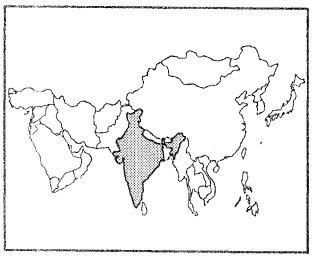


Towards green villages - a strategy for environmentally sound and participatory rural development in India

Anil Agarwal and Sunita Narain

This paper is based on a report of the same name published by the Centre for Science and Environment in 1989 - and available from CSE, 807 Vishal Bhawan, 95 Nehru Place, New Delhi 110 019, India.

Anil Agarwal is the director of the Centre for Science and Environment in New Delhi and has written extensively on the linkages between poverty and environment. He has edited the State of India's Environment *reports and numerous other publications. He is currently working towards the publication of a fortnightly news magazine on science and environment. Sunita Narain is the deputy director of the Centre and has co-edited the environment reports and written on environment and development issues.*

I. INTRODUCTION

THE SOUTHERN ENVIRONMENTAL movement has shown that environmental destruction has a differential impact - it affects the poor and powerless more than the rich and powerful. In other words, it is no longer considered a matter of choice that development for the poor ought to be environmentally sound; it simply has to be. In India, recent micro-experiments clearly show that environmental regeneration is possible if we learn to respect native wisdom and local decision-making. And that environmental improvement is not a matter of planting trees, grasses or managing watershed, it is one of creating open village level institutions, laws and financial frameworks so that democracy can be strengthened and deepened.

The following proposals set out an environmental improvement strategy that is based on real life experiences of grassroot work in which people have improved their environment together with their economy.

Each of the 560,000 or so villages in India must have its own clearly and legally defined environment to protect, improve, care for and use. Only in this way can India hope to meet the challenge of providing its growing population with the resources it requires. By the end of this century, it is estimated that India's population will be about 1,000 million. Although the urban population is growing rapidly, most of these people will still live in villages. Studies have shown that most of India's population currently survives on products they obtain from plants and animals ie. on a biomass based economy. Over the coming years demand for food, firewood, fodder, building materials and other such products will grow. India's land area will not increase and the only way to meet these demands is to identify highly productive systems for growing all forms of biomass from foodgrains to grasses and trees which are both ecologically sound and sustainable - not technical innovations which give bumper yields today but discount the future by degrading the natural systems on which biomass production depends.

In meeting this challenge, India can learn little from the North where the needs of their growing economies and populations were met by extracting resources from other parts of the world, first through colonialism and subsequently through the global market system. One study in the Netherlands estimates that the needs of every Dutch person are met by approximately one hectare of land in the Netherlands and five hectares abroad - most of it in the Third World. Indians are unlikely to attain the purchasing power of Europeans and North Americans and thus cannot import from abroad to meet their biomass needs.

In working towards meeting the basic needs of India's population, three initial steps are essential. First, the decline in overall biomass production must be reversed. But such a reversal cannot be achieved within administrative systems and laws which remain little changed from the nineteenth century and with twentieth century concepts of economic and social development which have been borrowed from the North. Secondly, economists must redefine poverty as a shortage of biomass resources to meet basic survival needs rather than simply a shortage of income or capital. Economic growth and rural development programmes must focus on one major aim, to increase biomass in an equitable and sustainable manner. Thirdly, steps must be taken to achieve democratic decentralization and a devolution of powers to village communities. Such a decentralization process should have as its objective to put the power and labour of millions of people to regenerate India's land and bring it to its maximum sustainable levels of productivity.

II. THE CONCEPTUAL FRAMEWORK FOR ACTION

AN EFFECTIVE PROGRAMME needs to be developed at two levels.

Box 1: Basic Premises on which this Strategy is Based

1. **The fundamental cause of poverty in India arises from the scarcity of biomass resources to meet daily basic needs like food, fuel, fodder, manure, building materials and artisanal raw materials, almost all of which are biomass based.**
2. **The growing ecological imbalance is further exacerbating this scarcity of vital survival needs.**
3. **The key objective of rural development programmes must be to restore ecological balance and increase biomass production on a sustainable and equitable basis.**
4. **Since India's landmass is made up of extremely diverse ecosystems, biomass productivity can be increased on a sustainable basis only if rural development programmes become ecosystem-specific.**
5. **Action will be best when it is planned and undertaken at the level of the settlement. If action is executed at any other level, people's involvement will be limited.**
6. **For them to act, all rural settlements must have an active institution which has legal control over its immediate environment and which has access to funds. The role of the government must be that of an enabler of village level planning and action, rather than that of a doer.**

The first, the focus of this section, is the conceptual level which will have to be at the level of the ecosystem to develop ecosystem specific development guidelines. The second, covered in section III, is the action level which needs to be focused at the level of the human settlement because it is only at that level that people can be involved in ecological enrichment and biomass generation programmes. Without popular participation, environmental regeneration will be impossible.

The basic argument for ecosystem specific development is that ecologically sound land use must differ from one ecosystem to another. The land use within any ecosystem can, for the sake of simplicity, be divided into three basic functional components, namely croplands, grazing lands and forest or tree lands. The balance between these three components is crucial for ecologically sound land use within any ecosystem. For example, the major component of land use within the Indo-Gangetic Plains can easily be croplands with forest and grazing lands playing only a minor and supportive role. The major component of land use in the Himalayas will have to be forest lands with grazing and croplands playing a minor role. But in the Thar desert, the main component of land use will have to be grazing lands with croplands and forest lands playing a minor role. Development programmes in each ecosystem must be built upon what is ecologically sound land use for that particular ecosystem.

The structure of agricultural occupations will also reflect the ecosystem-specific land use. For example, in the Indo-Gangetic Plains, people can mainly be farmers. But in the Thar desert, they will have to adopt a mixed enterprise strategy in which farming is strongly backed by animal husbandry. And in the Himalayas, farming will have to go together with forest and tree based occupations. India's planning systems must devolve down to the level of India's ecosystems so that a framework for ecosystem-specific development can be prepared.

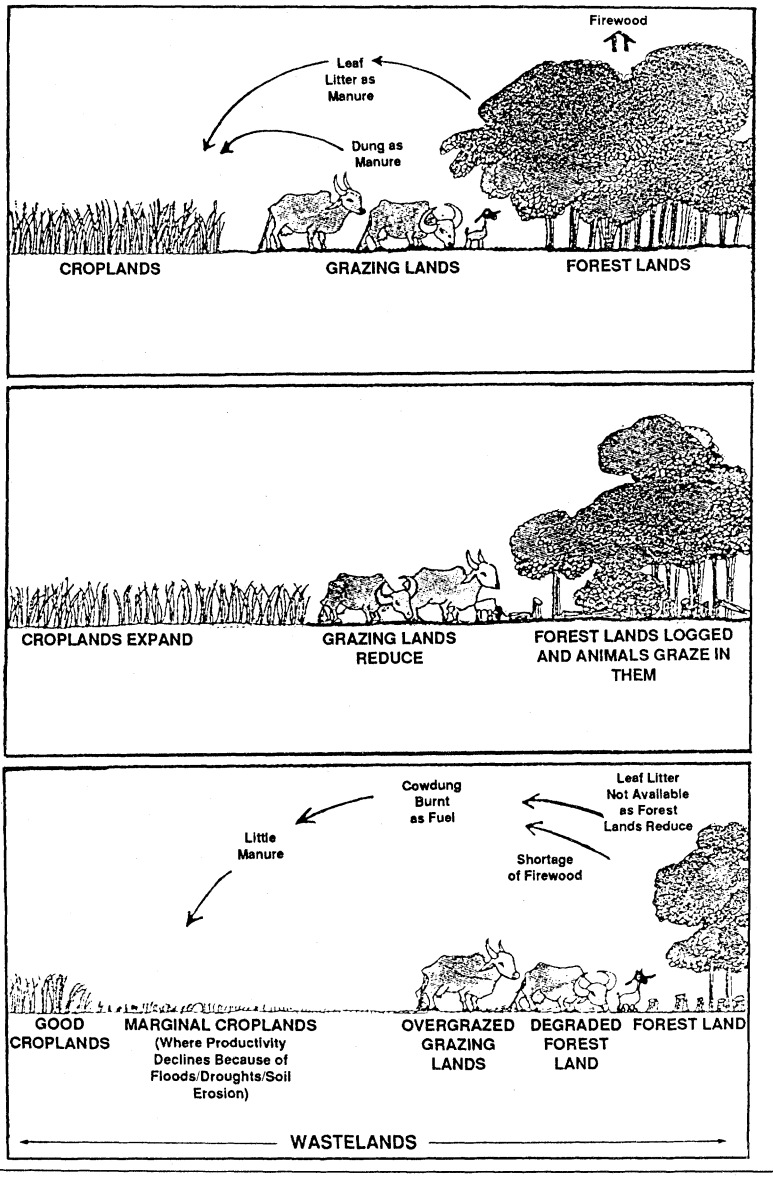
As the action level will be the human settlement which is the hamlet, what needs to be developed at the level of the ecosystem is not detailed plans and programmes but the ecosystem-specific action guidelines which will inform and guide village level planning and action. In other words, the idea of ecosystem-specific development must not translate itself into the establishment of ecosystem-level development authorities unless the very purpose of such an agency is to promote grassroots planning and action.

III. THE ACTION FRAMEWORK

INDIAN VILLAGES ARE highly integrated agro-sylvo-pastoral systems. What happens in one land use component invariably impacts on the other components. The entire village is often held in fine ecological balance and the finely tuned system can easily be split apart. For example, if too many trees are cut for commercial reasons or growing population pressures force local people to expand their croplands and thus reduce the area of adjoining forest and grazing land, there would be a growing shortage of firewood. The result would be people forced to burn cowdung as cooking fuel, leaving little manure to fertilize the croplands and, in the long run, a decline in productivity. As fodder sources decline, animals will starve and will not produce much cowdung. Overall biomass production in the village

ecosystem will steadily decrease and the system will become increasingly susceptible to the climate and will soon become a pseudo-desert (see Box 2).

Box 2: Changes in Land Use Leading to Creation of Wastelands



It is not only the various components of the land sub-system that interact with each other. The land sub-system interacts with the animal, water and energy sub-systems of the overall village ecosystem and all these sub-systems interact with each other to sustain overall productivity and extend economic and ecological stability. Indian peasants have always understood these inter-relationships. It is not surprising to find that Indian farmers are not just simply practitioners of agriculture but undertake a mix of agriculture, animal care and silviculture which requires the intensive use of croplands as well as of the grazing lands and forest lands adjoining the village. As a community, Indian villages have been great water harvesters, possibly the

best in the world. But what India now needs is the holistic enrichment of each of its village ecosystems. By holistic, we mean an approach which attempts to increase the productivity of all the components of the village ecosystem in a way that is sustainable. Current rural development efforts are extremely fragmented. They focus mainly on agriculture and often the efforts are contradictory and counter-productive. What is needed is integrated village ecosystem planning.

Such planning can only be done at the village level for two reasons. First, there is enormous diversity in Indian village ecosystems. No entity, even at a district level, can plan for each Indian village. Even within one overall ecosystem, village agro-ecosystems can vary greatly. Plans for the ecologically sound development of each of these village ecosystems will necessarily differ and the planning process must allow for suitable solutions to be found to accommodate these differences. This can be achieved only if the planning is undertaken at the micro-level of a village and not at a higher level.

The second reason why planning must be at a village level is that plans can only be implemented, rapidly and judiciously, if the whole process is participatory. It can be assisted by government bureaucracies but it cannot be done by them. Participatory planning is most feasible and effective at the level of the village. District planning or planning at any other level must support and encourage this village level, grassroots planning process and not supplant it. Otherwise participation cannot be assured and biomass regeneration plans will remain ineffective.

The most important goals of village ecosystem planning for biomass regeneration are:

- enhancement of the total natural resource base of the village ecosystem;
- production of basic biomass needs of the village community on a priority basis; and,
- equity in the distribution of biomass resources.

For planning and management, it is not enough to sub-divide the natural resource base only in ecological terms. It will also have to be divided in legal (ie. ownership) terms. Different strategies are needed in order to maximize use or improve the productivity of private property, community controlled property (*panchayat* lands) and government controlled property (either revenue or forest lands). Experience has shown that farmers who own their own croplands, will readily adopt any package that promises them a good return and is within their means. However, persuading people to manage the village commons has been a more significant problem. The state has alienated village communities from their commons. Before the British, grazing lands, forest lands and water bodies were common property and village communities played an important role in their use and management. The British were the first to nationalize these resources. The British brought them under the management of government bureaucracies, converting common property resources into government property resources. And now, repeatedly, tribal groups have said "...what is the point in saving the forest, because if we don't take them first, the forest contractors will?" The desperate economic condition of the poor, made worse by the ecological destruction, has often left them with no other option but to survive by cutting trees. People's participation in maintaining the common lands is crucial because their natural regeneration is being suppressed by India's vast stock of domestic animals. In a country like India where agriculture and animal husbandry are closely intertwined, the animal

pressure is extremely high. Continuous grazing is reducing the productivity and quality of the grasslands. As a consequence large tracts of land have become wastelands. This is not to imply they are not used. On the contrary, a piece of land is likely to return to forest if unused. All new plantations and grasslands need to be protected from animals, especially if they can be used for fodder. But, because of their use for grazing land and as sources of firewood, such protection will be resented and subverted by the poor unless they are confident that the biomass grown inside these enclosures will meet their needs on a priority and equitable basis. To date, afforestation schemes have failed because they have not addressed the needs of the people and they have not supported the involvement and participation of the villagers.

There are two possible approaches to this problem. The first is to privatize the commons, providing the beneficiaries with a technical and financial package which promises a good return. The second is to retain the commons as commons, mobilizing village communities to develop and manage them as a community enterprise. The major problem with the first approach is that in a densely populated country such as India, privatization reduces access to the commons for a large number of village people while giving control to a few members of the community. There is not enough land to benefit all the people on a private basis. There will always be some people who are left out but for whom the lands are vital for fodder, fuel, grazing and other subsistence needs. For example, in West Bengal, the people face an acute energy and fodder crisis. The degraded forest area is around 0.65 million hectares, but even if two hectares of land were allotted to each family to grow trees, only 4 per cent of total rural families would benefit while the remaining people, all dependent on these lands, would lose out. This would obviously create immense conflicts.

Developing the commons as a community enterprise is the best option but this strategy is difficult to achieve. However, it is possible, providing three principles of control, unity and equity are observed:

- The commons must be brought under the control of the village communities. This will mean divesting government agencies of their control over common land through changes in legislation (though this does not necessarily mean transfer of ownership).
- The entire community must be involved in the protection of the commons under its control. Protection is impossible if a few members of the community are left to protect a common resource against the wishes of the rest. It does not matter whose goat enters the protected patch, the damage will be the same.
- All members of a group will protect a common resource only if all of them know that they will benefit from the resource equally.

These principles may sound difficult to implement in practice but experience has shown that it is possible. The remainder of this paper sets out the institutional, legal and financial framework through which this might be realized.

IV. VILLAGE INSTITUTIONS AND THE FAILURE OF THE *PANCHAYATS*

GOVERNMENT PROGRAMMES HAVE created a feeling of total dependence within the people. But this has been self-defeating; the natural resource base of a village can only be managed by the villag-

ers themselves. Environmental regeneration in every village in India is a task that the people must undertake themselves. However, this is only possible if there is an effective village level institution to energize and involve them in controlling and managing their environment, and to resolve any disputes that might arise. Unfortunately, there is no such institution in Indian villages today. Voluntary agencies have initiated some projects successfully (see Box 3), setting up and supporting institutions. But what is needed is the creation of village level institutions which bring people together in common action, and which ensure the protection and development of a natural resource base.

In each of the examples cited in Box 3, the agency decided to form a new institution rather than work with the existing formal institution, the *panchayat* (the lowest level of local government). There are two major problems with such institutions bringing about good

Box 3: Examples of Village Level Institutions Initiated by Voluntary Agencies

The inhabitants of the village of Sukhomajri near Chandigarh have protected the heavily degraded forest land which lies within their catchment area. The irrigation tank has helped increase crop production almost three times and the protection of the forest area has greatly increased grass and fodder availability. This, in turn, has increased milk production. A critical institution in the successful operation of this scheme has been a group in the village called the Hill Resources Management Society, which is made up of one member from each household. The Society ensures that no household grazes animals in the watershed and in return has provided a framework for the fair distribution of the water, wood and grass created by this policy.

The concept of *pani panchayats*, another village level institution was developed in order to bring about an equitable distribution of a scarce resource like water in an acutely drought prone area. The *pani panchayats* brought villagers together to discuss their problems and to organize the equitable distribution of water. Each *pani panchayat* consists of the marginal farmers, the landless labourers and the *Harijans* in the village; each have a common desire for irrigated water for their fields. Once water has become available, the *pani panchayat* controls its distribution, use and even the cropping pattern.

The St. Xavier's Behavioral Science Centre in Ahmedabad has been organizing afforestation programmes in the highly saline lands of the Bhal area of Gujarat. Cooperatives have been formed in each of the villages in which the Centre is working. Each cooperative is made up of all households in the scheduled caste community of Vankars. The afforestation projects have taken place on the communal lands of the Vankars. As cooperative activities became profitable, resentment in the dominant Rajput community developed, but the Vankars have been able to continue to manage their lands, earn money and achieve a high degree of economic independence.

natural resource management at the village ecosystem level. First, *panchayats* are the product of village factionalism and unity is a primary requirement for good natural resource management. Second, many *panchayats* are too far removed from the grassroots to be effective agents for good natural resource management. A village often includes several hamlets and a *panchayat* usually covers several villages (in Assam, the average number of villages rises to 29). Environmental management mediated through the *panchayat* often leads to inter-settlement tensions. Government schemes have attempted to involve *panchayats* in a few afforestation programmes but these have invariably met with disaster. The *panchayats* have either shown no interest in the management of these plantations or, if interested, have totally lacked the ability to protect them and distribute benefits.

Most social forestry schemes are directed towards private farmers. Only the village woodlots have a community reserve as their aim. In both Maharashtra and Gujarat, the scheme has failed to involve *panchayats* in the management of woodlots. Common land was given to the social forestry directorate in order to establish plantations. After three years, it was intended to pass the land back to the *panchayats* to manage and protect, distributing the benefits between the villagers. But the *panchayats* refused to take responsibility for safeguarding the plantations and were only willing to take over ownership when the trees were ready for sale. Many villagers did not even know that the village woodlots were common property.

The *panchayat* of Brahmano ka Verda, a small village in the Aravalli Hills near Udaipur created numerous obstacles for the tribal women wanting to take up a reforestation programme. For four years, the women were prevented from proceeding with the project. The *panchayat*, dominated by high caste members (*Brahmins*), did not approve of tribal women getting this land.

The problems created by *panchayats* covering several settlements are evidenced in Nada, a small village near Chandigarh. The village is made up of four hamlets, three dominated by the relatively more powerful Rajput community and a fourth, exclusively inhabited by the scheduled castes,[1] is called Harijan Nada. Separate dams have been built to store water for each hamlet. To redress the inherent power of the Rajputs, the dams are constructed in a way that prevented the nearby Rajput hamlets drawing water from the dam meant to benefit Harijan Nada. In order to increase their income, the people living in Harijan Nada have protected the nearby land, increasing fodder crops and obtaining grass which is used to manufacture ropes. In recent years, people from the Rajput hamlets have entered this area and are also using the resources generated there. Because it is land held in common through the *panchayat*, the people in Harijan Nada are unable to stop this.

1. Scheduled castes were formerly known as untouchables, who were lowest in the Hindu caste system.

V. NEW VILLAGE INSTITUTIONS

EACH SETTLEMENT NEEDS an institution of its own which brings together its members to manage its common resources and provides a forum for resolving disputes. The distribution of natural resources between settlements should be clearly defined to reduce the possibility of inter-settlement tensions. Such a village level institution needs a high order of democracy in decision-making as well as discipline within group members. One possibility would be to follow one of the

strategies used by voluntary agencies and establish an executive *gram sabha* in which every household participates. As almost 75 per cent of Indian villages have a population of less than 1,000, these meetings are likely to remain a reasonable size. The requirement for open decision-making should help ensure that meetings are not dominated by the more powerful individuals in the village. Open public fora are likely to work better than elected *panchayats* to bring about good natural resource management and in resolving intra-community differences, even with the existing poverty and inequality. Women must play an important part in the affairs of village communities. Experience in India shows that women take an active interest in programmes designed to improve ecological conditions because of their culturally determined role as fuel, fodder and water carriers. Women, of course, will be members of any *gram sabha* as outlined above, but women rarely participate in any institution dominated by men. Therefore, in addition to the establishment of village institutions for all adults, separate *mahila mandals* could be formed in every village. These groups would be a distinct sub-unit of the *gram sabha* with clearly defined roles, rights and access to funds. The institutional mechanisms to secure women's participation need to be developed. Past experience shows that such participation will make a crucial difference to ecological regeneration programmes and must be achieved on all counts.

VI. ENABLING LEGISLATION

NO VILLAGE INSTITUTION can function within a legal framework that prevents it from taking care of its village environment. Several laws will have to be changed to give people the right to improve and develop the village natural resource base. At present, India continues to use the British laws which have destroyed the traditional systems of village management.

Today, nearly one-third of India's land and all its water resources are owned by the government. As a result, village communities have lost all interest in their management or protection. As the villagers have realized that the main objective of government management is generally to meet urban industrial needs, their motivation is to exploit such resources as fully as possible. About 28 per cent of India's land in under the control of the government: 22 per cent is the responsibility of the forestry departments and 6 per cent under the control of the revenue authorities. A further 4 per cent is controlled by the *panchayats*.

Land and forest laws need to become more rational both from a scientific and social perspective to encourage people's involvement and ecological regeneration. It is necessary first to identify all the areas where undisturbed natural forest is critical for survival, ie. areas which are important for genetic diversity and ecologically fragile areas. Once identified, such areas need to be fully protected. We estimate that this approach would bring all or most of the closed natural forest cover in the country under total protection and possibly some more lands which are ecologically fragile - about 40-45 million hectares of land in all (out of a total land mass of 300 million hectares). However, there is no purpose in protecting barren lands and plantations of trees through the forest departments. All remaining degraded lands should be brought under the control of village communities,

although without necessarily transferring ownership. Village boundaries will need to be redrawn to demarcate the commons of each settlement. Experience shows that villagers will first keep other villagers away from their commons and then, as effective village institutions are established, ensure the disciplined use by members of their own community.

Similarly, there are numerous legal obstacles which prevent local people from developing small water harvesting systems. No village can use rivers, streams and rivulets without the permission of the government. While the government may need to take responsibility for an overall regional plan and ensure the needs of both downstream and upstream users are met, the approach of the government should be to encourage people to develop small water harvesting systems as much as possible. The legal framework should clearly be to encourage people to take the initiative to develop their natural resource base and not wait for the government to act. No society can progress within a framework which allows the government to act but discourages the people from doing so.

VII. VILLAGE FUNDS

NO VILLAGE INSTITUTION can work without money. In the present system, finances for community development are controlled by various functionaries and agencies of the government. However, village institutions can raise substantial amounts of money for the common good especially if they can organize their common property resources to reach a higher level of productivity. The commons can support the economic growth of the village through the supply of food, fuel, fodder, artisanal raw materials, wood and monetary resources for development. But the village should also save and invest for the ecological improvement of the commons.

To enable village economies to achieve this upward spiral, government must take on an important start-up role. The government should make small financial grants available to enthuse the people. If the amount currently allocated to the Department of Rural Development (currently about Rs. 2000 crores) were to be given directly to village institutions, this should be sufficient to enable village communities to start planning what they can and want to do. To direct people towards specific activities which the state considers to be ecologically and scientifically appropriate, special grants could be offered.

The ultimate demand of village institutions must be a constitutionally guaranteed share of national funds which are given to them by right, not as a matter of charity. Just as the sharing of national funds between central and state governments is a political issue, an even bigger issue should be the sharing out of national funds between central and state governments on the one hand and community based institutions on the other.

VIII. THE ROLE OF GOVERNMENT

THE TRUE ROLE of government - that of an enabler rather than a doer - will begin to emerge only when the devolution of power to village institutions begins to take place. In this new role, government has a number of important functions:

- to spread information about its plans, programmes, policies and laws. Information is ultimately power and nothing can empower village communities more than a knowledge of the resources available to them, how they can use these resources and what are their rights;
- to support education and ecological awareness in order to help people become aware of the importance of their environment for their survival and the self-reliant strategies available to them;
- to become a trainer and provider of technical assistance. Village institutions will be able to plan their environment only if villagers have been trained in sufficient numbers for the tasks needed;
- to develop a research capacity in ecological and socially appropriate

Box 4: Traditional Knowledge Systems: Lessons for the Future

Jodhpur, a major city in the Thar desert, once had an astonishing system of water harvesting which has been destroyed over the years. The city is situated at the edge of a rocky plateau which constituted the main catchment area for the water supply. Long canals transported rainwater to the city where water was stored in numerous tanks, the most important of which was built in 1500. Each locality in the city had its own well or step well, sometimes with steps going down three or four stories underground to enable people to collect the water. Inside the houses, people used to collect rainwater from rooftops through water collection devices which included underground storage tanks into which the water was channelled.

The desert of Ladakh has also developed a system of water harvesting. The cold dry desert is at a mean altitude of 12,000 feet (c. 3,660 metres). Glaciers are the only source of water, but they melt slowly through the day and water is available mainly in the late evening - too late to cultivate the fields. The difficulties of cultivation are made worse by the short growing season. However, the *Ladakhis* developed an efficient irrigation system. Villagers direct the streams from the glaciers into small channels, and from there into small tanks. The stored water is used in the fields the following day. Each village elects a water official at the start of the growing season. This person controls the distribution of water so that every farmer has enough to meet their needs. The streams are carefully maintained by the community and no polluting activity permitted.

In the Thar desert, rainfall levels vary greatly from year to year and people rely heavily on animal care based occupations for survival. This requires that the three main sources of fodder (*sewan* grass, the *jharberi* bush and the *khejari* tree) be carefully protected. These trees and plants used to be consciously maintained even on farm lands. *Khejari* is rarely planted but grows through natural regeneration - farmers rarely cut or uprooted it. Likewise, when ploughing, the farmers were careful to leave clumps of *jharberi* and *sewan* undisturbed. However, the introduction of tractors has led to the destruction of these fodder plants and now, when the drought comes, cattle fodder has to be imported from other regions.

Another system of agro-forestry has developed in northeast India in Nagaland. As the traditional system of shifting cultivation became ecologically destructive because pressure on land had reduced the cycle of land use from 15 to 20 years to three to five years, farmers in one village have attempted to stabilize the land through planting alder trees. In this village, the agricultural system has now developed around the tree. Once every four to six years the branches are cut and the land cultivated for two years. As the branches grow, the land is left fallow for two to three years. During this period, the farmer cultivates another plot of land with alder. Within four or five years, the trees on the first field have regrown their canopy and the farmer returns to the land. Being a good nitrogen fixer, the tree has restored the fertility of the land. The cut branches provide firewood and the leaves and twigs are burnt and the ashes mixed with the soil to add more nutrients.

technical systems. The starting point must be the traditional knowledge systems of the people which help us to understand how the people have optimized their use of local resources over the centuries. Modern science and technology are also needed but they must seek to understand and respect the social and ecological foundations of traditional knowledge and help to increase productivity by building on them;

- to establish a national corps of scientific and ecological extension workers. They will have to support the attempts of villagers to combine traditional knowledge and modern science in order to lift the traditional socio-techno-ecological knowledge systems of our villages into a higher plane of productivity. The corps could draw on intelligent and qualified young people who would work closely with the country's scientific institutions and local *gram sabhas*. One of their major functions could be to undertake a massive training programme of barefoot village ecosystem planners.

IX. CONCLUSION: THE PERIPHERY MUST BECOME THE CENTRE

THE ULTIMATE PURPOSE of the proposals for political decentralization described in this paper must be to solve India's most vital problem - to regenerate its environment and restore the survival base of the country's vast rural population, especially those living in the ecologically fragile regions. The experience of numerous grassroots efforts by government and voluntary agencies shows that the involvement of the people will be critical for success. These efforts show that equity and sustainability always go hand in hand.

The only way to achieve this objective is to deepen democracy and participation at the village level as much as possible. Every settlement in the country must have a clearly defined environment to protect, care for and use, and an open forum in which all can get together to discuss their problems and find common solutions.