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Government of India – UNDP Partnership on Biodiversity Conservation

"Biodiversity conservation will not be effective without the active engagement of local communities, which comprise the primary daily users of nature's resources."

Helen Clark, UNDP Administrator

UNDP's Biodiversity and Ecosystems Global Framework (2012-2020) aims to "Maintain and enhance the goods and services provided by biodiversity and ecosystems in order to secure livelihoods, food, water and health, enhance resilience, conserve threatened species and their habitats, and increase carbon storage and sequestration."

There is a need for balance and harmony between economic, social and environmental needs of the country.

National Environment Policy 2006, Government of India

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In India, UNDP supports efforts to promote low carbon, climate resilient and inclusive development. We partner with the Government of India towards fulfilling national development objectives along with stakeholders under multilateral environment agreements. Key areas of intervention: climate change (mitigation and adaptation), sustainable natural resource management and environmentally-sound chemical management.

For the past decade, UNDP has partnered with the Ministry of Environment and Forests, Government of India to build capacities of stakeholders to manage natural resources and promote sustainable livelihoods. This includes strengthening institutional capacities at different levels and supporting efforts to enable communities to manage natural resources in an integrated, participatory and sustainable manner.

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Table of Contents



3

Communities and Natural Resource Management

Biodiversity Conservation through Community-based Natural Resource Management



7

Conserving Habitats, Securing Livelihoods in the Gulf of Mannar

Conservation and Sustainable Use of the Gulf of Mannar Biosphere Reserve's Coastal Biodiversity



11

Protecting Marine Biodiversity in Sindhudurg Coast in Maharashtra

Mainstreaming Coastal and Marine Biodiversity into Production Sectors in Sindhudurg Coast in Maharashtra



15

Building Capacities to Support Community's Efforts in Biodiversity Conservation

Capacity Development Initiative: GEF Cell and SGP India



19

Building Institutions to Conserve Biological Diversity

Strengthening Institutional Structures to Implement the Biological Diversity Act



23

Supporting Ecosystems in the Godavari Region

Mainstreaming Coastal and Marine Biodiversity Conservation into Production Sectors in the East Godavari River Estuarine Ecosystem, Andhra Pradesh



27

Extending Conservation Beyond Protected Areas

Natural Resources Conservation Outside Protected Areas



31

Traditional Medicine, Health and Livelihoods: An Agenda for Biodiversity Conservation

Mainstreaming Conservation and Sustainable Use of Medicinal Plant Diversity in Three Indian States



37

Monitoring Land Degradation, Building Resilience

Sustainable Land and Ecosystem Management in Shifting Cultivation Areas of Nagaland for Livelihood and Ecological Security



41

Combating Land Degradation through Community Involvement

Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh



Communities and Natural Resource Management

Biodiversity Conservation through Community-based Natural Resource Management

Background

In India, close to 275 million rural people depend largely on natural resources for their livelihoods. However, over the last few decades, the equilibrium between natural resources and livelihoods has been under growing pressure, threatening both the ecological security of the country and increasing the vulnerability of rural communities. Rural populations are, therefore, the primary stakeholders in biodiversity conservation and sustainable use of natural resources. Through centuries of co-existence, communities living in the proximity of biodiversity-rich areas have acquired invaluable traditional knowledge that has shaped their culture and livelihoods. Community-based natural resource management is a key approach to conserving biological diversity and supporting local livelihoods.

Objectives

- Make national and state policies and programmes more responsive to the strong linkages between sustainable rural livelihoods and biodiversity conservation
- Enhance the capacities of communities and institutions of decentralized governance to integrate sustainable rural livelihoods, while ensuring equity, transparency and accountability

Project Information

Funding

UNDP

Duration

2008-2012

Government Counterpart

Ministry of Environment and Forests, Government of India

Implementing Partner(s)

State Minor Forest Produce (T&D) Co-operative Federation Ltd, Chhattisgarh; GB Pant Institute of Himalayan Environment and Development, Arunachal Pradesh; Institute of Forest Productivity, Jharkhand; and Regional Plant Resource Centre, Odisha

Location(s)

Arunachal Pradesh, Chhattisgarh, Jharkhand and Odisha





Developments so Far

- Set up/strengthened decentralized people's institutions to sustainably manage natural resources. These include Biodiversity Management Committees in Arunachal Pradesh and Jharkhand, Joint Forest Management Committees and Forest Protection Committees in Chhattisgarh and Village Cluster Committees in Odisha
- Traditional knowledge on biological resources preserved through documentation of value and use of biological resources in 122 villages through various micro-planning approaches
- About 327 plant species in Community Conserved Areas (CCAs) documented through ethno-botanical surveys
- Biodiversity conservation needs in Arunachal Pradesh and Chhattisgarh better understood through a baseline mapping of natural resources and biodiversity surveys
- One hundred hectares of cane plants is now protected from over-extraction in Khurda and Sambalpur-South divisions in Odisha. Three hundred hectares of these forest areas are also being conserved through aided-natural regeneration
- Improved biodiversity through *in-situ* and *ex-situ* conservation measures. For example, 83,000 saplings of rare species (*Taxus wallichiana* and *Swertia chirayata*) are now grown in nurseries across project states; 5,000 hectares of land is designated as CCAs and two sacred groves regenerated in Arunachal Pradesh
- Forest protection squads strengthened, which has further resulted in legal action against tree felling and trade in timber
- Six hundred tribal farmers benefited from micro-water harvesting structures in three forest divisions
- Habitats of rare plants regenerated through soil and moisture conservation activities
- Forty-five tribal SHGs benefited from livelihood support provided by integrating agro-forestry, pisciculture, poultry and goatry
- Revival of traditional medicinal practices through establishment of Herbal Health Care Centres in Chhattisgarh
- Improved access to community infrastructure including health and sanitation facilities for tribal communities in Arunachal Pradesh, Jharkhand and Odisha

Looking to the Future

- Organize consultation workshops, seminars, review meetings on sustainability of conservation interventions and ecosystem-based livelihoods
 - Develop concept papers covering different policies/programmes and methods being implemented at state level
 - Participatory consultation with various stakeholders
 - Natural resource management-based innovative livelihood support initiatives for local communities such as provision of basic value addition, infrastructure to continue livelihood activities by the beneficiaries
-





Conserving Habitats, Securing Livelihoods in the Gulf of Mannar



Conservation and Sustainable Use of the Gulf of Mannar Biosphere Reserve's Coastal Biodiversity

Background

The Gulf of Mannar Biosphere Reserve, off the coast of the Indian state of Tamil Nadu, is home to one of the world's richest concentrations of marine species. Based on its national and global significance and ecological uniqueness, the Reserve has also been identified as an international priority location for conservation of its coastal marine biodiversity. The Reserve was declared a Biosphere Reserve in 1989, the first such marine conservation area in south Asia. It is also home to 250,000 people. However, over the past few years, the Reserve's globally-significant biodiversity is under threat by habitat destruction, over-harvesting of marine resources and civic pollution.

Since 2002, UNDP has worked with the Ministry of Environment and Forests, Government of India and Tamil Nadu's Department of Environment and Forests to conserve the biosphere of this area, and demonstrate approaches to integrating biodiversity conservation into coastal zone management plans by minimizing fishing pressures, providing alternate livelihoods and promoting eco-friendly fishing practices.

Objectives

- Demonstrate sustainable modalities of coastal management and livelihood generation for local communities
- Empower local communities to manage their resources together with the state government and other stakeholders
- Strengthen institutional capacity of communities to implement participatory conservation strategies
- Strengthen the Gulf of Mannar National Park and park infrastructure by establishing a trust that can effectively coordinate amongst various stakeholders in conserving and managing the Reserve's biodiversity

Project Information

Funding

Global Environment Facility; UNDP; Government of Tamil Nadu and Government of India

Duration

2002–2012

Government Counterpart

Ministry of Environment and Forests, Government of India

Implementing Partner(s)

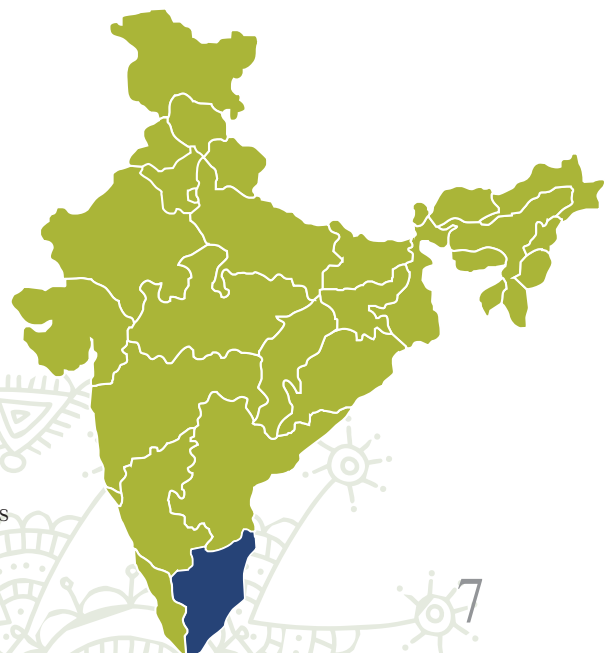
Department of Environment and Forests, Tamil Nadu

Other Partner(s)

Local non-government organizations and research institutions

Location(s)

Ramanathapuram and Thoothukudi districts in Tamil Nadu





Developments so Far

- Increase in coral reef cover by five percent between 2005 and 2009 as a result of joint patrolling, community conservation initiatives and greater awareness of conservation needs
- Ecological development committees set up in 248 villages for sustainable use of fisheries and conservation of biological diversity
- Better protection of biodiversity through regular, joint patrolling by fisheries, coast guards, forest departments and local youth in the National Park
- More than 2,000 self-help groups have benefited from a corpus fund of US\$ 1.5 million dedicated to developing alternate livelihoods and enterprises
- Inputs provided to the government of Tamil Nadu on conservation policies through comprehensive review of existing laws and policies on conservation and development of coastal areas
- Increased employment in services sector enabled through vocational training to 1,500 youth from fishing communities
- Better understanding of the threats to marine flora and fauna through 24 comprehensive, scientific research projects on the biodiversity of the region
- Increased use of eco-friendly fishing practices through awareness generating activities and training to fishing communities and forest officers on identifying species under threat, impact of destructive fishing nets, and so on
- Greater awareness amongst young people on sustainable utilization of coastal resources through training and awareness generating activities in more than 6,000 schools and colleges
- The Tamil Nadu state government has allocated funds from the state budget to support the Gulf of Mannar Biosphere Reserve Trust after project completion. This ensures continuity of project activities and indicates the sustainability of the project and its effective exit strategy

Looking to the Future

- The Gulf of Mannar Biosphere Reserve Trust will be a member of key advisory and decision-making committees, constituted by the state government, that have an impact on the biodiversity of the Biosphere Reserve and on other ecologically sensitive coastal areas
 - The Trust will serve as an institutional role model for replicating project methodologies and results in Tamil Nadu and other coastal states of the country
 - The Trust will continue to play a unique role in coordinating between agencies in the enforcement of coastal zone regulations and biodiversity conservation
-





Protecting Marine Biodiversity in Sindhudurg Coast in Maharashtra



Mainstreaming Coastal and Marine Biodiversity into Production Sectors in Sindhudurg Coast in Maharashtra

Background

India is endowed with a long coastline of about 7,500 kilometres, an exclusive economic zone (EEZ) of 2.02 million square kilometres and a continental shelf of 468,000 square kilometres. Coastal and marine habitats include gulf waters, creeks, tidal flats, mud flats, coastal dunes, mangroves, marshes, wetlands, seaweed and sea grass beds, deltaic plains, estuaries, lagoons and coral reefs. Maharashtra is among the top five states in India in terms of overall species' diversity.

On the south of Maharashtra's coastline lies the Sindhudurg coastal district, which derives its name from the Sindhudurg fort constructed by King Shivaji in the 16th century on an island near Malvan. The area is also notable for its unique coastal and marine biodiversity. Due to its high ecological importance, an area of 29.12 square kilometres of Malvan coastal waters was designated as the Malvan Marine Sanctuary (MMS) in 1987.

Of these sites, corals are most abundant at Malvan and along a shallow sunken atoll on the continental shelf in the area called the Angria Bank. Angria Bank and its surrounding areas are also reported to be a congregation site for migrating marine animals like whales and whale sharks.

The Sindhudurg Coastal and Marine Ecosystem (SCME) has enormous economic significance as well, being one of the major fish landing centers, and as a rapidly emerging tourism destination. However, unsustainable fishing by trawlers, an expanding tourism sector, and pollution from fishing vessels and other maritime traffic has been degrading the ecosystem in SCME. In addition, the existing institutional arrangement in SCME is inadequate in addressing these issues from a landscape perspective.

Objectives

- i. Cross-sectoral planning framework that mainstreams biodiversity conservation considerations
- ii. Enhanced capacity of sector institutions for implementing biodiversity-friendly fisheries management plan, ecotourism management plan and MMS management plan
- iii. Sustainable community livelihoods and natural resource use in SCME

Project Information

Funding

Global Environment Facility

Duration

2011-2016

Implementing Partner(s)

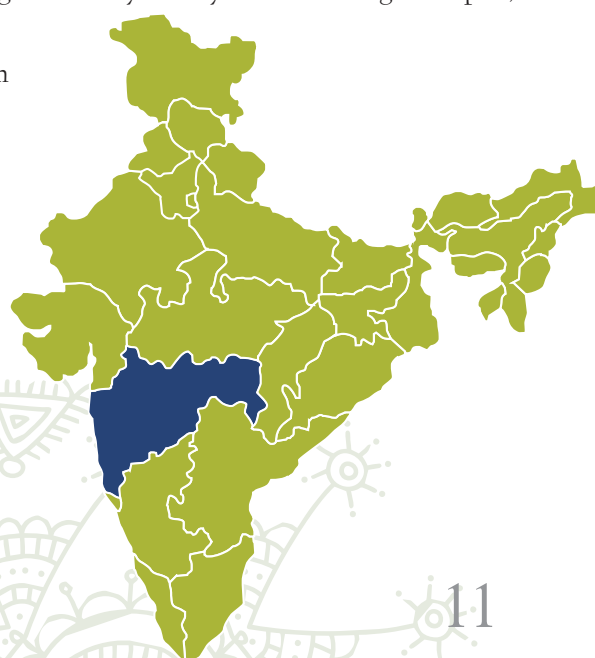
Ministry of Environment and Forests, Government of India

Other Partner(s)

Department of Forest, Government of Maharashtra

Location(s)

Sindhudurg Coast including three Talukas, viz., Deogad, Malvan and Vengurula





Developments so Far

- Constituted a National Project Steering Committee and a State Project Steering Committee to monitor and evaluate the project at both national and state levels
- Preliminary discussions with local communities undertaken to elicit cooperation for successful implementation of the project
- Constituted a sub-committee for biodiversity documentation of the Angria Bank

Looking to the Future

- Creation of an institutional mechanism for cross-sectoral dialogue and action that promotes integrated management of the Sindhudurg Coastal and Marine Ecosystem
 - Establishing a robust database on biodiversity profile of the region as a foundation for informed decision making
 - Improving management of Malvan Marine Sanctuary
 - Improving spatial planning in the coastal zone by pursuing closer integration between management of the sanctuary and land use decisions in the surrounding area
 - Adoption of a biodiversity inclusive fisheries approach in planning and policy
 - Minimizing the environmental impacts of growing coastal tourism and following a low-impact, community-based tourism in the region
 - Strengthening internal capacities of conservation and production sector staff and managers in environment-friendly production practices, and ensuring that local populations can meet livelihood needs while being able to conserve the resource base by diversifying incomes (added value processing of fishery-based products, cultural and nature-based tourism)
-





Building Capacities to Support Community's Efforts in Biodiversity Conservation



Capacity Development Initiative: GEF Cell and SGP India

Background

The Global Environment Facility (GEF) Cell was set up in the Ministry of Environment and Forests (MoEF), Government of India with UNDP's support in 1999. The Cell provides technical and administrative expertise to the Ministry in coordinating GEF-related activities in the country. In July 2010, India received a country allocation of about US\$ 130 million for the next four years under the GEF- 5 cycle. In view of this, it is imperative to continue to support MoEF through the GEF Cell to effectively programme and monitor GEF resources for sustained national and global environmental benefits.

The GEF Small Grants Programme (SGP) was launched in 1992 to support community-level initiatives that contribute to conserving global biodiversity, mitigating climate change, protecting international waters, reducing impacts of persistent organic pollutants and preventing land degradation while generating sustainable livelihoods and supporting local institutions. The SGP complements GEF project funding, by providing a window for direct participation of NGOs, local communities and other grassroots organizations. The programme is now seeking ways to upscale and replicate successful best practices while influencing policy on key environmental and livelihood issues.

Objectives

- Strengthen institutional capacity of the GEF Cell to enable India to effectively access, utilize and monitor GEF resources
- Support upscaling and replication of initiatives of the GEF-UNDP SGP in India through project development and technical and institutional capacity strengthening of the programme

Project Information

Funding

Global Environment Facility

Duration

2007-2012

Government Counterpart

Ministry of Environment and Forests, Government of India

Implementing Partner(s)

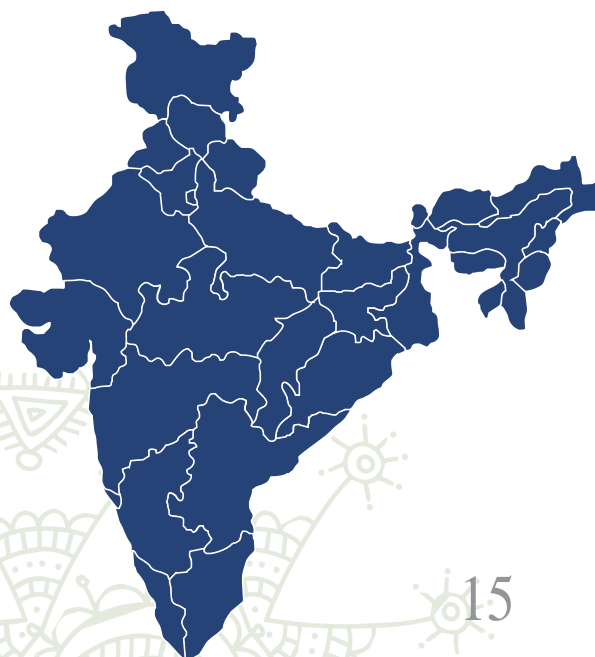
Ministry of Environment and Forests, Government of India

Other Partner(s)

Centre for Environment Education

Location(s)

National-level





Developments so Far

- Completed and operationalized the GEF monitoring strategy
- Identified 14 SGP projects for upscaling and replication in Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan and Uttar Pradesh
- Enhanced technical and institutional capacities of project partners leading to the formation and/or strengthening of nearly 320 self-help groups with nearly 5,000 women members
- Strengthened capacities of communities and NGOs to leverage additional funds from other donors (e.g. Tata group, Indian Oil Corporation, banks and government departments) to upscale their activities
- Trained communities in different project states to undertake nature-based enterprise management and operations linking markets for increased income and improved livelihoods
- Enhanced capacities of local communities through knowledge-based workshops and training sessions addressing livelihood, business model/approach, equality and gender concerns
- Introduced new and upgradable technologies in project areas through linkages with Krishi Vigyan Kendras, agriculture universities and social institutions

Looking to the Future

- Facilitate the preparation of GEF-5 projects
 - Monitor GEF India portfolio and SGP projects through regular review meetings
 - Strengthen field monitoring of projects
 - Upscale SGP into a full-fledged project
-



Building Institutions to Conserve Biological Diversity

Strengthening Institutional Structures to Implement the Biological Diversity Act

Background

The Biological Diversity (BD) Act 2002 aims to realize the provisions of the Convention on Biological Diversity (CBD), which includes regulating access to biological resources and associated traditional knowledge. This is aimed at ensuring that benefits arising out of the use of biological resources are equitable. National governments, as part of the CBD, to which India is a party, have the authority to determine access to genetic resources. This, in turn, is subject to national legislation.

However, institutional capacity to effectively implement the national biodiversity policy framework in India is limited at all levels – national and state. Information and documentation of the country's biodiversity wealth, its potential uses and values is also inadequate. As a result, awareness and capacities in conservation, sustainable use and equitable benefits of these resources is limited.

UNDP addresses these challenges by supporting biodiversity management institutional structures at all levels through capacity building, awareness generation, building information databases and networking amongst a range of stakeholders engaged in utilizing and conserving India's biological diversity. In partnership with the National Biodiversity Authority of India, the project is implemented in Madhya Pradesh and Jharkhand, the states with rich biodiversity and globally-significant species. The pilots aim to develop models to strengthen biodiversity initiatives in India.

Project Information

Funding

UNDP

Duration

2009-2012

Government Counterpart

Ministry of Environment and Forests

Implementing Partner(s)

National Biodiversity Authority; State Biodiversity Boards of Madhya Pradesh and Jharkhand

Location(s)

Jharkhand (Latehar and Hazaribagh);
Madhya Pradesh (Balaghat, Hoshangabad and Rewa)





Objectives

- Strengthen institutional capacities at various levels
- Initiate behavioral changes to manage natural resources (biodiversity) in an integrated, participatory and sustainable manner
- Promote conservation, and sustainable utilization of biodiversity and *in situ* (on-farm) and *ex situ* (off-farm) conservation
- Prepare a database of biodiversity resources
- Promote harmony, synergy and linkages between conservation and management of biological diversity and associated traditional knowledge
- Accelerate effective implementation of the provisions of the BD Act and rules through training and awareness campaigns

Developments So Far

- Five hundred and fifteen Biodiversity Management Committees (BMCs) have been set up in Madhya Pradesh and 11 in Jharkhand
- Thirty-nine People's Biodiversity Registers have been prepared in Madhya Pradesh and seven in Jharkhand
- Better understanding of bio-resource use enabled through preparation of an inventory of industries using bio-resources in Madhya Pradesh and Jharkhand
- Strong linkages between community-based biodiversity management committee in Malajkhand in Madhya Pradesh and natural remedies company in Bangalore to cooperate in accessing and benefiting from medicinal plants provided by the BMC
- Generation of additional income through setting up of outlets that sell herbal medicines collected by the BMCs
- Strong linkages developed between growers of organic vegetables and companies in Madhya Pradesh
- Forty BMC members have been trained on medicinal plants cultivation in Madhya Pradesh

Looking to the Future

- Enhance institutional capacities of relevant national, state and local institutions for effective implementation of the BD Act
 - Enhance understanding of conservation (*in-situ* and *ex-situ*) of bio-resources and ecosystems at national, state and local institutions
 - Promote knowledge sharing between national, state and local institutions for effective implementation of the BD Act
 - Build partnerships with other state biodiversity boards, local civil society and technical agencies. This will promote sharing of project results and experiences
 - Promote upscaling of project model
 - Identify biodiversity-rich and unique sites for designation as biodiversity heritage sites
 - Organize awareness workshops with industries using bio-resources
-



Supporting Ecosystems in the Godavari Region



Mainstreaming Coastal and Marine Biodiversity Conservation into Production Sectors in the East Godavari River Estuarine Ecosystem, Andhra Pradesh

Background

The East Godavari River Estuarine Ecosystem (EGREE) encompassing the Godavari mangroves is the second largest area of mangroves along the east coast of India. It is extremely rich in biological diversity, and generates significant ecological and economic benefits such as protecting the shoreline, sustaining livelihoods and providing carbon sink services. There are 35 species of mangroves, of which 16 are true mangroves, including one nearly threatened species (*Ceriops decandra*). It is an important nesting site for migratory turtle species, notably the endangered Olive Ridley turtle. The area is a spawning ground and a sanctuary for the growth and development of numerous fin and shell fish. It is an Important Bird Area (IBA) with a recorded population of 119 bird species, of which 50 are migratory. In recognition of its national and global biodiversity significance, a part of the EGREE is gazetted as the Coringa Wildlife Sanctuary. However, the last few decades have witnessed rapid economic changes and emergence of large-scale production activities in EGREE such as fisheries, aquaculture, salt production in salt pans, and manufacturing activities such as oil and gas exploration, production of fertilizers, edible oil, rice products, tourism and ports. In addition, local communities are dependent on mangroves and marine resources. As a result, there is growing pressure on the overall ecological integrity of the EGREE, particularly the mangrove ecosystems in the Coringa Wildlife Sanctuary and adjoining areas, with associated impacts on the livelihoods of local people.

Objectives

The project aims to remove barriers to mainstreaming environmental management in major production activities that impact the coastal biodiversity. Components of the project include:

- a) Cross-sectoral planning to mainstream biodiversity conservation
- b) Enhance capacity of institutions to implement biodiversity-friendly sector plans, and
- c) Improve community livelihoods and sustainable natural resource use

Project Information

Funding

Global Environment Facility; Government of Andhra Pradesh (In-kind)

Duration

2011-2015

Implementing Partner(s)

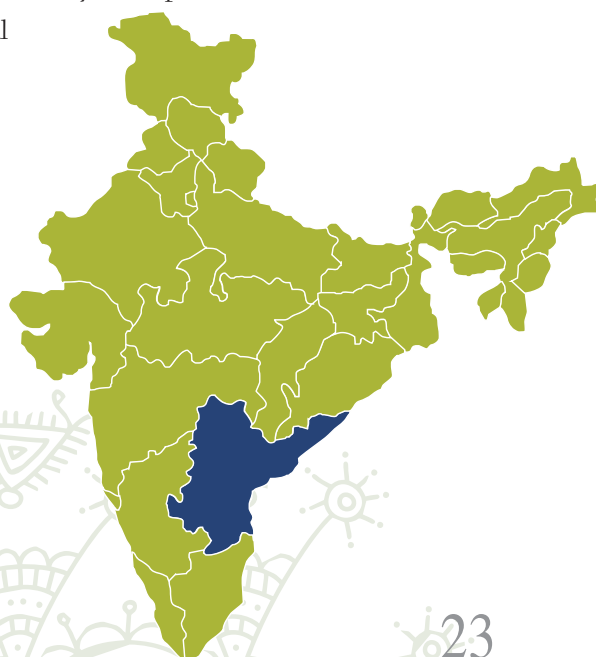
Ministry of Environment and Forests, Government of India

Other Partner(s)

Department of Forest, Government of Andhra Pradesh

Location(s)

East Godavari River Estuarine Ecosystem, Kakinada, East Godavari district, Andhra Pradesh





Developments so Far

- Necessary institutional arrangements for project implementation have been established such as the national and state project steering committees, project management units, etc.
- A knowledge management system has been established at the Wildlife Institute of India to identify research gaps in coastal and marine conservation and management

Way Forward

- Establish cross-sectoral institutional mechanism in EGREE with representation from conservation, livelihood and production sectors
- Prepare a landscape-level Strategic Plan that provides enabling policy environment for mainstreaming biodiversity conservation into production sectors
- Undertake research studies on EGREE through identifying research gaps in the landscape
- Prepare biodiversity-friendly sector plans for production sectors in the landscape
- Prepare compendium of best practices on mainstreaming biodiversity considerations into key production sectors in the landscape
- Revise management plan for the Coringa Wildlife Sanctuary
- Strengthen SHGs/Community-Based Organizations to undertake community-based natural resource use and sustainable livelihoods
- Undertake alternative and/or sustainable ecosystem-based livelihoods that reduce pressures on biodiversity

Looking to the Future

- A functional multi-sectoral platform involving the forest department, the Maritime Board, the Department of Industries, Fisheries and Agriculture Departments, Tourism department, NGOs, educational institutions, private sector and local communities established
 - An environmentally-sustainable economic development plan for the Godavari River Estuary developed by leveraging funds from production sectors, the state government and the Government of India
 - Fisheries, industrial, tourism, aquaculture and port policies incorporate coastal and marine biodiversity considerations
 - Knowledge products for different user groups developed
 - Better information and awareness among public and private sectors on the contribution of well-preserved coastal and marine ecosystem in the Godavari River Estuary to economic activities
 - Improvement in selected coastal and marine ecological indicators, particularly in and around the Godavari River Estuary
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Extending Conservation Beyond Protected Areas

Natural Resources Conservation Outside Protected Areas

Background

Natural resources are an important source of livelihood and well-being for human population. Much emphasis has been placed on biodiversity conservation initiatives in areas designated as protected areas. However, for many centuries, rural communities in India have been conserving vast stretches of biodiversity across water and land outside these protected areas. These biodiversity rich areas are important for maintaining full ecosystem services and contribute significantly towards biodiversity conservation in the country. However, over the past few decades, human activities and climate change impacts have put increasing pressure on these spaces outside protected areas.

Objectives

The project extends support to community-initiated conservation efforts outside the protected areas in the states of Madhya Pradesh and Odisha, including supporting and strengthening the capacity of communities to monitor and manage their resources in a sustainable manner and to derive equitable benefits from such resources. It will also initiate strategies towards formal recognition of such areas/practices, and their mainstreaming into the broader policy framework at the state and national levels. In addition, the project envisages stimulating necessary policy and legislative dialogues to bring such areas under the purview of state and national conservation strategies.

Project Information

Funding

UNDP

Duration

2009 – 2012

Implementing Partner(s)

Ministry of Environment and Forests, Government of India

Other Partner(s)

State Governments of Madhya Pradesh and Odisha

Location(s)

Madhya Pradesh and Odisha





Developments so Far

- Project management units at national and state levels constituted
- Micro-plans for identified community conserved areas in Odisha and Madhya Pradesh prepared. This has enabled a more comprehensive understanding of biodiversity profile and livelihoods in these areas
- About 6,000 community conserved areas in Odisha and 250 such areas in Madhya Pradesh identified in partnership with local stakeholders. This has provided direction for interventions in these two states
- Livelihood generation and habitat development activities such as habitat improvement, basic infrastructure development, awareness generation programmes, health camps, rescue centres for wildlife, capacity building of stakeholders, studies, trainings in project states undertaken

Looking to the Future

- Strengthen the capacity of local communities to manage natural resources
 - Demonstrate sustainable natural resource conservation outside the protected areas through pilot interventions in the selected areas of project states
 - Support formal recognition of community conserved areas and their mainstreaming into broader policy framework at the state and national levels
 - Support inclusion of community conserved areas and similar neglected areas into recognized conservation systems
-



Traditional Medicine, Health and Livelihoods: An Agenda for Biodiversity Conservation



Mainstreaming Conservation and Sustainable Use of Medicinal Plant Diversity in Three Indian States

Background

Nearly 90 percent of India's medicinal and aromatic plants (MAPs) diversity is found in its diverse natural forest habitats, which are mostly government-owned. Harvesting of MAPs is largely uncontrolled and unmonitored. Local communities, particularly the rural poor, are dependent on these natural resources for livelihood and to meet their primary healthcare needs. The importance of commercial trade of MAPs and their economic significance for rural communities needs to be recognized. This project seeks to promote long-term conservation and sustainable use of India's medicinal plants through forest management policy and practice at the national, state and local levels in three Indian states: Arunachal Pradesh in north-eastern India, Chhattisgarh in central India and Uttarakhand in north-western India. These states represent India's enormous MAP diversity and include a number of globally-significant species and populations.

Objectives

- Mainstream conservation and sustainable use of medicinal plants into productive forest sector of India through pilots in three states
- Create an enabling environment at the national and state levels to mainstream conservation and sustainable use of MAPs
- Mainstream MAPs into government and community forest management norms and practices at local levels

Project Information

Funding

Global Environment Facility; Government of India; National Medicinal Plant Board, State Governments of Arunachal Pradesh, Chhattisgarh and Uttarakhand (In-kind)

Duration

2008 –2013

Government Counterpart

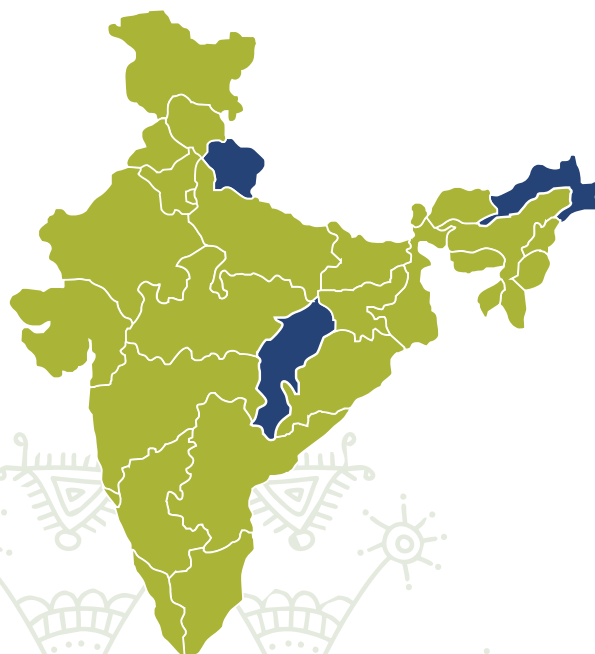
Ministry of Environment and Forests, Government of India

Other Partner(s)

National Medicinal Plants Board; State Forest Departments and State Medicinal Plants Boards of Arunachal Pradesh, Chhattisgarh and Uttarakhand; National Biodiversity Authority; Indira Gandhi National Forest Academy; Foundation for Revitalization of Local Health Traditions

Location(s)

Arunachal Pradesh, Chhattisgarh and Uttarakhand





Botanical Name : *Lavandula angustifolia*
ಕನ್ನಡದ ಹೆಸರು : ಲವಂಡು
ಇಂಗ್ಲಿಷ್ ಹೆಸರು : Lavender
ವೈದ್ಯಕೀಕರಣದ ಗುಣ : ಸ್ವಲ್ಪ
ದೈವಿಕ ಹೆಸರು : ಸ್ವಲ್ಪ
ವೈದ್ಯಕೀಕರಣದ ಗುಣ : ಸ್ವಲ್ಪ

Botanical Name : *Maranta arundinacea*
ಕನ್ನಡದ ಹೆಸರು : ಕುಂಬೆ
ಇಂಗ್ಲಿಷ್ ಹೆಸರು : Cassia
ವೈದ್ಯಕೀಕರಣದ ಗುಣ : ಸ್ವಲ್ಪ
ದೈವಿಕ ಹೆಸರು : ಸ್ವಲ್ಪ
ವೈದ್ಯಕೀಕರಣದ ಗುಣ : ಸ್ವಲ್ಪ

Botanical Name : *Ocimum sanctum*
ಕನ್ನಡದ ಹೆಸರು : ತುಲಸಿ
ಇಂಗ್ಲಿಷ್ ಹೆಸರು : Holy Basil
ವೈದ್ಯಕೀಕರಣದ ಗುಣ : ಸ್ವಲ್ಪ
ದೈವಿಕ ಹೆಸರು : ಸ್ವಲ್ಪ
ವೈದ್ಯಕೀಕರಣದ ಗುಣ : ಸ್ವಲ್ಪ

Developments so Far

- Twenty-one Medicinal Plants Conservation Areas (MPCAs), covering 200 hectares each, nested within larger 1,500 hectares forest gene banks (FGBs), declared in species-diverse locations of the three project states
- Better understanding of diversity of species through comprehensive botanical and ecological surveys in all MPCAs and FGBs. These are relevant as each site is different in its phytosociology and species composition suiting to that ecosystem. This will lead to an understanding of the population dynamics, regeneration patterns and associated issues of Globally Significant Medicinal Plants (GSMPs) and help in preparation of an action plan for the long-term management and sustainable use of the species
- Conservation of 32 GSMP species has been prioritized through the MPCAs. Some of the GSMPs identified and being conserved in the three project states are:

GSMPs of the project states:

Arunachal Pradesh	Chhattisgarh	Uttarakhand
<i>Taxus wallichiana</i> , <i>Illicium griffithii</i> , <i>Panax sikkimensis</i> , <i>Paris polyphylla</i> , <i>Piper pedicellatum</i> , <i>Coptis teeta</i> , <i>Litsea cubeba</i> and <i>Gynocardia odorata</i>	<i>Stereospermum chelonoides</i> , <i>Chlorophytum tuberosum</i> , <i>Oroxylum indicum</i> , <i>Gardenia resinifera</i> , <i>Embelia tsjeriam-cottam</i> and <i>Litsea glutinosa</i>	<i>Aconitum heterophyllum</i> , <i>Arnebia benthamii</i> , <i>Picrorhiza kurrooa</i> , <i>Malaxis muscifera</i> , <i>Dactylorhiza hatagirea</i> and <i>Nardostachys grandiflora</i>

- Preservation of traditional knowledge through 30 Community Knowledge Health Registers that document traditional resource use and knowledge in Uttarakhand and Chhattisgarh
- Establishment of village health centres by Chhattisgarh government in the state to promote traditional health practices
- Better information and training enabled through village botanist courses that provide more scientific training to community members, particularly women
- Capacities enhanced of 75 senior and mid-level forest officials, 250 front line staff of the state forest departments and community including traditional healers, local traders, rural youth and women, in the area of medicinal plants conservation, sustainable use and documentation of traditional knowledge

What is an MPCA?

MPCA is a natural site that is established and managed as a hands-off area for in-situ conservation of identified flagship and associated species that is managed by the local communities

What is a Forest Gene Bank (FGB)?

FGB are in-situ gene banks that supply high-quality seeds and planting material of medicinal plants for ex-situ conservation, which are open for sustainable harvesting and resource augmentation

What are GSMP species?

GSMPs species are mostly endemic to certain regions or widely distributed but sporadic in nature and/or listed in the IUCN Red List and/or highly traded for their medicinal value

Looking to the Future

- Review relevant national and state forest policies and plans and revise them to favour sustainable use and conservation of MAPs
 - Pilot conservation and sustainable-use strategies for select globally-significant medicinal plant (GSMP) species in the three project states
 - Improve knowledge among MAP collectors and community forest-users about their legal rights and obligations for maintaining MAP diversity and abundance and promote greater inter-sectoral cooperation
 - Develop sustainable harvest protocols for select GSMP species, which are highly traded and are largely collected from the wild
 - Designation of several MPCAs of particular biodiversity as Biodiversity Heritage Sites to enable legal protection under the Biological Diversity Act, 2002
 - Develop and share knowledge products for replication of successful conservation and sustainable-use models in India and the global south
 - Partner with the Indira Gandhi National Forest Academy to introduce medicinal plant conservation in the curriculum of the Indian Forest Service
 - Assess economic importance of MAPs to local consumption and commercial trade through developing a methodology for the same
 - Identification of MAP-rich areas to prioritize conservation efforts for select GSMP species Chhattisgarh and Uttarakhand in using niche modelling method
 - Mainstream conservation, sustainable use and cultivation of MAPs into the forestry sector in India by suggesting necessary changes to the National Forest Working Plan Codes
 - Transform Community Knowledge Registers (CKRs) into PBR-Health, and integrate PBR-Health into People's Biodiversity Registers (PBRs)
 - Prepare Bio-Cultural Protocols (BCPs) as a tool to operationalize the Access and Benefit Sharing mechanism under the Nagoya Protocol
 - Assess economic value of ecosystems and biodiversity from select MPCAs & FGBs in Arunachal Pradesh
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Monitoring Land Degradation, Building Resilience



Sustainable Land and Ecosystem Management in Shifting Cultivation Areas of Nagaland for Livelihood and Ecological Security

Background

The north-eastern state of Nagaland is located at the confluence of the Indo-China and Indo-Myanmar region, and is endowed with rich diversity of species, flora and fauna. Shifting cultivation, locally referred to as *jhum*, is the main form of agriculture, most suitable for the state's climatic conditions and steep terrain. In recent years, however, the duration of *jhum* cycles have shortened. This has meant that there is little time for restoring soil fertility and yields are declining over time. Families that were once self-sufficient in foodgrains are now not able to produce enough even for a few months of the year. There is little time for regeneration, which has accelerated soil erosion and disrupted the hydrology of the area.

Nagaland faces a major challenge in adapting land use and production systems to meet demands of rising populations and changing lifestyles, while also maintaining its ecological sustainability. In partnership with the government of Nagaland, the UNDP project focuses on reducing land degradation resulting from shifting cultivation practices.

Objectives

The project aims to address land degradation in shifting cultivation locations in three districts of Nagaland covering 70 villages, through participatory planning, generating awareness, building institutions and supporting integrated farm development that enable sustainable land and ecological management.

Project Information

Funding

Global Environment Facility; Government of Nagaland
(In-kind)

Duration

2009-2013

Government Counterpart

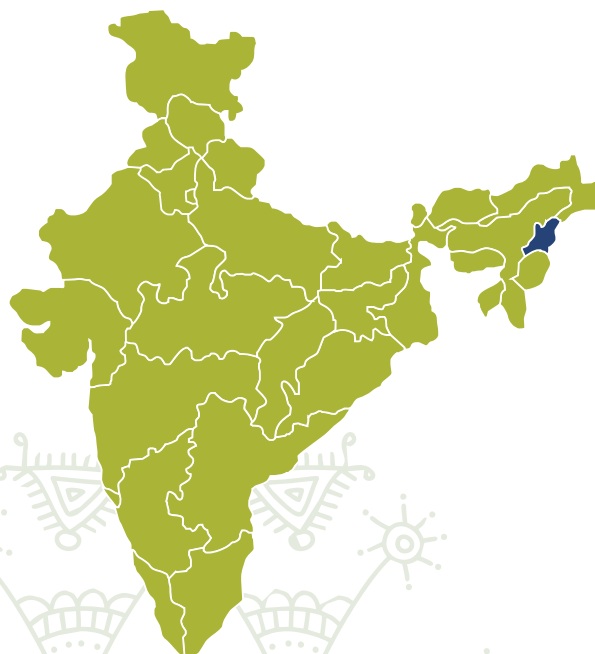
Ministry of Environment and Forests, Government of India

Implementing Partner(s)

Department of Soil and Water Conservation,
Government of Nagaland

Location(s)

Nagaland (districts- Mokukchung, Mon and Wokha)





Developments so Far

- Horticulture and agroforestry plantations- introduced in over 11,000 hectares of land- has increased forest cover and additional income generating activities in project areas
- Over 800 *jhum*-practicing households have benefited from introduction of integrated farm development practices that integrate crop, livestock, fishery, forestry and horticulture and reduce soil erosion
- Increase in average incomes of 4,000 households by 15-20 percent annually
- Increase in incomes of 3,000 women by 10 percent as a result of sale of organic farm produce from *jhum* fields
- Strengthened coordination and convergence mechanisms between line departments through better awareness of links between land degradation, forest resources and rural development
- Improved land regeneration enabled by encouraging greater involvement of local/traditional institutions in decision-making

Looking to the Future

- Create an enabling policy environment that recognizes the links between improved *jhum* practices and forest ecosystems
 - Strengthen agricultural policies and frameworks that support and enhance sustainability of the *jhum* system
 - Promote integrated land-use planning across landscapes
 - Consistent decrease in soil erosion over time
 - Improve capacities of local communities to diversify income-generating activities
 - Increase income of target communities, especially women, through encouraging sale of organic produce from *jhum* lands
 - Produce and disseminate best practice models that demonstrate a range of approaches to addressing land degradation in shifting cultivation across other states in India
 - Build strong partnerships with other states in the north-east where shifting cultivation practices are common to effectively address land degradation in the region
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Combating Land Degradation through Community Involvement



Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh

Background

Madhya Pradesh extends over a major part of the highlands of central India, and constitutes parts of the upper catchments of five principal river systems – the Yamuna, Ganga, Mahanadi, Godavari and Narmada. It is, therefore, a region endowed with rich and diverse forest resources.

Despite watershed development over the last decade, catchments continue to degrade and soil erosion rates remain very high. Unsustainable land management practices, especially deforestation and overgrazing, have been both the cause and consequence of the livelihood crisis of tribal and rural communities living in and around forest areas. In areas of intensive land use, soil erosion, forest degradation, and reduced soil fertility in agricultural land are increasingly evident.

The UNDP project is focused in five districts of Madhya Pradesh that have high levels of poverty and fragile ecosystems that have roughly 50 percent forest cover.

Objectives

The project, with support from the Global Environment Facility (GEF), aims to remove barriers to promoting sustainable rural livelihoods and provide a broader range of livelihood options for the tribal/rural poor. It aims to demonstrate:

- (i) Reduction in unsustainable dependency on forests and pasturelands
- (ii) Sustainable practices that increase long-term food security and reduce poverty
- (iii) Empower women and marginalized groups to understand constraints that limit participation towards more inclusive and sustainable livelihood systems in the long term

Project Information

Funding

Global Environment Facility; Government of Madhya Pradesh (In-kind)

Duration

2010-2014

Government Counterpart

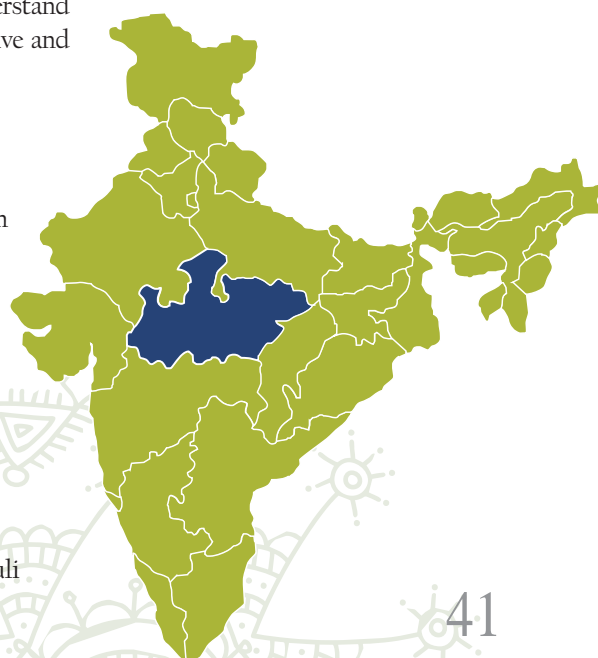
Ministry of Environment and Forests, Government of India

Implementing Partner(s)

Madhya Pradesh State Forest Department

Location(s)

Madhya Pradesh (districts: Betul, Chhindwara, Sidhi, Singrauli and Umaria)





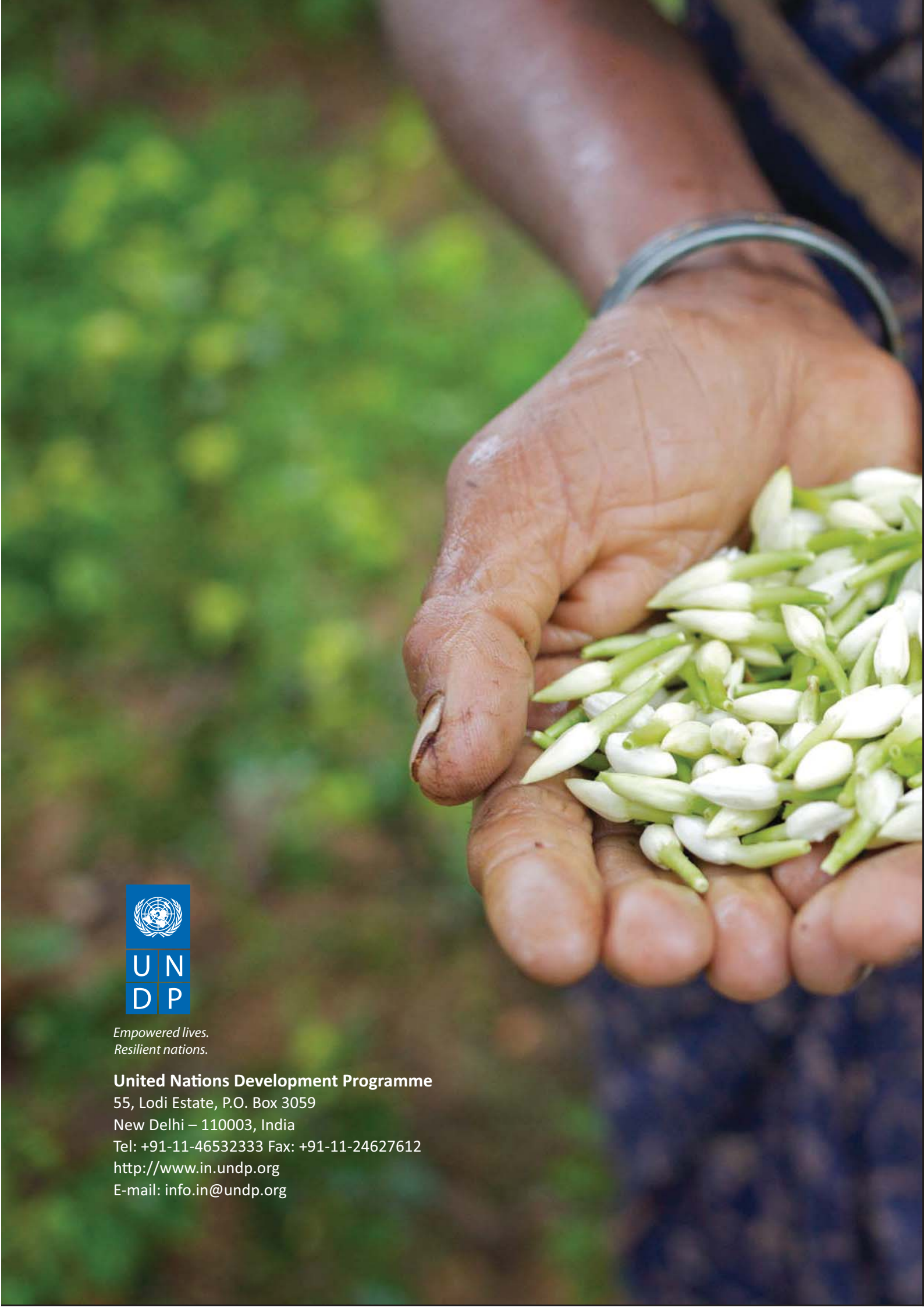
Developments so Far

- Increase in incomes of 800 families that treat 7,400 hectares of degraded bamboo forests. This increased income has been utilized towards repayment of loans, purchase of cattle, irrigation pumps and meeting healthcare needs
- Improved protection and management of forests through greater community involvement evidenced by fewer forest offences, reduced distress migration and fewer forest fires
- Recharge of groundwater and improvements in soil moisture through construction of micro check dams in Ambada and Tamiya ranges of south and west Chhindwara forest divisions. These structures have changed the micro climate of the region and revived the local biodiversity

Looking to the Future

- Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management
 - Demonstration of community-driven, climate-resilient approaches for sustainable land and ecosystem management
 - Reduction of pressure on reserved forest lands through harvesting of fodder and energy plantations in degraded forests
 - Removal of barriers to promoting integrated ecosystem management to provide a wider range of livelihood options for the tribal/rural poor, while maintaining critical ecosystem services
 - Strong partnerships with government, local civil society and technical agencies to share project results and upscale models
 - Promotion of medically significant plant species to address local healthcare needs, and encourage home herbal gardens that can enable distribution of over 150,000 species of medicinal plants
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