

FES

FOUNDATION FOR ECOLOGICAL SECURITY

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Our Mission

“ As ‘ecological security’ is the foundation of sustainable and equitable development, the Foundation for Ecological Security is committed to strengthening, reviving or restoring, where necessary, the process of ecological succession and the conservation of land, forest and water resources in the country. ”

To this end we:

Work towards the ecological restoration and conservation of land and water resources, in the uplands and other eco-fragile, degraded and marginalised zones of the country and to set in place the processes of co-ordinated human effort and governance to this end.

Undertake work either directly, or with and through a range of democratic village institutions, their federal bodies, and civil society organisations, set up through initiatives that are ecologically sustainable and socially and economically equitable;

Ensure the ecological integrity of all efforts by working, as far as possible, with entire landscapes, and with all the interrelated communities within it, through a range of arrangements on their land and aquatic resources whether Commons, Public or Private;

Work for and promote stability of the ecosystems through the protection and restoration of biological diversity, including the diversity of species, age diversity, genetic variability as well as that of structural composition;

Collaborate with *Panchayati Raj* and other democratic village institutions, as well as appropriate civil society organisations, in their efforts to contribute towards the objectives of the society, and to provide technical and financial assistance to them.

Our Organisation

Registered under the Societies Registration Act XXI 1860 the Foundation for Ecological Security was set up in 2001 to reinforce the massive and critical task of ecological restoration in the country.

The foundation strives for a future that is based on a holistic understanding of the principles that govern the interrelationships of various life forms and natural systems. The central character of the efforts lies in the intertwining principles of nature conservation and local self governance, aimed at accelerating ecological restoration, as well as improving the living conditions of the poor:

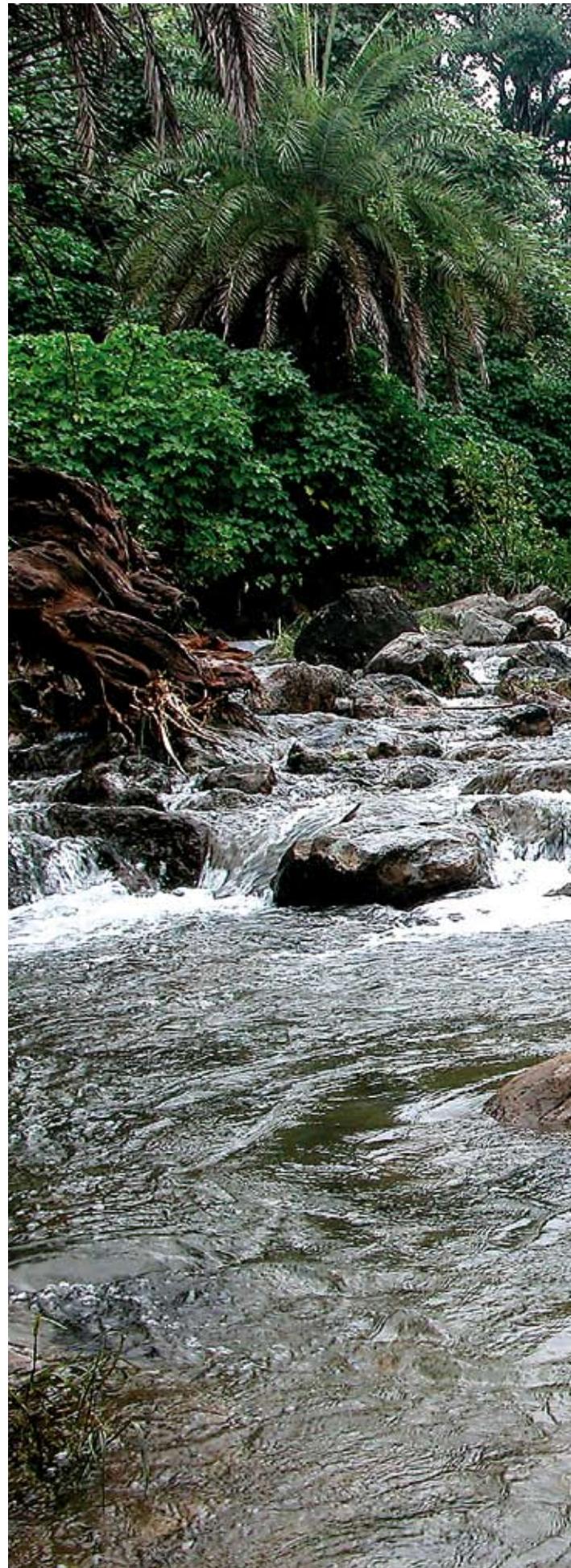
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Our Approach

Generated by an interplay of natural cycles and operating across a wide range of space and time scales, natural ecosystems perform fundamental functions without which human civilization would cease to thrive. Ecosystems are the life support of the planet and the very foundation of the global economy.

The importance of forest lands to the rural economy can hardly be over-emphasized in our country where a large proportion of the populace continues to depend on agriculture for their livelihood. Unless forest ecosystems are maintained, for their genetic diversity, hydrological and nutrient recycling functions, in a protective and productive state, the future of agriculture itself would be at stake. In the forests lie the origins of most of our river systems and thus the major source of supply of all our freshwater.

As a society, we seek for ourselves a future where we are ecologically sustainable, economically sound and socially just. The respect for Nature's diversity, and the responsibility to conserve that diversity, becomes the basis of such development. And out of this ethic of respect for Nature flows a respect for cultures. If Nature is to be conserved in all her diversity, the cultures that preserve themselves through the maintenance of that diversity must also be valued. Respect for the rights of Nature and other cultures becomes the basis not just of sustainability, but also of justice and equity.

Economic progress, indeed sustainable development in any and every aspect of our nation's socio-economic endeavours, should rest on secure ecological foundations. The greatest challenge is to build a consensus and a common perspective on how we use

In an area where women walk about a mile to fetch water, this stream was found to flow till late September when surveyed in 2000. In about six years the regeneration of degraded forests coupled by measures in checking the flow of water has revived the flow of the stream, making water available till April.





our land and our water resources. In unfolding this we need to determine a land use regime and strategy that not only takes into account the fundamental principles of how Nature functions, but also the critical livelihood needs, and to do so in a way that is both equitable and enduring. We realise that a strong democratic leadership supported by even stronger decentralised governance that is convinced of the ecological imperatives, is the best means of mitigating the looming ecological crisis. In a few years, the difficulty of doing so will be infinitely greater, dearer and will indeed require more of an effort than ever.

Ecological Restoration

The ecological crisis is in large part a process of having laid parts of Nature waste – through neglect of vital resources like soil, water and biodiversity, or through over-exploitation that have endangered so many vital life forms or rendered them extinct. The most threatened and critical of the ecological processes, or life support systems to which we must give the highest priority and attention, is the country's hydrological regime also called the blood stream of the biosphere. Establishing forest cover in the catchment areas, besides ensuring a regular supply of clean water, would also provide refuge to a substantial proportion of our bio-diversity – of plant and animal life – and thereby help secure the crucial biological foundations of our existence.

While Nature functions as a fairly independent system and could perhaps rejuvenate and reach an equally good state in the long run, we assist the villages in bringing a semblance of care, nurturing, informing their decision-making on the threshold indicators that we are aware of and alive to.

Our work in restoring degraded forests and other common lands is spread over five of the ten biogeographic regions of the country. In most cases these lands are unproductive and require years of restraint and careful attempts to rejuvenate and revive. Blessed with a sub-tropical climate and natural rootstock, our efforts are largely centred on assisting natural regeneration. Depending upon the stages of succession, appropriate pioneer species are introduced to assist the natural recovery. Geo-hydrological studies assist in designing appropriate measures to retain soil and water that, besides helping recharge of groundwater or harvesting surface water, also assist in providing a micro climate conducive for vegetative growth. Nature heals by itself and small measures in restraint pay immediate dividends in terms of improved biodiversity, biomass and moisture regime, resulting in double crops, increased crop productivity, milk production and availability of water for longer periods.

In the several locations where we have a presence, we find critical habitats that nurture and support several forms of life – floral and faunal – that are emblematic to the area. While our work on the adjacent common lands is directed towards extending the habitat, we also aim to extend our activities towards conserving the existing habitats. As a step in this direction, we have initiated studies in three protected areas in Udaipur, Rajasthan,



another in Angul, Orissa and in the wetlands of Anand, Gujarat, to inventorise the flora and fauna, assess their status and vulnerability, identify threats and draw plans for conservation. As such critical habitats face the challenges of fire, grazing and human association, we are also collaborating with other organisations in gaining a perspective on such issues and finding workable solutions. As we realize that conservation action in these protected areas can be more effective if simultaneous action is taken on social and economic spheres, we have begun working with the local communities in improving their livelihoods and involving them in protecting the critical habitats.

The enactment of the Scheduled Tribes and other Traditional Forest Dwellers (recognition of forest rights) Act 2006 has put to rest, or so it appears, the contestations of those who were for and against the recognition of the rights of traditional forest dwellers. While the recognition of these rights would not reduce the forest cover as the area was anyway converted to farmlands much earlier, it still leaves us with important questions on how to increase the forest cover. Could we visualize land use as distinct from land ownership, where even private holdings could be under forest cover? Is it possible to design appropriate incentives for forest right holders and encourage them to maintain forest cover on the lands to which they have been given titles? These may be man-made forests, and to that extent less biodiversity rich than natural forests; nonetheless, these privately held forests could still play a vital role as corridors linking the inviolate spaces, keep the pressure off other forests, and continue to play a role in providing other ecological services.

Within an over arching domain of ‘Ecosystems, Governance and Livelihoods’, our efforts have focussed upon the conservation and restoration of forests and other common lands at a landscape level through local self governance institutions and their federating processes.



Engaging with the natural environment for food, fodder and medicine to express music and poetry, many traditions embody honour and concern for ecological well-being. Restoring forests is not just about saving valued species but also their identity and culture.

Commons and Community Institutions

De facto common lands may constitute as much as 25% of the land mass of the country, with *de jure* common lands being estimated at about 15%. While communitarian patterns of resource use largely determine the physical domain of commons, the intangible norms and regulations that determine appropriation and provision, roles and responsibilities define the institutional arena of governing the commons. The biophysical resource base and the institutional arrangements together add form and character to the functioning of common properties. The commons provide access to a share in the common good which would otherwise tend to get privatised to the advantage of a few, and more often than not, the powerful. While productive common lands could improve the local livelihoods by meeting subsistence requirements, the institutional arrangements enable a code of locally agreed behaviour that both energises proactive steps and keeps undesirable individual action in check. In other words, commons provide a unique opportunity to work through a singular platform on issues concerning poverty reduction, reducing inequalities and improving the ecological health.

In fostering collective action for the safeguard of natural surroundings, common lands and water in particular, we begin by building on existing practices and



Resources shared across habitations require a collective agreement on their management and use. Besides enabling self-regulation, such conglomerates are also taking initiatives to influence favourable policy action.

reviving institutions of collective action at the habitation level. Norms that are accepted in village life pave the entry for appraising perspectives on a future course of action and evolving codes of collective behaviour and pursuit. Issues concerning conservation of natural resources form the backdrop of discussions on inclusion of all residents particularly the poor and women as equal partners, their rights and responsibilities, mechanisms for consensus building and rules for appropriation and provision. As we work with habitations that lie in

contiguity, we are seeing them come together based on natural affiliations and evolve into larger institutional associations cutting across habitations. What remains to be seen is whether they would mature into platforms and face up to challenges on complex issues such as restraint from over exploitation of natural resources and designing measures for equal access across villages.

Depending upon the legal status of the land and the institutional options available, we work with a variety of village level institutional forms. However, the constitutional recognition that *Panchayats* enjoy, especially with regard to custodial rights over natural resources, definitively renders them the most appropriate institution for local governance of natural resources. The inclusion of all residents of the villages within the fold of *Panchayats* makes them a far superior form of institution, despite all the limitations. However, in most provinces *Panchayats* often cover more than one village and invariably oversee several functions, rendering them ineffective both in managing affairs at a habitation level and in overseeing executive functions. While institutions such as Village Forest Committees, Grazing Land Development

Central to our work on ecological restoration is the endeavour to understand local community institutions, revive collective action and strengthen tenure arrangements over forests and other common lands in favour of communities.

Committees, Tree Growers' Cooperatives, etc have the advantage of being more focused, they could best serve the managerial functions at the habitation level, such as remedying the degradation. We feel the need for nesting these bodies under the larger umbrella of *Panchayats*, whereby the strengths of both the institutional arrangements are best realized: the smaller institutions' committees for the effective role in execution and the larger *Panchayats* for local level adjudication. Ideally, we feel the need for further devolution of decision-making powers of *Panchayats* to habitation level *gram sabhas* and Standing Committees constituted to oversee activities concerning the governance of natural resources

Conservation and Livelihoods

The Millennium Ecosystem Assessment points out that the changes made to ecosystems, while contributing to substantial net gains in human well-being, have also come at a growing cost in the form of increasing degradation, often shifting costs from one group of people to another or deferring these costs to future generations. The findings clearly state that the degradation of ecosystem services is causing harm to

While contemporary initiatives on livelihood promotion do not account for the threshold limits of ecosystems, our search for suitable alternatives strives to highlight those practices and principles of natural resource based livelihoods that are ecologically sustainable and economically viable.

many of the planet's poorest communities and is at times the principal factor causing poverty. The report goes on to state that unless these problems are addressed immediately, benefits to future generations from ecosystems would substantially diminish.

Central to the contemporary debate on conservation and livelihoods are three basic arguments. Firstly, that we should conserve our ecological heritage even at the expense of disregarding the livelihoods of the local communities and opposing this is a view that human

In tribal villages in Orissa surveys indicate that although 58 species of forest produce are collected seasonally, only five species find their way to the market. For about a month in summer tubers collected from the forest are the only available food.



rights are more important than animal rights. Secondly, that measures aimed at conservation would alleviate poverty, with the opposing view claiming that efforts at alleviating poverty would lead to conservation of nature. Thirdly, and somewhat connected to the earlier point, is that benefits of 'growth' would trickle down to the poor or whether pro-growth and pro-poor strategies are distinct.

We work in areas that have a significant human presence and where we believe conservation of natural surroundings is critical for the survival of the poor and the viability of the farming systems. By locating forests and natural resources within the larger ecological, social and economic landscape, we assist communities in determining conservation action where efforts on ecological restoration, social mobilization and poverty alleviation are multitudinal strategies aimed at ecological well being, decentralised governance and improved livelihoods. We work on systemic drivers that can bring about a multiplier change:

- On soil, moisture, nutrients, biomass and biodiversity, which improve the functioning of the entire ecosystem, which in turn enhances economic well being;
- On commons, because they provide a unique opportunity to work through a singular platform on issues such as reducing poverty and inequalities, and improving ecological health;
- On collective action, the positive expression of which tilts governance towards more equitable arrangements, as well as energises collectives to take proactive

steps in other spheres of village life, such as health and education.

Though it is less clear whether improved natural resources really offer a long-term economic route out of poverty, it is known that they do provide a safety net for the poorest and are vital to their health. It is also evident that in the several areas that are facing distress in agriculture, the depletion of natural resources has added to the burden of the not so poor, bringing some of them back into poverty traps. As the well being of ecological surroundings benefits the poor and not so poor, we work towards safeguarding the natural resources, the backbone of the rural economy.

New market opportunities that tend to treat common lands as 'wastelands' could serve the interests of ascending economic groups within the villages. However, they tend to 'commoditise' and 'privatise' the natural resources that were otherwise accessible to the poor, dispossessing them further. In such situations, our efforts are aimed at enabling tenure security for the poor, evolving institutional arrangements that safeguard their entitlements and searching for ecologically sound and economically rewarding livelihood opportunities.

Efforts at Landscape Level

Nature draws her own boundaries. Mountain ranges, rivers, deserts and the seas harbour within their boundaries a variety of ecosystems, which are closely linked to one another and nurture unique and diverse life

Restoring forest ecosystems and evolving layers of local self-governance within a landscape offers scope to conceive land use arrangements for concurrently achieving preservation, conservation and exploitation objectives.



Natural features transgress manmade boundaries and necessitate a perspective that discerns the movement of water, nutrients, life forms and energy across natural and production systems. Efforts to arrest degradation should be undertaken at a scale that spans across habitations and departmental domains.

forms. As administrative considerations find expression in a new mosaic of boundaries and an array of departments, developmental efforts at improving a given area tend to be fragmented and piece-meal, often working at cross purposes with one another, giving rise to a new set of complexities and failing to leverage action necessary for the development of the whole area. Efforts to arrest and reverse degradation need to be undertaken at an appropriate scale, determined by ecological considerations and alive to the communal norms of use and access.

In every location where we are present, we begin at habitation level and progress towards working with every community inhabiting the contiguous stretch along a watercourse or range of forest-hills. Customary norms of protection access and exchange from the natural environment form the basis for crafting institutions that may span across villages and administrative domains. Conglomerates of villages meet periodically to decide on issues that protect the interests of the constituent habitations, as well as raise common concerns. While in most locations these conglomerates have shown maturity in dealing with internal conflicts, some have even taken proactive steps in leveraging political clout and initiating development programmes.

While the village institutions and their conglomerates are growing into cohesive entities, we are challenging them to envision the prospects for their area, and are also assisting them in appraising their plans and preparing them on roles and responsibilities of *Panchayats* and in responsibly leveraging funds available under the rural employment schemes. By bringing large tracts of forests and other common lands under a conservation regime, the adjacent villages will benefit from the varied ecological



Besides fodder and water for the livestock of the poor, forests satisfy virtually every single need of forest fringe communities – from food and medicine to material for shelter and farm equipment, or even cane for hats.

services such as water and nutrient flows, that only efforts on such a scale offer. By the reinforcement of the various inter-linkages in an ecosystem – forests, grazing lands, agriculture and animal husbandry – the viability of commons in the farming system improves. The landscape level approach also offers scope to arrive at arrangements where preservation, conservation and exploitation of natural endowments are conceivable, and where dialogue between those who conserve and those who exploit is possible.

For this to materialize, regional land use plans are to be prepared and implemented by several villages that would need to accommodate different and probably competing priorities. Firstly, we are strengthening the local stewardship for the area, centrestaging local village communities and also involving other interested local citizens. Secondly, we have facilitated the formation of fora of village conglomerates that act as platforms of interaction between the government departments, academicians, technocrats and such citizen forums so as to build a capacity to innovate together. Thirdly, we have begun building databases with information available from various sources that would assist local communities and planners to draw leads for action. Fourthly, we are in the process of identifying local rural volunteers and designing training modules to improve their skills in natural resource conservation. Lastly, knowing that exploitation of biomass far exceeds the regenerating capacity in all areas, we began scaling up energy conservation measures and have initiated pilots to comprehend institutional dynamics in equitable allocation of scarce water resources. By dovetailing these multi-pronged strategies we face the daunting challenge of developing institutional templates that could synergistically evolve and implement regional land use plans. ■

Progress Overview

In essence, we see the role of our organisation in centrestaging an ecological agenda in an economically dominated world view, reorienting progress with a conservation and social justice perspective and presenting local visions and voices at local and global levels.

We began in 1986 as a pilot initiative titled 'Tree Growers' Cooperatives Project' for the purpose of evolving institutional templates that meet basic rural needs of firewood, fodder and small timber. The amendments in the Panchayat Act (1992) assigning the custodial powers to govern natural resources to the *Panchayats*, the introduction of Joint Forest Management arrangements and Watershed Development programmes enabled our expansion to other forms of institutions and categories of land. We work with these various forms of institutions as each category of land allows a particular form, with our focus always on democratising their character and making them more inclusive. Working on contiguous hill ranges and water courses we bring 50 to 100 villages in each location under a conservation regime. We work in hot arid, hot semi arid, sub humid and hot sub humid conditions, where there is a preponderance of common and/or public lands. We work in areas characterised by poverty, presence of tribals, and where codes of community behaviour are still prevailing.

Over the years our activities have spread to 1204 village institutions in 23 districts of seven states. We assist village communities in protecting 85,800 hectares of revenue wastelands, degraded forest lands and *Panchayat* grazing lands, and crafting rules and regulations in managing and governing the natural resources, common land and water bodies, in particular.

Analysing the complexities and finding common grounds for future direction, our work collectively resonates the prospects of an improved life and helps to set in momentum such processes by which the poor gain control over their lives and their natural settings.





We are geared towards expanding our work to another 50,000 hectares in the next five years and are preparing ourselves as resource centres on 'Common property resources' and 'Dryland ecosystems'. With the opening of regional cells in the western and southern parts of the country and plans for eastern region, we wish to highlight the unique ecological characteristics of the region and influence region specific interventions.

We have gained experience in restoring degraded landscapes, locating common lands in the larger farming systems, building community institutions for natural resource management at habitation and inter-habitation levels, promoting ecologically suitable livelihood activities that could add to earnings or spare scarce incomes. We undertake studies on ecological restoration, drawing conservation plans and designing

institutional arrangements for the governance of natural resources. With a rich database built over several years, we have a well-equipped facility, which provides services for spatial analysis.

State Level and District Level Coordination

Committees headed by senior government officials oversee the implementation of the programmes, assist in convergence of other programmes and also steer policies. We collaborate with well-known organisations on issues concerning ecological well-being and social justice. We have highlighted issues concerning ecological security in the public by involving press and film media, and organizing series of lectures. We were invited to join working groups in the Five Year Plan formulation processes of the government. We are members of networks at national and international levels that contribute to policy formulation.

By creating a replica of local land use practices, a village community in a farmers' exhibition shares a perspective that discerns the movement of water, nutrients, life forms and energy across the natural and production systems.



Measures to Boost Eco-restoration

- As of March 2007, 85,800 hectares of land was under collective management by community institutions. Soil and moisture conservation activities and plantation measures were undertaken on 36,472 hectares of land with 11,000 hectares of land under natural regeneration.
- 10,930 hectares of revenue wastelands have been leased to community institutions. In addition, we are also assisting community institutions in the protection and improved management of 6,159 hectares of grazing lands, 8,383 hectares of *Van Panchayat* lands, and 1,358 hectares of *gramya* jungle lands in Orissa. Communities through Joint Forest Management arrangements are regenerating 14,677 hectares of forest land.
- The Forest Departments, Governments of Orissa and Rajasthan have given permission to undertake studies in the *Satkosia Gorge Wildlife Sanctuary* in Orissa and three sanctuaries namely, *Kumbhalgarh*, *Phulwari ki Naal* and *Sitamata* Wildlife Sanctuary in Rajasthan to assess the biomass and biodiversity of the sanctuaries.
- During the year, a monitoring framework was evolved to understand the impacts of the biophysical measures that we undertake, as well as help in monitoring the ecosystem health of the watersheds. A uniform monitoring mechanism across the organization, designed to accommodate region specificities is expected to help understand and articulate better the impact of our work on ecological restoration across locations over a period of time.
- Work on building an information base of each project district on parameters such as hydrology, biomass, biodiversity and energy through representative studies in each location continues. Collaborative studies were undertaken to understand the status of surface and ground water availability in the project locations in Andhra Pradesh and Karnataka. Similarly, studies were also undertaken in Orissa, Rajasthan, and Madhya Pradesh to improve our understanding on the changing patterns and politics of water use.

Developing Institutional Capacities

- Community institutions include 548 Tree Growers' Cooperatives, 235 Village Forest Protection Committees, 51 Grazing Land Development Committees, 68 *Panchayati Raj* Institutions, 198 Village Committees, 40 *Gramya* Jungle Committees, and 64 *Van Panchayats* taking the total number of village institutions associated with to 1204.
- In every location that we work, regional forums comprising representatives of village institutions have emerged. Defined by proximity, social affiliations or common resources, such regional forums meet at periodic intervals to discuss issues of common concern, present their views to government and organise campaigns. Our work in linking local community institutions with *Panchayats* and the efforts to activate the *Panchayat* standing committees and sub-committees, besides improving the capacities of the *Panchayats'* members, is being further enhanced by building organic linkages with representatives to help integrate natural resource management and governance within the fold of *Panchayats*.
- The initiative on developing 'An Atlas of Key Development Parameters for FES Project Districts' was taken up last year to assist the teams and other development agencies in the area so as to put our actions in perspective.
- FES teams and community institutions in Madhya Pradesh, Orissa, Rajasthan, Gujarat, Karnataka and Andhra Pradesh were effective in leveraging development funds from a number of government programmes and schemes. Through the National Rural Employment Guarantee Scheme (NREGS), we are supporting *Panchayats* in the project districts in effectively channelling the resources for improving their natural resources. Over Rs. 400 million was leveraged locally for improving water availability, soil-moisture conservation and for other complementary activities.

Learning Processes

The varied geographical settings that we work in and the unique social, economic and ecological features of each area necessitate a culture of learning that, on one hand, builds on the local wisdom and its rationale, and on the other, is honed by foresight, analytical rigour and a global perspective. It also requires that the organization maintains its focus on ecological restoration, while at the same time allows the flexibility to adapt to the local situations.

With about 20 years of experience of working with local communities and land and water resources, while the core approaches of relating to land and people are institutionalised within the Foundation, we continue to feel the need to deepen our understanding of the ecological and social dynamics to add character to our interventions. In addition, the complexities of scaling up conservation action at a landscape level, bringing diverse village communities on common platforms, and within a fast changing economic scenario, throw up a fresh set of issues for us to comprehend and build our abilities.

During the year, in order to deepen our understanding of ecological and social issues, we undertook exercises on translating our understanding of common property

land resources to include water, expanding the principles of community institutions that fare better in smaller habitations to larger habitations, and integrating village level institutions within the fold of *Panchayats*. Considering the depletion of water tables in most locations and the need to understand the hydrogeology and community practices, we began studies to map water availability both surface and sub surface, recharge and use patterns. In order to hone our interventions in improving the vegetative cover in degraded landscapes, we had intensive exercises to classify the various landscapes according to their elevation, slope, aspect, edaphic factors and stages of succession and identified steps for restoration in each location. As many locations are also prone to fire every year, we undertook studies to understand fire ecology and eventually supported an initiative to bring together experiences and lessons from across the world, as well as evolving strategies for similar action in the Indian context.

Spatial Information for Conservation

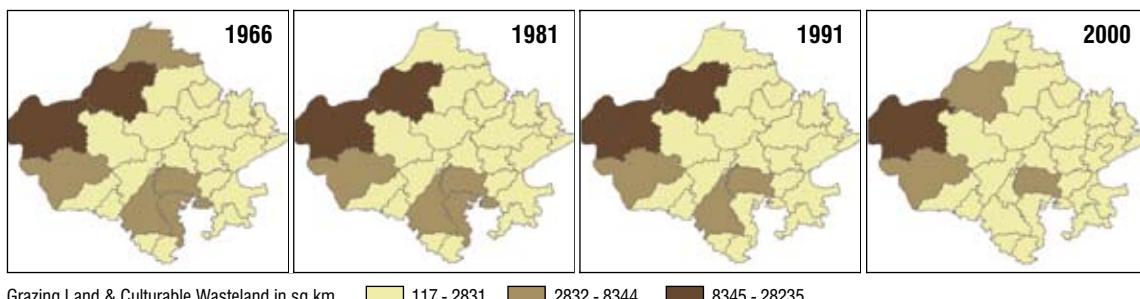
In the context of conservation action where several ecological and climatic parameters have a distinct influence in shaping niche characteristics, spatial

Discussion between village representatives and project personnel on designing soil and water conservation measures challenge both local and outside opinions for their relevance, suitability and cost effectiveness.

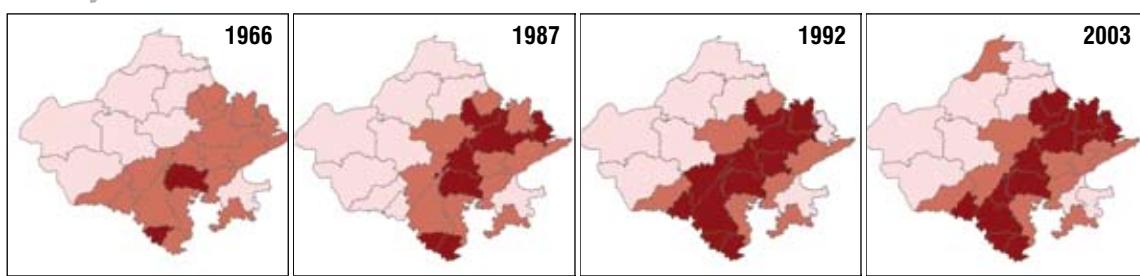


Mapping Trends in Land Use in Rajasthan

Grazing Land and Culturable Wasteland



Density of Total Livestock



Maps show an increase in livestock population over three decades as compared to shrinking grazing lands. Information on this and other similar parameters is being shared with district officials and community representatives with an aim to stimulate debate and discussion leading to well informed policy decisions.

information juxtaposed with layers of data provides critical understanding of the situation, enabling a better-informed action. Conservation action at landscape level necessitates a bird's eye view of the area to comprehend the several ecosystems within and the exchanges across them. In addition, a well-informed and holistic understanding of the trends and patterns on important parameters such as demography, economy, natural resources, human development, etc. is essential for formulating and implementing effective development policies and programmes.

Over the last decade, we have been assiduously building a database of the country, accessing information from various reliable sources and also analysing them to inform our programmes. A database on parameters such as drainage, watersheds, and forest cover among others has been completed for all project locations and additional spatial layers on land use, soils and geology are being incorporated. In addition, the areas being protected by communities have been mapped in all locations except Angul, Orissa, thus helping to develop a landscape level picture of the total extent of common lands and forest

lands under protection, including those supported by other agencies, and the extent of area that could be brought under an appropriate protection regime.

Having produced an atlas capturing important development parameters for Gujarat last year, during the year we prepared a similar atlas for Rajasthan and are in the process of preparing one for Orissa too. Being developed in partnership with various governmental and non-governmental agencies, subject matter specialists and interested individuals, the atlas will help in understanding the development context of the state, which in turn is expected to translate into improved planning and implementation.

Considering our long-term interest in tribal dominated areas and our presence in the coastal areas of Gujarat, we joined hands with the Central India Initiative (CINI) and Coastal Salinity Prevention Cell (CSPC), at their request, to prepare a comprehensive database for the central tribal dominated districts of India and the coastal salinity-affected taluks of Gujarat. Besides helping the respective agencies in strategizing their interventions, the synthesised spatial information would help us gain a perspective of the region and the emerging issues.

Interaction on Policy

Our years of working directly with village communities of different social and economic composition and on issues concerning the various facets of land use provides us the unique advantage of being able to synthesise lessons from across locations as well as hone their application to suit niche specificities. We continue to be involved in influencing policies by highlighting the criticality of ecological security as the foundation of socio-economic progress; the role of commons, forest and water in particular as a critical component of the rural economy; the need for a tiered structure of village institutions from habitations to conglomerates of villages and integration of various village level institutions and nesting them under *Panchayats*; and locating common ground for conservation and livelihoods.

We have been elected as the regional focal point for South Asia in the Global Environment Facility (GEF) Non Government Organisations network. We have also recently been awarded special consultative status membership at the United Nations Economic and Social Council. We continue to be members of the World Conservation Union (IUCN) and the International Association for the Study of Commons (IASC). We leverage these opportunities to voice local visions of development, as well as steer public policy in the quest

for just and ecologically sound development and achieve in India the many goals that the global community has set for itself.

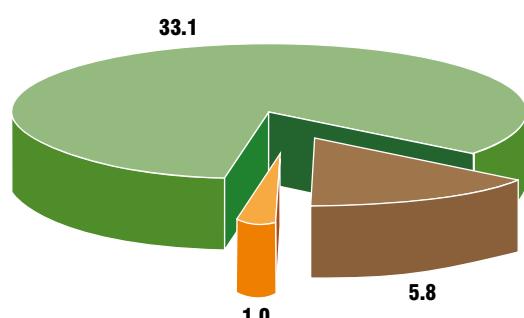
We were nominated as Members of the Working Group on Forests for the Environment and Forests Sector and Working Group on Public-Private Partnerships, constituted by the Planning Commission as part of the Eleventh Five Year Plan (2007-12) formulation process, for the purpose of devising institutional mechanisms for the improved performance of Watershed Development programmes. We were also asked to submit policy recommendations on common property resources and village institutions to the Working Group on Natural Resource Management, as well as on measures to enhance fodder production to the Sub Group on Fodder Production Enhancement. In addition to contributing to the various discussions of the working groups, we suggested measures to improve the forest cover in the country and strengthen the institutional framework for forest governance at local levels.

The State Level Coordination Committees represented by the Secretaries of the relevant departments, continue to oversee the progress of projects in addition to facilitating their better implementation. The District Level Coordination Committees have helped convergence of government programmes in the villages.

In our efforts to stimulate debate on matters of ecological security, we have commissioned films and organised talks by eminent persons. We continue to network with other groups in discussions on conservation, governance and poverty alleviation. We collaborate with like-minded organisations in bringing out periodic updates on issues regarding protected areas and legal developments in forest conservation so that the information is disseminated to a larger audience and helps in building public opinion. We also bring out regular newsletters in five languages that are circulated amongst village communities, *Panchayats* and government functionaries.

Funds Leveraged from Government Programmes 2006-07

(Rs. in Million)



■ Revegetation, Soil & Water Conservation Measures
 ■ Measures to Sustain Livelihoods
 ■ Village Infrastructure

Of the Rs. 40.0 million that was leveraged from the government programmes, Rs. 7.5 million was from the recently introduced programmes under the National Rural Employment Guarantee Act (NREGA), essentially for soil and water conservation measures.

Gainful Employment

At the district level we perceive both a marked increase in the availability of public funds for village level expenditure as well as openness on the part of the administration to partner with credible development agencies. We see this as an opportunity and a responsibility in setting precedents of rightful entitlements, claims and accruals;



While field activities are typically reduced to wage opportunities they provide an ideal setting where institutional design principles such as equality, responsibility, and transparency can be effectively discussed and practised.

engaging with processes of decentralized governance by making them more accountable to local level planning and expenditure; and influencing increased public spending on ecological restoration – the backbone of the rural economy.

In our basic tenets of work, we work with rural communities in preparing perspective plans in which village communities envision their path towards a better village life. The increased availability of funds for village level expenditure coupled by robust village institutions that have emerged over the years have moved us to an environment conducive to leveraging funds available under the National Rural Employment Guarantee Schemes and other development programmes.

In an innovative arrangement proposed by the Government of Madhya Pradesh to harness the strengths of Non Government Organisations, the district administration of Mandla invited us to strengthen local governance institutions for the effective implementation of Rural Employment Guarantee schemes for watershed development activities. Similar invitations in Chittoor, Andhra Pradesh and Udaipur, Rajasthan have opened up fresh opportunities to work with *Panchayats* on natural resources management. In both the districts, and in what may be seen as a unique departure, degraded

forest lands as well, are being restored applying funds from Rural Employment Guarantee schemes. In Angul and Dhenkanal districts, Orissa, functionaries of village institutions who have now been elected as representatives in the *Panchayats*, on assuming their new offices had intensive discussions amongst themselves on how best they could extend the principles evolved by their institutions in implementing Rural Employment Guarantee schemes.

Introduced recently, Rural Employment Guarantee schemes face teething problems and understandably so. Incomplete enlisting of eligible job seekers, delays in payments for jobs accomplished, lack of understanding of the roles and responsibilities of elected members are some of the common problems. With most governments encouraging activities on natural resource management under the purview of the employment schemes, we assumed the responsibility of influencing other relevant government and non-government agencies that they include ecologically sensitive interventions in their array of activities. We have prepared a manual outlining the ecological considerations and activities that need to be considered in different settings. We have shared the manual with select organisations for peer review and envisage disseminating it to a larger audience. ■

A Project Overview

Work on contiguous patches of land provides both an opportunity to act comprehensively at a scale that conservation action demands, as well as adds complexity in evolving inter-village level institutional arrangements that cater to the diverse interests of the constituents.

In our long-term pursuit of building local stewardship for the conservation of natural surroundings, we locate well-defined projects that would add character to our interventions, as well as expand our area of work. While each location would be guided by specific strategies, the broad organisational level strategic areas are:

- Surfacing the criticality of forests and other common lands and locating inter-linkages with the associated production systems, thereby highlighting the value of forests and the necessity for conservation action.
- Undertaking pilot level land use planning in different ecological, economic and social settings and addressing the biomass and water scarcities for meeting the consumptive and non-consumptive needs of village communities.
- Strengthening platforms for discussion at a village and inter-village level, and by inviting government functionaries, academia and larger civil society to engage on issues of conservation.
- Establishing institutional design principles and mechanisms that provide spaces for the poor. Developing linkages between village level institutions and the umbrella institution of *Panchayats*, and integration of natural resource management plans by *Panchayats*.
- Generating ecologically sound and economically rewarding livelihood options to improve incomes of the most economically vulnerable sections of the community.
- Evolving conservation plans for protected areas where communities are seen as partners in conservation.
- Assessing impacts of climate change on various natural and production systems and weaving in mitigation and adaptation measures in ongoing practices. ■



1 RAJASTHAN: Forests, now degraded, on the hill slopes and subsistence agriculture in the valleys typically characterizes Udaipur and Pratapgarh districts. Bhilwara is situated on an elevated plateau further north. It is characterized by an abundance of commons, animal husbandry and rain-fed agriculture.



2 GUJARAT: Encompassing eroded ravine lands along the river Mahi and vast stretches of tidal mud flats off the Gulf of Cambay in Anand, Baroda and Kharda districts and denuded slopes of the Dahod-Panchmahal uplands, the Project area is characterized by varied land use patterns.



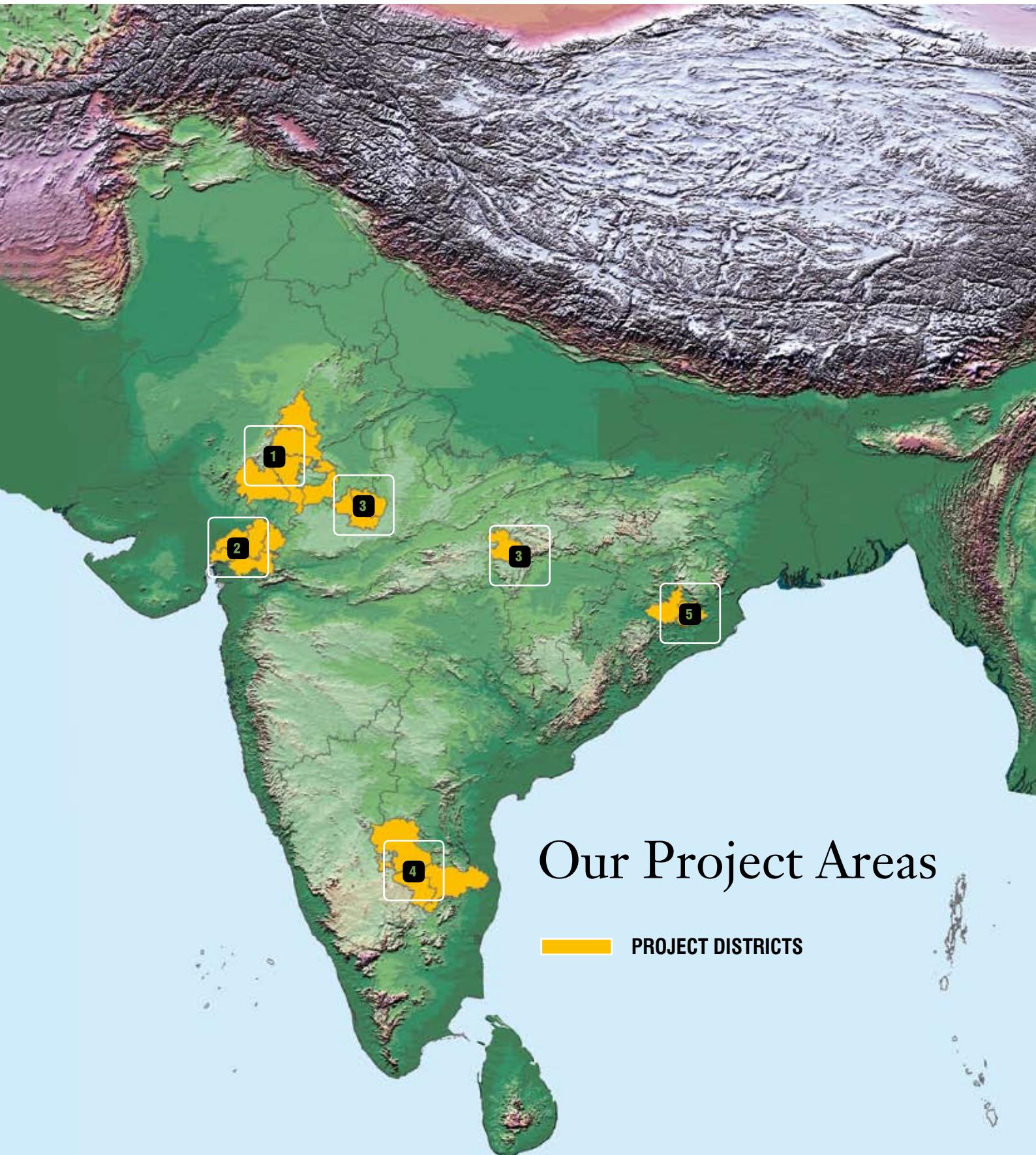
3 MADHYA PRADESH: An extensive spread of degraded grasslands and agro-pastoral communities, and degraded forestlands and tribal communities characterize the project areas of Agar and Mandla respectively. We work with habitations along river catchments, strengthening management and governance of natural resources through *gram sabhas* (village assemblies).



4 KARNATAKA AND ANDHRA PRADESH: Semi arid Uplands that feed a seasonal river – Pappani – are present in a compact manner in Chittoor and Anantapur districts of Andhra Pradesh and Kolar and Chikballapur districts of Karnataka. The revival of streams would contribute to the stability of agriculture production where other options seem less feasible.



5 ORISSA: Angul and Dhenkanal districts - an area with comparatively rich vegetation, it highlights the symbiosis between livelihoods and natural surroundings where a major portion of the rural economy continues to be determined by linkages with natural resources.



Forests and Tribal Livelihoods

In several forest areas inhabited by tribals and other forest dwellers conservation and livelihoods can be complementary goals, where the rural communities by their very position are best placed to be partners in conservation.



A majority of India's tribal communities inhabit the upland and forest dominated landscapes that form a horizontal stretch across the country from the southern parts of the Aravalli hill range to the Chotanagpur plateau. Undertaking subsistence farming on small parcels of land, the tribal communities have a strong link with the forests, which play a critical role in their day-to-day lives providing food, timber, fuel wood, medicine and various non-timber forest products (NTFPs) both for consumption and sale.

But the colonization and state ownership of forests and other natural resources that has continued in independent India, has continued to alienate the tribal societies from the forests. The loss of access coupled with widespread degradation of forests has led to the attenuation of the critical linkage between forests and agriculture, which sustained the tribal economy. The availability of forest foods has declined considerably and the loss of vegetation cover in the uplands has led to widespread degradation of the farms below.

In recent years, the Joint Forest Management

arrangements have provided a degree of tenurial security and incentive to the local communities to participate in forest protection and restoration activities. The Panchayati Raj (Extension to Scheduled Areas) Act 1996 is another critical piece of legislation, the implementation of which holds out the promise of empowering the tribal communities and transferring all powers for governance and decision making into their hands.

By leveraging such favourable provisions, we are assisting community institutions in protecting and restoring a few thousand hectares of forest lands in the project areas in Udaipur, Dahod and Dhenkanal. We subscribe to the view that in many natural environments that are being modified by human activity there is scope for conservation and livelihoods to be linked and benefit from each other. An approach that seeks to restore the health of the ecosystems and the services they provide, combined with efforts to strengthen on and off-farm incomes can, we believe, safeguard forests as well as reduce poverty in several pockets of the country.



DAHOD Gujarat

FACT FILE

Project Districts	Panchmahals and Dahod
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Valai, Kali and Khan
Percentage of Common Lands, Including Forest	25%
Percentage of People Living Below Poverty Line	59%
Village Institutions Associated With	76
Area Under Protection	6178 hectares
Total Households of Project Villages	13,646

Governance and local stewardship of natural resources, in the extremely backward and tribal dominated region of Panchmahal, is being innovatively decentralised through a programme aimed at building a cadre of volunteers, who having gained a systematic understanding of existing realities, alternative opportunities and required knowledge to leverage favourable programmes, will be able to envision a development trajectory for their area, and act with resolve.

Dahod and Panchmahals are two of the poorest districts of the country and are predominantly inhabited by tribals. Our project area is located in the Vallai, Chibota and Bhe river basins of Panchmahals district, and the Khan and Kali river basins in Dahod district. Once a heavily forested area, the dry deciduous forests presently cover about 14.5% of area, with *Tectona grandis* as the dominant species. The region is

designated as a Schedule V area. With about 80% of the population below the poverty line, the small and marginal land holdings they own and cultivate meet their food requirements for barely 6-8 months of the year.

The depletion of forest cover, low returns from agriculture and lack of other employment opportunities locally, result in the communities migrating to other parts of Gujarat



2004

UPDATE 2006-2007

- Eco-restoration activities during the period include revegetation of 130 hectares of forest land, and soil and moisture conservation efforts for 63 hectares of forest land in 18 habitations falling under Santrampur. In order to reduce the biomass pressure on neighbouring forest lands, 100 smokeless stoves and seven biogas plants were constructed.
- With the intention of increasing farmland productivity, in an ecologically sustainable manner, in-situ soil and moisture conservation measures on farmlands of 29 farmers and vermi-composting by 176 households was accomplished. In addition, kitchen gardens were prepared by 125 households to supplement their nutritional intake
- Around 96 training programmes focussing on the governance and management of natural resources were carried out. Village level perspective planning was undertaken as part of the programmes. Two federation meetings were specifically held during the year where discussions focused on leveraging the National Rural Employment Guarantee Scheme for forest

and the adjoining states of Madhya Pradesh and Rajasthan for labour opportunities.

We began working in the area in 1998 and are associated with 76 habitations that protect about 6,100 hectares of forest and common lands. Having obtained permission to support interventions on forest lands through Joint Forest Management arrangements, we are assisting communities to access such lands

through arrangements recognised by the government and initiate protection and regeneration of the forest lands. We have also been able to help communities obtain recognition for the management and use of forest lands for grass production in grass *vidi* areas. In response to a request from the district administration, we have been assisting the village communities and *Panchayats* in preparing perspective plans under

National Rural Employment Guarantee Act (NREGA) so as to better reflect the needs of smaller habitations and reinforce linkages between conservation of natural resources and improved livelihoods.

We are engaging the communities and *Panchayats* in evolving governance mechanisms for effective implementation of NREGA and in enabling arrangements that would provide access to all and also ensure effective protection of the resources. As forests tend to be displaced by other land use choices, we will continue to highlight the criticality of forests to the viability of farming systems, as well as search for ecologically sound livelihood options that would add to local incomes. With the enactment of the Scheduled Tribes and Other Forest Dwellers (Recognition of Rights) Act, 2006 some of the forest land in the area could be legally transferred to private ownership. However, in an area where the topography does not offer much scope for remunerative agriculture we plan to engage local communities in developing privately owned forests while encouraging the government to conceive policies and arrangements that encourage such practices. ■



2007

In a tribal area marked by degradation of natural resources and extreme poverty, the village institution of Motikyar faces the challenge of intertwining two separate administrative arrangements – forestland development with the Forest Department and decentralised governance mandated under the 73rd Amendment.

regeneration, water harvesting and other development activities and on issues and concerns related to forest protection across the Santrampur cluster.

- The District Level Coordination Committee for Panchmahal was formed and its first meeting was held. Presentations were made on the team's work in the region and plans for future intervention were shared. The team also received a request from the District Administration to assist in the preparation of perspective plans in four *Panchayats* for

implementation under the National Rural Employment Guarantee Programme.

- 1,200 hectares of land belonging to Khangela village, and another three watershed projects totalling 3,700 hectares and falling under Santrampur taluka are identified and ready for treatment with assistance from NABARD. Similarly, the livelihood needs of 500 households of 55 habitations of Santrampur taluka, are likely to be addressed through the Tribal Development Fund of NABARD.

UDAIPUR Rajasthan

FACT FILE

Project Districts	Udaipur
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Mansi, Wakal and Sei
Percentage of Common Lands, Including Forest	67%
Percentage of People Living Below Poverty Line	65%
Village Institutions Associated With	149
Area Under Protection	4,344 hectares
Total Households of Project Villages	6,778

The project area constitutes parts of the catchment of the river Sabarmati, and three of its major tributaries – Mansi, Wakal and Sei – and adjoins the Kumbalgarh and Phulwari-ki-nal sanctuaries. Tribal communities form about 90 per cent of the population, with *Bhilis* and the *Garasiya* being the predominant tribes. The degradation of natural resources in the region has largely been in the form of loss of valuable species from the forests; land degradation; perennial rivers turning into seasonal rivers; and depletion of the water table

in the region. The traditional land use patterns in the area, pertaining to forests and grazing lands in particular, have evolved over many years depending upon the varying needs across communities, proximity of resources and inter-community negotiations for rights to access. Often such traditional use regimes have been ignored by the administrative domains that were drawn much later, giving rise to a new set of complexities that the local communities find difficult to adapt to and which often results

Realising the opportunity that NREGS provides, the natural resource management plans that 30 villages prepared earlier formed the basis for accessing funds amounting to Rs. 3.4 million from the Forest Department to restore their degraded forests. When asked if public expenditure should be directed towards roads and buildings, the communities asserted the value of forests as critical infrastructure to sustain their livelihoods.



UPDATE 2006-2007

- Soil and moisture conservation activities were undertaken on 470 hectares and regeneration activities on 400 hectares of common lands. Over 65,000 saplings of the indigenous species and about 250 kilograms of native grass seeds have been planted and broadcast respectively on the common lands.
- A month-long training programme was conducted for *van sahyogis* and *sahyoginis* in one forest division of the district. Another 44 training programmes were conducted to impart technical and conceptual skills to community members on aspects relating to institution building and biophysical measures. In collaboration with Unnati, Jodhpur and Vidya Bhavan, Udaipur training programmes were conducted for *Panchayat* representatives on fundamental aspects of Natural Resource Management.
- Communities were mobilised on the occasion of *Hariyali Amavasya* and *Jal Chetna Padyatra*, to affirm the need for coordinated action. Similarly, linkages between different village based institutions are being continually strengthened in order

in an indifference towards sound management, further exploitation of resources and disregard of the concerns of adjacent habitations.

Our work, initiated in 1999, focused mainly around restoration of the degraded forest lands, but we soon realized that given the poverty of the rural communities and their continued dependence on the forest resources, particularly for generating cash income, it is imperative to simultaneously work on strengthening natural resource based livelihoods.

With parts of the project area being

contiguous with the Protected Areas of Kumbhalgarh and Phulwari-ki-nal, the work on ecological restoration gains significance as it attempts to reduce the pressure on the sanctuaries by improving biomass and water availability in the adjacent forest areas. Several habitations have organized themselves as Village Forest Protection and Management Committees (VFPMCs) and Charagah Vikas Samitis (CVS). Women's groups are organized at the habitation level to undertake activities for strengthening livelihoods and

empowering women. We are working with *Panchayats* in integrating natural resource management within the ambit of local self-governance and towards this end we are also engaging with *Panchayats* through the ongoing Employment Guarantee programme in leveraging public expenditure for ecological restoration.

While studies initiated last year in Kumbhalgarh, Phulwari-ki-nal and Sitamata sanctuaries to inventorise the biodiversity of the area and develop conservation plans for the area are well underway, we are also gradually building our association with the habitations adjoining two sanctuaries so as to eventually engage local communities in the conservation of the sanctuaries. Considering the need to bring the entire landscape under an effective conservation regime, we are building a larger constituency for conservation by strengthening *Panchayats* and involving government departments, academia, scientists and community based organizations. The *Panchayats*, being constitutionally mandated local governance institutions, we envisage them as playing a central role, with VFPMCs, CVSs, etc. that function effectively at the local level, being nested under the *Panchayats*. ■


 2007

Several protracted discussions on inclusion of constituent hamlets, sharing responsibilities of management and concessions for access benefits in a complex user regime, and eventual recognition by the Forest Department, were key design principles that laid the foundation for the protection of the forest in Chitrawas.

to evolve a better understanding on conservation issues at the landscape level.

- In order to develop a template to assist the *Panchayats* in understanding current land use practices and evolve strategies for natural resource management and governance, participatory resource mapping exercises were initiated in two *Panchayats*. While the assessment of current practices is completed, we are engaging the *Panchayats* in identifying priorities and strategizing a future course of action.

- A state level workshop was organized to discuss strategies for integrating Natural Resource Management at the *Panchayat* level. Representatives from various organizations shared their experiences and collectively explored possibilities. The participants agreed that nesting various committees, formed separately under different programmes within the fold of *Panchayats* would lead to improved management of natural resources and overall institutional functioning.

PRATAPGARH, Rajasthan and MANDSAUR, Madhya Pradesh

FACT FILE

Project Districts	Pratapgarh and Mandsaur
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Jhakham, Erav of Mahi; Siwana, Gir of Chambal
Percentage of Common Lands, Including Forest	60%
Percentage of People Living Below Poverty Line	53%
Village Institutions associated With	43
Area Under Protection	1208 hectares
Total Households of Project Villages	4457

Studies have revealed that soil and water conservation undertaken on the ridges have checked the erosion of around 99,000 cubic feet of top soil from about 1000 hectares of common and agricultural land.

Protection of common lands has ensured fodder for small livestock holders of four villages for two critical months.

The project area falls in the Pratapgarh tehsil of Chittorgarh district in Rajasthan and adjacent Mandsaur and Sitamau tehsils of Mandsaur district of Madhya Pradesh. Falling in an area where the Aravalli mountain ranges and the Malwa plateau intersect, the region is characterised by ecological features unique to both the regions. Located on the western side of Pratapgarh, the Sitamata Wildlife Sanctuary (and the region) is the

northern-most distribution limit of many species, including teak. Grazing lands and forest lands form an important part of the landscape, with forests lying typically on the slopes of the hills and the valleys and tableland under agriculture. About 80% of the people in the area are tribal communities belonging to Meena and Bhil tribes. About 53% of the population lives below the poverty line.

We began working in the



2005

UPDATE 2006-2007

- A total of 18,000 saplings have been planted on 65 hectares of common land. Ten check dams and 10 water harvesting and recharging structures have been constructed. As a result, the number of irrigations for wheat has increased from an average of two to four irrigations during the crop period. Protection of natural root stock has been given priority as there is abundance of root stock of the local tree species in the region.
- With soil loss from farmlands being a significant reason for loss of productivity, 7,532 running meters of farm bunding has been carried out, mainly in the lands of tribal and small farmers. On account of well-planned biophysical interventions, the area under rabi crop has increased by about 100 hectares in the project villages.
- A total of 11 institutional development training programmes were

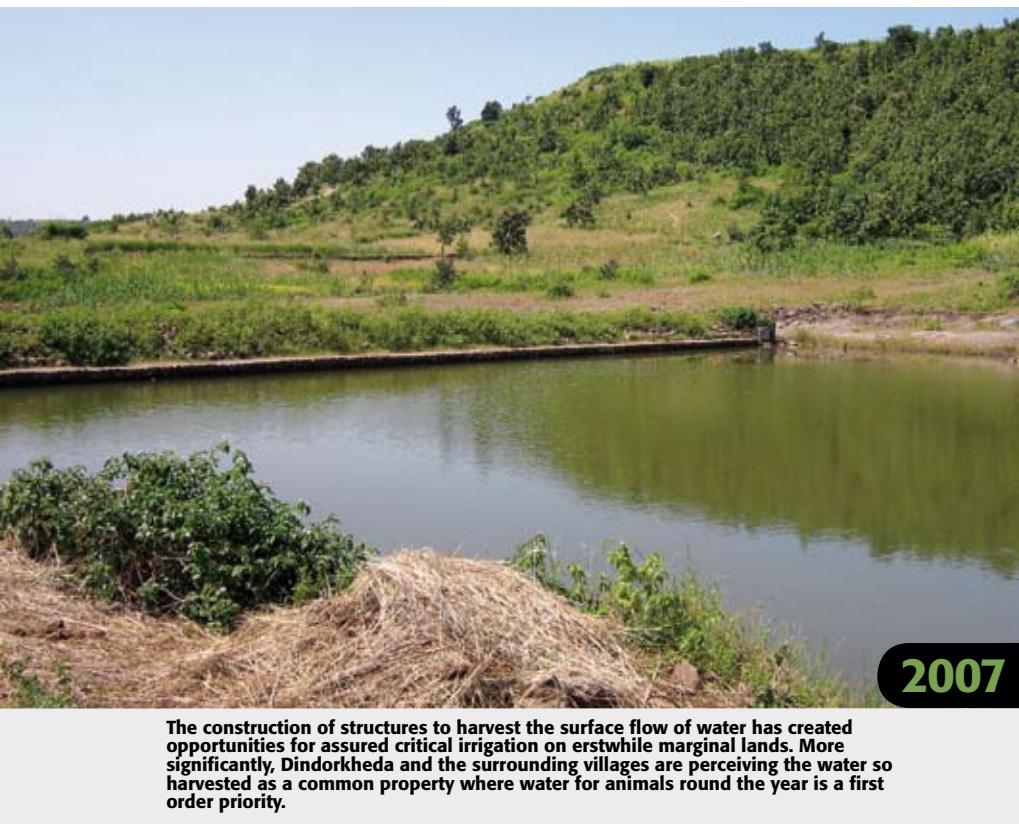
region in October 2005, in the catchments of the Siwna and the Gir, tributaries of the Chambal river and the Erav, a tributary of the Mahi river. Our efforts are focused on restoring degraded grazing and forest lands by promoting Village Forest Committees, Charagh Vikas Samitis and Watershed Development Committees. Hydrogeology and biodiversity profiles of the area were drawn prior to the initiation of biophysical interventions. Such

profiles were understood alongside the social, economic and ecological realities of the area to design location specific strategies. Discussions on the possible ways ahead helped in enhancing the role and responsibility of the local communities in the management of their natural resources. Though initiated less than two years ago, activities in the region have now spread to 29 habitations.

Efforts aimed at soil and moisture conservation are paying early

dividends and there is a perceptible improvement in groundwater recharge. Efforts aimed at improving surface water availability have also resulted in water sharing arrangements and improvement in agriculture productivity. The efforts to strengthen local governance of natural resources while focusing on evolving mechanisms at the village level, have also extended to building effective linkages between village institutions and the *Panchayats*, resulting in a number of government schemes being leveraged by the communities for natural resource management.

With initial signs of improvement in agriculture resulting from restoring common lands, we would focus on assisting the village communities to evolve mechanisms for assessing the water availability and developing norms for water distribution and judicious use, including choice of crops. With the recent inclusion of the district under the National Rural Employment Guarantee Act (NREGA), a significant financial investment can be directed towards improving natural resources. This region being the origin of the Mahi and Chambal rivers, the opportunity presented by NREGA assumes greater significance and considerable scope for expansion of our activities. ■



The construction of structures to harvest the surface flow of water has created opportunities for assured critical irrigation on erstwhile marginal lands. More significantly, Dindorkheda and the surrounding villages are perceiving the water so harvested as a common property where water for animals round the year is a first order priority.

organized, so as to strengthen the managerial and governance related skills of the institutions. Regular on-site training programmes on soil and water conservation were conducted. Efforts have been made to involve various stakeholders from the community, *Panchayats*, e-choupals, Forest Department, village institutions, etc. to deliberate on developmental issues of the region and ways of ensuring convergence in objectives for the overall development of the area.

- The district administration, Pratapgarh invited FES to participate in the Drought Relief Programme in the project villages, as a result of which a sum of Rs. 1.4 million has been leveraged by the village institutions for deepening of water harvesting structures. At the request of the Forest Department, the team also conducted a training programme for range officers in the region.

ANGUL, Orissa

FACT FILE

Project Districts	Angul and Dhenkanal
Forest Types	Moist Deciduous and Dry Deciduous, Scrub Forest
River Basin	Mahanadi and Brahmini
Percentage of Common Lands, Including Forest	50.5%
Percentage of People Living Below Poverty Line	61%
Village Institutions Associated With	173
Area Under Protection	15,465 hectares
Total Households of Project Villages	12,372

Exhibition stalls were set up under six themes, as part of the 3rd annual *Krishak Mela* (Farmers' Fair) to highlight a sound understanding of the interactive aspects of forest, water and farmland management. With farmers from 70 odd villages, the *Mela* is emerging as a forum for reinforcing informal exchange networks between communities, as well as participating NGOs, academicians and government departments.

Lying in an area where the Eastern Ghats and Deccan Plateau meet, the project area in Orissa is located in the central districts of Angul and Dhenkanal. Several small streams and rivulets flow across the area, eventually draining into two major rivers – Mahanadi and Brahmini. The region is well forested in several areas and includes the Satkosia Gorge Wildlife Sanctuary. The forests are mainly dry deciduous with a mix of moist deciduous forests in some places. Rainfed agriculture and forest produce provide critical support to

sustain livelihoods. The region has a rich history of community led efforts in the protection of forests and our efforts strive to build upon such local initiatives.

We began working in the area in 1987 and are presently associated with 173 community institutions that protect and govern nearly 15,465 hectares of common lands and forest lands. Our work in the area focusses on strengthening village institutions and empowering communities in their efforts to protect *gramya* jungles and



1998

UPDATE 2006-2007

- Soil and water conservation activities were undertaken in 220 hectares and about 68,000 saplings of 52 tree species were planted, including some of the endemic species such as *Adina cordifolia* (Kuruma), *Bridelia retusa* (Kasi) and *Bambusa tulda* (Sundarbans Bamboo).
- Forty-eight capacity building programmes focusing on different aspects of natural resource management were conducted. We also helped the Soil & Water Conservation Department in developing perspective and watershed plans for three villages of Athamallik subdivision.
- A total of Rs. 3.2 million has been leveraged from the Forest Department for the livelihood enhancement of three villages located within the Satkosia wildlife sanctuary and organised in the nature of eco-development committees. We assisted the Forest Department in preparing village development plans of three forest villages in Satkosia wildlife division.

other forests. The conservation of uplands, along with soil and water conservation measures, has led to an increase in water availability resulting in an increase in farm production. We also continue to strengthen community initiatives for forest protection and livelihood opportunities in the Athmallik region, which forms the critical corridor between the Satkosia Gorge Wildlife Sanctuary and the Panchadhara reserve forests.

While the self-initiated protection of forests and commons by

communities continues, official recognition of this initiative and granting of tenure over such lands are key concerns that we continue to pursue. With both districts coming under the ambit of the National Rural Employment Guarantee Scheme, a substantial financial investment is envisaged for providing wage employment to the communities. This gives us an opportunity to influence the village communities and *Gram Panchayats*, to plan and implement ecological restoration activities and strengthen their livelihood base. While

initial efforts at working on issues of conservation and livelihoods together have shown positive results in building a constituency for conservation at a village and inter village level, we are widening the constituency by involving interested individuals, scientists, academia, concerned government departments and Non Governmental Organizations for a better stewardship of the area's natural resources.

For this purpose groups of men and women, especially the youth who are knowledgeable of their surroundings, show a promise of leadership and have a vision for the development of their area, are being facilitated. By guiding their enthusiasm with the required information, and encouraging a sharing of experiences, identified groups are being motivated to articulate their own understanding of natural resources, comprehend trajectories of progress and locate systemic causes that impede local development, or drivers that can accelerate it. In this way we hope to create a contingent that will confidently collaborate with the local administration, and successfully nest modes of collective action within a broader framework of governance for natural resources. ■



2007

Regeneration efforts along the ridge portion of forests, and subsequent channelling of first and second order streams to two water bodies in the lower reaches has created an abundance of such measure, that it has changed the capability of 38 hectares of cropland from rainfed to irrigated, increasing the returns to farmers.

- A sample study of 11 villages reveals that conservation of forests and commons on the uplands and simultaneous intervention on adjoining agricultural lands has increased net cultivated area by 263 hectares, benefiting 463 families and resulting in an additional income of about Rs. 6 million per annum.
- A forum of 28 villages has also emerged during the period to discuss conservation issues of the Satkosia Gorge Sanctuary, to enforce grazing regulation and collectively plan for development

activities. Seven regional fora comprising 45 village institutions continue to protect stretches of common land and address issues like forest fires, trade in forest produce and policy developments.

- With a view to providing policy makers, development practitioners, academia and local officials an effective tool for development planning, the collation of a comprehensive database on the development context of Orissa has been undertaken. Analytical outputs derived from the database will assist in information dissemination.

Commons and Rural Livelihoods

In the several dryland areas that are facing distress in agriculture, the depletion of natural resources has added to the burden of the farmer. Though it is less clear whether improved natural resources really offer a long-term economic route out of poverty, it is evident that they do provide a safety net for the poorest.



Drylands cover almost 50% of the country's geographical area and are characterized by low average annual rainfall ranging between 300 mm to 800 mm and the presence of dry deciduous, thorny and scrub forests. The drylands harbour some of the best grasslands of the country which provide a habitat for a variety of birds, mammals and reptiles. They are also home to over 40% of our population, a sizeable portion of whom are agro-pastoral communities. Contrary to popular perceptions the semi-arid drylands produce upto 42% of our foodgrain and are vital to the food security of our nation.

To deal with the risks posed by a water scarce environment, dryland communities have adopted diversified livelihood practices. In addition to rainfed farming supported by innovative and unique water harvesting systems and diversified cropping patterns, many dryland communities are also involved in livestock rearing which plays a significant role in maintaining the fertility of their fragile farms but also supplements the incomes earned from agriculture.

The entire system hinges on the presence of common lands, which allow the communities and especially the small and marginal households among them to maintain their livestock by providing fodder. With most of the lands that were hitherto common properties coming under state custody and going outside the

domain of the traditional community institutions, the common lands and especially the lands categorized as revenue wastelands came to be regarded as open access lands and large areas have been either legally transferred to become private holdings or are illegally encroached upon.

The answer to the challenge posed by the deteriorating situation, in our dryland regions seems to lie on the one hand in restoring forest-water-livestock-agriculture linkages, and on the other energising local institutions in evolving mechanisms to regulate the unviable extraction patterns of biomass and water. With this understanding we work in the dryland regions of Andhra Pradesh, Karnataka, Rajasthan, Madhya Pradesh and Gujarat. Our work in these areas over the past decade and more has been to revive, to re-adapt and strengthen the local processes of collective action for restoring the health of the common property resources through appropriate conservation measures.



MADANAPALLE, Andhra Pradesh

FACT FILE

Project Districts	Chittoor and Anantapur
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Papagni
Percentage of Common Lands, Including Forest	57%
Percentage of People Living Below Poverty Line	58%
Village Institutions Associated With	183
Area Under Protection	10,624 hectares
Total Households of Project Villages	8,818

To reduce pressure on common lands from an increasing demand for fuel wood, mainly due to the requirement of hoteliers, schools for their mid-day meal programme and local household consumption, energy conservation measures were scaled up in collaboration with Non-conventional Energy Development Corporation of Andhra Pradesh through the promotion of devices such as *bbattis* (improved commercial scale stoves) and biogas units.

In Andhra Pradesh our efforts on ecological restoration are being implemented in the lower catchments of Papagni river basin that form a contiguous area spread across north western parts of Chittoor and south eastern parts of Anantapur districts. The area is located in the trijunction of the Deccan Plateau, the Eastern Ghats and Western Ghats exhibiting elements of all the three and thereby giving it a unique character. The forests are predominantly dry deciduous forests, thorny scrub

forests and scrub forests. The land use of the mid slopes, once under vegetation cover, has changed to marginal agricultural lands or overgrazed grazing lands, resulting in increased loss of soil and moisture from these watersheds. With the area facing drought conditions more frequently, the degradation of the natural resources further compounds the existing crisis.

Initiated in 1991, our work in the districts of Chittoor and Anantapur now covers 183 habitations



UPDATE 2006-2007

- About 435 hectares of common lands were planted with 124,000 saplings of 14 local species and 600 kgs of seeds belonging to eight local species were dibbled in the area of 142 hectares. In addition about 82,000 *Pongamia* saplings were planted along the drains.
- As a pilot initiative in the area that could be highlighted to address conservation measures in urban areas, water-harvesting measures including roof water harvesting, were implemented at Sumanavam school to address their long-term water crisis.

Members of the Madanapalle Municipality were shown the advantages of such measures and were impressed upon the need for scaling up such efforts.

- Being invited to support six *Panchayats* in implementing rural employment schemes, we assisted them in conducting surveys, identifying eligible persons and preparing village levels plans. Capacity building sessions were organised under the Andhra Pradesh Rural Employment Guarantee Scheme (APREGS) to implement ecological restoration activities.

protecting and managing about 10,600 hectares of forests and wastelands. To work on ecological restoration at a landscape level covering different land categories, Tree Growers' Cooperative Societies (TGCS) are promoted on revenue wastelands, and *Vana Samrakshana Samithis* (VSS) for interventions on forest lands. In the two main tributaries (of Papagni river) that form the present project area most of the revenue wastelands and forest lands are already under protection and management of the

village communities. During the year, the ongoing Food Assurance programmes of the government provided an opportunity to focus efforts on the mid slopes to improve the biomass productivity of these degraded lands.

In an economy characterised by agrarian distress where large numbers of people are forced to migrate for want of livelihood opportunities, the Employment Guarantee Scheme presents an opportunity to generate local wage employment that would improve

and sustain the livelihoods of the rural poor. We aim to leverage the scheme to improve the functioning of the *Panchayats* and synergistically improve the management and governance of natural resources. Towards this end, we are involved in a number of studies on quantifying the availability and extraction levels of biomass and water in the region, to enable local communities to make informed choices regarding the use of natural resources. Findings of studies on the availability and extraction of biomass revealed an unsustainable pattern, and we have scaled up the adoption of energy conservation measures in villages and semi-urban settlements so as to complement the conservation efforts on forests and common lands.

While we continue to bring more land and villages under a conservation regime and thereby improve the biomass and moisture availability, considering that we are located in an area prone to agricultural distress, we also need to explore viable options of fortifying their farming systems, generating options for increasing incomes and designing institutional arrangements that cater to merchandising functions which are socially just and ecologically sound. ■



The small habitation of Gudlavaripalle has remained cohesive enough to restrict the expansion of concurrent mining activities in adjoining areas. Some other villages in the area are of the opinion that it might be more pragmatic to apportion areas for mining and make the industry more accountable to the conservation of the region.

- In order to identify measures whereby local communities can evolve sharing arrangements as regards water we collaborated with the Advanced Center for Water Resources Development and Management (ACWADAM) to assess the ground and surface water availability. Impact of project interventions on the nutrient and moisture retention status of soil, is being undertaken along with the World Agroforestry Center.
- During the year we also collaborated with Watershed Support Services and Action Network (WASSAN), Hyderabad and

Agriculture Man Ecology (AME), Foundation, Madanapalle for ensuring replication of our experiences, and developing a module on sustainable agriculture respectively.

- Terms of reference have been signed with the Forest Department in Anantapur, for the recognition of *Vana Samrakshana Samithis* (VSS) under Community Forest Management guidelines, allowing for expansion of conservation efforts in 14 habitations covering about 2,500 hectares.

CHINTAMANI, Karnataka

FACT FILE

Project Districts	Kolar and Chikballapur
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Papagni
Percentage of Common Lands, Including Forest	44%
Percentage of People Living Below Poverty Line	23%
Village Institutions Associated With	125
Area Under Protection	5,470 hectares
Total Households of Project Villages	7,774

We work in the upper catchments of the Papagni river in the northeastern part of Kolar district comprising parts of Chintamani, Siddlaghatta, Bagepalle, and Srinivaspur talukas. Lying in contiguity with the areas that are being worked upon in the lower reaches of the river in Andhra Pradesh and in the trijunction of the Eastern Ghats, Western Ghats and the Deccan Peninsula, the area exhibits elements characteristic of all the three zones making it unique. The common lands classified as grazing

lands (*gomala*) and forest lands are typically on the hilly slopes, which are boulder-strewn and largely bereft of vegetation. Cascading tanks form another dominant feature of the area. Irrigation is largely through tanks and bore wells, with tanks also providing for domestic and livestock water needs.

While we began working in the district much earlier, since 1998 our work is concentrated in the Papagni river basin on regeneration of grazing lands (*gomala*) and forest

In a state level seminar titled – Policy and Practice: Mainstreaming Governance of Natural Resources with Panchayati Raj Institutions, more than 50 participants from across the state shared their experiences and concerns of working with *Panchayats*, and highlighted the importance of Sec 61 (A) of the Karnataka Panchayat Act, 1993, that allows for the constitution of sub-committees for the improved governance of natural resources.



UPDATE 2006-2007

- About 215 hectares of land has been covered under various soil and moisture conservation measures. 20,000 saplings and 222 kgs of seeds of six tree species of different native varieties were planted and dibbled in the common land of 22 villages. 417 kgs of fodder seeds of different varieties were distributed to farmers.
- A campaign aimed at undertaking seed dibbling on a massive scale was organised to mobilise a concerned, but otherwise scattered citizenry. The week-long million seed ball campaign,

organised in collaboration with Altech Foundation, Bangalore, brought together the rural poor and urban corporate alike; it was led by the local legislator, and supported by government departments, civil society organisations and educational institutions.

- A three-module training programme has been designed to strengthen *Panchayats'* capacity on natural resource management. So far seven *Gram Panchayats* have undergone the first and second modules of the programme. 34 thematic training programmes focusing on environment education and ecological restoration were conducted.

lands through the involvement of *Panchayats* and Village Forest Committees respectively. We strive to strengthen the local governance of natural resources by the *Gram Panchayats*, through the devolution of management functions by forming sub committees of *Panchayats* at the habitation level. We are currently working with 125 habitations in protecting and managing 5,470 hectares of grazing lands and forest lands.

Elaborate mechanisms

for protecting common lands from excessive grazing and encroachments, and undertaking biophysical intervention have been evolved through habitation level *Gram Sabhas*. The usufruct rights and concerns of user groups is dialogued and consolidated at the Village Forest Committee and sub committee level. Realising the need for a coordinated approach, an effort is being made to strengthen linkages between VFCs and the *Panchayats*. Further, an inter-departmental *Taluk* level

Coordination Committee has been constituted with an over arching objective of enabling convergence of development programmes in the *Taluk*, and discussing issues related to natural resource management on a common platform so as to enable replication of the efforts and successes achieved in other *Panchayats*.

Our experience of working with *Panchayats* on the management and governance of natural resources has revealed three important policy imperatives. Firstly, the need for devolution of the *Panchayats* to hamlet level *Gram Sabhas* (which are not the same as ward *sabhas*) and depending upon the scale and use regime of the resource, making all other forms of institutions (such as tank management committees or village forest committees) subordinate to *Panchayat* or *Gram Sabha*. Secondly, to bring in an element of permanence by instituting a Standing Committee for managing natural resources rather than leaving it to the *Panchayats* to set up temporary sub committees. Thirdly, making it mandatory to incorporate natural resources management in the planning process of the *Panchayats*. ■



2007

In a rather daunting landscape strewn by boulders, determined efforts by the people of Sajipalle to control grazing and prevent fires have enabled a steady recovery of the vegetation. In what seems as barrenness the local people reported several sightings of bear and hyenas.

- The findings of a study, which quantified the extent of over extraction of biomass in Itkaldurga forest range, were shared at a forum meeting. In a manner much similar the processes of another two forums were facilitated to deliberate location-specific issues such as protection of common lands, felling, unregulated grazing and instances of fire.
- It has been estimated that the 4,315 smokeless *chullahs* and 135 biogas plants installed till date have resulted in an

annual reduction in fuel wood usage of 1,266 tonnes. During the year 665 *chullahs* and eight biogas plants were installed in the project area.

- The village institutions in the area have approached their *Gram Panchayats* to forward the existing *Panchayat* resolutions recognizing the extent of *gomala* land being protected by the villages, to the revenue department, in order to prevent their grazing lands from being leased for mining and commercial activities.

BHILWARA, Rajasthan

FACT FILE

Project Districts	Bhilwara, Ajmer and Jaipur
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Mej, Menali and Lirri
Percentage of Common Lands, Including Forest	55%
Percentage of People Living Below Poverty Line	32%
Village Institutions Associated With	247
Area Under Protection	23,933 hectares
Total Households of Project Villages	31,670

Located in the south-eastern part of Rajasthan, the project area is spread across the Mandalgarh, Mandal, Asind and Raipur blocks of Bhilwara district and the Pisangan and Masuda blocks of Ajmer district. The topography is largely undulating and characterized by vast stretches of grazing lands and common lands. Grass lands occupy large stretches of landscape with 11.5% of total geographical area under permanent pastures and 7% under forest cover.

The Aravali and Vindhyan hill ranges intersect the area at several places and the vegetation is characterized by dry deciduous and tropical thorny scrub forests. Being a drought-prone area with poor average annual rainfall, rain-fed agriculture and animal husbandry are the major livelihood options.

Beginning in 1995, our association has extended to 247 community institutions that protect and manage over 24,000 hectares of revenue

In Amritya the village community completely prevents the mechanisation and deepening of open wells. Collective arrangements, of this nature, have even restricted upper caste farmers and protected the water table for the good of a larger group that relies on open wells. This has resulted in a multiplier effect with neighbouring villages, imposing similar measures to prevent the extraction of gum from their forests by outsiders.



UPDATE 2006-2007

- Soil and water conservation measures were undertaken on 770 hectares of common land. 17 water-harvesting structures have been constructed to enhance surface and ground water availability. A total of 948 hectares of common land was brought under regeneration by planting 30,000 saplings of local tree species.
- The District Administration, Bhilwara awarded the Team a letter of appreciation in recognition of our efforts in revegetating forest land, grazing lands and watersheds.
- 91 farm ponds were undertaken on farm lands with financial assistance from the government to enhance water availability in private fields. In addition, 13,286 ber (*Zizyphus jujuba*) saplings were supplied by the Horticulture Department to about 200 farmers as a strategy to minimise risks from crop failures, with the farmers contributing for digging pits, planting and after care.
- Training and meetings were conducted in 48 villages after assessing the village institutions on various institutional,

wastelands, grazing lands and forest lands. The ecological restoration efforts in the area have substantially reduced soil erosion and have significantly improved water availability and biomass productivity. The concurrent improvement in fodder and water availability from the common lands has improved the prospects for animal husbandry, resulting in reduced migration and increased incomes that offset scarcity due to failure of agriculture in drought years.

While positive results of ecological restoration is encouraging communities to invest in increasing their livestock, the issue of ecological thresholds of grazing lands and limits to the increase of livestock has to be given attention. Though our work in contiguous villages has positively impacted recharge of ground water, considering that the area is declared a dark zone, there is a need to search for viable options that consume less water and yet increase

the productivity of agriculture. While there are some excellent examples of villages regulating ground water exploitation, the local level federations need to extend these principles to other areas and debate on issues regarding some individuals unduly gaining at the expense of the collective good.

While local institutions, government officials, academia and civil society organisations have been meeting periodically over the last few years, resulting in a platform that campaigns on local level issues, they face the daunting challenge of evolving local land use plans, which are based on an interdisciplinary multiple user analysis of the situation. The effort of collating information relating to biodiversity, ethnobotany, hydrogeology and other biophysical parameters in partnership with local communities is exceptionally helpful in this regard. Such information is motivating communities to revisit and appraise the practicability of existing norms and institutional byelaws in direct reference with the prevailing ecological scenario, changing communitarian patterns of resource use and access, and impacts of interventions undertaken so far. ■



In the villages surrounding Gorana where the men customarily hunt all forms of wildlife during a festive celebration called *aheda*, village institutions that have been protecting forests over the last few years campaigned against the age old tradition and suspended the practice for the first time in the history of the region.

biophysical and managerial parameters. Concerted efforts were also made to develop linkages between the project villages, *Panchayats* and the government agencies. Villages of 12 *Panchayats* were assisted in incorporating village-wise plans in the Five-Year Plan of *Panchayats*.

- Three local level federations of villages, *Paryavarjan Jan Chetna Manch*, *Silhoti Madariya*, and *Karera* organized a three day *padayatra* – a march covering 56 villages, with support from the government departments, and partners of *Saanjha Prayas*

a network of development agencies in the area to highlight the issues of land degradation and water scarcity in the region.

- In response to a request from the district administration, 45 customised improved *bhattis* (commercial scale stoves) were designed and constructed in the premises of schools for preparation of mid-day meals. In seven such schools roof rainwater harvesting systems were also constructed to provide safe drinking water.

AGAR, Madhya Pradesh

FACT FILE

Project Districts	Shajapur and Rajgarh
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Lakhundar, and Garhganga
Percentage of Common Lands, Including Forest	25%
Percentage of People Living Below Poverty Line	56%
Village Institutions Associated With	47
Area Under Protection	5,011 hectares
Total Households of Project Villages	3,300

Characterized by an undulating topography with staggered small hillocks and narrow drainage channels, the project area is located in the Lakhundar river basin in Shajapur district and forms a part of the Malwa plateau. Forest lands comprise only one percent of the total geographical area of the district. The common lands constitute about 40% of the geographical area, mostly open pastures which support the fodder needs of cattle and small

ruminants of the agro-pastoral communities. Agriculture and animal husbandry are the two major sources of livelihood, with wage labour forming a significant component of the livelihoods of the marginal and landless. Scarcity of drinking water for people and cattle following years of successive droughts has been a cause of major concern in the area.

Our work since 1997 has extended to the support of 47 villages, where we have focused



Village institutions with a sound ecological orientation are better positioned to weigh the consequences of alluring initiatives to ensure that they complement restoration efforts. On the one hand villages formed a Producer Company for providing high quality cattle feed, while on the other they have voiced their concern about recent emphasis on *jatropha* to the neglect of existing biodiversity and customary user rights.

UPDATE 2006-2007

- Soil and water conservation activities have been carried out on 111 hectares of common land and two small water-recharging units were constructed, especially to provide drinking water for livestock. 600 kg of seeds of 12 local species were broadcast and dibbled on 190 hectares of common land.
- Around 50 issue-specific training programmes and exposure visits were conducted apart from regular village and group meetings. Women orientation and environment education programmes and training programmes on organic farming practices were also conducted.
- With our support, village institutions have leveraged an amount of Rs. 3.5 million from various government programmes for construction of water harvesting structures on common lands and for improving productivity of marginal farmlands, which belong to the poorest of the community.
- The team was invited by the district administration to provide technical assistance to *Jalabhishek*, a rainwater-harvesting programme that is being implemented by the State Government through *Panchayats*.

on the revegetation of common lands and the strengthening of local governance mechanisms. Years of negotiation among communities facilitated by us has resulted in encroachments on common lands being relinquished, thereby increasing the total area available as commons. Further, the common practice of open, unregulated resource use is gradually shifting towards a carefully managed, regulated use regime that is sensitive

to the needs of the poor and marginalised. Extensive soil and moisture conservation activities such as contour bunds and trenches, followed by the construction of several water harvesting structures, have proved to be extremely beneficial in substantially increasing the water table in the area and in making surface water available for human and livestock needs. Fallow lands have been brought under cultivation, and in several instances

farmers are now able to obtain a rabi crop of gram or wheat. The increased area under double cropping and better regeneration on common lands has enhanced the availability of fodder for livestock, owing to which the poorer sections have been able to diversify into livestock.

While the work over the years has led to the increase in the area under second crop, due to an improved moisture regime, there is a need to assist the communities to evolve mechanisms for the judicious use of surface and groundwater so as to maximize the collective benefit and reduce the conflicts over water use. While the conducive arrangements with the nomadic pastoralists on migratory routes have reduced conflicts, the local federations need to expand their scope to engage with issues related to carrying capacity of resources and their appropriation within and across villages. We continue to strengthen community efforts on natural resource management by working closely with the village-level *Gram Sabha* (4th tier under Madhya Pradesh Panchayati Raj Act) and the *Gram Panchayat* and helping in integrating the village level plans into the *Panchayat* plan. ■



2007

Staggered trenches for an undulating landscape, hardy species for the harsh weather, protection mechanisms for a regime is oft mistaken as 'open access', and several years of restraint goes into improving such degraded terrains. A 360 degree view of the area shows contiguous patches of land in varying stages of regeneration.

- In an effort to make villages actively engage with *Panchayats* on various development aspects and natural resource management issues, meetings and visits of ward-members and *sarpanch* were arranged to project villages. The CEO, *Janpad Panchayat*, and other *Panchayats'* representatives, also visited project villages as part of the initiative.
- A collaborative research project on understanding the geo-hydrology and the impact of soil and moisture conservation measures has been initiated with Clemson University,

South Carolina, USA. The project would involve periodic visits by students and faculty for collection of information and further analysis. The objective is to create a groundwater model that will help simulate the water balance.

- With support from BASIX, members from four villages formed Chetna Producer Company for providing quality cattle feed in villages (such as cotton seed cake) as part of an initiative to strengthen livelihood options.

ANAND, Gujarat

FACT FILE

Project Districts	Anand, Kheda and Vadodara
Forest Types	Dry Deciduous, Tropical Thorn Forest, Scrub Forest
River Basin	Mahi
Percentage of Common Lands, Including Forest	33%
Percentage of People Living Below Poverty Line	33%
Village Institutions Associated With	72
Area Under Protection	1,825 hectares
Total Households of Project Villages	19,091

With regular inundation of the banks of the river Mahi and erosion from the flow of drains, the embankments of the river characterised by deep ravines are becoming a major cause for ecological concern impacting livelihoods in the rural areas. Along the coast of Cambay vast stretches of saline mudflats bring in complexities of salinity ingress. Common lands comprise about one-third of the

project area, with a higher proportion of revenue wastelands than forest lands. The economy of the region is largely based on cultivation of cash crops, dairying and industrial activity. The region has about six of the 45 identified wetland regions in Gujarat. It is widely known for its rich diversity of migratory waterfowl and other bird life, and has been declared an Important Bird Area (IBA). The area is reported

In the saline mud flats of the Khambat area where hardly any species survives the propagation of *Prosopis juliflora*, a species otherwise criticised for its invasive nature, has acted as a barrier for salt laden winds to adjacent farmlands that were hitherto unproductive. Thirty hectares of land was reclaimed for agriculture, and land productivity of another 60 hectares was improved.



UPDATE 2006-2007

- Soil and water conservation measures were undertaken on 66 hectares of ravinous land along the river Mahi including nine hectares of farmlands in the three villages on the river bank. A total of 33,750 saplings of native species were planted and about 250 kg seeds of 13 tree species were dibbled in about 80 hectares of common land in five villages. In addition, about 12,000 saplings were planted on farm bunds of 290 hectares of private land.
- About 1,300 root-slips of soil-binding *Cenchrus ciliaris* and *Dicanthium sp* were planted and fodder seeds of *Cenchrus ciliaris*, *Bracharia rosea* and *Panicum maximum* were broadcast on common lands to stabilise advancing ravines.
- 54 capacity building programs including exposure visits were organized during the period, and continued support for institutional strengthening was extended to Tree Growers'

to have the highest density of trees in the country owing to the practice of growing trees on field bunds.

Initiated in 1986, we work with 72 villages in the districts of Anand, Kheda and Vadodara. Given the scattered distribution of wastelands in the area, in the initial years we worked on revegetating degraded lands through Tree Growers' Cooperatives. Our experience of

working on the ravines has shown that the revegetation of the river banks has led to the stabilization of the soil and reduced the rate of erosion. Furthermore, vegetative shelter belts on the saline mud flats have helped reclaim hitherto unproductive agricultural land in the hinterland by minimizing the impact of salt laden winds. Studies are also being undertaken to quantify

the impact of the interventions so as to enable scaling up of these interventions in the area. Using Natural Resource Accounting System (NRAS) framework, quantification and valuation of natural resources undertaken over the last ten years has continued in the identified four villages. The monitoring framework highlights not only the economic incentives that accrue from regeneration but also environmental benefits such as levels of carbon sequestered and soil prevented from erosion.

Our work in the area is now focused on expanding the reclamation and stabilization of ravines on the banks of river Mahi and on developing vegetative shelter belts on the saline mud flats along the coast of Khambhat (Gulf of Cambay). Considering the rich diversity of bird life and waterfowl in the area, we have initiated studies to inventorise the flora and fauna of the water bodies and design conservation measures. In an area characterized by some very rich households and many poor, our efforts would continue to aim at strengthening the institutions at the village level so as to enable the poor to access benefits from the commons. ■



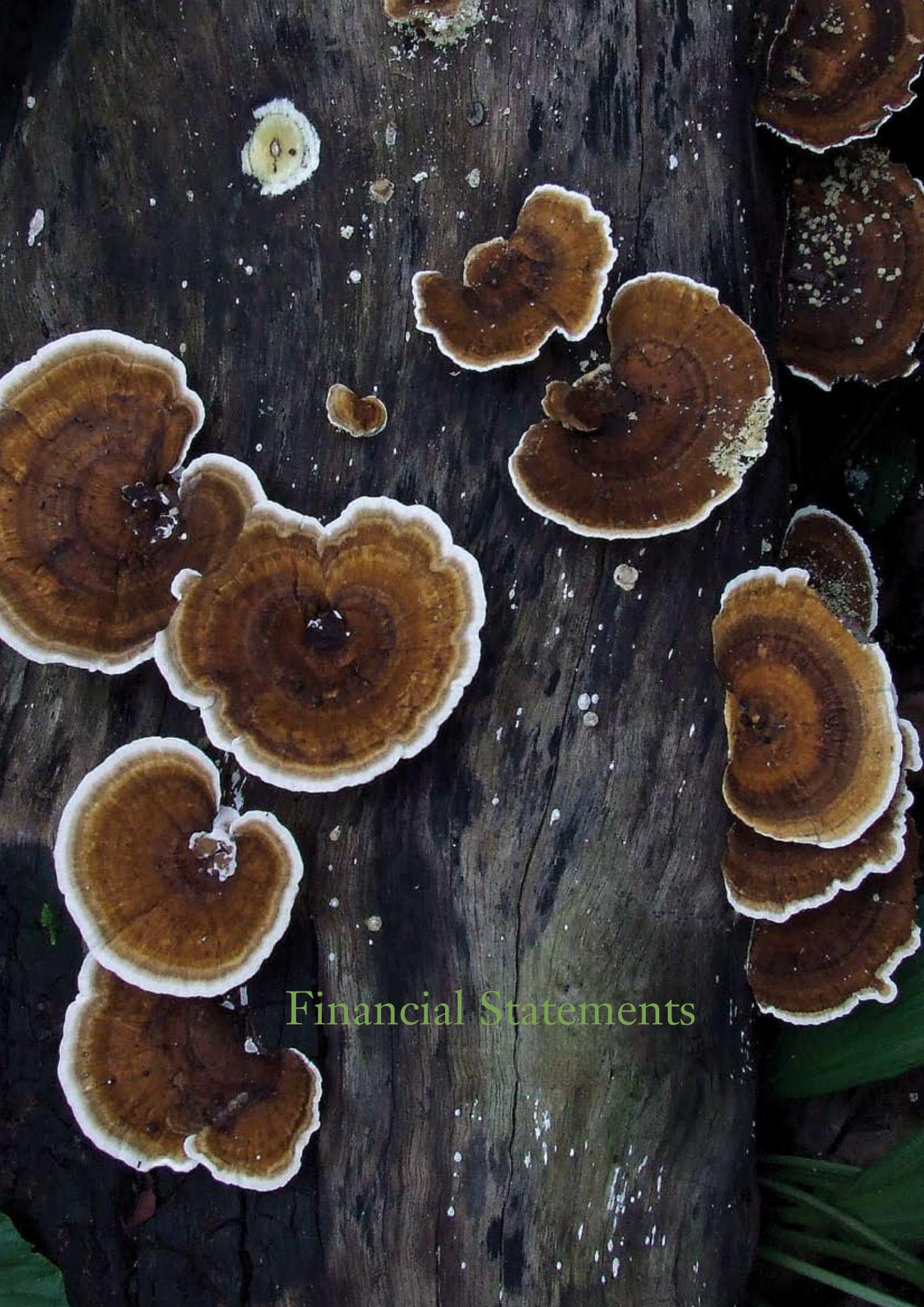
2007

While regeneration on the common lands of Charangam, a village on the banks of Mahi, has been highly successful, it was not until recently and only after an intense dialogue that residents of the largest hamlet who earlier dominated the decision making processes agreed to let other user hamlets play an active part.

Cooperative Societies to adapt mechanisms for judicious and sustainable harvesting from protected common lands.

- In six villages where the lease over revenue wastelands is coming to an end, the cooperatives have submitted applications for renewal of land lease to the District Collector with evidence of management activities undertaken by the Society. Till date, the lease for three cooperatives has been renewed.

- An exercise to study the extent of ravine formation was undertaken in three villages along the Mahi river in collaboration with the Central Soil and Water Conservation Research and Training Institute (CSWCSRTI), Vasad and accordingly an action plan was prepared for ravine reclamation. Further, a collaborative project with CSWCRTI has been initiated to test the feasibility of using bamboo for ravine reclamation.



Financial Statements

Auditors' Report

We have audited the attached Balance Sheet of Foundation for Ecological Security as at 31st March, 2007 and also the Income and Expenditure Account for the year ended on that date hereto. These financial statements are the responsibility of the management of the Society. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in India. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material mis-statement. An audit includes examining on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

Further, we report that:

- i) We have obtained all information and explanations, which to the best of our knowledge and belief were necessary for the purposes of our audit;
- ii) In our opinion, proper books of account have been maintained by the Society, so far as appears from our examination of those books;
- iii) The Balance Sheet and the Income & Expenditure Account dealt with by this report are in agreement with the books of account;
- iv) The Balance Sheet and Income and Expenditure Account dealt with by this report comply with the accounting standards applicable to the Society;
- v) In our opinion and to the best of our information and according to the explanations given to us, the said accounts give a true and fair view in conformity with the accounting principles generally accepted in India:
 - a) In the case of Balance Sheet, of the state of affairs of the Society as at 31st March, 2007 and
 - b) In the case of the Income and Expenditure Account, of the excess of Income over Expenditure of the Society for the year ended on that date.

As required by the Rule no. 13.7 of the Society, we further report that:

- i) No personal expenses of Officers and members of the Governing Board, except for those payable as per the terms of the appointment/agreement or authorised by the rules and regulations of the Society, have been charged in the books of accounts,
- ii) The transactions of the Society are not in contravention of the constitution of the Society, its rules and regulations,
- iii) The Board of Governors has been properly constituted in accordance with the covenants of Society's rules and regulations.

For **C.C.Chokshi & Co.**
Chartered Accountants

H.P. Shah

Partner

Membership No. 33331

Place: Anand
Date :11.07.2007

Balance Sheet

(AS AT MARCH 31, 2007)

	Sch.	2007 Rs	2006 Rs
SOURCES OF FUNDS			
CORPUS FUND	1	189,557,597	130,283,274
RESERVES AND SURPLUS	2	21,240,941	65,769,627
PROGRAMME FUNDS	3	84,555,199	122,086,550
TOTAL		295,353,737	318,139,451
APPLICATION OF FUNDS			
FIXED ASSETS	4		
Gross Block		42,247,540	42,391,818
Less: Depreciation		25,068,786	23,132,234
		17,178,754	19,259,584
CURRENT ASSETS, LOANS AND ADVANCES			
Inventories	5	214,138	229,891
Cash and Bank Balances	6	274,949,745	290,832,805
Other Current Assets	7	2,729,963	6,209,266
Loans and Advances	8	5,925,512	7,705,731
		283,819,358	304,977,693
Less: Current Liabilities & Provisions	9	5,644,375	6,097,826
NET CURRENT ASSETS		278,174,983	298,879,867
TOTAL		295,353,737	318,139,451
Significant Accounting Policies	11		
Notes on Accounts	12		

As per our attached report of even date

Amrita Patel
Chairman

For C.C. Chokshi & Co.
Chartered Accountants

Place : Anand
Date : 11.07.2007

H.P. Shah
Partner

Place : Anand
Date : 07.07.2007

Jagdeesh Rao
Executive Director

Schedules and Notes on Accounts can be made available at request.

Income and Expenditure Account

(FOR THE YEAR ENDED MARCH 31, 2007)

	Sch.	2007 Rs.	2006 Rs.
INCOME			
Fund Received:			
— For Projects		76,104,272	61,337,582
— Others		97,080	14,227,468
		76,201,352	75,565,050
Interest and Other Receipts	10	606,464	1,424,588
Receipts on Study, Survey and Training		3,410,194	3,657,935
		80,218,010	80,647,573
TOTAL			
EXPENDITURE			
A. STRENGTHENING COMMUNITY BASED INSTITUTIONS AND NATURAL RESOURCES			
Planning and Survey		359,023	709,821
Formation and Strengthening of Community based Institutions		180,109	494,873
Soil and Water conservation measures		16,433,599	11,255,282
Revegetation measures		5,529,102	5,496,541
Measures to sustain livelihoods		3,746,596	4,277,621
Energy conservation activities		901,814	404,609
Capacity building activities at village level		2,724,143	1,768,211
Managerial assistance		14,770,345	14,944,713
		44,644,731	39,351,671
B. SUPPORT SERVICES			
I. CAPACITY BUILDING			
Survey and Planning for new projects		513,634	730,235
Capacity building of staff members		2,496,477	2,363,505
Promotional activities and Advocacy		3,834,541	2,835,371
Documentation, Studies and Dissemination		895,986	1,824,201
		7,740,638	7,753,312
II. ADMINISTRATION AND RECURRING EXPENSES			
Staff salaries and benefits		20,965,560	21,118,671
Travel and conveyance		550,680	424,818
Professional fees and Consultancy charges		779,348	805,578
Motor vehicle running and maintenance		311,114	245,425
Rent, Rates, Taxes and Electricity charges		1,427,283	1,431,389
Communication expenses		1,212,864	1,063,276
Printing and Stationery		390,287	414,889
Computer maintenance		802,074	715,657
General repairs and maintenance		441,684	408,817
Insurance premium		409,633	451,762
Statutory Audit Fees and expenses		203,593	175,904
Miscellaneous expenses		717,183	811,588
		28,211,303	28,067,774
C. Expenses from Other Funds		80,596,672	75,172,757
D. Expenses on Studies, Survey and Training		122,042	13,821,589
		2,171,741	2,408,908
		82,890,455	91,403,254
Depreciation (Sch. 4 Column G)		2,907,580	3,845,097
Less: Profit on sale of Assets		93,058	24,298
		2,814,522	3,820,799
Less: Adjusted against Capital Fund (Ref. Sch.2.A)		2,814,522	3,820,799
		—	—
TOTAL		82,890,455	91,403,254
Excess of Expenditure over Income		(2,672,445)	(10,755,681)
Fund Transferred from Projects Account (Sch.3.B)		4,027,201	13,084,274
Fund Transferred from (previous year to) Other Funds (Sch.3.C)		22,422	408,688
Balance of Excess of Income over Expenditure carried to Balance Sheet		1,377,178	1,919,905
Significant Accounting Policies	11		
Notes on Accounts	12		

As per our attached report of even date

For C.C. Chokshi & Co. Chartered Accountants	Amrita Patel Chairman
Place : Anand Date : 11.07.2007	H.P. Shah Partner
Jagdeesh Rao Executive Director	Place : Anand Date : 07.07.2007

Schedules and Notes on Accounts can be made available at request.

Acknowledgement

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