 2-C patta can be granted subsequent to 31st May 1961 except on the recommendation of Panchayat concerned and at the rates fixed by the Panchayat.

Amendment needed:

- (i) Grant to be extended to vacant lands for planting of trees by the grantee
- (ii) Grantee to be permitted to enjoy the Firewood, Timber and other produce from the trees planted

ANNEXURE-2**Harvesting and Distribution of Benefits - Model**

Major portion of project area lies in community lands vested with Panchayats. According to the Government orders in force the auction sale proceeds from these plantations is to be shared between the Government and Panchayat is added to the grants and utilised for the common cause. This system suffers from the following defects :

- (1) Benefits generated from the plantations get merged with other sources of revenue and cannot be identified.
- (2) Villagers continue to buy their requirements of small timber, poles, fodder and in some cases firewood from the contractor or from the mart.
- (3) In as much as the target group viz. the landless and the poors feel the least impact of the benefits, their equitable distribution cannot be said to have been achieved.
- (4) As a consequence of above-Inadequate motivation for peoples involvement.

Equitable distribution of benefits is a key factor for people's trust in the project. It forms the basis for their active participation in the project activity.

The following model is, therefore, evolved to remedy the defect.

MODEL

Note : This model applies to thinning and final felling but does not apply to pruning and lopping which are governed by a separate model - **Annexure-4**.

The plantation or a part of the plantation due for harvest will be divided into two halves after carrying out enumeration of all the trees. This work will be done by the village committee engaging the village artisans and other experienced members of the community. The Department will assist the Committee in this task.

One half of this plantation will be sold by the Department in open auction. The entire revenue obtained from the sale will be credited to Department. The selection of this half will be done by the Committee.

The remaining portion of the plantation will be exploited by the same Contractor/Department/Panchayat depending upon the capacity development. The produce will be graded and stacked. In the event of exploitation by the Department or the contractor the cost of exploitation will be borne by the village either in cash or surrendering a portion of the plantation in lieu of. (Normally the cost of logging is 10% of the cost plantation as such the plantation could be divided in 60:40). In the case of contractor's exploitation, a suitable condition of logging the balance area, will be incorporated in the agreement. He will also be insisted upon to exploit first the area belonging to the village. The graded produce will be kept under the custody of the Committee.

According to various size of the produce, based on the use, coupons will be prepared by the committee and distributed equally among the households in the village in a meeting where a representative of Forest Department will be present. Minutes of the meeting will be recorded and a copy sent to Forest Department along with a copy of distribution list for monitoring the process.

If any member of the community is not in need of certain produce, he could sell his coupon to other or to the contractor who is working in the adjoining half.

Advantages

- (1) Villagers are involved in harvesting and distribution of benefits.

- (2) Equitable distribution of the benefits
- (3) Direct and identifiable distribution of benefits
- (4) Department does not lose its 50% share
- (5) Villagers may develop better interest to protect the plantation during the 2nd rotation at their cost.

Risk

- (1) Pilferage of material stacked
- (2) Maintenance of accounts by the committee
- (3) Loss etc. due to dryage on long storage

ANNEXURE - 3**Distribution of Benefits
Pruning/Lopping Model**

- i) In consultation with the village committee, the Forester will prepare a list of willing poor people in the village, starting from the poorest among the poor (Antodaya list)
- ii) The number of such persons shall be restricted in such a manner that each of the selected household receives pruned material obtained from not less than 100 trees (This number may vary depending upon the quantity of pruned/lopped material available).
- iii) These trees in block will be demarcated on the ground by the Forester and allotted to the selected household for carrying out pruning/lopping under the supervision and guidance* given by the Forester/Village Social Forestry Worker.
- iv) The household shall not be paid for such pruning/lopping operation. They will be permitted to take away the pruned/lopped material free of charge.
- v) Quantity of material obtained shall be recorded by the Forester in the Journal.

* Pruning/lopping rules are given in para 6.1 and 6.5 of the Foresters manual

APPENDIX I**LIST OF PARTICIPANTS**

S.No.	Name	Designation	Place
Karnataka			
1.	Smt. Manjula Bai M.A. (SW) M.A.L.L.B.	Welfare Officer, Karnataka State Social Welfare Advisory Board	Bangalore Karnataka
2.	Sri C. Susheela M.A., L.L.B.	Project Officer, Karnataka State Social Welfare Advisory Board	Bangalore Karnataka
3.	Selvi T.V. Yamuna M.Sc.	Faculty Member Home Science College Agricultural University	Dharwar Karnataka
Kerala			
4.	Sri R. Jayadevan B.Sc. (Agri)	Assistant Project Officer (Agri) DRDA	Palghat Kerala
Tamil Nadu			
5.	Dr. P.K. Aiyasamy M.Sc., Ph.D.	Faculty Member, School of Agriculture, Sri Ramakrishna Mission Vidyalaya	Perianaickenpalayam Tamil Nadu
6.	Sri S. Balasambandam B.Sc. (Agri)	Assistant Project Officer (Agri) D.D.D Corporation	Dharmapuri Tamil Nadu

Appendix 1 Contd.

SN.o.	Name	Designation	Place
7.	Sri T.V. Balasubramanian M.Sc. (Agri)	Asst Project Officer (Farm Management) District Rural Development Agency	Periyar Tamil Nadu
8.	Sri V. Balasubramanian M.A. (S.W.)	Programme Officer Sri Avinashilingam Shramik Vidyapeeth	Coimbatore Tamil Nadu
9.	Sri V. Chelladurai B.Sc. FAAM	Regional Officer, Tamil Nadu Medicinal Plant Corporation Ltd.	Tirunelveli Tamil Nadu
10.	Smt. Krishnakumari Padmanabhan M.Sc., Dip.Ed.	Environmental Society	Coimbatore Tamil Nadu
11.	Smt. Krishnaveni Muthiah M.Com	Project Officer Sri Avinashilingam Krishi Vigyan Kendra	Vivekanandapuram Karamadai Tamil Nadu
12.	Mrs. Theresiamma B.A.	Social Welfare Officer	Coimbatore
13.	Mrs. Jabonissa, B.A.	Child Development Project Officer	Coimbatore
14.	Dr. N.S. Narayanaswamy M.Sc., M Ed., Ph.D.	Professor of Extension Education	Coimbatore Tamil Nadu

Appendix I Contd.

S.No.	Name	Designation	Place
15.	Dr. Premakumari S. M.Sc.,Ph.D.	Representative, University Women's Association	Coimbatore Tamil Nadu
16.	Smt. M. Ramalakshmi B.A.	Assistant Director, Tamil Nadu Integrated Nutrition Project	Directorate of Social Welfare, Madras Tamil Nadu
17.	Smt. Ramathilagam M.A.,M.Phil., Dip. Ed.,	Representative All India Women's Council	Coimbatore Tamil Nadu
18.	Sri M. Rameshan I.F.S. (Retd.)	Conservator of Forests (Retd.)	Coimbatore Tamil Nadu
19.	Smt. Thilagam Jugash B.A.	President Women's Indian Association	43, Greeways Road Madras
20.	Sri V. Venkatachalam M.Sc , AIFC	Deputy Conservator of Forests	Coimbatore Tamil Nadu
Pondicherry			
21.	Miss R.V. Swatantra Kumari M.Sc.	Child Development Project Officer	Pondicherry
22.	Miss G. Maya M.A.	Social Welfare Officer	Pondicherry

Appendix I Contd.

S.No.	Name	Designation	Place
Uttar Pradesh			
23.	Smt. Hema Pandey, M.Sc.	Assistant Professor G.B. Pant University	Pant Nagar Uttar Pradesh
Orissa			
24.	Smt. Bijayalaxmi Das M.Sc.	Lecturer in Home Science	Cuttack Orissa

PROGRAMME**APPENDIX II**

Date	Time	Topic	Speakers
20.11.86 Thursday	9.00 a.m.	Registration	
	10.00 a.m.	Objectives-Ultimate and Specific	Dr. Rajammal P. Devadas Director, Sri Avinahilingam Education Trust Institutions Coimbatore-43
	11.30 a.m.	Modern Management Its applicability to programme success	Dr. Pankajam Sundaram, Dean Rajasthan Agricultural University, Udaipur 313 001
	2.30 p.m.	Water Management by UNICEF	Dr. T. Kanakaraj UNICEF, Hyderabad
21.11.86 Friday	9.30 a.m.	Forest as a Resource	Sri S. Padmanabhan, IFS Chief Wild Life Warden Tamil Nadu
	11.30 a.m.	Need for Training women at Grass root level	Smt. Sarojini Varadappan Honey Secretary, women's Voluntary Service of Tamil Nadu Madras.

Appendix II Contd.

Date	Time	Topic	Speakers
22.11.86 Saturday	2.30 p.m.	Participation of women in Social Forestry	Dr. M.S. Gandhimathi Medical College Road, Thanjavur
	3.30 p.m.	Social Forestry Concept and Programme Focus	Mr. Shanmuga Sundaram J.F.S. Forest Research Conservator Coimbatore
	4.30 p.m.	Agroforestry for women and Children	Sri S.E. Thangam, IFS Forestry Advisor
	9.30 a.m.	Role of Women in Social Forestry	Sri M.S.S. Varadan, OM Consultant Bangalore
	2.00 p.m.	Herbal Resources of South India	Mrs. Qudsia Gandhi Managing Director, Tamil Nadu Medicinal Plant, Farms and Herbal Medicine, Madras
23.11.86 Sunday	4.00 p.m.	Programme Evaluation Review Technics	Dr K. Chandrasekhar, Faculty Member. Southern Indian Banks Staff Training College, Coimbatore
	10.00 a.m. to 12.00 noon	Management Delegation and Supervision	Sri A. Anantharaman, Personnel Manager, The Hindu, Madras

Appendix II Contd.

Date	Time	Topic	Speakers
23.11.86 Sunday	1.00 p.m.	Social Forestry Project of Sri Avinashilingam Krishi Vigyan Kendra	Sri Muthiah Manoharan Training Organiser, Sri Avinashilingam Krishi Vigyan Kendra, Coimbatore
24.11.86 Monday		Social Forestry Activities at Nilgiris	Mr. John Joseph, Wild Life Warden Nilgiris
25.11.86 Tuesday	9.30 a.m. to 11.30 a.m.	Farm Forestry in waste land-Role of Women	Thiru Rajagopal Shetty, IFS Conservator of Forests Tirunelveli
	11.30 a.m. to 1.30 p.m.	Potential for Farm Forestry in Tamil Nadu, Its genesis and importance	Mr. Tor Skaarud SIDA, Forestry Project Coordinator, TNSEP Madras
	2.30 p.m.	Discussion on Recommendations	Dr. Rajammal P. Devadas
	3.30 p.m.	Social Forestry for Better Living Cottage Industries and Handi-Crafts Energy Conservation Aesthetics in Forestry	Dr. Rajammal P. Devadas Chairman Dr. R Raji Dr. Sathyavathi Muthu Dr. Godavari Kamalanathan

Appendix II Contd.

Date	Time	Topic	Speakers
26.11.86 Wednesday	9 30 a.m.	Planting Saplings by the State representatives	
	10.00 a.m.	Evaluation of Course	
	11.00 a.m.	Social Forestry for Women	Sri Sundarlal Bahuguna
	12.00 noon	People's participation System Approach	Sri J C. Kala, IFS Conservator of Forestry
	2.30 p.m.	Valedictory Function: President	Dr. T.S. Avinashilingam
		Report	Dr Rajammal P. Devadas
		Valedictory Address	Dr. S. Krishnaswamy Vice-Chancellor Madurai Kamaraj University Madurai
	Special Address and distribution of certificates	Sri Sundarlal Bahuguna	

APPENDIX III

RECOMMENDATIONS

To the Government of India, Department of Women and Child Development, Ministry of Human Resource Development

Role of Women's Clubs

1. Programme for women's development should include relevant social forestry components, integrated with education, which should include the importance of ecological balance in the environment, benefits of afforestation, kinds and variety of trees to be planted depending on availability of land, water and season, alternate energy sources for household use in order to conserve fuel wood, and the illeffects of deforestation.
2. The existing women's clubs (Mahila Mandals) at the village level must be strengthened and/or new Mahila Mandals established and their members trained to undertake social forestry programmes. Adequate provision should be made to impart special training for the trainers/leaders of Mahila Mandals in the technical aspects of afforestation.
3. Women's clubs must campaign for attracting more women to forest services.

Need for a Nodal Agency

4. A nodal agency/department should coordinate the efforts of the various departments of the government and voluntary agencies involved in social forestry. The nodal agency/department should have representation from government and non-government bodies involved in social forestry. It should disseminate appropriate information about the social forestry programmes undertaken by the different organisations,

to all the departments and agencies concerned in popular form, through the publications such as Social Welfare, Tamilarasu.

Resource Centres

5. Resource centres need to be identified in each state, located preferably in Agriculture Universities, Home Science Colleges and any agency involved in Social Forestry with adequate infrastructure, for developing resource material in social forestry for use by the public and private sector (voluntary) organisations.
6. The Resource centres must produce, educational publicity and propaganda materials on social forestry and disseminate to the public that information, highlighting the advantage of social forestry and the assistance available for raising trees.
7. The Resource Centres must organise campaigns to create awareness among the people about the importance of social forestry.

Apex bodies Co-ordinate the Different Agencies at all Levels

8. With the nodal Agency/Department as the Apex body to coordinate all development activities with regard to Social Forestry in the country, corresponding bodies must be instituted at the State, District, Block and village levels. In the National Apex body and its counterparts at the other levels, adequate representation must be given to representatives of Central and State Social Welfare Advisory Boards, reputed Voluntary Organisations for women, educational institutions, department of Indian Medicine and Social Forestry.

The Apex body and its counterparts will coordinate and monitor works and the social forestry programmes, arrange for publications on social forestry, help in the allocation of funds and other resources, arrange for training of the members of the women's clubs and offer them technical guidance. For this purpose

proper linkages must be established between the concerned government departments and voluntary organisations at all levels.

Teaching Social Forestry in Schools

9. In order to create awareness among children about the importance of trees, some concepts of social forestry must be introduced at the Preschool, Primary School and Higher Secondary Education levels as the practical part of the science and social studies curricula, with emphasis on importance of trees, their contribution to the well-being of mankind, deleterious effects of an environment devoid of trees and nurturing trees.
10. National and State Awards be instituted for the pupils and teachers who excel in social forestry.
11. Social Forestry must form part of the functional literacy efforts in the National Adult Education Programme (NAEP).

Employing Women

12. Women be employed at the grass root level for carrying out extension work in social forestry.

Facilitate Marginal Farms

13. In view of the immense scope for tree planting in marginal and sub-marginal agricultural lands owned by farmers, tree planting in such marginal lands through free supply of suitable planting materials and subsidy towards planting costs should be encouraged. Furthermore, since the forest crop has a long gestation period, aid should be channelised through nationalised banks and other agencies to give loans during the period of protection and maintenance, until the crop is harvested.
14. Trees and plants of medicinal value be included in social forestry programmes.

15. The provision existing in the Central and State Social Welfare Boards for a) training programmes b) holiday camps c) vocational programmes and d) Socio-economic programmes be utilised to organise and train women in social forestry.

Organising Women

16. For organising and training women, the Anganwadi Workers services can be utilised since they are in touch with a large number of young mothers. This calls for the training of Anganwadi workers in the benefits of social forestry.
17. Krishi Vigyan Kendras, with their Home Science infrastructure, be utilised to organise and train women in social forestry.

To UGC, ICAR, CSIR and other Bodies concerned with Higher Education

18. Social forestry should be included as a foundation course for under graduate students in the colleges (general and professional) to impress the students about:

The role of forests in environmental balance and human survival

Historical perspective of various civilization which have not cared for the forests, Impact of the usage of forest for man's existence.

Meaning and need for Social Forestry

The types of trees to be planted-when, how and how to maintain them.

Development of people's nurseries

Cost benefit relationships in social forestry

Aesthetic elements in social forestry

Impact of social forestry on economic aspects of the family, health, hygiene and harmony.

XIII

19. The NSS volunteers be urged to take up building awareness programmes on social forestry during their camps and follow up with massive tree planting programmes, with careful surveillance of their survival.
20. Research studies be encouraged on the impact of social forestry in the quality of living of people

Educational Institution

21. Educational institutions must form "Tree clubs" and promote the social forestry activities.
22. Reprints of model tree planting and similar success stories be published.
23. At the preschool and primary school levels, the curricula should include lessons on the national flower, National tree, national bird, national animal and national sport, in order that people develop a sense of national pride right from an early age.
24. Every school, Every college and every Government office must raise trees and promote afforestation.

Research needs

25. Other than popularising fast growing trees such as subabul for fodder and timber purposes, research is needed for identifying trees suitable for meeting the individual needs and environmental conditions in given geographical locations.

Towards Protection of Trees

26. Since goat rearing results in destruction of trees, it should be banned, as has been already done in some countries. In its place, sheep rearing may be advocated.