

FOUNDATION FOR ECOLOGICAL SECURITY

**ANNUAL REPORT  
2009-2010**

# Contents

<b>OUR MISSION</b>	01
<b>OUR ORGANIZATION</b>	02
<b>OUR APPROACH</b>	04
Forests in a Landscape	06
Ecological Restoration	08
Commons and Community Institutions	10
Rural Livelihoods	12
<b>STRATEGIC OVERVIEW</b>	14
Learning Processes	17
Spatial Information for Conservation	22
Leveraging Programmes for Conservation	23
Interaction on Policy	24
<b>PROJECT OVERVIEW</b>	26
ARAVALI REGIONAL OFFICE	28
Udaipur, Rajasthan	30
Pratapgarh, Rajasthan	32
Bhilwara, Rajasthan	34
Agar, Madhya Pradesh	36
PAPAGNI REGIONAL OFFICE	38
Madanapalle, Andhra Pradesh	40
Chintamani, Karnataka	42
REGIONAL OFFICE – EAST	44
Angul, Orissa	46
Koraput, Orissa	48
Mandla, Madhya Pradesh	50
GUJARAT	52
Dahod, Gujarat	54
Anand, Gujarat	56
<b>FINANCIAL STATEMENTS</b>	61
<b>ACKNOWLEDGEMENT</b>	61

Cover: Arpit Deomurari

B.K. Sharma



## Our Mission

“As ‘ecological security’ is the foundation of sustainable and equitable development, the Foundation for Ecological Security (FES) 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 FES:

Works 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 and to provide relief to the poor, in particular;

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

Ensures 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;

Works for and promotes 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;

Collaborates with *Panchayat Raj* and other democratic village institutions, as well as appropriate civil society organizations, 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 essence of these efforts lies in intertwining principles of nature conservation and local self-governance in order to accelerate ecological restoration, as well as improve the living conditions of the poor.

## Board of Governors

### CHAIRMAN

Amrita Patel

### MEMBERS

Duleep Matthai \*

Samar Singh

AN Yellappa Reddy

Nitin Desai

Ramaswamy R Iyer

Deepak Tikku

Mahendra Vyas

Representatives of

National Dairy Development Board  
(NDDB)

National Bank for Agriculture  
and Rural Development  
(NABARD)

Jagdeesh Rao  
(Ex-officio Member Secretary)

\* Retired in September 2009

Arpit Deonandan



# Our Approach

In a worldview that is dominated by economic thinking, the role of FES lies in center staging an ecological agenda and reorienting development with a conservation and social justice perspective.

If the conventional approach to development alone were to deliver our nation and its people from poverty, the economic growth of the last two decades would have seen an India completely rid of poverty and a vastly improved quality of life for nearly all of her over billion citizens. What we have instead is, on the one hand, an improvement in the material quality of life of a not-so-insignificant section of the populace and, on the other, a much larger section of the population that bears the brunt of a tragic degradation of their natural surroundings.

It would therefore be appropriate to assert that with a worldview that is still unfortunately dominated largely by economic thinking, there is an immense need to bring to centre stage an ecological agenda, and reorient development from a conservation and social justice perspective.

We work alongside rural communities across India to promote the conservation and judicious management of natural resources, forests and water in particular, through local self-governance institutions. The crux of our efforts lie in locating forests and other natural resources within the prevailing economic, social and ecological demands at the level of villages and village conglomerates, and amalgamating principles of conservation and local self-governance to safeguard the natural surroundings and improve the living conditions of the poor.

By surfacing and acting on the inter-linkages between the various components of a system, we work on systemic drivers that can bring about a multiplier change:

- In soil and moisture regimes which improve the functioning of the entire ecosystem, or ecological health which improves social and economic well-being;
- In collective action, the positive expression of which tilts governance towards more equitable arrangements; and
- In commons, both in physical terms and in intangible terms, as they are the only spaces left for the poor to subsist on, and as they serve as spaces to negotiate the expression of their existence on equal terms.

As we search for ways to bring about an improvement in the living conditions of the rural people, we join the voices that espouse the world-view that the well-being of human society is in the long run based on the ecological health of the planet.



## Forests in a Landscape

Engaging with the natural environment whether for food, fodder and medicine or expressions of music and poetry, many traditions embody honour and concern for ecological well-being. We strive to ensure the ecological integrity of our efforts by working as far as possible with entire landscapes, and with all the interrelated

### The Context

- Forests represent the second largest land use in India after agriculture, covering 23.57% of the overall landmass of 329 million ha. The National Forest Policy, 1988 envisages about 33% of the land to be under forest cover.
- In India, an estimated area of 146.82 million hectares (45% of the total land mass) suffers from land degradation due to water and wind erosion, salinization and acidification, etc.
- About 275 million rural poor people in India depend on forests for at least part of their subsistence, with the collection and processing of Non Timber Forest Produce (NTFP) alone estimated to be worth between USD 208 million to USD 645 million per annum.
- An estimated 11.8 million people are engaged in the business of head loading firewood. Almost 75% of India's farmers are marginal or small landholders and follow a mixed farming system where forests and common lands are the major sources of fodder.
- The total land requirement of the Indian pulp and paper sector is estimated to be 6.4 million hectares (2% of the total land mass). Another 11 million hectares (3.4 %) are to be cultivated with Jatropha.

communities within it, through a range of arrangements on their land and aquatic resources, including commons, public, and private properties.

Forests represent the second largest land use in India after agriculture, covering 23.57% of the overall landmass of 329 million ha. Local people depend significantly on forests and other common lands for fuel wood, fodder, timber, forage, food, drinking water for animals, and other household requirements. About 275 million of the country's rural poor in India depend on forests for at least part of their subsistence, with the collection and processing of Non Timber Forest Produce (NTFP) alone estimated to be worth between USD 208 million to 645 million per annum. Important ecological functions such as improved transfer of nutrients, retention of moisture for a longer period, improved pollination, and pest control directly help improve farm productivity and incomes.

Despite their criticality, forests across India are besieged – previously inaccessible areas are now open to exploitation, and subsistence hunting and gathering in forests has given way to the large-scale extraction of forest resources and produce so as to cater to industrial and distant market demands. While we are yet to fully comprehend how the various cycles of elements, natural, geo-chemical, biological and physical processes are interconnected, we are equally callous and ignorant about the costs that would be imposed upon us, should these connections be disrupted and rendered beyond repair.

In areas characterised by human interaction with the natural surroundings, pragmatism takes precedence over the naturalists' desire for 'Gardens of Eden', and we strive towards the prospect of improved natural surroundings that ensure stable production systems.



Shalosh Nagar



Jagdeesh Rao

Worth a few trillion dollars annually, ecosystem functions purify air and water, regulate climate, regenerate soil fertility and maintain biodiversity. Ecosystems are the life support of the planet and the very foundation of the global economy.

Though it may seem very utilitarian a view, forests and other commons need to be maintained for the ecological functions they serve, services they provide, the biodiversity they harbour, and to mitigate the harmful effects of greenhouse gases. In more direct terms, we must sustain our forests to sustain our agriculture and water requirements. Developmental efforts to improve a given area, often administered by different arms of the government, tend to be fragmented or piecemeal and at times even work at cross-purposes, giving rise to further complexities. Regimes of conservation and use of forests, grazing lands, and water bodies therefore call for umbrella institutional arrangements that span across habitation and administrative domains, and are sensitive to customary means of use and access.

In such a scenario, we work towards:

- Highlighting the linkages between forests and associated production systems in the landscape – agriculture, livestock keeping and fisheries through systemic drivers such as soil, moisture, nutrients, biomass and biodiversity;
- Locating forests and other commons within the larger ecological, social and economic setting such that preservation, conservation and exploitation objectives are assigned to different areas within the landscape;
- Increasing the availability of biomass and water and simultaneously assisting local communities devise norms and mechanisms to prevent injudicious use locally and beyond;
- Concentrating on Common Property Resources as these offer a single platform to collectively address issues of social justice, ecological restoration and poverty alleviation;

### The Larger Need

- Reorient forest policies so that provision of water is the fundamental conservation objective of management and governance of forests.
- Increase in forest cover on non-forest government lands, such as revenue wastelands, for their role in taking the pressure off existing forests by meeting human needs. The proposed Green India Mission aims to achieve this.
- Arrive at regulatory arrangements where collective decisions on optimal land use determine or guide decisions of individual land owners. Decisions on ideal land use should be moved away from discussion on land ownership.
- Conceive a common administrative apparatus such as a Department of Natural Resources, to bring together development programmes aimed at improved forest cover, viable farming systems, stable ground water, etc.
- Recognition of forums of village communities, civil society groups, academia, government officials and interested citizens to manage landscape level issues.

- Integrating and nesting the various village-level institutions involved in natural resource governance under the *Panchayat* without infringing upon their functional autonomy such that even as they work to fulfill their objectives, they are accountable to the *Panchayat*.
- Bringing together the representatives of village institutions, civil society groups, academia and government functionaries on a common platform, so as to achieve better stewardship of the area. ●

## Ecological Restoration

While we hope that the self-renewing character of nature is likely to ensure the rejuvenation of natural systems, we are witnessing a large scale disappearance of flora and fauna, depletion of water tables, and a food crisis of planetary proportions.

### The Context

- Reports released by several credible scientific and research institutes warn that we have less than a decade to cap and reverse our polluting emissions, failing which the many severe storms and floods of recent years may only be the beginning of what might become regular phenomena exacting a high price from human society.
- With 82% of our villages overdraining ground water to meet their needs and cities ferrying water from peri-urban areas, India will be on the list of water-stressed countries by the year 2025. NASA satellite data points out that groundwater levels in northern India have been declining at an alarming rate of as much as one foot per year over the past decade.
- Wetlands are among the most productive life support systems in the world and are getting increasingly degraded owing to factors such as water pollution, expansion of human settlement and infrastructure, encroachment, industrial effluent and poaching, among others.
- Direct impacts of agricultural development on the environment are arising from intensive farming activities depending heavily on fertilizers and pesticides, which contribute to soil erosion, land salination and loss of nutrients as well as water contamination and water logging.

Most of our work is located in the dryland regions of the country where land degradation and depletion of biomass, biodiversity, and groundwater levels have severely stressed ecosystems and rural livelihoods. In our efforts towards restoring degraded ecosystems, we mainly focus on assisting natural regeneration by making most of the sub-tropical climate and abundance of rootstock in each region. In some areas, supported by appropriate measures of soil and moisture conservation and regeneration, there is marked improvement in recharge of groundwater levels, biomass productivity and biodiversity, resulting in increased crop productivity, double cropping, fodder and water availability. While it is heartening to witness such positive developments, we also observe injudicious practices such as growing water-intensive crops in dryland areas, large scale sand mining, and felling of trees (brick making) for construction activities, calling for discussion and action on balancing the availability of natural resources with their utilization.

In our approach to eco-restoration we:

- Begin by identifying contiguous stretches of land, typically the catchment of a small river, several adjacent macro-watersheds, a range of hills, build a profile of what is on the surface and what lies below, the topography, species diversity, soil quality, surface water availability and flows, geology and groundwater availability;
- Engage with all the habitations in the given area to inform and assist in drawing up restoration plans for

Often disregarded, common lands are also rich repositories of biodiversity and add resilience to farming systems by augmenting pollination, pest control, water and nutrient flows. Common lands are perceived as a vital link in hydrological processes that impact localized precipitation, surface runoff and groundwater recharge.



Suresh JONES



Vabhas Bhatia

With scanty rainfall and high evaporation rates the deciduous forests and scrub jungles of the dry lands are appropriate systems to convert nutrients into biomass and reduce the run-off of water and soil, the critical components of rain-fed production systems.

- improving soil and moisture regimes, and to create a microclimate conducive for vegetative growth and revival of ecosystems;
- Assist communities in surfacing and addressing issues of overuse of water and excessive removal of biomass and the ensuing loss of biodiversity, and to explore norms and mechanisms to control injudicious use of natural resources;
  - Work with communities to evolve ways to protect native plant species and their habitat where these have reappeared due to conservation and protection efforts;
  - Undertake biodiversity assessments and conservation initiatives in protected areas and other biodiversity-rich ecosystems within and adjacent to project landscapes, so as to highlight their significance and gradually progress towards integrating them in the larger land-use and natural-resource management plans of the area;
  - Search for more enduring solutions to safeguard forests and other natural resources by working to reduce biotic (or population) pressure by promoting suitable energy-efficient technology in all the areas we work in. We also collaborate with other agencies in scaling up operations and in searching out innovative solutions. ●

### The Larger Need

- Zoom into agro-ecosystem level exploration of measures aimed at adaptation and mitigation as changes with regards to climate variability are becoming apparent even to a common man.
- Build bridges between conservation sciences and conventional approaches in natural resource management to enhance systems and cyclical understanding and improve the effectiveness of the interventions.
- Highlight the value of birds, insects, amphibians and reptiles in maintaining the robustness of agriculture both in pollination and pest control. Highlight the value of forests, grasslands and wetlands in serving critical ecological functions that sustain agriculture.
- Share knowledge on the potential and extraction of biomass, biodiversity and water resources across departments and make it readily accessible at block or tehsil level.
- Conventional programmes on natural resource management should evolve into issues of balancing demand and supply together rather than limiting to programmes on the supply-side management of resources.

# Commons and Community Institutions

The term ‘wastelands’ is a colonial legacy – a reference to the revenue-yielding (in)capacity of lands on which nothing was cultivated. Unfortunately, we continue to use the same terminology and hence the repeated attempts to put them to ‘productive use’. But what seem ‘wasted’ are in fact common lands supporting a wide diversity of livelihood systems all over the country for millions

## The Context

- India's farmers, particularly in the semi-arid conditions, follow a mixed farming system where agriculture is supplemented by animal husbandry. As many as 69 - 84% of poor households here depend on the commons for animal grazing.
- 31%-55% is the decline in the area of commons in the last half century. Causal factors include a growing populace, fragmenting land, development projects and overall degradation of the environment.
- Non-Timber Forest Produce (NTFP) provides substantial sustenance to tribals living on the fringe of standing forests. Soliga tribals living close to the forest spend 55% of their time in collection and realize 60% of their income from this activity.
- 14 - 23% of household incomes are met from common property resources for poor households, compared with only 1- 3% for the non-poor. While the poor benefit more in relative terms, the rich benefit more in absolute terms.
- The breakdown of local village institutions in the face of the changing fabric of village society, unclear tenure and lack of enabling policy framework has also contributed to the overall deterioration in the condition of the commons.

dependent on them – certainly not ‘waste’-lands! Commons make farming systems resilient by augmenting water and nutrient flows, they are a vital link in hydrological processes, impacting recharge of ground water as well as regulating the surface runoff, and arresting soil erosion. Common lands harbour myriad forms of biodiversity and where these adjoin protected areas, the commons provide additional habitat and corridors for diverse species, and shift biotic pressure off the protected areas. They also serve as ‘sinks’, absorbing harmful greenhouse gases that contribute to global warming.

Commons provide one platform to address multiple issues of poverty, to reduce inequalities, and improve ecological health. Community institutions enable a code of locally agreed behaviour that both energizes proactive steps and keeps undesirable individual action in check. Our work on ecological restoration is intertwined with crafting local community institutions, reviving collective action, and strengthening tenure arrangements over forests and other common lands in favour of communities.

In our endeavour to conserve commons through community institutions:

- Based on the administrative category of the land, we assist in strengthening and building institutions such as Village Forest Protection and Management Committees, Grazing Land Committees, Tree Growers' Cooperatives, Gramya Jungle, and *Panchayats*;

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We believe that conservation action is best possible through the active participation of village communities; we also strive for an enabling environment where local self-government institutions can deliberate and determine the development agenda.



S.S.Singh



S.S.Singh

It has been seen that the commons provide the physical, social and political space to interface with issues concerning equality and fairness. Once included by mandate within the collective, and articulated by our presence, the voices of the poor, though feeble, are increasingly audible.

- We assist communities to optimally use provisions of affirmative legislation, such as the recently-enacted Forest Rights Act, to claim community rights to access, use, protect and manage forests and forest produce that they have traditionally had a right to;
- Nest user-based institutions built around natural resources under the constitutionally mandated umbrella institution of the *Panchayat* and their sub-committees;
- Work with both older and recent forms of institutions enabling them to rise above narrow and sectional interests and make their functioning more democratic, broad-based and inclusive;
- Evolve institutional forms that allow exchange and transactions across the landscape and other commonly held resources, providing joint and continued access to benefits, effectively address conflicts and contestations, and reduce injudicious exploitation of resources;
- Bring together representatives of village institutions, civil society representatives, academia and government functionaries so as to build better and inter-disciplinary stewardship of the natural wealth of the area, and to make informed choices on judicious land use.

In the coming year, we have been presented with a unique opportunity to resurface discussions and debate on commons. By hosting the 13th Biennial Conference of the International Association for the Study of Commons (IASC) in India, we are bringing together international experience and evidence from across the world to show that the commons are not a relic of the past, but can play a strategic role in maintaining ecological health, in reducing poverty, and improving collective action. The

### The Larger Need

- User based institutions such as water users associations and forest protection committees that are designed around common property resources could prove to be purposeful in managing natural resources. However, they need to be nested under an umbrella village institution such as *Panchayats* which are largely performing governing functions, so that the overarching functions of the village commons can be better appreciated.
- Conceive groundwater as a common property and arrive at institutional arrangements of water rights that are based on local hydrology and equal access.
- Reposition ‘wastelands’ as commons which are repositories of rich biodiversity, sinks for water recharge and support rural livelihoods with fuelwood, fodder and Non Timber Forest Produce (NTFP), and work towards favourable arrangements of tenure (to local communities) and local self governance institutions.
- Search for institutional options that can segregate merchandising and conservation objectives. Screen the mechanisms such that the poor are not dispossessed and are instead insulated from uncertainties of markets.
- Design and set in place institutional structures at nested spatial scales to address the issue of resource use regulation through local self-governance mechanisms such that issues regarding supply and demand of biomass and water can be (self) regulated.

Conference is not intended to be a one-time event, but a key part in a longer process of directing attention to the commons. ●

## Rural Livelihoods

Initiatives at improving livelihoods are best designed when they are founded on the threshold limits of ecosystems. We subscribe to the view that in many natural environments that are being modified by human activity

### The Context

- Of its nearly 1 billion inhabitants, India has an estimated 350-400 million people living below the poverty line, 75% of them in the rural areas. While this number is apparently decreasing at a gradual rate, there is a large number of people living just above this line of deprivation (a dollar a day) and their numbers are not falling.
- In a study conducted across 600 households, 55% of the people identified a decline in availability of 'minor' forest produce as the most important reason for weakening their food security.
- Drylands produce as much as 42% of India's food grains. In these areas as much as 70% of the population depends on agriculture for their livelihoods.
- Small and marginal farmers constitute about 78% of the farming community in India and own close to 70% of the livestock. Almost 25% of the total fodder requirements and as much as 80% of rural fodder needs are met from commons.
- Fuel wood remains rural India's predominant source of domestic energy, and the commons contribute 58% of fuel wood consumed by rural households.

there is scope for conservation and livelihoods to link and benefit from each other. While in places that are the last refuge of severely threatened species, human activity and impact may be restricted but, in many areas, conservation and livelihoods can be complementary goals and rural communities are best placed to partner in conservation action. The key to sustaining the long term viability of agriculture and animal husbandry, or rural livelihoods in general, lies in strengthening the linkages between the various elements of the ecosystem – like biodiversity, nutrients, water, soil – and adopting an approach of 'farming systems'.

Our approach towards conservation and rural livelihoods is thus two-fold:

- Protect forests for their biodiversity, biomass and hydrological functions which are also of critical value to farming systems;
- Locate forests and natural resources within the larger ecological, social and economic landscape so that conservation is determined by the local context, and using ecological restoration, social mobilization, and poverty alleviation measures as diverse strategies aimed at conservation and improving local livelihoods.

In our efforts to strengthen livelihoods:

- We facilitate the development of a well informed

Forests contribute significantly to food security in many tribal villages. Although 58 species of forest produce are collected seasonally, only five species find their way to the market. During periods of scarcity tubers collected from the forest are the single source of food for about a month.



Bijay Kumar Toppo



**By locating forests and natural resources within the larger ecological, social and economic landscape, we facilitate village institutions in a manner that they are effectively able to manage land and water, commons in particular, so as to meet the basic needs of biomass and water for the poor.**

vision – a perspective plan with special focus on the improvement of the natural resource base and a shelf of activities for the *Panchayat*, enabling them to plan for and implement programmes and activities aimed at improving the livelihoods of their constituents;

- Cultivate a set of local volunteers to take on the stewardship of the area, enabling better representation and articulation of the interests of the local communities;
- Assist local communities in developing a cadre of skilled persons from within to attend to the local opportunities emanating from NREGA, as well as to improve access to services aimed at strengthening livelihoods and incomes;
- Engage actively with implementation of the National Rural Employment Guarantee Act (NREGA) with its focus on creating long-term assets for the community through investments in strengthening the local natural resource base, as well as improvement of the democratic functioning of *Panchayats*. ●

### The Larger Need

- Though in its third year of implementation and its expansion to all districts of the country since April '08, the NREGA is still in a nascent stage with considerable scope for innovation, systematisation and expansion. It is also timely to start crafting out templates for the next generation issues such as rural enterprises, that such a programme can potentially address.
- With the enactment of the Scheduled Tribes and Other Traditional Forest Dwellers Act, there is a need to conceive suitable incentives such that the forest right holders are encouraged to maintain forest cover on their lands. There is also a need to address the disincentives in the current regulations that discourage private forests.
- While the improved biodiversity and availability of water, nutrients and biomass can, to appreciable extent, address the fundamental problems that ail subsistence agriculture, there is a need to explore additional measures that could feed the growing population.
- Realign the policy focus on livestock from 'milk and cattle' and 'seed and irrigated fodder' to include small ruminants and a larger farming system approach that takes into account agriculture residue and fodder from commons.
- Promote improved wood stoves as strategies to improve forest re-growth and reduction of black soot emissions which contribute to atmospheric brown clouds and also affect the respiratory health of rural women.

# **Strategic Overview**

**Within an over arching domain of 'Ecosystem, Governance and Livelihoods', our efforts have focused upon the conservation and restoration of forests and other common lands at a landscape level through local self-governance institutions and their federating processes. We work with village volunteers and hone local skills so as to replicate the lessons we have learnt, and to improve the stewardship of a given area.**

We are presently working with 1,646 village institutions in 27 districts across seven States. Further 1,08,594 hectares of revenue wastelands, degraded forestlands and *Panchayat* grazing-lands are being managed and protected by rural communities with our assistance. Outside of the government, we are probably the only organization that works on commons at the scale we do.

Engaging in processes of ecological restoration and pursuing greater democratization in institutions of local self-governance, we have built a large and robust constituency of village communities that is committed to restoring ecosystems and landscapes, and with whose support we have evolved institutional spaces that safeguard the interests of the poor.

We support village volunteers and hone local skills so as to replicate the lessons we have learnt, and to improve the stewardship of a given area. We are leveraging the presence of civil society, academia, political parties, and government functionaries and bringing them together on common platforms with community institutions so as to promote interdisciplinary discussions, concerted action, and shared responsibilities. We are exploring ways to enhance information flows to local communities to enable informed decision making.

We are collaborating with reputed organizations, research bodies and academia, at both the national and international level, in undertaking studies and lobbying for issues concerning ecological well-being and social justice.

We work in close coordination with State governments, State and district level committees comprising senior government officials, with the aim to assist in influencing policies on the management of revenue and forestlands. From the 7,65,000 rural people and about 1600 habitations that we presently engage with in six States, we aim to reach out to about 2.25 million people and about 3,500 habitations across the country in the next three years, with an additional 50,000 hectares of common lands to be brought under local governance mechanisms.



## Measures to Boost Eco-Restoration

- The 1,08,594 hectares of common lands, forestlands and grazing lands that were brought under collective management continue to be managed by community institutions. Of the 44,699 hectares of land where soil and moisture conservation measures were undertaken, 32,333 hectares are revegetated.
- Under tenurial arrangements, community institutions have rights over 6,470 hectares of grazing lands, 8,383 hectares of *Van Panchayat* lands, 1,423 hectares of *Gramya* jungle lands and 20,240 hectares of forestland under Joint Forest Management (JFM). A total of 14,153 hectares of revenue wastelands have also been leased to community institutions.
- The Biophysical Monitoring Framework, developed in 2008 and used for ecological baseline surveys in select watersheds of Anantapur (Andhra Pradesh) and Bhilwara (Rajasthan), has remained the basis of the biodiversity assessments. In June 2009, a baseline survey was carried out in Angul watershed, Orissa. Land cover maps were prepared, biophysical attributes were recorded, and detailed inventories of flora and fauna made. These assessments follow a systems approach that would help pin down critical habitats calling for enhanced protection.
- With the aim of developing a more systematic biodiversity conservation and management plan that would serve for the entire southern Aravali Hills landscape, biodiversity studies were carried out in three sanctuaries in Rajasthan in early 2009. We are continuing with this study so as to re-establish some of the preliminary findings on indicator and locally threatened species, before conservation action strategies can be recommended. This would follow a species and habitat-specific approach combining GIS tools. Appreciating the value of such detailed protected area-specific studies, we are extending the survey to three other sanctuaries in Rajasthan.
- Ecological studies on three endemic and locally-threatened bird species were carried out in Rajasthan – the Great Indian Bustard, the Grey Jungle Fowl and the White-naped Tit. Experimental studies and natural history observations on their breeding season, habitat, and nesting preferences have added immense value to understanding the species and their conservation in the region.

## Developing Institutional Capacities

- Community institutions include 520 Tree Growers' Cooperatives, 242 Village Forest Protection Committees, 77 Grazing-Land Development Committees, 296 Panchayati Raj Institutions, 325 Village Committees, 69 Village Watershed Committees, 54 *Gramya* Jungle Committees and 63 *Van Panchayats*, taking the total number of village institutions we are associated with to 1,646.
- During the year, we trained 927 rural volunteers and para workers in our efforts to develop a cadre of local skilled persons who can play a pivotal role in effective implementation of developmental programmes, besides being resource persons for assisting in planning and execution of restoration activities at the village level. This was an important component of our multi-dimensional strategies for capacity building and building leadership among communities at local as well as regional levels.
- We assist local communities in building local and regional platforms, which can scale up the agenda of community-led development initiatives. A total of 1,350 training programmes and meetings were organized at regular intervals to strengthen collective action and process support at the habitation and *Panchayat* levels.
- Efforts were undertaken to disseminate the various studies in the local idiom and engage with the communities in discussions around ecological indicators like soil fertility, moisture retention, decomposers and pollinators, so as to determine conservation efforts at the local level. The ecological and socio-economic profiling of our project areas further helped institutional systems to promote conservation of nature and to set up self-driven systems to bring about effective management of natural resources.

## Learning Processes

Our engagement with rural communities on conservation of nature and natural resources is founded on a strong respect for local wisdom and the rationale upon which it is grounded. In our interaction with communities, we see ourselves as partners both learning from and challenging them, and working together to evolve conservation strategies appropriate for the region.

Seeking to integrate scientific rigor in our efforts in ecological restoration, information gathered through ecological assessments including geo-hydrology studies, soil analysis and developing biodiversity inventories, is shared with community folk and validated by existing community knowledge of their lands and natural resources. Socio-economic profiles help to found institutional systems to promote conservation of nature and serve the particular interests of the poor and marginalized.

Even as we build the ecological profile of a given area, local communities are assisted in addressing issues that are complex and, in many instances, conflict-ridden. While communities must themselves find solutions and take decisions that govern their lives and natural surroundings,

we consciously challenge them on issues of equality and on finding enduring answers for better management of their natural surroundings.

Conventional programmes on natural resource management usually lack in systematic and comprehensive monitoring. As we take forward our plans to expand our work on conservation and natural resource management programmes, we have developed a comprehensive framework to monitor ecological, social and economic changes. Work on these aspects has progressed considerably in Rajasthan and Andhra Pradesh where the required information has been compiled for an area of around 5,000 hectares each; similar monitoring exercises and information gathering for an equally large area will be undertaken in Orissa this year.

In the two decades and more that we have been working on ecological restoration through community institutions, there is much that we have learned both in content and process. We have developed strong internal capacity-building mechanisms to conduct training programmes on concepts, approaches, and technicalities in ecological restoration as well as updating our understanding

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**Experiences on the ground give us vital and valuable insights into the working of the rural mind, their views on conservation and development, the complexity of conservation action at local and regional levels, and their perception of public policy.**



Kumar Rupam

alongside. To further enhance our capacities to learn, we are creating spaces for biologists, engineers and geologists to undertake action research and share their information with colleagues and communities engaged in planning and implementation of restoration measures.

We are increasingly being called upon to offer training programmes and services to other organizations on

subjects such as biodiversity inventorying, hydro geological studies, assessing ecological, social and economic changes, institution building around Commons, and Remote Sensing and Geographical Information Systems (GIS). We also regularly participate in others' training programmes so that we may exchange experiences and learn from fresh perspectives.

## Studies and Documentation

**We continue to undertake studies either internally and/or with resource persons/institutions to improve upon the effectiveness of our work at the village and landscape level. Some of the important projects undertaken during the year are described here:**

- In an effort to find the linkages between crop, farming practices and natural habitats, a pollination study was designed in select watersheds of Anantapur (Andhra Pradesh) to explore if there was a pollinator decline in croplands located adjacent to natural forests. The purpose of the study was to establish the ecosystem-services pollinators provided to farmers. Alongside this, insect monitoring studies have been undertaken to document the invertebrate biodiversity in a farm-forest matrix.
- On the request of NABARD to assess the impact of Kannamangala watershed in Chickballapur district of Karnataka, a study has been undertaken using remote sensing, GIS and field survey. Based on the information available and the geo-hydrology analysis, a water-budget was prepared as also a crop-and-water budget tool, along with other recommendations for groundwater governance.
- A joint study with Clemson University, USA, to analyze the water scarcity situation involving electromagnetic mapping of the groundwater situation in the Salri Watershed, was initiated in the Agar project area. This study will help in understanding the impact of water-harvesting structures on soil moisture and groundwater flows in a watershed. The study results will be useful for hard rock areas in peninsular India.
- A pilot study on the management of forest fires in India, specifically integrating the ecological and cultural contexts and consequences, was initiated in Sadhukonda Reserve Forest of Madanapalle. The main objective of the study is to assess the impact of forest fires in India and to generate an information base on wildland fires in India.
- A preliminary study to examine and establish relevance for tenure in favour of self-initiated forest management groups under the Community Forest Rights (CFR) provision of Forest Rights Act (FRA), 2006, was undertaken primarily to examine the compatibility of existing forest management practices and CFR provisions in the this 2006 Act. Also, to assess their sustainability from an eco-institutional perspective.
- A preliminary mapping exercise of the Elephant Corridors in Satkosia Forest Landscape was undertaken to understand and restore the degraded corridors so as to enable reduction in cases of human-elephant conflict.



Vaibhav Bhatia

### **Conservation of the White-naped Tit (*Parus nuchalis*) and its thorn forest habitat in the southern Aravalli hill range, Rajasthan and Gujarat states, India**

The White-naped Tit (*Parus nuchalis*) is vulnerable in status and endemic to the southern Aravallis. Forest fragmentation and competition for nest holes has led to a decline in its population. The species is a secondary hole-nester dependent on the primary hole nester of the tropical thorn forest – the Yellow Crowned Woodpecker (*Dendrocopos mahrattensis*). The study aims to collect information on the bird's population and the threats it faces. In a conservation action experiment, we installed 50 nest boxes during the breeding season, for observations on breeding preference and nest hole competition. Seven pairs of White-naped Tit used the nest boxes. Brahminy myna (*Sturnus pagodarum*), Fivestriped Palm Squirrel (*Funambulus pennantii*), Indian Bush Rat (*Golunda ellioti*) and an ant species were recorded as competitors.



Himani Kala

Species from the adjacent dry deciduous forests have recently shifted to the thorn forest habitat threatening to crowd out thorn forest species; this may also be an indicator to the loss of dry deciduous forests.

### **Assessing possibilities of restoring the habitat and population of the Great Indian Bustard in Sokaliya region of Ajmer District, Rajasthan, India**

The Great Indian Bustard (*Ardeotis nigriceps*) is highly endangered and is endemic to the grasslands of Western India. Nearly 50% of the surviving 500 birds inhabit Rajasthan. We assessed the habitat and status of the Great Indian Bustard in the community grasslands of Sokaliya village (covering an approximate 15-20 sq km). The area presently hosts around 10 birds, but has a higher potential for their breeding and nesting. Restoring and managing the grasslands or grazing lands would enhance fodder availability and quality in these areas, which in turn would create habitats for the Great Indian Bustard.

The grasslands can be better managed to increase fodder productivity and restore habitat for the Great Indian Bustard by promoting community institutions and designing appropriate conservation action plans.



Arpit Deonurati

## Collaborations

We continue to collaborate with various scientific and academic bodies to locate our work in the larger context, design pursuits that are grounded as well as technically rigorous, thus providing sound basis for our advocacy efforts:

- In collaboration with Collective Action and Property Rights (CAPRI) we seek to advance common interests on collective action and property rights of the communities, through developing effective advocacy, communication, and training materials.
- Under an initiative called “Winter Institute”, we began collaborating with students of Washington University in St. Louis, Indian Institute of Technology-Bombay and Tata Institute of Social Sciences to explore the possibilities to develop and study three case studies on Urban-Rural linkages (water), water distribution for irrigation and biomass dependence and forest conservation.
- With support from the Society for Promotion of Wasteland Development, we are implementing a project to ‘Facilitate Sustainable Livelihoods with an Ecological Perspective using the Provisions of NREGA’. This will help us in developing a common methodology among numerous stakeholders and also strengthen our advocacy efforts with the government.
- International Livestock Research Institute continues to support us in implementing an action research project titled ‘Capacity to Innovate’ for fodder enhancement in select locations of the country. The project helps us in developing a theoretical framework around our work with meso-level governance involving government officials, academia, civil society organizations, interested individuals and others.
- A joint study with Clemson University, USA was initiated in Agar project area to analyze the water scarcity situation involving electromagnetic mapping of the groundwater situation.
- We continue to collaborate with Collectives for Integrated Livelihood Initiatives (CINI) in developing a knowledge base on the districts of Central India by collating information on a GIS platform, to eventually take the shape of an Atlas of Central India.
- In collaboration with BNP Paribas and IndAsia, we continue our efforts to undertake regeneration measures on the various categories of lands being protected and managed by village institutions.
- We are collaborating with Central Soil and Water Conservation Research and Training Institute in facilitating a research and development study on ‘Hydrologic and Economic Evaluation of Bamboo Plantations in Gullied Lands under Major Ravine Systems of India’. The study will be used to evaluate the performance of bamboo in gully stabilization and to generate a reliable and valuable scientific database for future utilization in developing appropriate agro-forestry systems in ravine regions.
- In collaboration with The Lighting Project, USA, we have distributed 900 solar lights to village communities in Orissa and Rajasthan, so as to improve upon the energy efficiency of lighting systems in low-income rural economies of our project areas.



## **Addressing water crisis in rural India using Electro Magnetic Induction to map soil moisture and shallow aquifers**

In a joint study with Clemson University, USA, geological investigations were conducted using electrical resistivity and electromagnetic induction techniques, to determine the thickness and location of weathered basalts within watershed boundaries in Salri village, Shajapur, Madhya Pradesh.

Watershed flows, volumetric flows of evaporation from surface water bodies and precipitation were calculated using the overall water balance. This helped re-evaluate a model to predict the stage, residence time of water, and infiltration volume from a water harvesting structure in the watershed.

Yogesh Gupta



The overall impact of water harvesting in the watershed is positive; in the absence of the structure, water would not enter the subsurface, but be lost as stream flow. There would be a loss of  $1.1 \times 10^5 \text{ m}^3$  water from the uplands of the watershed. The structure potentially helps infiltrate 21% more water into the subsurface than under natural conditions.

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## **Modeling the Dynamics of the Energy, Environment, and Poverty Nexus: A Study of Biogas Unit Diffusion in Andhra Pradesh**

In collaboration with the Department of Chemical Engineering, Washington University in St. Louis, USA, we are developing alternate fuel-efficient models of reducing rural cooking emissions in Andhra Pradesh, Karnataka and Orissa. We examined the socio-economic factors that determine a household's decision to adopt a biogas unit. With data on technology diffusion and literature on energy transition, the process of biogas adoption and traditional technology replacement was modeled. The stoves sampled were traditional clay stove (fired by wood), traditional stove (fired by coal), improved metal stove (provided by the Government of India), biogas stove, Liquid Petroleum Gas stove and kerosene stove. Fuel types, fuel moisture content, ventilation system, the size

Dr. Gautam Yadama



and location of the kitchen, affect emissions. Biogas interventions should address the interplay of energy, environment and poverty-related factors – particularly household usage of multiple-stove strategy.

## Spatial Information for Conservation

Climatic, biotic and abiotic factors clearly shape niche or microhabitat characteristics which, once analyzed, help shape larger conservation plans for an area. Spatial analysis, supplemented with a variety of thematic information, provides critical understanding of the area and enables informed action, while periodic monitoring of spatial and temporal changes helps form the overall perspective and strategy.

We supplement studies undertaken on water resources, soil, biomass and biodiversity with spatial analysis for supporting decisions on natural resource management. Over time, such studies have helped establish the impact of conservation action (or the lack of it) on factors such as water availability, soil quality, biomass and biodiversity. Such spatial representation also helps map the minds of local communities, transgressing their immediate horizons. By bringing to light aspects and inter-linkages that are otherwise not readily discernible, such information

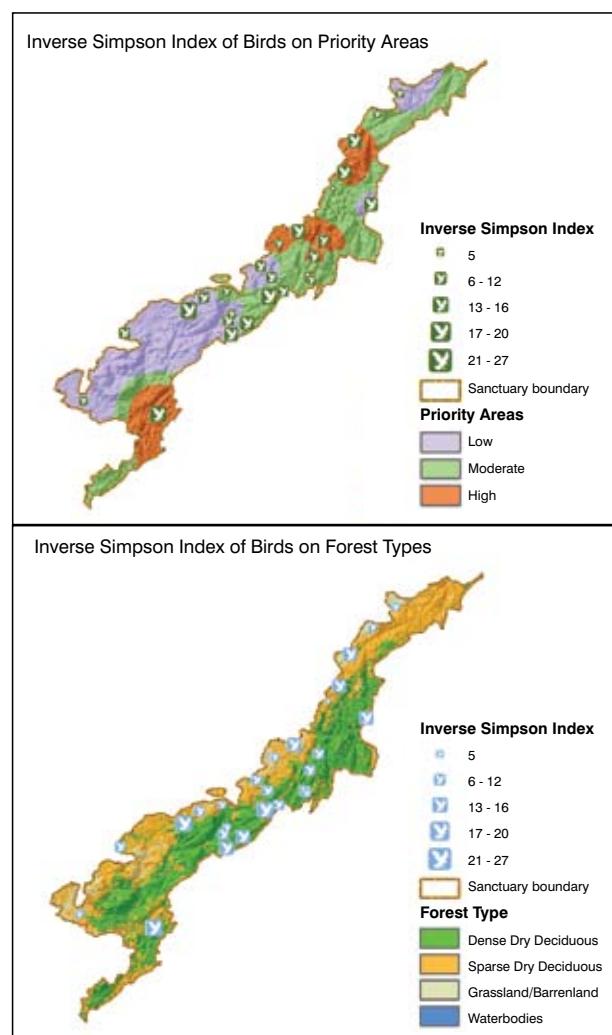
enables them to clarify concerns and even to dialogue on contentious issues within adjacent communities. We have a well-equipped Geographical Information System (GIS) and Remote Sensing facility, and have developed comprehensive databases on various parameters (such as demographic, natural resources, social, economic, and infrastructure) for several parts of the country. We continue to compile information from various other sources on a variety of parameters and over time. We have captured spatial trends for Gujarat and Rajasthan at the State level and Kolar (Karnataka), Angul (Orissa), Chittoor (Andhra Pradesh) and Shajapur (Madhya Pradesh) at the district level. In a significant initiative, we have prepared ‘An Atlas of the Development Context in Orissa’, which synthesizes information from various sources, describes development trends over a spatial platform and across decades, and offers valuable information to developmental actors on an interactive platform.

### Southern Aravalis – a haven for biodiversity

A biodiversity assessment was initiated in Kumbalgarh Wildlife Sanctuary (area: 610.53km<sup>2</sup>) and two other sanctuaries in the Aravali mountain range – Phulwari-ki-Nal and Sitamata, using landcover mapping and field survey techniques.

Our analysis of the recruitment data revealed a clear, positive co-relation between good recruitment and areas with high tree density and ground cover. Over-grazing and soil erosion had a negative effect on the recruitment index. In our faunal assemblage analysis, patterns of habitat preference emerged. The thorn mixed forests appeared to host the highest species richness of herpeto-fauna. Mammals were most frequently observed in the dense dry deciduous forests along the south-east of the Sanctuary.

The bird diversity indices (represented as graded bird size) were overlaid on the forest types map; a similar method superimposed the bird diversity data on the conservation priority map generated from a threat matrix of disturbance levels that were sampled. Biodiversity information when explored in the GIS domain is valuable in identifying threatened and ecologically sensitive areas. In addressing conservation around forest-based communities, it might provide pointers to long-term efforts aimed at systematic management.





Bijay Kumar Toppo

While manual activities like digging pits & levelling fields, 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.

## Leveraging Programmes for Conservation of Natural Resources and Democratic Functioning of Panchayats

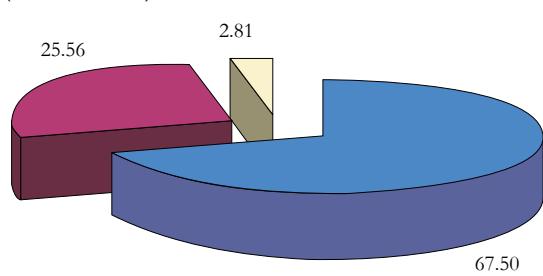
Multiple factors have combined to create an environment conducive for canalizing public spending on ecological restoration: Opportunities are presented by new policy initiatives, increasing availability of public funds for village-level development, a better appreciation of the strengths of decentralized natural resource management, and a perceptible openness on the part of the government to partner with credible organizations.

These very factors pose fresh challenges for village-level institutions and the *Panchayat* – namely, to voice a collective stand coherently, draw up structured action plans, be transparent in their transactions, and be accountable to their constituencies.

In all the areas that we are present, we assist habitations and the *Panchayat* in expressing their visions of local development. Where we are formally nominated by the district administration, our support extends to a larger area and helps shape landscape-level action at various

### Funds Leveraged from Government Programmes (2009-10)

(Rs. in million)



■ Revegetation and Soil & Water conservation measures

■ Measures to sustain Livelihoods

■ Village infrastructure

A total of 95.86 million was leveraged from various government programmes by the villages across the project areas in the year 2009-10. Almost 97% of these funds came through the National Rural Employment Guarantee Scheme (NREGS) and were channelled towards the restoration of ecological infrastructure with an equally strong focus on strengthening decentralised local governance and long term livelihood security. We bring out a regular newsletter 'Energising NREGA' which features highlights, issues and updates of the programme and its implementation across the country.



Diptal

Visits by eminent persons and senior government officials play an important role in building the confidence of local communities on the tenure arrangements and the ability of community institutions to govern common lands, besides shaping government supported development programmes to suit local requirements.

institutional tiers. We call the attention of decision-makers to the fact that in rural livelihood systems, infrastructure must first be understood in terms of soil, water, nutrients, biomass and biodiversity as these are critical for the viability of farming systems and thereby, the rural economy.

Considering the vast opportunities opened up by increased public spending on natural resource development, it is also imperative that the government's efforts be matched by parallel initiatives from civil society organizations, by developing regional land-use plans, and by designing institutional mechanisms that are equal to the task.

For this to materialize, we are strengthening local stewardship in the area, within local village communities and among other regional actors, and familiarizing them with administrative rules, procedures and responsibilities. In order that local implementing agencies have enough able hands to deal efficiently with the large-scale implementation of government programmes, we are sharpening the skills of local resource persons to provide services and assistance.

We are facilitating the formation of platforms of interaction between representatives of the local

communities and government departments, academicians, technocrats, and citizen forums, so they may combine strengths and plan synergistically. We are building on the concept of setting up village or inter-village information hubs that can help draw up informed plans for local and inclusive development, besides functioning as service centers catering to the information and service needs of the local populace.

### Interaction on Policy

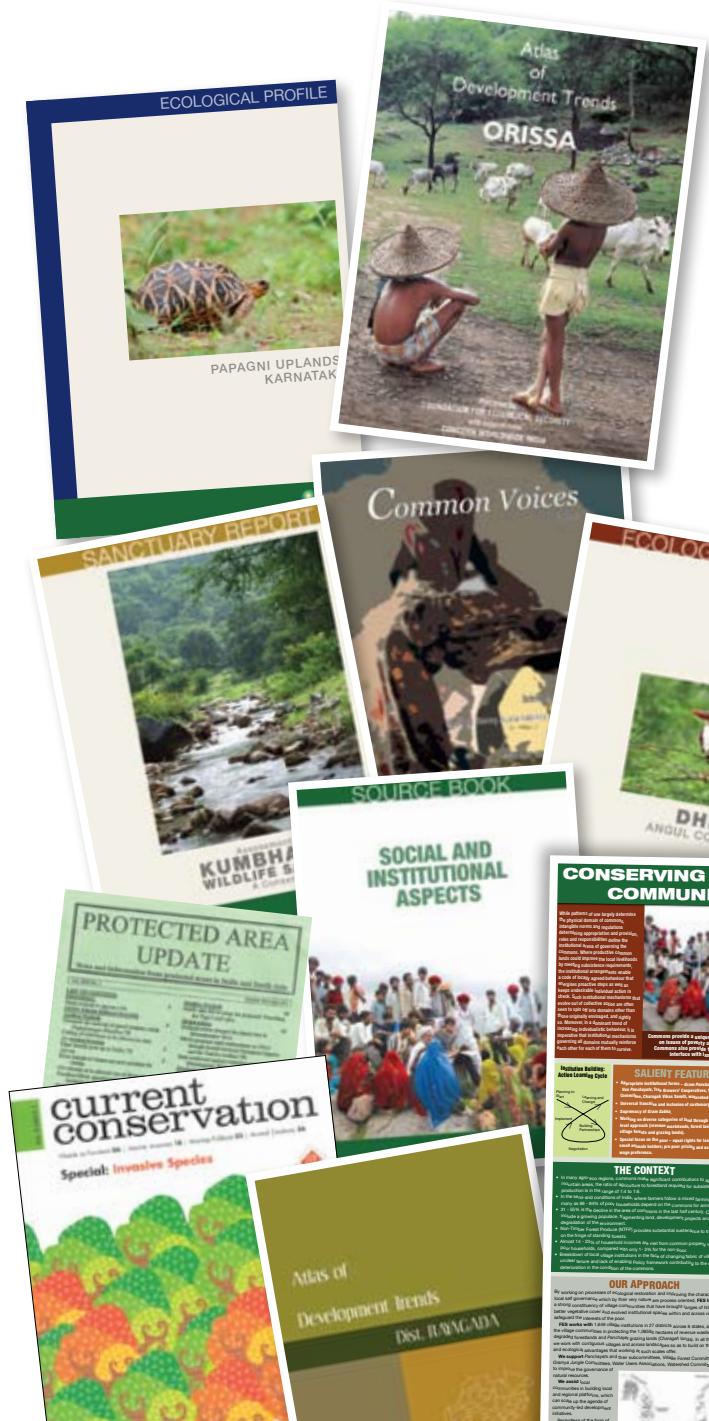
Our work involves influencing conservation policies; underlining the criticality of ecological security as the foundation of socio-economic progress; stressing the role of commons, forests, and water in particular, as crucial components of the rural economy; stressing the need for greater involvement of self-governing institutions nested within the constitutionally-mandated *Panchayats*; and locating common ground to serve conservation and livelihood objectives.

Our experience of working directly with rural communities on issues concerning land use and local self-governance across multiple locations places us in the unique position of being able to synthesize lessons from

the ground up, make comparative studies across locations, and analyze these to make relevant policy recommendations.

We actively engage with the National Rural Employment Guarantee Act (NREGA), and help oversee its smooth implementation in several locations. Being part of the national consortium of civil society organizations to facilitate smooth implementation of the Rural Employment Guarantee Act, we use our experience to guide *Panchayats* in all locations to democratize their character and to canalize funds effectively and appropriately.

Our efforts are directed towards generating awareness and clarity of the various provisions of the Scheduled Tribes



and other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006 and the Rules of 2008. We have facilitated submission of community claims over collectively-protected forestland under the provisions of the Forest Rights Act in Orissa and Rajasthan.

We are part of a Civil Society Organization initiative and the Future of Conservation Network, a collective of non-government organizations working on conservation and livelihood issues across the country, collectively seeking answers to complex questions concerning people, livelihoods, protected areas, forest management and species conservation. We also anchor the Rainfed Livestock Network – a consortium of civil society organizations to identify policy gaps, institutional deficiencies, and investment biases in the livestock sector, as also to advocate pro-poor policies, public investment programmes, and institutional development for the welfare of livestock holders.

We are hosting the 13th Biennial Conference on Commons in Hyderabad, India in January 2011, co-organizing it with the International Association for the Study of the Commons (IASC). We have already commissioned reviews and studies and have convened discussions with governments and civil society practitioners. We plan for the deliberations of the Conference to feed into the discussions and formulation of the 12th Five Year Plan and thus enlarge policy and programmatic attention on the commons. ●



# Project Overview

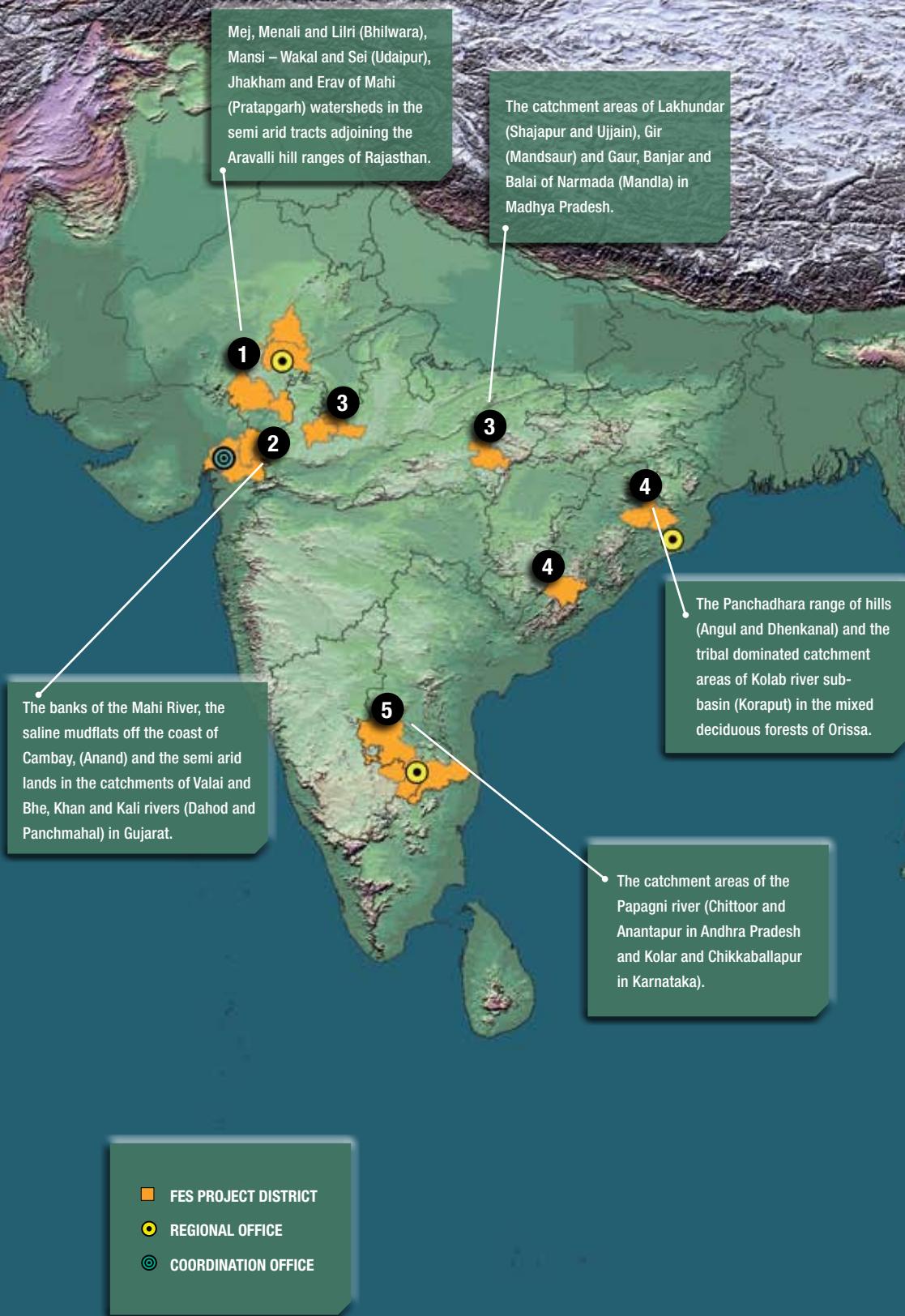
**By choosing to work in areas that have large stretches of public lands customarily held as commons, and in areas adjacent to reserve forests, we strive to provide additional habitats for a variety of life forms and improve the ecological functions and services which is the backbone of agriculture and livestock dependent communities.**

In our pursuit towards restoring degraded landscapes and managing natural resources, we have gained experience in locating common lands in the larger farming systems and in energizing local stewardship and crafting institutional designs for conserving common lands and forestlands.

Building on the natural and social characteristics and advantages of an area, we work with several contiguous villages that lie in the upper catchments of rivers. The uplands usually feature a larger proportion of forests and common lands, often in degraded condition, and are predominantly inhabited by economically deprived rural and tribal communities. While different strategies guide our efforts in the biogeographically and socio-economically distinct locations, the broad organisational level strategic areas are:

- Reviving 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 diverse ecological and socio-economic 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 by inviting government functionaries, academia and larger civil society to jointly deliberate on issues of conservation and use of natural surroundings.
- 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*.
- Assessing impacts of climate change on various natural and production systems and introducing mitigation and adaptation measures in ongoing practices.



## Our Project Areas

## Aravali Regional Office

**In most dry land regions of the country, the very feasibility of the mixed farming system hinges on the presence of common lands, which allow the communities, and especially the small and marginal farmers among them, to maintain a resilient livestock-based production system.**

In the regions inhabited by the agro-pastoral communities, a significant portion falls under the revenue wasteland and grazing land categories. Even as these lands are the primary source of fodder, firewood and water for the local communities, they are faced with many threats. While the revenue lands are seen as open access resources leading to over-exploitation and illegal encroachment, the grazing lands under the custody of the *Panchayat* mostly suffer from the absence or breakdown of institutional

arrangements that foster sustainable use and equitable access. In such a setting, we assist village institutions to get revenue lands leased, to strengthen institutional mechanisms, and to undertake eco-restoration activities so as to boost livestock production systems and improve availability of surface and sub-surface water.

In southern Rajasthan, in areas inhabited by tribal communities and where the predominant category is forestlands, we actively engage with the Forest Department to implement Joint Forest Management programmes to strengthen the protection and management regimes of these lands by building on customary patterns of access and use. We view the recently enacted Forest Rights Act, particularly its provision on community forest rights, as a stronger mechanism to increase community involvement in forest and biodiversity conservation. In view of the severity of the degradation, slow process of recovery of forests, and the high levels of poverty among the tribal communities, we assist in strengthening farm and off-farm livelihood opportunities in order to improve the living conditions of the tribal poor.



S.S.Singh



## UDAIPUR, RAJASTHAN

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Threatened Species</b>
Northern Plains (and Central Highlands) including Aravalis	<i>Commiphora wightii, Sterculia urens</i> , Aravalli Red Spurfowl, White-naped Tit
<b>Project Districts</b>	<b>Percentage of Common Lands including Forest</b>
Udaipur	67%
<b>River Basin</b>	<b>Percentage of People Living below Poverty Line</b>
Mansi, Wakal and Sei	55%
<b>Mean Annual Rainfall</b>	<b>Percentage of Scheduled Castes/Tribes</b>
650 mm	54%
<b>Major Soil Types</b>	<b>Area Under Protection</b>
Deep loamy grey brown and alluvium derived soils	1,684 ha
<b>Forest Types</b>	<b>Village Institutions Associated With</b>
Tropical Dry Deciduous	81
<b>Major Habitats</b>	<b>Total Households of Project Villages</b>
Forests, Grazinglands, Wetlands, Agriculture lands	3,585
<b>Nearest Protected Area</b>	<b>Indigenous Communities</b>
Sajjangarh Wildlife Sanctuary, Phulwari-ki-Nal Wildlife Sanctuary and Kumbhalgarh Wildlife Sanctuary	Bhil, Garasia, Meena, Kathodi

In Udaipur our work is spread across Jhadol and Gogunda blocks, which are located in the catchment of the River Sabarmati and three of its major tributaries, Mansi, Wakal and Sei.

The area is unique, as it forms the Ecotone or transition area between the Teak dominated forests of South Rajasthan and the grassland areas. Standing guard against the eastward march of the Rajasthan Desert, the forests of the Aravalli Hills are of crucial importance to eco-restoration of the area. Forests and common lands occupy a little over 40% of the landscape in the project region. Several protected areas fall within the project landscape with two wildlife sanctuaries, Kumbhalgarh and Phulwari-ki-Nal. As much as 90% of the population is tribal, with Bhils and Garasiyas being the predominant communities.

Since 2000, we are working here, presently engaging with 81 habitations spread across 11 *Panchayats*, where restoration and conservation measures have succeeded in bringing 1,684 hectares of land, mostly forestland, under community protection.

The recognition of traditional users (*bakdars*) by all institutions across villages has helped boost the efficacy of governance mechanisms that sustain ecological restoration and landscape-level conservation. We are successful in bringing together the contemporary as well as traditional community institutions to appreciate the mutually beneficial multi-user regime for governing the Commons.

Communities are developing better understanding of the provisions of the Forest Rights Act (FRA), with special focus on the community rights, with our assistance. We are also exploring the possibilities of integrating the

Mitul Baruah

Kumar Rupam



2003



2006

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 Karch.

### **Study on Criticality of Commons**

Number of Households Surveyed – 386

Villages Covered — 9

Location — Udaipur District

Partner Organization — Seva Mandir

#### **Percentage of Sample Households Accessing Commons**

Agriculture	51
Grazing	68
Fodder collection	60
NTFPs and Other Products	44
Water for Household and Livestock	55
Fuel wood collection	86

#### **Annual Contribution of Commons Towards**

Fodder(%)	34
Fuel wood (%)	81
Gross Annual Income (%)	30

Mean value of products collected from CPRs per household in previous year (Rs) 10,826

FRA and *Panchayat* Extension to Scheduled Areas (PESA) Act, for strengthening community rights over forests.

We are continuing with the inventory of the protected areas, as we look forward to suggest effective conservation and management measures, develop species-specific conservation action plans and involve the communities in the long run.

Leveraging the favourable provisions of NREGA for natural resource management and decentralized governance, building local capacities, and fashioning sustainable livelihood options that are also in tune with complex tribal livelihood systems, continue to be the key challenges. ●

Kumar Rupam



**2010**

### **UPDATE 2009-2010**

- 7,981 indigenous saplings were planted on common lands, 500 kilograms of tree seeds and 25 kilograms of grass seeds were sown. A seeding campaign was also undertaken in Jhadol where members of four Village Forest Management and Protection Committees seeded over 300 kilograms of forest tree seeds in the forest area under their management and protection.
- Soil and moisture conservation was undertaken on more than 250 hectares of land. Eco-restoration measures were also implemented on 60 hectares of common lands with funds leveraged through NREGA.
- In order to protect the biodiversity-rich Kamalnath forest region that is spread across five *Panchayats*, we assisted the *Panchayats* in developing a comprehensive perspective plan for development, which included conservation of the Kamalnath forests and boosting local livelihoods.
- We actively assist all the communities in the region to file for community rights under the Forest Rights Act. Files claiming community rights are submitted and followed-up with the local authorities regularly. Progress on the community rights claim has been slow as there is lack of clarity on the processes to be followed.
- The hand-held solar lights provided to all households of Karech village continue to be of great use to the community. A parabolic solar cooker was also installed as a demonstration unit. Of 15 planned biogas plants, 11 were constructed during the year. Forty smokeless stoves were installed, with another 15 scheduled to be in place before year-end.
- Student interns from the Centre for the Advancement of Rural Areas (CTARA) of IIT-Mumbai helped survey biomass use and community needs in a village in the close vicinity of the Kumbhalgarh Wildlife Sanctuary. The biomass market (particularly firewood) was analyzed to better understand its contribution to villagers' livelihood.
- We played a key role in organizing a unique study programme in collaboration with three premier academic institutions, namely, CTARA (IIT-Mumbai), School of Urban Studies (TISS-Mumbai), and Washington University (St. Louis). Thirty participants from these institutions discussed in great depth and analyzed (using System Dynamics tools) three development themes of great concern to the Udaipur region, namely, urban-rural water linkages, distribution and use of water supplied through State-built infrastructure in rural areas, and biomass dependence on forests and its impact on forest landscapes.

**2006****2010**

*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 a group of villages for two critical months.*

## PRATAPGARH, RAJASTHAN

### FACT FILE

#### Agro-ecological Zone

Central Highlands, Vindhyan and Satpura range, Western Malwa Plateau

#### Project Districts

Pratapgarh and Mandsaur

#### River Basin

Jhakham, Erav of Mahi, Siwna and Gir of Chambal

#### Mean Annual Rainfall

850 mm

#### Major Soil Types

Black, yellow with sandy and loamy

#### Forest Types

Tropical Dry Deciduous and Grass Lands

#### Major Habitats

Forest, Grassland, Gorges and Sacred Groves

#### Percentage of Common Lands including Forest

60%

#### Nearest Protected Area

Sitamata Wildlife Sanctuary

#### Threatened Species

Rusty-spotted Cat, Four-horned Antelope, Lesser Florican, Fat-tailed Gecko

#### Percentage of People Living below Poverty Line

65%

#### Percentage of Scheduled Castes/Tribes

69%

#### Area Under Protection

1,615 ha

#### Village Institutions Associated With

63

#### Total Households of Project Villages

4,671

#### Indigenous Communities

Bhil, Meena

Pratapgarh, a newly carved-out district of Rajasthan, is located where the Aravalli mountain ranges meet the Malwa Plateau – and displays a unique combination of the characteristics of both. The biodiversity-rich Sitamata Wildlife Sanctuary is set in the western part of the district. Our activities are centered in the catchment area of the Siwna and Gir, tributaries of the River Chambal, and the Jhakham and Erav tributaries of the River Mahi.

About 45% of the district is under forestland. With Meena tribals predominating in the population, the area falls under Schedule V category of the Constitution. 65% of the local population are poor and fall below the poverty line. Common lands (grazing and forest) comprise a major portion of the landscape, with habitations and villages scattered in between. However, a number of factors, such as unfavourable tenure arrangements, weakening protection and management systems, overgrazing, and illegal tree felling, together have contributed to the degradation of the land over the years.

Working in the region since 2005, we are associated with 63 village institutions that protect 1,615 hectares of common lands and degraded forestlands. A receptive community realising the importance of tenurial arrangements and collective systems for the management of common and forestlands and institutional arrangements such as Village Forest Committees, Charagah Vikas Samitis, etc., seized the opportunities, and the efforts have rapidly spread in a short period of less than four years.

Based on preliminary geo-hydrology and biodiversity studies, measures to conserve soil and water, and improve vegetation on common lands, have paid off in terms of improved biomass and enhanced availability of water. Gaining from the improved ecology, communities have, on their part, revived and strengthened traditional systems of protection, and devised equitable water-sharing arrangements. We continue to dialogue with these communities on the need to develop a long-term perspective for revitalizing the nutrient and hydrological regime of the landscape, and building resilience into their farming systems.

With formal agreements prepared for protection of forestlands under Joint Forest Management schemes, we plan to implement watershed development programmes on about 12,000 hectares and, taking advantage of opportunities provided by NREGA, to undertake further eco-restoration measures.

We encourage communities to envision a landscape of sustainable ecosystems and habitats, and evolve strategies to make that vision a reality. To this end, we underline the importance of developing an information base of the various ecological aspects of the area, building a cadre of local stewards who will spell out a development agenda for the region, and steering the multiple players in the field in the right direction. ●

### **Study on Criticality of Commons**

Number of Households Surveyed — 159

Villages Covered — 5

Location — Pratapgarh District

#### **Percentage of Sample Households Accessing Commons**

Agriculture	61
Grazing	87
Fodder collection	53
NTFPs and Other Products	88
Fuel wood collection	99

#### **Annual Contribution of Commons Towards**

Fodder (%)	54
Fuel wood (%)	77
Gross Annual Income (%)	36

Mean value of products collected from CPRs per household in previous year (Rs) 16,514

### **UPDATE 2009-2010**

- During the year, revegetation measures were undertaken on 28 hectares of common land. Around 2,860 saplings of various species recommended for regeneration were planted, namely, *Dendrocalamus strictus*, *Carissa carandas*, *Acacia catechu*, *Madhuca indica*, *Zizyphus nummularia*, *Tamarindus indica* and *Emblica Officinalis*.
- Soil and moisture conservation programmes to check soil erosion and excess run-off were taken up on 60 hectares of common land, including construction of contour and staggered contour trenches, loose boulder check dams, gully plugs, and water absorption trenches.
- Thirteen villages were newly surveyed for expansion and a series of discussions held on formation of village institutions.
- Meetings with participants from neighbouring villages were held every quarter on crosscutting issues such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and the Forest Rights Act. Panchayat representatives and other officials also regularly participate in these meetings, wherein village institutions articulate their concerns and outline efforts required for better convergence of development programmes.
- Twenty-four capacity-building programmes were carried out to enhance existing managerial, financial and organizational skills of village volunteers, para workers, community leaders and members of village institutions, to ensure quality participation of the community in management and control of resources.
- Two meetings were taken up on issues related to National Resource Management, Joint Forest Management, the role of Panchayats, and the National Rural Employment Guarantee Act (NREGA), with aim to provide a common platform for local communities to interact with various government/voluntary agencies.
- Biomass estimation studies, with the focus on regeneration, have been initiated in some villages.
- Crop demonstrations are conducted in various villages with select beneficiaries. Thirty such demonstrations were carried out in various watershed villages with an aim to encourage better agricultural practices.

## BHILWARA, RAJASTHAN

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Threatened Species</b>
Northern Plain (and Central Highlands) including Aravallis	Great Indian Bustard, Long-billed Vulture
<b>Project Districts</b>	<b>Percentage of Common Lands including Forest</b>
Bhilwara, Ajmer and Jaipur	55%
<b>River Basin</b>	<b>Percentage of People Living below Poverty Line</b>
Mej, Menali, Khari and Lilri	32%
<b>Mean Annual Rainfall</b>	<b>Percentage of Scheduled Castes/Tribes</b>
699 mm	23%
<b>Major Soil Types</b>	<b>Area Under Protection</b>
Deep loamy grey brown and alluvium-derived soils	26,617 ha
<b>Forest Types</b>	<b>Village Institutions Associated With</b>
Tropical Dry Deciduous and Dry Thorn Forests	401
<b>Major Habitats</b>	<b>Total Households of Project Villages</b>
Forests, Grasslands, Gorges, Farmlands	44,262
<b>Nearest Protected Area</b>	<b>Indigenous Communities</b>
Bhensrodgarh wildlife sanctuary and Bassi wildlife sanctuary	Bhils and Meenas

Located in Bhilwara our activities spread across both Bhilwara and Ajmer districts in the basins of the Mej, Menali and Lilri rivers. The Aravalli and Vindhyan ranges cut across the terrain at several points. Commons and forests cover about 55% of the total land and the typical vegetation is dry deciduous and tropical thorny scrub forest. Being a drought-prone area with poor average annual rainfall, rain-fed agriculture and animal husbandry are the major means of rural livelihoods here.

Launched in 1995, the team presently works with 424 community institutions that protect and manage over 27,423 hectares of common land comprising revenue wastelands, grazing lands, and forestlands. Interventions to improve vegetation on revenue wastelands, and collective regulation over vast stretches of grazing lands over the past few years have gradually revived hydrological regimes and improved biomass production. This in turn, has improved prospects of animal husbandry and double cropping in agriculture.

Enthused by such positive impact and gaining confidence from the successful functioning of village-level institutions, the local village institutions have emerged as vibrant bodies that leverage both support and funds from government and other programmes to improve both village infrastructure and natural surroundings. Over the years the village institutions have matured and have initiated debates on equitable and judicious use of natural resources.

Facilitating ecological restoration under NREGA has certainly broadened our reach and positively influenced our dialogue with Panchayati Raj institutions. We continue to strengthen linkages and improve

S.S.Singh

S.S.Singh



2002



2006

*Protecting their leased land, villagers of Barundini have inspired other neighbouring villages that have initiated similar protection of their commons. The income that the village generates from the sale of fodder from the commons is used to undertake other village development activities.*

### **Study on Criticality of Commons**

Number of Households Surveyed — 281

Villages Covered — 9

Location — Ajmer and Bhilwara Districts

#### **Percentage of Sample Households Accessing Commons**

Agriculture	58
Grazing	89
NTPPs and Other Products	40
Water for Household and Livestock	78
Fuel wood collection	54

#### **Annual Contribution of Commons Towards**

Fodder (%)	41
Fuel wood (%)	43
Gross Household Income (%)	30

Mean value of products collected from CPRs per household in previous year (Rs) 13,060

interaction between village collectives, government agencies and other civil society organizations which would individually and collectively contribute to the development of the region. Besides expanding our eco-restoration activities to neighbouring areas and initiating interventions to strengthen farming systems, we are supporting community-driven actions aimed at building a body of individuals and institutions that would steer the developmental interventions of the region towards conservation of natural resources. ●

Vaibhav Bhatia

**2010**

### **UPDATE 2009-2010**

- Regeneration activities were undertaken on 198 hectares of common land; community institutions were assisted in bringing the land under community governance, and to frame rules and regulations to conserve natural resources.
- Soil and water conservation measures for arresting soil erosion and enhancing soil moisture were undertaken on 147 hectares of private land and 205 hectares of common land. To enhance surface and groundwater availability, six water harvesting structures were constructed and 19 existing water-harvesting structures deepened.
- We have initiated efforts in facilitating Village Forest Protection and Management Committees (VFPMCs) to regenerate 300 hectares of forestland through NREGA in the coming financial year.
- Meetings of all existing federating bodies discussed the concept and role of rural volunteers, para workers, and the Panchayat Resource Center, and raised issues of development in the area.
- Staff members from Bhilwara (and other locations), along with 65 rural volunteers from villages of Bhilwara, actively participated in a Social Audit- cum-Padyatra to analyze in depth the processes involved in planning, implementation, and monitoring of NREGA. The audit was organized by Soochna Evum Rozgar ka Abhiyan and Mazdoor Kisan Shakti Sangthan from October 1-12, 2009, in collaboration with the Government of Rajasthan.
- Strengthened interaction between village institutions and Gram Panchayat representatives, have helped leverage Rs.4.5 million for natural resource management through the Panchayats under NREGA.
- Crop demonstrations were conducted on the fields of 184 farmers in the kharif season to encourage the sowing of drought-tolerant varieties, with emphasis on organic inputs and non-chemical pest management, as well as to disseminate best practices.
- A total of 23 Panchayat-level capacity-development programmes were undertaken in the Kidimal watershed area and neighbouring Panchayats for effective implementation of the ongoing watershed programme and NREGS activities, involving specialists from various departments and organizations.
- We shared the results of the studies on geo-hydrology, biomass, biodiversity, and soil characteristics with representatives of the village community of four villages so as to disseminate information on the conservation and proper management of groundwater, as also a basic understanding of geo-hydrology.

## AGAR, MADHYA PRADESH

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Central Highlands, Malwa Plateau	25%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Shajapur and Ujjain	42%
<b>River Basin</b>	<b>Percentage of Scheduled Castes/Tribes</b>
Lakhundar, Garhganga and Kalisindh	30%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
950mm	7603 ha
<b>Major Soil Types</b>	<b>Village Institutions Associated With</b>
Loamy to clayey and deep black	59
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Tropical Dry Deciduous and Scrub Forests	5,818
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Grasslands, Agriculture lands, Forests	Bhilala (1.3%)
<b>Nearest Protected Area</b>	
Kheoni Wildlife Sanctuary	
<b>Threatened Species</b>	
<i>Adina cordifolia, Dolichandrone falcata, Indian Wolf and Striped Hyena</i>	

The Agar project is located in the catchment area of the River Lakhundar. Spread over the districts of Shajapur and Ujjain, the landscape is marked by small, staggered hillocks and narrow valleys. The area is part of the Malwa plateau famous for the draught breed of cattle called 'Malwi'. While the forest area comprises a mere 1%, common lands occupy 25% of the area and support the fodder and grazing needs of the livestock-dependent local communities. Agriculture and animal husbandry are the two major occupations of the people in this region.

Our association with the region dates back to 1996. Currently, we are engaged with 59 village institutions that protect and manage 7,603 hectares of common land. Measures to conserve soil and water, and to protect common lands by improved grass cover and growth of natural rootstock of tree species such as *Butea monosperma*, *Diospyros melanoxylon* and bushes of *Carissa carandas* (Karonda), have improved the availability of fodder, fuel wood and Karonda fruit, which are an important source of livelihood for the poor.

Construction of numerous water-harvesting structures has made water available for human and livestock needs, as well as recharged shallow wells in the downstream, leading to a marked increase of area under double cropping. Seeing the need to implement tough collective rules for water-usage, some villages have devised mechanisms for equitable water distribution while others are in the process of framing their own village-specific rules.

In the process of developing detailed geo-hydrological profiles of the watershed areas, we are improving our understanding of aquifer boundaries, groundwater

Yogesh Gupta

Kumar Rupam



2001



2004

*Undertaking restoration efforts in a region that lost most of its forest cover decades ago poses many challenges. While it may take several years of sustained protection before the people of Nipania see the lost forest cover return, protection of common lands has already led to improved recharge in the downstream wells.*

### **Study on Criticality of Commons**

Number of Households Surveyed — 128

Villages Covered — 6

Location — Ujjain and Shajapur Districts

#### **Percentage of Sample Households Accessing Commons**

Agriculture	37
Grazing	77
NTFPs and Other Products	59
Water for Household and Livestock	81
Fuel wood collection	55

#### **Annual Contribution of Commons Towards**

Fodder (%)	43
Fuel wood (%)	51
Gross Annual Income (%)	15

Mean value of products collected from CPRs per household in previous year (Rs) 11,061

storage potential, and the impact of recharge on groundwater. Critical for locating and designing water recharge structures, we share this information with both the community and the government so as to facilitate interventions suitable to the terrain and geology of an area prone to drinking water scarcity every few years.

Although the planting of Jatropha on common lands was tried by local communities on a pilot scale, several villages soon learnt the possible negative impact it can have on grass and fodder production, and thereby on animal husbandry – and are now dissuading others from taking up bio-fuel plantations. ●

Dibyendu Mondal



2010

### **UPDATE 2009-2010**

- A total of 134 hectares of common land were planted with native species of plants. Soil and moisture conservation activities were carried out on 216 hectares of common land, and four earthen water-harvesting structures constructed, which will help bring 135 hectares of agriculture land under irrigation.
- The team surveyed watershed areas in Agar for initiating a watershed development project. Participatory exercises and group discussions were conducted with different users so as to develop a clear picture of the social, economic and ecological aspects of the area and develop a plan of action.
- We are seeking to strengthen institutional arrangements by drawing up habitation-specific byelaws for protection and use of common lands, and of existing water resources. Efforts are made to ensure formulation of rules and regulations for their management, and of the downstream use of water for irrigation.
- Members of the Agar Federation visited the project villages of Tarana to share their experiences in collective protection of common lands, and on resolving conflicts over encroachment. This led to formation of an intra-Federation Committee to help villages resolve conflicts, and facilitate removal of encroachments on common lands.
- Thirty-three issue-specific training programmes were conducted in Agar and the newly selected project villages of Tarana. The programmes focused on land use, regulation of water use, and building platforms of negotiation between government departments and villages.
- The study on groundwater modeling by Clemson University (USA) continued into its third year. During the year, groundwater flows and movement were assessed with the help of Electro-Magnetic Induction (EMI) tools. Study of sub-surface movement of water, along with rainfall intensity and duration, helped us understand aquifer boundaries, groundwater potential, and recharge capacity.
- Soil and moisture conservation activities were undertaken on 12 hectares of farmlands in watershed development project. Micro-irrigation systems (MIS) were successfully implemented on 11 hectares of land belonging to five households.
- We conducted an impact assessment study to measure the impact of water harvesting structures on crop production in rabi and kharif seasons. Well-data has also been collected to analyze the recharge potential of the water harvesting structures.

# Papagni Regional Office

In an economy suffering from long standing agricultural distress, the need is for a multi-pronged approach that works not only towards fortifying farming systems and exploring alternative livelihood enhancement opportunities, but as much towards galvanizing collective action that can regulate the judicious usage of natural resources.

We work in the dry rain-shadow region of the southern Deccan Plateau, in the upper catchments of the Papagni River in Karnataka and two of its feeder streams in Andhra Pradesh. The entire region is semi-arid and prone to drought. The dry-deciduous and thorny scrub forests that cover the hills are largely degraded, with but a few good patches remaining. The clearing of the wooded slopes to meet biomass requirements of the local communities, and for agriculture, has led to a loss of forests and soil erosion across the area.

An annual rainfall of between 600 to 800 mm, the topography, and a geology that is suitable for surface storage of water, led to the construction of a very large number of tanks all over the region. With the clearing of

the forests, the increased runoff has led to silting up of the tanks. The intensification of agriculture has encouraged the spread of tube wells, depleting the groundwater and further worsening water shortages in the region. Grazing lands, revenue wastelands, tank foreshores, and forestlands together comprise 60% of the lands and meet a significant portion of the energy needs of the local populace.

Given this setting, our efforts are centered on improvement of the health and productivity of the commons, thereby strengthening adjacent agricultural systems and expanding appropriate livelihood choices. We also work to strengthen local institutions, ensuring that these are inclusive and that all groups are a part of land-use decisions, particularly those related to the commons. Village institutions are assisted in bringing revenue wastelands, grazing lands, and forestlands under management and protection regimes, and in the regeneration of these commons. We work to create and share knowledge on the overall water availability in the region, and promote dialogue within the community on current extraction and use patterns, and improving the availability of surface and sub-surface water.



Ravindranath



## MADANAPALLE, ANDHRA PRADESH

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Eastern Ghats, Tamilnadu Uplands and Deccan Plateau	57%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Chittoor and Anantapur	58%
<b>River Basin</b>	<b>Percentage of Scheduled Castes/Tribes</b>
Papagni	20%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
934 mm	13831 ha
<b>Major Soil Types</b>	<b>Village Institutions Associated With</b>
Medium to deep red loamy soils	235
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Mixed Dry-deciduous, Tropical Thorn Forests and Scrub Forests	12,346
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Forests, Grazinglands, Wetlands, Agriculture Lands	Naik, Sugali, Yanadi, Irula
<b>Nearest Protected Area</b>	
Nallamalai Biosphere Reserve	
<b>Threatened Species</b>	
Yellow Throated Bulbul, Starred Tortoise, <i>Chloroxylon swietenia</i> , <i>Anogeissus latifolia</i>	

Our project area in Madanapalle is located in the Papagni river basin, and stretches across two semi-arid districts of Chittoor and Anantapur in Southern Andhra Pradesh. Located at the tri-junction of the Deccan Plateau, the Eastern Ghats and Western Ghats, the area peculiarly exhibits ecological features of all three. It is marked by broken hill ranges and forestlands on the ridges, revenue wastelands and farmlands on the lower slopes, and valleys dotted with numerous irrigation tanks.

Initiated in 1991, our project presently covers an area of over 13,831 hectares of common land in 235 habitations in the catchment of the river Papagni. We assist 143 habitations under 18 *Panchayats* to access funds through NREGS, and plan and implement ecological restoration measures. The governance of common lands and degraded forestlands is being taken care by the Vana Samrakshana Samitis (VSS) and Tree Growers' Mutually Aided Cooperative Societies (TGMACS) through our aid and assistance.

As both animal husbandry and agriculture are profiting from re-vegetation over contiguous stretches of common lands and forestlands, improved biodiversity, and revived nutrient and hydrological regimes, we are shifting our focus to further encourage community discussions on the various inter-linkages of the ecosystems.

We have undertaken detailed assessments of ecological aspects of the region, and quantified the availability and demand of biomass and water. We are trying to reach to the mass in their colloquial expressions. We are mobilizing a cadre of rural volunteers who will assist villages and the *Panchayat*, to visualize and formulate a conservation and

Jagdeesh Rao

Johnson Topno

1992

2001

*Two hamlets, Guttakindapalle and Bathinagaripalle, jointly protect the small valley. While institutions such as the Tree Growers' Cooperative and Village Forest Committees enable interventions on the varied administrative categories that the lands are parcelled into, it is the interactions between the institutions across habitations that provide the ideal platform to address issues of conflict and concern.*

### **Study on Criticality of Commons**

Number of Households Surveyed — 478
Villages Covered — 10
Location — Anantapur and Chittoor Districts
Partner Organization — Ananthapur Paryavarana Parirakshana Samiti
<b>Percentage of Sample Households Accessing Commons</b>
Agriculture 60
Grazing 62
Fodder collection 29
NTFPs and Other Products 65
Water for Household and Livestock 58
Fuel wood collection 80
<b>Annual Contribution of Commons Towards</b>
Fodder (%) 52
Fuel wood (%) 36
Gross Annual Income (%) 22
Mean value of products collected from CPRs per household in previous year (Rs) 14,513

development agenda for the region.

NREGA has opened up opportunities to undertake ecological restoration measures at a landscape level, thus enabling us to explore ways of revitalizing farming systems, in a region prone to agriculture distress. We look forward to enhance our understanding of the impact of climate change on biodiversity, animal husbandry, and rain-fed agriculture so we may arrive at location-specific, corrective measures. ●

Shreerang



**2010**

### **UPDATE 2009-2010**

- A total of 256 hectares of land and about 1,785 hectares of farmland were brought under soil and moisture conservation measures; 15,000 agave suckers and 5,000 stem cuttings of glycicidia were planted to prevent soil erosion on the farm bunds.
- We work closely with the local administration and 18 *Panchayats* to improve the quality of work under NREGA, and to extend it to cover eco-restoration activities.
- Baseline information collected for ecological health monitoring has suitably guided the preparation of Conservation Action Plans for the area.
- Non-Chemical Pest Management (NPM) practices were promoted in select villages and, with the assistance of trained para workers, local women's groups have extended NPM initiatives to an additional four *Panchayats*.
- Biomass study findings were shared with federations. Discussions and exposure visits related to groundwater management were undertaken for some *Panchayats* and watershed committees. Village level discussions were initiated so as to develop action plans to regulate utilization of groundwater.
- We organized two Kisan Melas with assistance from government departments, bringing together the local farmers' federations, various agencies, and village institutions to share opportunities and challenges related to dryland farming and livestock rearing.
- We assisted *Gram Sabhas* in identifying 70 Rural Volunteers ('Palle Gandhis') who successfully went through three modules of in-house designed training programmes on their roles and responsibilities.
- We facilitated 'Project Mode' planning, under NREGA in 18 *Panchayats*. The team is working closely with local administration and *Panchayats* for improving the quality of work under NREGA and extending it to cover eco-restoration activities.
- We are collaborating with Washington University in St. Louis, USA for assessing the impact of energy efficient devices on the indoor air pollution levels in the habitations. We examined the socio-economic factors that determine a household's decision to adopt a biogas unit.
- We organized an exposure trip for farmers from Somarajukunta watershed to the Green Foundation, Bangalore, to understand the concept of Seed Bank. A committee for implementing the Seed Bank concept was formed and a set of byelaws were framed by the *Gram Sabha* to assist the committee.

## CHINTAMANI, KARNATAKA

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Eastern Ghats, Tamilnadu Uplands and Deccan Plateau	42%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Kolar and Chikkaballapur	23%
<b>River Basin</b>	<b>Percentage of Scheduled Castes/Tribes</b>
Papagni	29%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
694 mm	8,817 ha
<b>Major Soil Types</b>	<b>Village Institutions Associated With</b>
Medium to deep red loamy soils	180
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Tropical Dry-deciduous, Tropical Thorn Forests and Scrub Forests	11,839
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Grazing lands, Scrub forests, Wetlands, and Agriculture lands	Nayakas, Lambanis, Kurubas & Madigas
<b>Nearest Protected Area</b>	
Kaundinya Wildlife Sanctuary (Chittoor, AP), Banneragatta National Park (Bengaluru, Karnataka)	
<b>Threatened Species</b>	
Yellow Throated Bulbul, Starred Tortoise, <i>Wrightia tinctoria</i> , <i>Shorea roxburghii</i> , Red Sand Boa, Kolar Leaf-nosed Bat	

Our project area in Karnataka covers parts of Kolar and Chikkaballapur districts. The terrain is hilly with rocky boulders, and there is only sparse vegetation on the hill slopes. The common lands are classified as grazing lands and are under the custody of the *Panchayat*. The forests are largely mixed dry-deciduous, tropical thorn and scrub forests. The degraded forestlands are mostly bereft of indigenous species and infested with the invasive lantana. Eucalyptus plantations predominate on private lands as well as some forestlands. For the past few centuries, a number of cascading tanks have catered to irrigation, and the water needs of livestock. In recent years, however, the unbridled use of groundwater for raising water-intensive crops at an extraction rate double that of replenishment, has alarmingly depleted the groundwater table.

We initiated our activities in 1998 in the upper catchments of the Papagni River, which originates in Kolar. Today, our interventions reach out to 180 habitations, with village institutions protecting around 8,817 hectares of grazing and degraded forestlands. With active engagement of the *Panchayats*, custodial rights over grazing lands were devolved to constitutionally mandated subcommittees of the *Panchayats*, coterminous with habitations. The increased engagement of *Panchayats* with their constituents made it possible to prepare effective perspective plans and use NREGA provisions to improve the natural resources of the area. Recognizing the need to nest various institutions under the umbrella of *Panchayats* for improved governance, we are aiming to bring Village Watershed Committees and other similar institutions such as Tank Users' Groups into the fold of the *Panchayat*.

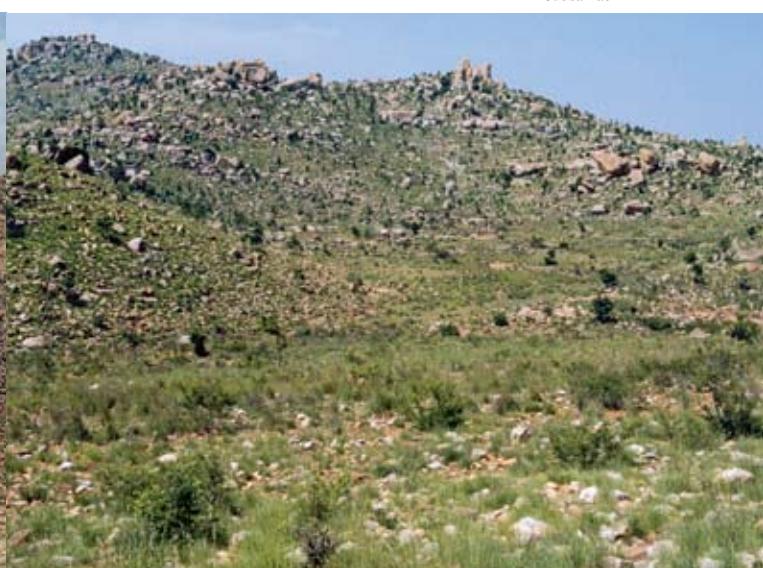
With groundwater resources in the region already in

Dr. Subba Rao

Dr. Subba Rao



2002



2004

*In a rather daunting landscape strewn by boulders, determined efforts by the people of Sajjupalli 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.*

### **Study on Criticality of Commons**

Number of Households Surveyed –113

Villages Covered – 5

Location — Chikballapur and Kolar Districts

#### **Percentage of Sample Households Accessing Commons**

Agriculture	65
Grazing	71
Fodder collection	21
NTFP and Others Products	73
Water for Household and Livestock	73
Fuel wood collection	95

#### **Annual Contribution of Commons Towards**

Fodder (%)	56
Fuel wood (%)	93
Gross Annual Income (%)	18
Mean value of products collected from CPRs per household in previous year (Rs)	15,077

critical state and extraction patterns on the rise, our efforts are focused at sharing the findings of the geo-hydrology study and water-audit data with *Panchayats*, government agencies, and other stakeholders of the region, so as to evolve strategies, and to galvanize collective action on regulating use of groundwater and other natural resources. We have made a small beginning in this context, by demonstrating benefits of low-input agriculture methods, and in capacitating rural volunteers to assist *Panchayats* in preparing perspective plans, and in implementing conservation activities under NREGA. ●

Thomas K.A.



**2010**

### **UPDATE 2009-2010**

- Soil and moisture conservation measures were undertaken in 242 hectares. Of about 75,000 saplings of indigenous species raised for planting on common and farmlands, 45,844 saplings have already been planted. Farm bunding and digging of farm ponds were taken up to help arrest soil erosion, improve moisture regime, and boost yields.
- We assisted 128 villages in 15 *Panchayats*, build check dams and *nallah* bunds on an area of about 2,601 hectares.
- We held meetings in about 140 habitations to create awareness about NREGA and the scope for undertaking eco-restoration activities. We facilitated constitution of Village Monitoring Committees and for preparing a 'shelf of activities' for the annual plans.
- Efforts were made to acquaint farmers with improved fodder varieties, and 1,460 kilograms of fodder seed of six varieties were sourced and supplied to 550 farmers. We organized two orientation programmes on fodder development in the project area in association with the Hessarghatta Fodder Research Station, where farmers were oriented on various fodder varieties and ensuing benefits to livestock.
- With a view to securing the livelihoods of landless and marginalized farmers, about 50 households accessed poultry chicks of native varieties and another 35 families accessed sheep; seeds of indigenous vegetables were arranged for another 100 households.
- Five training programmes were arranged for 45 village volunteers, nominated by 10 *Gram Panchayats*. Another 195 farmers participated in programmes aimed at promoting sustainable agricultural practices.
- The first edition of *Vaastava*, the wallpaper on NREGS and natural resource management-related aspects, was published and displayed in villages to disseminate information about NREGA. Two issues of *Grama Vani* were also published.
- We are promoting the concept of kitchen gardens in a small way with indigenous seeds sourced from Janadhanaya, a farmers' collective based in Bangalore. We supplied seeds of different vegetables to about 100 households from all the three clusters.
- We trained about 200 farmers of the project area in sustainable agricultural practices. A total of 110 farmers from the villages of the project area were exposed to improved agricultural practices in the Krishi Mela organized by the University of Agriculture Sciences, Bangalore.

## Regional Office – East

**It is widely understood that one of the principal causes of destruction of forests (and other commons) has been the neglect of the prevailing local institutions and arrangements on common resources, rendering of those as government (public) property and restricting access and legal entitlement to the local communities.**

The regional office was set up with a clear mandate to promote the conservation and livelihood agenda across large areas of eastern India that are still well forested and rich in biodiversity. They are predominantly inhabited by tribal and other forest communities who have a history of community protection of forests, especially in Orissa. In recent years, however, the area has seen an increasing trend towards exploitation of large reserves of minerals and the setting up of associated industries.

In order to develop a better understanding on development

trends in Orissa, we prepared an Atlas on the Development Context of the State and six district-level atlases. The Atlas is a compilation of information on nearly all development indicators, accompanied with in-depth analysis of the changes underway in Orissa and their impact on the people of the State. A series of consultative workshops were held at State and district levels to present the findings of this exercise.

Besides the FES offices in the region, we assist eight partner organizations in planning their engagement with the MGNREGA, including selection of landscapes and villages where programme funds will be invested towards implementing eco-restoration activities for better forest protection. In addition, we have been collecting, analyzing, and disseminating information related to the MGNREGA by preparing regular news updates, initiating an e-group focused on the MGNREGA, and sharing circulars and other communications from the State authorities with larger interest groups.

Susanta Ray





## ANGUL, ORISSA

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Eastern Plateau (Chhotanagpur) and Eastern Ghats	50.50%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Angul and Dhenkanal	61%
<b>River Basin</b>	<b>Percentage of Scheduled Castes/Tribes</b>
Mahanadi and Brahmini	29%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
1273 mm	23,529 ha
<b>Major Soil Types</b>	<b>Village Institutions Associated With</b>
Deep loamy, red and lateritic soils	200
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Tropical dry and Moist Deciduous Forests, Bamboo brakes and Scrub Forests	24,763
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Forest, Wetland, Agricultural Lands and Riparian	Paudi Bhuyans, Juangs
<b>Nearest Protected Area</b>	
Satkosia Tiger Reserve	
<b>Threatened Species</b>	
Tiger, Elephant, Gharial, <i>Barringtonia acutangula</i> (Hinjal), <i>Entada phaseoloides</i> (Gila)	

Angul and Dhenkanal districts are situated in the central part of Orissa, in the catchment of the Mahanadi and Brahmani rivers. The region is characterized by several streams and rivulets that drain into the two major rivers. The district is endowed with rich flora and fauna with the Satkosia Gorge Wildlife Sanctuary figuring prominently in the landscape. The area is also rich in minerals and faces increasing pressures and threats to its ecological diversity from mining and industry. Recent industrial developments have added to the disparities between the rich and the poor, the picture of affluence in the cities set in stark contrast to the poverty of the villages.

Initiated in 1987, the project presently works with 200 community institutions that protect and govern nearly 23,529 hectares of common lands. Commons remain central to the livelihoods of rural communities in this undulating terrain; the forests in the uplands help to retain soil moisture and improve the nutrient flow, providing critical support for the subsistence agriculture practiced by rural communities in the lower reaches of the hills.

Tangible examples from the improved commons of a few villages have set off a series of positive responses from neighboring communities, which have, in emulation, begun protecting their own common resources. Our long-term engagement with local communities in the Athamallik area on their traditional system of protecting forests has helped 36 village institutions claim community rights over their forests under the Forest Rights Act. Initiatives taken earlier with the *Panchayats* in reintroducing regulation of open grazing of livestock are also increasingly finding acceptance, with the movement now spread to 35 villages.

Subrat Singh

Swapnasri Sarangi



1998

*Protection on a chunk of revenue wasteland was initiated in Nabkishorepur in 1997. Initially restricted to only the revenue wasteland, the protection initiative has grown to include all the common lands in the village.*



2006

### **Study on Criticality of Commons**

Number of Households Surveyed — 153

Villages Covered — 6

Location — Angul and Dhenkanal Districts

#### **Percentage of Sample Households Accessing Commons**

Agriculture	67
Grazing	75
Fodder collection	65
NTFPs and Other Products	83
Water for Household and Livestock	94
Fuel wood collection	94

#### **Annual Contribution of Commons Towards**

Fodder (%)	68
Fuel wood (%)	91
Gross Annual Income (%)	38
Mean value of products collected from CPRs per household in previous year (Rs)	18,639

Positive outcomes from our efforts to intertwine nature conservation with improvement of local livelihoods along the fringes of the Satkosia Wildlife Sanctuary, have led to conceiving a larger conservation action plan for the area. In addition to information already gathered, we plan detailed ecological assessments of the area so as to monitor periodic changes in the ecosystem and the benefits they render. In tandem, we are developing the capacities of local youth, village institutions and *Panchayats* so they can chart a course of action and ensure better implementation of development programmes. ☺

Bijay Mohanty



**2010**

### **UPDATE 2009-2010**

- A total of 95 kilograms of seeds of five varieties of forest species have been dibbled in the common lands in all watershed development projects. A total of 10,500 forestry seedlings of 14 varieties were planted during the monsoon. Further, about 8,000 horticultural species, including mango, papaya, lemon and coconut, were planted in the farmlands of the watersheds. Soil and moisture conservation activities were undertaken in 323 hectares of land, of which about 303 hectares are common lands.
- One of the villages in the Ganjada Watershed agreed to use a diesel pump as a common resource and, as a consequence, all 16 households belonging to a Scheduled Tribe (Kondh) have taken up vegetable cultivation on about an acre each.
- The first batch of Rural Volunteers has completed study-modules on institutional design and community mobilization process, Natural Resource Management, Social Security, NREGA, PRI, legal aspects related to forest and land, Forest Rights Act (FRA), Right to Information Act (RTI), as also subjects like Personal Effectiveness and Self-Development.
- A total of 40 training programmes were held for community members of watershed villages. Apart from regular interaction with various actors involved with NREGA, the team also organized 12 workshops and customized interaction programmes on NREGA with community members and elected members of *Panchayats*.
- We collected detailed information from selected wells, and prepared a baseline for monitoring wells in 30 villages of eight watershed-development projects. We carried out a baseline survey for monitoring certain ecological parameters. We prepared land cover maps, recorded biophysical attributes, and made detailed inventories of flora and fauna. These assessments follow a systems approach that helps pin down critical habitats calling for enhanced protection.
- FES' Atlas on Development Trends in Angul and Orissa was released at the celebrations of the World Environment Day, co-hosted by the District Environment Society. The guests were a diverse mix from industrial houses, government departments, educational institutions, NGOs, the Bar association, the media, and eminent persons from the district. The meeting was chaired by the MLA of the region.
- Our efforts led to the visit of Mr. K.S. Gopal, member of the National Employment Guarantee Council to Orissa, facilitating discussions with government on involving NGOs in the implementation of NREGA.



Bijay Kumar Toppo

*Conservation of forests would benefit from a landscape level perspective. Assigning preservation, conservation and exploitation objectives to different parts of the landscape would preserve natural heritage and meet subsistence and market needs.*

## KORAPUT, ORISSA

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Eastern Plateau (Chhotanagpur) and Eastern Ghats	28.28%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Koraput	83.81%
<b>River Basin</b>	<b>Percentage of Scheduled Castes/Tribes</b>
Kolab	62.66%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
1540 mm	2,195 ha
<b>Major Soil Types</b>	<b>No. of Village Institutions Associated With</b>
Deep loamy red and lateritic soils	48
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Tropical moist Deciduous Forests	4310
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Forests, Grasslands, Bamboo brakes	Kond(40%), Paraja(20%), Gadava(10%)
<b>Nearest Protected Area</b>	
Kangerghati National Park, Karlapat Wildlife Sanctuary	
<b>Threatened Species</b>	
Elephant, <i>Themeda saxicola</i> , <i>Strobilanthes jeyporensis</i>	

Highland plateau and hill ranges of the Eastern Ghats are the key topographical features of Koraput, set in southern Orissa. The area is drained by five major rivers. The forests are of moist deciduous type with sal being the principal tree species. Severe extraction over the last few decades has drastically reduced the forest cover in the area. The district is a Schedule V area, with more than 60% population belonging to Kond and other tribes.

Shorter cycles in shifting cultivation, weaker linkages between forest and agriculture production systems, increasing fragmentation of land holdings – all pose a threat to the subsistence agriculture practised by the tribal communities. Inequitable land ownership patterns, unviable land-use practices, along with a weak appreciation of local governance institutions (in which the right to manage natural resources is vested) are some of the major hurdles that have to be overcome.

Initiated in 2008, we have been working on the upper ridges of the Kolab river basin and two of its tributaries, with plans to cover 96 habitations in 45 revenue villages. Our efforts include the conservation and judicious use of natural resources; enabling arrangements for community access to such resources; and developing livelihood options that are in consonance with the functioning of the ecosystem. Our interventions are designed towards leveraging NREGA for the restoration of degraded landscapes, as well as improving the democratic functioning of *Panchayats* with particular focus on natural resources.

An exercise to assess the extent of soil erosion has helped bring to light the severity of the problem in the area and to design suitable interventions. We helped draw up comprehensive land-use plans to implement land restoration under watershed and other development programmes. Besides regeneration and protection of forests on the uplands, increasing the diversity of crops/ vegetables and introducing innovative and cost-effective irrigation measures are important strategies for both conservation of natural resources and improvement in the livelihoods of tribal communities.

While regular meetings at the *Gram Panchayat* level are helping build a larger forum for conservation of forests and natural resources, we perceive the involvement of multiple actors and agencies in the area as critical to promote the conservation ethic in the region. Given the vast extent of degraded uplands in the area, the challenge is to extend vegetative cover on the uplands so as to reduce soil erosion, and increase incomes. ☺



Bijay Kumar Toppo

*Complementing the work on regeneration of degraded forestlands, we are also implementing activities that strengthen the natural resource based livelihood options of the poor in a way reducing their dependence on sale of firewood as a source of income.*

#### Study on Criticality of Commons

Number of Households Surveyed — 94

Villages Covered — 3

Location — Koraput District

#### Percentage of Sample Households Accessing Commons

Agriculture	79
Grazing	68
NTFPs and Other Products	92
Water for Household and Livestock	93
Fuel wood collection	90

#### Annual Contribution of Commons Towards

Fodder (%)	92
Fuel wood (%)	92
Gross Annual Income (%)	53

Mean value of products collected from CPRs per household in previous year (Rs) 24,708

#### UPDATE 2009-2010

- Using provisions of NREGS, a total of 27 water-harvesting structures, farm ponds, diversion channels, and gully plugs were constructed on about 326 hectares. Regeneration activities were undertaken in 326 hectares of uplands including forest and common lands.
- Diversion Based Irrigation (DBI) interventions helped 209 households to raise crops in about 56 hectares of farmland, which were earlier left fallow after the kharif season.
- Eighteen new village institutions were formed, and byelaws formation completed in six habitations. Regulations for management and maintenance of water-harvesting structures were discussed with 30 habitations.
- Three Panchayat Resource Centers (PRCs) are being organized at three Panchayat headquarters. We are strengthening these multi-actor platforms by facilitating stakeholders' participation and by promoting issue-based interaction.
- Twenty rural volunteers and twenty para workers are being trained at regular intervals so as to energize the development process in the area. Volunteers have been facilitating regular meetings at village level and linking the village to block development programmes. Four phases of training for para workers have been completed. The para workers are also provided with hands-on training in soil and moisture conservation and DBI interventions.
- Thirty-nine training programmes (including Member Orientation, Women Orientation, Environment Education, and for Management Committees) were conducted at habitation level for members of village institutions.
- The findings of the report on Extent and Risks of Soil Erosion indicate a significant percentage of land area in Koraput district is under severe soil erosion (more than 30 tons per hectare per year) due to both anthropogenic and ecological factors.
- Meetings involving *Panchayats* and other actors of the region have been conducted to mainstream the NRM agenda in NREGS implementation across the landscape. Discussions at the village level are being undertaken for building pressure at *Panchayat* and block level to prioritize activities aimed at improving water and revegetation.
- Maps covering the geographical area under three *Panchayats* have been used as planning tools for facilitating interaction among communities on taking up ecological restoration of the area by leveraging NREGS funds.



Source: P. Dabhi

*Many of the human activities that modify or destroy ecosystems cause deterioration of ecological services whose value, in the long run, far outweigh the short term economic benefits that society seek to gain. We are working through various physical and institutional interventions to halt and reverse ecological degradation by taking appropriate ripostes.*

## MANDLA, MADHYA PRADESH

### FACT FILE

**Agro-ecological Zone**  
Central Highlands (Malwa and Bundelkhand) Region

**Percentage of Common Lands including Forest**  
74.00%

**Project Districts**  
Mandla

**Percentage of People Living below Poverty Line**  
56%

**River Basin**  
Gaur, Balai and Banjar of Narmada

**Percentage of Scheduled Castes/Tribes**  
66%

**Mean Annual Rainfall (mm)**  
1588 mm

**Area Under Protection**  
1,092 ha

**Major Soil Types**  
Shallow to deep loamy to clayey mixed red and black soils

**Village Institutions Associated With**

**Forest Types**  
Tropical Moist Deciduous Forests

**Total Households of Project Villages**  
78

**Major Habitats**  
Forests, Grasslands, Gorge & Rock Cliffs

**Indigenous Communities**  
Gond (60%) and Baiga(14%)

**Nearest Protected Area**  
Kanha National Park and Tiger Reserve

**Threatened Species**

Tiger, Swamp Deer, Green Avadavat, Vultures (*Gyps bengalensis*, *Gyps tenuirostris*), *Sterculia urens*, *Terminalia arjuna*

The Mandla project area in Madhya Pradesh is nestled in the Satpura hill ranges in the basins of three small tributaries of the River Narmada, namely the Gaur, Banjar and Matiyari. The forests in the region are classified as moist deciduous to mixed deciduous type, with the Kanha National Park a major feature of the larger landscape. Unfortunately, this district which abounds in natural resources, is also one of the most backward in India. The population is predominately tribal, mainly Gonds and Baigas, who are largely dependent on the forests for their livelihood.

We began working in the area in 2006, and are presently working along the borders of the Kanha National Park, our twin objectives being to conserve natural resources and to improve local livelihoods. With low productivity of farmlands, increased sale of fuel-wood, high dependence on wages, and high incidence of migration being common to the area, we have mounted a series of farm-based interventions to improve agricultural practices and promote homestead gardens.

A study of landscape-level vulnerabilities in the Matiyari river basin has shown that the high degree of forest-degradation is mainly engendered by injudicious land-use practices, and lack of protection. As the National Rural Employment Guarantee Act (NREGA) is still in its formative years, there is considerable scope for imaginatively extending its application to conservation of nature and measures for ecological restoration.

We are geared to working along with the *Gram Sabha* (the fourth tier of Panchayati Raj institutions) in developing perspective plans for development of its villages, and in enabling, through the NREGA, improved natural resources and associated livelihoods. We are also discussing with Village Forest Committees formal arrangements for leveraging NREGA for restoring forestlands. In anticipation of raising the scale of NREGA implementation, we have undertaken capacity-building programmes for village stewards who would further the cause of conservation-oriented development in the villages, and also be sensitized to democratic processes in village-level governance.

By working on issues concerning rural livelihoods, betterment of natural resources, and strengthening of local-governance institutions, we shall extend our activities to villages adjacent to the protected area, and focus our energies on making local communities partners in efforts towards conservation. ●



Smita K. Ranjane

*Apart from agriculture, NTFP collection plays an important role in local economy. As many as one million leaf collectors are registered in Mandla, collecting Beedi leaves of worth Rs. 70 million annually.*

#### Study on Criticality of Commons

Number of Households Surveyed — 106

Villages Covered — 5

Location — Mandla District

#### Percentage of Sample Households Accessing Commons

Agriculture	93
Grazing	37
NTFPs and Other Products	77
Water for Household and livestock	81
Fuel wood collection	98

#### Annual Contribution of Commons Towards

Fodder (%)	59
Fuel wood (%)	79
Gross Annual Income (%)	35

Mean value of products collected from CPRs per household in previous year (Rs) 13,116

#### UPDATE 2009-2010

- During the year, soil and moisture conservation activities were taken up on about 40 hectares of common lands and 1,389 hectares of private lands.
- A socio-economic survey of all the habitations was completed and analyzed so as to obtain a snapshot of their economic situation and their dependence on natural resources in the area. Perspective planning was taken up in all of the villages.
- We assisted 15 Panchayats covering 31 villages to prepare NRM-based perspective plans for undertaking activities under NREGS. As a technical support team (TST) for assisting *Gram Sabhas* in planning and execution of activities, we helped *Panchayats* monitor the quantum and quality of work, and to effectively oversee utilization of NREGS funds.
- We organized habitation level meetings to orient community members on various aspects of natural resource management. The respective *Gram Sabhas* formed Executive Committees (Prakritik Sansadhan Prabandhan Samiti) in each village for better management of their natural resources and effective execution of programmes.
- The team is facilitating a demonstration of System of Rice Intensification (SRI) in the project area for reducing water requirements and improving productivity. This year, of the 104 farmers who have taken the initiative to practice SRI, 84 are receiving financial support and 20 are being provided technical assistance by the team. A study done in each of the 104 plots has shown encouraging results, since the crop has better survived the long dry spells which hit the traditionally-cultivated paddy in other plots.
- Under SRI's Paddy Productivity Enhancement Scheme, intensive technical training programmes for proper execution of SRI were conducted. Of 150 farmers from 19 villages who participated in the skill development programmes, 104 participated in the demonstration.
- Based on the results of a study on NTFP availability and assessment in the project villages, we are preparing a plan for future course of action.
- We shared findings of the ecological and geo-hydrological profiles at a district-level meeting, attended by representatives of various government departments and NGOs like the World Wide Fund-India, Udyogini and NYWSID. Participants suggested various ways of improving on the study, and for exploring collaborative projects.

## DAHOD, GUJARAT

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Central Highlands and Western Malwa Plateau	25%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Panchmahal and Dahod	59%
<b>River Basin</b>	<b>Percentage of Scheduled Castes/Tribes</b>
Valai, Bhe, Kali and Khan	91%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
900 mm	7,784 ha
<b>Major Soil Types</b>	<b>Village Institutions Associated With</b>
Medium and deep clayey black soils	133
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Dry Teak Forests, Mixed Dry-deciduous, Grasslands, and Scrub Forests	19,429
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Forests, Grasslands, Agriculture lands	Bhilis
<b>Nearest Protected Area</b>	
Ratanmahal Sloth Bear Sanctuary	
<b>Threatened Species</b>	
Lesser Florican, Sloth Bear, <i>Dalbergia latifolia</i> , <i>Dolichandrone falcata</i>	

**The project area** in Dahod, spread across the two districts of Panchmahal and Dahod, falls in a rain-fed region and is part of the Central Highlands. It is home to a significant population of Bhil tribals and listed under the Fifth Schedule of the Constitution. Almost 80% of the people here live below the poverty line. With limited livelihood opportunities, indebtedness and migration are commonplace. Under the circumstances, comprehensive and long-term intervention is crucial to addressing the severe degradation of forests and low productivity of farmlands.

Initiated in 1997, our team now works closely with 133 habitations that protect about 7,784 hectares of degraded forestlands and common lands. The focus of the work in the region is to promote robust village institutions that can effectively address the degradation of the forestland and the low productivity of farms.

In the Santrampur region, more than half (about 3,500 hectares) of a stretch of 6,000 hectares of degraded forestland is presently under protection by local communities. By undertaking measures at a landscape-level to improve natural resources through village and inter-village institutions, we plan to extend institutional arrangements to the entire 6,000 hectares, while also simultaneously working on about 4,000 hectares of adjacent farmland.

In collaboration with the district administration, we assist villages to avail of opportunities under NREGA to improve natural resources. The government of Gujarat has agreed to support our training a group of local tribal youth to help habitations and village *Panchayats* make effective use of the provisions of NREGA and other

Nikhilesh

Mahadev



1999



2004

*Protection of forestlands was initiated in 1999 in Kotra, a village of 105 households practicing rain fed agriculture amidst forestlands. The fuel wood, fodder and mulch collected from the commons allows the cash earned from wage labour through distress migration to be spent on critical purchases of grain and medical care.*

### **Study on Criticality of Commons**

Number of Households Surveyed — 270
Villages Covered — 8
Location — Dahod and Panchmahal Districts
<b>Percentage of Sample Households Accessing Commons</b>
Agriculture 90
Grazing 44
Water for Household and Livestock 48
Fuel wood collection 92
<b>Annual Contribution of Commons Towards</b>
Fodder (%) 12
Fuel wood (%) 87
Gross Annual Income (%) 19
Mean value of products collected from CPRs per household in previous year (Rs) 7,989

ongoing government programmes.

In a region marked with high incidence of poverty, village institutions are faced with warding-off threats to the forestlands not only from the immediate neighbourhood but also from communities living across the border in Rajasthan. Through a combination of interventions, such as registering community rights over the forests under the Forest Rights Act (FRA) and strengthening local stewardship of the area, we aim to improve the natural resource base of the area. Furthermore, by building a platform for interaction between the villages of Rajasthan and Gujarat, we plan for the entire range of forests to come under improved local self-governance. ●

Chetan



**2010**

### **UPDATE 2009-2010**

- Soil and moisture conservation measures were undertaken in about 36 hectares of degraded forest and grazing lands. Around 24,000 saplings were planted on 44 hectares of common land. Soil and moisture conservation measures were carried out on 200 hectares of private land under the ongoing watershed development projects.
- We prepared perspective plans for seven watershed villages and presented them in the *Gram Sabha* for ratification as the *Panchayat Perspective Plan*. The process was accelerated by a group of about 80 para workers who were selected from the two talukas of Santrampur and Kadana to support the implementation of NREGA and other social development schemes.
- Around 320 Jan Kalyan Mandals (JKM) were identified in 200 habitations of Santrampur and Kadana talukas of Panchmahals district. We have collected baseline data on the socio-economic status of the Mandals. JKM coordinators are being trained to draw up action plans to be implemented by the *Panchayat* under NREGA.
- A District Monitoring Committee was set up in Panchmahals to support and oversee the implementation of the Jan Kalyan Mandal Scheme (JKMS) in Santrampur and Kadana. The District Level Coordination Committee (DLCC) has been instrumental in building the JKMS programme, as also supporting its implementation.
- Considering the need to boost conservation-oriented development in the region, we approached existing institutions (*Panchayat*, Forest Development Co-operative Societies, Village Watershed Committees, Self-Help Groups) to identify individuals willing to take on leadership roles. During the year, 57 such volunteers were identified for steering the development agenda of the region.
- Periodic data including water table data was collected from 57 wells in the watershed area. Two case studies on the impact of watershed work have also been documented. Preparations are underway for drawing up ecological and geo-hydrological profiles of the project areas. Findings will be translated into the vernacular and shared with village institutions and local forums.
- A preliminary survey, in the light of the enactment of "Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006", is undertaken for understanding the potential and feasibility of Bhil tribals maintaining and nurturing their lands as private forests. Meetings and discussions were held with the community to claim community rights and to also deliberate to sustain individual claims as private forests.

## ANAND, GUJARAT

### FACT FILE

<b>Agro-ecological Zone</b>	<b>Percentage of Common Lands including Forest</b>
Central Highlands, Gujarat Plain and Kathiawar Peninsula	33%
<b>Project Districts</b>	<b>Percentage of People Living below Poverty Line</b>
Anand, Kheda and Vadodara	33%
<b>River Basin</b>	<b>Percentage of Scheduled Castes /Tribes</b>
Mahi and Sabarmati	22%
<b>Mean Annual Rainfall</b>	<b>Area Under Protection</b>
870 mm	2145 ha
<b>Major Soil Types</b>	<b>Village Institutions Associated With</b>
Medium and deep clayey black soil and loamy sand (Goradu) soils	80
<b>Forest Types</b>	<b>Total Households of Project Villages</b>
Tropical Dry Deciduous	20,113
<b>Major Habitats</b>	<b>Indigenous Communities</b>
Wetlands, Agricultural Lands, Saline-Mudflats, Mangroves and Ravines	Nil
<b>Nearest Protected Area</b>	
Nalsarovar Bird Sanctuary, Jambughoda Wildlife Sanctuary	
<b>Threatened Species</b>	
Sarus crane, Black-necked Stork, Hyena	

In the Anand project area, we are engaged with 80 villages spread across the four districts of Anand, Kheda, Vadodara and Panchmahals in Central Gujarat, and located in the Mahi river basin area.

The undulating topography, loose soil structure, absence of vegetative cover has led to the formation of gullies and severe ravines in common as well as private lands on either side all along the 75-mile long banks of the River Mahi. The adjacent areas along the coast of Khambat are characterized by vast stretches of saline mudflats where increasing salinity threatens the sources of water, and salt-laden winds adversely affect farm productivity. The Anand-Kheda region – which reportedly enjoys the highest density of trees in the country – is a declared Important Bird Area (IBA), and its six wetlands are known for rich diversity of migratory waterfowl and other bird life. Factors such as diversion of grazing lands to industries, salinity ingress along the coast, and severe anthropogenic pressure on wetlands, have given rise to multiple problems in the region, all of which we aim to address over the coming years.

Using low-cost soil and water conservation measures wherever needed to support vegetation measures, we have assisted local communities bring 1,146 of hectares of ravine-affected common lands along the Mahi under improved vegetative cover. A sample study on these lands showed that eco-restoration and protection efforts have raised the diversity of plant species from 19 to 72.

Developing vegetative shelterbelts on about 680 hectares on the saline mudflats have helped minimize the impact of salt-laden winds on hitherto unproductive agricultural land in the hinterland. Salinity mitigation

Jaswant Dhameliya

Ramesh Patel



2001



2006

*Exercises in assessing biodiversity in the revenue wastelands under protection in Khorwad since 1997 reveal a dramatic recovery of many species. The number of floral species has gone up from a dozen to over 70.*

### **Study on Criticality of Commons**

Exercises conducted under a Natural Resources Accounting System (NRAS) Framework to take stock of the benefits of efforts accrued over the years revealed that per hectare increase in total green weight is 200 tonnes, carbon sequestered is 55.16 tonnes and soil erosion arrested is 32.67 tonnes. The improvements in soil characteristics, biomass yields and the resultant carbon sequestration outweigh the investments by about nine times over a span of 17 years.

efforts have reduced Total Dissolved Solids (TDS) in groundwater, which was severely contaminated due to salinity ingress, from 5600 to 1574 mg/L.

With NREGA providing a unique opportunity to undertake these tasks, we aim to assist *Panchayats* and their constituents, government agencies and other key stakeholders, to form a concerned citizen's group to address the issues of land degradation. Working in tandem with the community, we plan to expand our activities on ravine reclamation along the river, undertake restoration of a shelterbelt along the coast, and initiate steps to promote community conservation of wetlands, so as to mitigate drinking water scarcity and conserve the fragile ecosystems of the region. ●

Ramesh Patel



**2010**

### **UPDATE 2009-2010**

- A total of 55 hectares of common land being managed by Tree Growers Co-operative Societies (TGCS) were re-planted, leveraging funds from NREGS. Soil and moisture conservation activities were completed on another 55 hectares of farmland under a watershed development project. In addition, 6,000 root slips of napier grass and 1,800 saplings of forestry and horticulture species were planted on treated farmbunds.
- We assisted villages and *Panchayats* in implementing conservation efforts under NREGA on ravine and saline lands of the project area. Earthen bunds and bori bandhs were constructed on 130 hectares of common land in 17 villages of the project, generating more than 16,000 employment days.
- We extended support to 31 TGCS in the region for institutional development and resource management, as well as for renewal of land lease over 1100 hectares of common land. One of the TGCS obtained land lease renewal for 40 hectares for 15 more years, as well as a new lease for an adjoining 15 hectares of land for carrying out a project with the National Bamboo Mission (NBM).
- Collaborative research was taken up, along with the Central Soil and Water Conservation Research and Training Institute (CSWCRTI), on arresting formation of ravines under the National Bamboo Mission. Around 1,200 bamboo saplings were planted on a 10-hectare research site to understand the impact of the plantation on reclaiming ravine lands.
- We helped the *Taluka Panchayat* to prepare suitable technical sanctions for ravine reclamation, as also arranged on-site orientation and exposure visits for 20 *Panchayats* to capacitate them for ravine reclamation under NREGA.
- We conducted meetings in villages adjoining the major wetlands for working out possible institutional arrangements for conservation of these lands.
- In collaboration with the Vidyanagar Nature Club, we explored the possibility of developing eco-trails along the banks of the River Mahi. A route of about 20 kilometers was chalked out along the river as a likely trek route.

## **Auditors' Report**

We have audited the attached Balance Sheet of Foundation for Ecological Security as at 31st March, 2010 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 read together with "Notes" appearing in schedule "14", 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, 2010 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: Ahmedabad  
Date: 21st July.2010

## Balance Sheet

(AS AT MARCH 31, 2010)

	Sch.	2010 ₹	2009 ₹
<b>SOURCES OF FUNDS</b>			
CORPUS FUND	1	196,770,244	196,652,793
RESERVES AND SURPLUS	2	31,599,092	33,610,274
PROGRAMME FUNDS	3	40,610,869	45,628,179
<b>TOTAL</b>		<b>268,980,205</b>	<b>275,891,246</b>
<b>APPLICATION OF FUNDS</b>			
FIXED ASSETS	4		
Gross Block		58,328,827	55,864,763
Less: Depreciation		32,758,904	29,096,032
		<b>25,569,923</b>	<b>26,768,731</b>
<b>CURRENT ASSETS, LOANS AND ADVANCES</b>			
Inventories	5	80,832	107,889
Cash and Bank Balances	6	239,451,233	245,949,533
Other Current Assets	7	3,007	369,237
Loans and Advances	8	8,208,452	6,463,694
		247,743,524	252,890,353
Less: Current Liabilities & Provisions	9	4,333,242	3,767,838
<b>NET CURRENT ASSETS</b>		<b>243,410,282</b>	<b>249,122,515</b>
<b>TOTAL</b>		<b>268,980,205</b>	<b>275,891,246</b>
Significant Accounting Policies	13		
Notes on Accounts	14		

As per our attached report of even date

Amrita Patel  
**Chairman**

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

Place: Ahmedabad  
Date: 21st July 2010

H.P. Shah  
**Partner**

Place: Anand  
Date: 17th July 2010

Jagdeesh Rao  
**Executive Director**

*Schedules and Notes on Accounts are posted at [www.fes.org.in](http://www.fes.org.in)*

# Income and Expenditure Account

(FOR THE YEAR ENDED MARCH 31, 2010)

	Sch.	2010 ₹	2009 ₹
<b>INCOME</b>			
Fund Received:			
– For Projects		84,567,976	103,517,156
– Others		<u>32,198</u>	14,996
Interest and Other Receipts	10	84,600,174	103,532,152
Receipts on Study, Survey and Training		19,251,421	21,957,163
<b>Total</b>		<b>9,964</b>	1,586,122
		<b>103,861,559</b>	<b>127,075,437</b>
<b>EXPENDITURE</b>			
<b>A. STRENGTHENING COMMUNITY BASED INSTITUTIONS AND NATURAL RESOURCES</b>			
Planning and Survey		1,578,725	596,727
Formation and Strengthening of Community based Institutions		367,671	330,851
Soil and Water conservation measures		15,588,211	12,732,532
Revegetation measures		664,693	1,426,330
Measures to sustain livelihoods		3,088,021	2,441,446
Energy conservation activities		346,603	466,173
Capacity building activities at village level		8,168,037	2,706,940
Managerial assistance	11	<u>27,540,780</u>	29,118,858
		<b>57,342,741</b>	49,819,857
<b>B. SUPPORT SERVICES</b>			
<b>I. CAPACITY BUILDING</b>			
Survey and Planning for new projects		2,591,598	2,286,308
Capacity building of staff members		4,906,914	1,963,401
Promotional activities and Advocacy		4,280,156	4,283,878
Documentation, Studies and Dissemination		3,862,506	2,822,798
		<b>15,641,174</b>	11,356,385
<b>II. ADMINISTRATION AND RECURRING EXPENSES</b>			
Staff salaries and benefits	12	25,497,068	23,533,303
Travel and conveyance		1,263,198	731,318
Professional fees and Consultancy charges		901,238	934,889
Motor vehicle running and maintenance		316,162	205,460
Rent, Rates, Taxes and Electricity charges		1,575,100	1,745,626
Communication expenses		1,231,316	1,352,124
Printing and Stationery		413,485	662,609
Computer maintenance		544,874	653,426
General repairs and maintenance		288,459	749,379
Insurance premium		383,751	412,430
Statutory Audit Fees and expenses		221,033	280,803
Miscellaneous expenses		<u>1,309,232</u>	1,935,028
		<b>33,944,916</b>	33,196,395
<b>C. Expenses from Other Funds</b>		<b>106,928,831</b>	<b>94,372,637</b>
<b>D. Expenses from Studies, Survey and Training</b>		<b>35,916</b>	<b>9,314</b>
		<b>9,964</b>	<b>1,435,580</b>
		<b>106,974,711</b>	<b>95,817,531</b>
Depreciation (Sch. 4 Column G)		4,047,064	3,570,916
Profit on sale of Assets		<u>79,994</u>	18,024
		<b>3,967,070</b>	<b>3,588,940</b>
Less: Adjusted against Capital Fund (Ref. Sch.2.A)		<b>3,967,070</b>	<b>3,588,940</b>
<b>Total</b>			
Excess of (Expenditure)/Income over Income/ Expenditure		<b>106,974,711</b>	<b>95,817,531</b>
Amount transferred to Capital Fund Account (Sch. 2 A)		<b>(3,113,152)</b>	<b>31,257,906</b>
Amount transferred from / (to) Projects Account (Sch.3.B)		–	(150,542)
Amount transferred from / (to) Other Funds (Sch.3.C)		<b>3,194,526</b>	<b>(30,858,122)</b>
Balance of Excess of Income over Expenditure carried to Balance Sheet		<b>3,718</b>	<b>(7,341)</b>
		<b>85,092</b>	<b>241,901</b>
Significant Accounting Policies	13		
Notes on Accounts	14		

As per our attached report of even date

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

Place: Ahmedabad  
Date: 21st July 2010

H.P. Shah  
**Partner**

Place: Anand  
Date: 17th July 2010

Amrita Patel  
**Chairman**

Jagdeesh Rao  
**Executive Director**

*Schedules and Notes on Accounts are posted at [www.fes.org.in](http://www.fes.org.in)*

**SCHEDULE 3.1 FUNDING AGENCY WISE INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED MARCH 31,2010**

Sr	Particulars	INCOME				EXPENDITURE				Total Expenses incurred during the year	Excess of (Expen- diture)/ Income over Income/ Expenditure for the year	Non Recurring Expenses incurred during the year	Balance As on 31.03.2010			
		Opening Balance As on 1.4.2009	Fund received/ Transferred and Refunded during the year	Interest and Other Income	Total Income during the year	Rearranging Expenses	Total Expenditure	(D+E)	F	G	H	I	(G+H+I)	J	K	L
A	B	C	D	E	F	G	H	I	(G+H+I)	J	K	L	M			
<b>(a) INDIAN CONTRIBUTION</b>																
1	Jansati Tata Trust (JTT)	29,386,703	25,460,000	1,177,369	26,637,369	17,091,969	3,110,634	8,760,303	28,962,906	(2,325,537)	1,137,656	25,923,510				
2	National Bank for Agriculture and Rural Development (NABARD)	400,621	5,709,820	27,699	5,737,519	3,621,925	92,841	1,477,215	5,191,981	545,538	-	946,159				
3	Sir Ratan Tata Trust (SRTT)	711,658	6,600,000	65,146	6,665,146	2,959,484	66,858	1,148,718	4,175,060	2,491,086	-	3,201,744				
4	TTC Sanchita Kal*	(127,717)	17,051,000	108,984	17,159,984	16,973,438	20,372	624,909	17,627,719	(467,735)	87,160	(682,612)				
5	Madhya Pradesh Rural Livelihoods Project (MPRLP)	1,579	1,200,000	-	1,200,000	568,336	-	631,664	1,200,000	-	-	1,579				
6	International Food Policy and Research Institute (IFPRI)	-	1,397,990	-	1,397,990	-	-	-	-	-	1,397,990	-	1,397,990			
7	Government of Gujarat	-	4,000,000	-	4,000,000	785,356	-	26,551	811,907	3,188,093	150,000	3,038,993				
8	Water and Sanitation Management Organisation (WASMO)	386,558	(199,094)	633	(198,461)	453,936	300	102,957	557,193	(755,654)	-	(369,096)				
9	9,529,543	3,611	375,277	379,638	6,278,144	7,457	3,623,580	9,909,181	(9,529,543)	-	-	-				
10	National Rural Employment Guarantee Scheme (NREGS)	111	261,001	-	261,001	110,319	1,483	-	111,802	149,199	-	149,310				
11	Samaaj Pragati Sahayog	24,303	-	-	-	-	-	-	-	-	-	24,303				
12	Rural Development Trust (RDT)	22,392	496,000	553	496,553	491,516	-	-	491,516	5,037	-	27,429				
13	Sir Dorabji Tata Trust (SDTT)	-	4,023,738	-	4,023,738	-	468,738	-	468,738	3,555,000	-	3,555,000				
14	UNDP Small Grant Program	178,990	-	-	-	5,846	9,434	206	15,486	(15,486)	-	163,504				
15	DRDNV / DDA / DWMA	(119,067)	1,028,433	-	1,028,433	813,116	-	62,021	875,137	153,296	-	34,229				
16	Court of Andhra Pradesh*	(202,638)	394,280	-	394,280	239,007	-	77,983	316,990	77,290	-	(125,348)				
17	Council for Advancement of People's Action and Technology (CAPART)*	167,545	(173,643)	6,098	(167,545)	-	-	-	-	(167,545)	-	-				
18	National Bamboo Mission (NBM)	-	90,000	-	90,000	80,744	-	9,256	90,000	-	-	-				
19	Collective for Integrated Livelihood Initiatives (CINI)	(328,624)	700,000	-	700,000	-	371,376	-	371,376	328,624	-	-				
20	International Livestock Research Institute (ILRI)	439,764	248,000	-	248,000	165,801	8,184	1,089,779	1,263,764	(1,015,764)	44,000	(620,000)				
21	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	-	160,000	-	160,000	95,719	-	226	95,945	64,055	-	64,055				
22	BNP Paribas	-	296,677	-	296,677	294,881	-	1,996	296,677	-	-	-				
23	Ind Asia	-	50,000	-	50,000	50,000	-	50,000	50,000	-	50,000	-	-	-	-	
24	International Centre for Research in Agroforestry (ICRAF)*	-	120,000	-	120,000	-	-	-	-	-	120,000	-	120,000			
	<b>Total "a"</b>	<b>40,471,721</b>	<b>68,918,563</b>	<b>1,761,759</b>	<b>70,680,322</b>	<b>51,079,337</b>	<b>4,166,677</b>	<b>17,637,364</b>	<b>72,883,378</b>	<b>(2,203,056)</b>	<b>1,418,816</b>	<b>36,849,849</b>				
<b>(b) FOREIGN CONTRIBUTION</b>																
25	Concern Worldwide	810,884	12,336,235	7,000	12,343,235	5,795,607	2,887,311	2,084,320	10,767,238	1,575,997	207,197	2,179,684				
26	Ford Foundation	4,001,081	-	116,832	-	2,978,812	683,933	3,664,45	3,547,913	131,190	321,978					
27	Washington University	265,933	1,104,222	6,573	1,110,795	13,336	1,283,652	30,653	1,327,641	(216,846)	-	49,087				
28	Society for Promotion of Wasteland Development (SPWD)	-	749,000	-	749,000	186,907	-	167,090	353,997	395,003	-	395,003				
29	Rufford Small Grant Programme	-	872,646	-	872,646	10,462	-	19,830	30,292	842,354	-	842,354				
30	Edith Hofmeister	43,497	281,068	3,792	284,860	267,554	-	111	267,665	17,195	45,557	15,135				
31	Clemson University*	-	306,242	-	306,242	-	363,391	111	363,392	(57,260)	-	(57,260)				
	<b>Total "b"</b>	<b>5,121,395</b>	<b>15,649,413</b>	<b>134,197</b>	<b>15,733,610</b>	<b>6,263,404</b>	<b>7,523,628</b>	<b>2,988,048</b>	<b>16,775,080</b>	<b>(991,470)</b>	<b>383,944</b>	<b>3,745,981</b>				
	<b>TOTAL A (a+b)</b>	<b>45,593,116</b>	<b>84,567,976</b>	<b>1,895,956</b>	<b>86,463,932</b>	<b>57,342,741</b>	<b>11,690,305</b>	<b>20,625,412</b>	<b>89,658,458</b>	<b>(3,194,526)</b>	<b>1,802,760</b>	<b>40,595,830</b>				
<b>B</b>	<b>Corpus Fund</b>															
32	Interest Income Transferred from Corpus Fund (Ref. Sch.1)	-	-	-	16,395,612	16,395,612	-	3,950,869	13,319,304	17,270,373	-	-	-	-		
33	Interest Income Transferred from Corpus Fund (Ref. Sch.1)	-	-	-	874,761	874,761	-	874,761	874,761	-	-	-	-			
	<b>TOTAL B</b>				<b>17,236,373</b>	<b>19,166,329</b>	<b>103,734,305</b>	<b>57,342,741</b>	<b>15,641,174</b>	<b>33,944,916</b>	<b>106,928,331</b>	<b>3,194,526</b>	<b>1,802,760</b>	<b>40,595,830</b>		
	<b>GRAND TOTAL (A+B)</b>															
	Previous Year's Total	18,717,748	103,517,156	21,713,603	125,230,759	49,819,857	11,356,385	33,196,395	94,372,637	30,858,122	3,982,754	45,593,116				

\* Claims submitted for reimbursement

# The Staff

## EXECUTIVE DIRECTOR

Jagdeesh Rao Puppala

## PROJECT SUPPORT GROUP

Dinesh Reddy Malipeddi  
Subrata Kumar Singh  
Jaswant Vallabhbhai Dhameliya  
Rajesh Verma  
Brajesh Kumar Dubey  
Rahul Chaturvedi  
Mayank Trivedi  
K Sandeep  
Divya Ravindranath  
Rakesh Nair  
Jayasree Sreenath  
Shailesh Hiralal Christi

## GIS CELL

Ravindranath Rangoori  
Dr Bhupendra Singh Mehta  
Arpit Deomurari  
Dharmendrakumar J Chavda  
Bimalkumar Natvarbhai Patel

## PLANNING AND INFORMATION CELL

Ashok M Jani  
Mayuri A Parekh  
Alkesh Rasikbhai Patel  
Manish M Parsania  
Dipal Virendrabhai Amin

## ACCOUNTS

Shirish Kumar Navnitlal Shah  
Francis Peter Macwan  
Dineshbhai P Patel  
Srinivasan S  
Ashaben Dilip Kumar Shukla  
Muni Swamy Narakula

## ADMINISTRATION

Neeraj Tripathi  
Trushit K Dave  
Rama Ramnathan  
Amit S Sindhwani  
Rohiny Warrier  
Manubhai G Parmar  
Bharatbhai Maganbhai Patel  
Rajaram Gupta  
Dallubhai L Vasawa  
Sanjay Prabhatbhai Parmar  
Kalpesh P Bhoi

## ARAVALI REGIONAL OFFICE

Sanjay Joshi  
Dr. Justus Joshua  
Bhanu Pratap Singh  
Shiv Shanker Singh  
Shantanu Sinha Roy  
Chiranjit Guha  
Himani K P Kalra  
S Rajendra Kumar  
P Ragunathan  
Pratiti Priyadarshini  
Sohan Lal

## REGIONAL OFFICE – EAST

Meena Das Mohapatra  
Satyajit Jena  
Sanjay Kumar Choudhary  
Ravi Niwash  
Miloni Mishra  
Sutapa Mukherjee  
Sunil Ranjan Thanapati  
Dhirendra Kumar Sahoo

## PAPAGNI REGIONAL OFFICE

Venkat Raj Dyda  
PK Prabhakar  
M Ram Prasad  
V Dhanasekaren  
Ram Sourav Adhikari  
Ananda Kunuthala  
S Vijaya Sekhar  
KM Narasappa  
E Sahadevan  
Chengalva Prasad  
N Daniel

## BHILWARA TEAM

Alka Tirkey  
Vaibhav Bhatia  
Shyam Singh Lakhawat  
Bharat Mogare  
Vivek Vishal Singh  
Iva Pandey  
Nishant  
Snigdha Borah  
Abhijit Chatterjee  
Bandana Sambyal  
Tapas Das  
Suresh Parashar  
Harnath Singh Khadiya  
Rupendra Singh  
Giriraj Prasad Kumawat  
Narayan Hari Vyas  
Shambhu Lal Verma  
Sunil Kumar  
Arjun Singh Charan  
Kanha Ram Gujar

## UDAIPUR TEAM

Yash Shethia  
Dimpal Kumari  
Kumar Rupam  
Anamul Haque  
Anil Kumar Singh B  
Veerendra Singh Rathod  
Chandra Kant Hol  
Heera Lal Seevna  
Laxmanbhai Nanjibhai Cholaviya  
Dhuli Ram Gameti  
Kesu Lal Meghwal  
Narayan Singh Chundawat  
Jamana Lal Gawariya  
Asha Cholaviya  
Arjun Ameta

## PRATAPGARH TEAM

Brij Kishor Sharma  
Rajesh Ranjeet Tete  
Nandini Singh

Soonumit Lepcha  
Mridul Kumar Tripathi  
Jyoti Choudhary  
R Kaushalendra Rao  
Dinesh Amulakhbhai Parmar  
Amrat Masangbhai Chaudhary  
Shailendra Kumar  
Raghuveer Singh  
Raghunandan Bairagi  
Harihar Nath Singh  
Ratan Menaria  
Bharat Singh Udwat

## UJJAIN TEAM

Dibyendu Mondal  
Sanjay Kumar  
Meenakshi Kumari Choudhary  
Ravi Rajiv Paul Bara  
Ashok Chouhan  
Dinesh Kumar Yadav  
Babulal Esodiya  
Gangaram Suryavanshi  
Ashok Kumar

## MANDLA TEAM

Ishan Agrawal  
Smita K Ranjane  
Susanta Kumar Rout  
Namami Sharma  
Manika Thapa  
Sourav Pahari  
Akhilesh Kumar Verma  
Sushant  
Amar Singh Kusare  
Rajesh Kumar Yadav  
Keertan Baghel  
Rohit Kumar Rajak  
Dileep Kumar Yadav  
Manoj Kumar Bisen

## ANGUL TEAM

Swapnasri Sarangi  
Pradeep Kumar Maharanra  
Manas Kumar Mohapatra  
Shreya Mitra  
Dawa Pemba Sherpa  
Subhasis Tripathi  
Bijay Kumar Mohanty  
Ashok Satpathy  
Ashwini Pati  
Niranjan Sahoo  
Ranjan Kumar Dhir Samant  
Mayadhar Mishra  
Laxmidhar Pradhan  
Naresh Chandra Pradhan  
Prativa Mohapatra  
Anand Chandra Pati  
Bibhudendra Dehury

## KORAPUT TEAM

Dr. Mihir Kumar Jena  
Bijay Kumar Toppo  
Jyoti Prakash Rath  
Jayanti Kujur  
Rashmita Mohanty  
Dilip Kumar Khosla  
Niranjan Jani

Kishor Chandra Pujari  
Sanjaya Kumar Sahoo

## MADANAPALLE TEAM

Arun Damodaran  
Snehash KD  
S Kamala Kumari  
S Venugopal  
C Ram Mohan  
M Krishna Murthy  
B A Aseervadamma  
P Ubedulla Khan  
K Reddeppa  
Ramana Reddy  
K P Sree Ramulu  
Ameer Basha Shaik  
Srinivasulu P  
Kesavulu A  
N Ravindranath  
P Gangadhara  
G Sasikumar Choudary

## CHINTAMANI TEAM

P Vijay Kumar  
Jojo John  
Bhavani Shankar S. Gowda  
Shilpi Roy  
Lalit Kumar Patra  
C Sowbhagya  
C Narayanaswamy  
S Venugopal  
C Krishnappa  
Chandrasekhar Kannan  
Sudharshan Reddy  
A M Ramesh  
G B Leelavathi  
Soma Kumara K  
Thomas K A  
G A Nirmala  
Narasimha Reddy  
S G Gopi  
Y N Narashimappa

## DAHOD TEAM

Chetana Nand Jha  
Puberun Dekaphukan  
Mounita Laha  
Pratap Singh  
Suresh Kumar S Mahavar  
Karansingh Sevabhai Bhuria  
Manabhai Kohyabhai Damor  
Baghabhai R Khant  
Atulkumar Chhaganbhai Patel  
Shamji K Dama

## ANAND TEAM

Rameshbhai N Patel  
Satish Macwan  
Kiran Kumari  
Maniben D Solanki  
Subhash J Purohit  
Dinkarbhai B Panchal  
Ishwar T Sargara  
Yogeshkumar G Patel

*As on March 31, 2010*

## Acknowledgement

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