



ENVIS NEWSLETTER

Centre for Environmental Studies (CES)



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SHRI DEBI PRASAD MISHRA
Minister
Forest & Environment, Orissa



MESSAGE

I am glad to know that the Centre for Environmental Studies is bringing out a newsletter on Forest Wealth of Orissa for the fulfillment of Environmental Information System (ENVIS) Centre. The year 2011 has been declared as the International Year of Forest by the United Nations with an objective to raise awareness amongst public so as to strengthen the sustainable forest management, conservation in order to attain sustainable development of all types of forest for the benefit of current and future.

The current issue of the newsletter focuses on Forest Wealth of Orissa, its composition, distribution, beneficial effects such as provision of livelihood security to people living in and around forest. Various management practices so far taken both by Government and by community initiative and future perspective are also touched upon briefly in this booklet.

This issue of ENVIS Newsletter focuses on Forest Wealth of Orissa and various initiatives taken by the State Government to overcome the problem.

I hope that this publication will serve as a useful source of information for Researchers, Educationists, Environmentalists, Scientists and Forest Officials for their reference.

I wish the publication all success.

Debi Prasad Mishra
(Shri Debi Prasad Mishra)

Forest: The symbol of Sustainability

Orissa, owing to its peculiar geographical location and wide range of physical features, embraces a diversified floristic composition and consequently a vast economic potential. The extensive range of hilly forests, several lofty peaks, long stretch of coast line, excellent river rain system, brackish waters and coastal plains altogether have endowed the state with a wide range of ecological habitats for a diverse and broad spectrum of vegetation. The forests of Orissa have innumerable number of medicinal and economically important species, all of which need a scientific and sustainable management.

Degradation of forests is largely responsible for the change in climate over the land, variation in rainfall patterns, global warming and rendering of plant oxygen/carbon dioxide cycle invalid. It has also led to loosening of the soil, due to absence of root systems and consequent erosion. This phenomenon is directly responsible for floods and droughts.

Cont.....



Chairman's Message...

The Environmental Information System (ENVIS) Newsletter has been providing information on some of the issues related to the Environment of Orissa. It is hopeful that readers are finding their useful.

As per the State of Forest Report 2009, published by Forest Survey of India, Orissa has got forest cover of 48,855 sq. kms. which is 31.38% of the States' geographical area. Forest area wise, it ranks 5th in the country. Madhya Pradesh has got the largest forest cover in the country, followed by Arunchal Pradesh, Chhatisgarh, Maharastra and Orissa. If the tree cover, outside forest area is also included, the combined percentage of forest area and tree cover comes to 34.23% of the States' geographical area. In our state the percentage of forest cover is the highest in Kandhamal district (68.37% of the geographical area), followed by Gajapati district (57.46%).

I wish the readers all the best.

Dr. Aurobindo Behera, IAS

Chairman, Centre for Environmental Studies & Principal Secretary, F&E Dept., Govt. of Orissa

From the Director's Desk...

Dissemination of information on various issues related to environment of the State is the main objective of establishment of our ENVIS Centre. We have discussed on various issues in our earlier publications. In this issue we have focused on one of the important topic "Forest Wealth of Orissa".



I hope this issue of Newsletter will be useful for various planners, decision makers, scientists, environmentalists, researchers, academicians and other stake holders.

Shri Bhagirathi Behera, IFS

Director, Centre for Environmental Studies

“FOREST WEALTH OF ORISSA”

“If clouds will form in the South and pour in the North, there will be no one in the East only the ones who stay close to the forest/vegetation will remain as 'stock' to the posterity.”

-Malika

Forests are lungs of the Earth: Protect them

- Forests cover one third of the earth's land mass and perform vital functions and services for man kind.
- Forests provide many important natural resources like timber, fuel, rubber, paper and medicinal plants.
- They also play a key role in our battle against climate change, storing carbon and providing oxygen.
- More than 80% of total energy consumed by people and industry derived from forests like fuel wood and charcoal.
- Forests are home to the most biologically diverse ecosystems having more than half of terrestrial species, from the great apes to the smallest of creatures and provide home, security and livelihood for 60 million indigenous people.

- They also help decrease the impacts of storms and floods, whilst helping control erosion.
- 1.6 billion people depend on forests for their livelihood. Hence we should take pledge to protect the existing forests and plant more and more trees for posterity.



FOREST WEALTH OF ORISSA

The forests of Orissa are the store house of many useful plants like Timber species, Orchards, Rich Medicinal plants, Aromatic plants,. About 33% of the total forest cover is predominated by Sal and its associates. While the rest is covered by species like Teak, Piasal, Bandhan, Kangada, Kasi, Sisu, Asana, Kuram and Dheura. Bamboo (26%) are the principal species both in dry as well as moist deciduous forest.

Timber Species: The forest of the state embrace a large number of timber yielding species of which. Sal (*shorea robusta*) predominate with about 43% of the total forest cover. Other notable ones are Teak (*tectona grandis*), Piasal (*pterocarpus marsupium*), Bandhan (*ougeinia oojeinensis*), Kangad (*xylia xylocarpa*), Kasi (*bridelia retusa*), Sisu (*dalbergia sisoo*), Asana (*terminalia alata*), Kuruma (*ardina cordifolia*) and Dhaura (*anogeissus acuminata*). Various types of Bamboos (*bambusa*), Sal seeds and



resins (Jhuna), Kendu (*diospyros melanoxylan*) leaves, Canes (*calamus* app.), Sandal wood (*santalum album*), Myrobalans (*terminalia* spp.), Salap (*caryota urenes*) and other minor forest products are some of the important sources of forest revenue of the state. Sal and Bamboo forests, occur predominantly in Southern Orissa, Teaks occur naturally in Koraput, Bolangir and Kalahandi bdistricts along with a number of other valuable species. Ecologically, South Orissa is the meeting point of two giant species of Indian Forests



- Sal and Teak. Down south no Sal and towards North, there is no natural teak.

Orchids: which have aroused a lot of interest from commercial point of view as well as conservational aspects are fairly common in different ecological habitats throughout the State. Of an estimated 1,200 species of Orchids in India, about 120 species occur only in Orissa including several rare ones. In view of the international attention reverted today, the Govt. of Orissa initiates programme for declaring orchid-rich forests (Similipal, Mahendragiri, Singharoj) as orchidarium to serve as a tourist attraction.

Rich Medicinal Plants

As many as 220 medicinal and quasi medicinal plants have been reported to occur in Gandhamardan hills alone, though the actual number may still be more. The Similipal and the mythologically famous Gandhamardan hills are some of the potential sources of indigenous herbal plants deserving proper attention for thorough survey works. Sarpagandha or Patalgaruda (*Rauvolfia serpentine*) an endangered and important medicinal plant occur in the wild in Orissa and can be utilized as a traditional remedy for snake bite and cure for other diseases. Among others Swasamari (*Tylophora asthmatica*), Kochila (*Strychnos nux-vomica*), Koruan (*Hollarhena antidysenterica*) and Thalkudi (*Centella asiatica*) are a few other common medicinal plants of the state.

Aromatic Plants



Kiya (*Pandanus fascicularis*): Locally known as Kiya this plant grows abundantly along coastal Orissa, particularly in Ganjam district. Near Berhampur, Orissa, there are about 60 distillers, which distill around four crores of flowers every year.

Sal (*Shorea robusta*): This is a common forest species of Orissa. Sal resin, on destructive distillation, yields an oil known as 'chua oil' varying from 41 to 68 percent. The resin known as 'dhup' or 'jhuna' is obtained by tapping Sal tree. Sal resin oil is brownish yellow in color and has an agreeable incense like odour. 'Chua oil' is used as fixative for heavy perfumes and flavoring tobacco.

Citrus species: The flower, leaves and the rind of this species are aromatic. Citrus oil, is used extensively for perfumery and pharmaceutical purposes. There are potential areas in Koraput, Sambalpur and Ganjam districts where citrus production could be intensified.

Vetiver (*Vetiveria zizanioides*): Vetiver roots are excellent source of high grade perfumes. The grass grows wild in vacant fields and swampy areas.

Wild Lemongrass: Some variety of lemongrass are found growing wild in cooler hill regions of Similipal, Koraput, Khariar, Kapilas and Ganjam districts of Orissa. Due to poor quality of oil no use has been found for this. But, this grass is mainly used for thatching purpose.

Hyptis swavelns: It is an annual herb, which grows wild in Orissa and the neighbouring state. The leaves contain 0.1 percent essential oil, and the oil is rich in terpenes & low boilers.

Forest - Maintain Water Regime

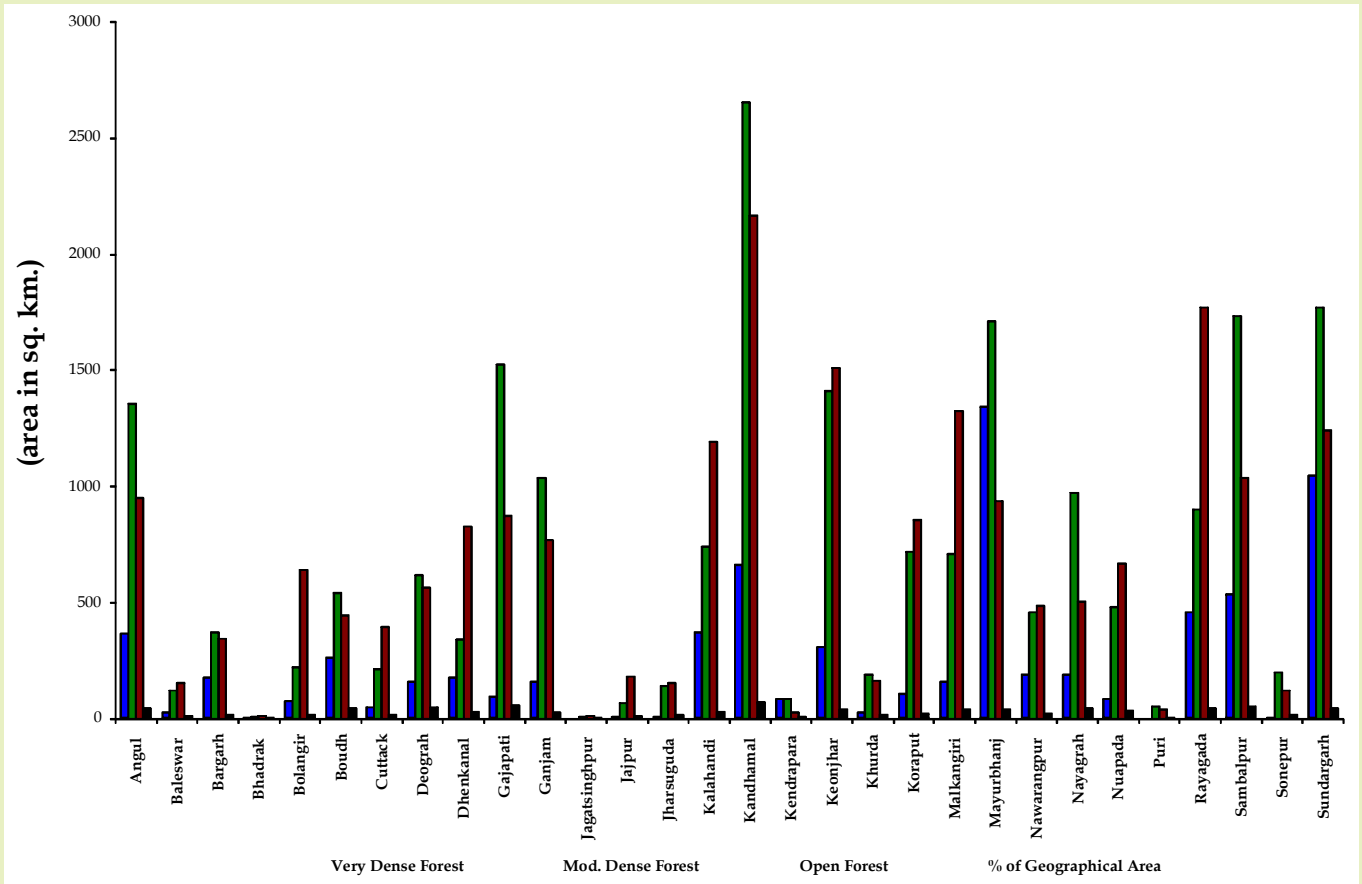
Forests consume large quantities of water through the roots of the plants and lose it through leaves into the atmosphere. The thick plant cover presents solar radiations getting reflected back into the atmosphere which set into motion strong thermal up-currents. The moisture is carried to higher altitudes where it cools down to rain drops. Thus extensive forestation causes precipitation of water. They intercept heavy rain fall and release the water slowly to the soil and thus prevent erosion of the top soil. Flow of rain water unimpeded over the barren mountain slopes causes flash floods. The excessive washing away of top soils makes the land infertile. Besides forest cover maintain humidity, temperature and regulate the climate.

Analysis of satellite photographs reveal that about 19.4% i.e., about 64 million hectares of the geographical area of our country is at present covered with forests. After independence, developmental activities were given priority. Conservation of forest received little attention. Large scale destruction has resulted in the loss of about 4 million hectares of natural forests, since 1950. Increased use of wood, timber or other forest products, without adequate efforts to regenerate them, is reducing our forest resources, resulting in environmental imbalance. As per the State of Forest Report 2009, published by Forest Survey of India, Orissa has got forest cover of 48,855 sq. kms. which is 31.38% States' geographical area. Area spread wise, it ranks 5th in the country. Madhya Pradesh has got the largest forest cover in the country, followed by Arunchal Pradesh, Chhatisgarh, Maharastra and Orissa.



Forests protecting the components of bio-diversity

District-wise Forest Cover in 2007



Forest cover map of Orissa, 2009

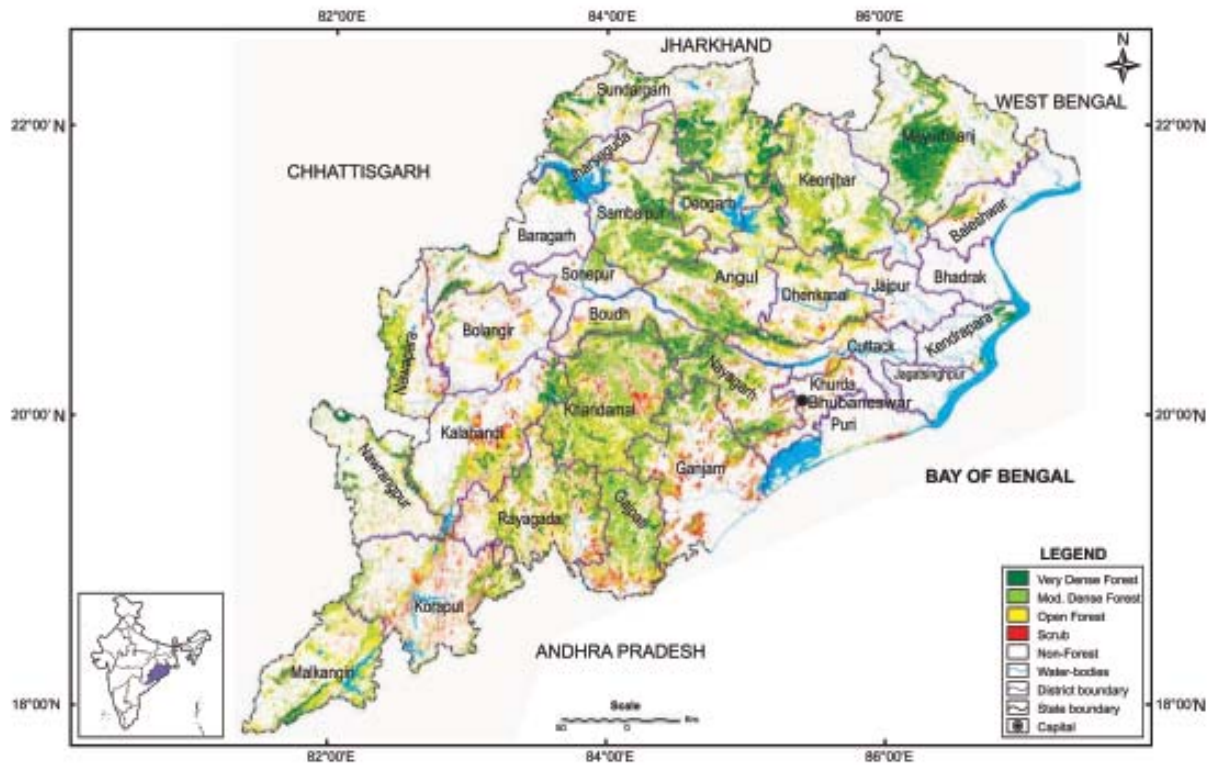


Fig. 7.21 : Forest cover map of Orissa

Source: Forest Survey of India

DEFORESTATION & ITS CONSEQUENCES

Deforestation is a consequence of expanding agriculture, shifting cultivation, cattle grazing, felling of trees for fire-wood, construction activities, mining and industrial purposes. This destroys the natural habitat of animals, microbes and the entire biodiversity collapses. Forests play a vital role in country's economy. Major useful products are bamboo, wood, kendu leaves, resins, gums, sal seeds, besides honey, fruits, nuts and medicinal plants.

Increased level of carbon dioxide due to loss of photosynthetic activity is considered as the cause of possible global warming. Further, other gases responsible for environmental pollution also accumulate in the absence of vegetation cover which is capable of absorbing them.

Destruction of either flora and fauna breaks the food chain vital for maintaining the balance in nature. In the absence of vegetative cover, wild animals which depend on plants often attack the agricultural crops. In the absence of enough of herbivores, the carnivores attack the domestic animals and human beings.

FOREST RESOURCE MANAGEMENT

The management of forest resources in India has been one of the most challenging environmental issues in South Asia. Since 1951, degraded lands in India have doubled in size, reaching 174 million hectares by 1990. According to recent estimates, demand for fuelwood and fodder will triple within the next ten years. Large-scale reforestation and watershed-management programs conducted by the Indian government have largely failed. Community-based forest management has proved to be a feasible alternative and as of 1994 fifteen of India's 22 states have formally initiated joint forest management (JFM) programs.

COMMUNITY INITIATIVE MANAGEMENT IN THE PAST

Local communities in Orissa now manage 1,200 patches of forest, covering a total area of 186,900 hectares, through the efforts of 1,180 "User Group

Organizations" (UGO). In the 360-hectare Binjiri Protected Forest, for instance, environmental protection has been the driving force for improved forest-management practices. Surrounded by rural villages, the forest was almost completely denuded by the late 1960s. Streams dried up, pond sedimentation increased, and fuelwood became acutely scarce. Following the initiative of a former resident of Kesharpur, a movement to protect the Binjiri Hill was initiated. The villagers of Kesharpur soon realized that the regenerating forest would be endangered if the other villages surrounding Binjiri were not involved in its protection. This led to the creation of the "Brikshya O'Jeevar Bandhu Parishad" (BOJBP; "Friends of Trees and Living Beings"), a grassroots organization that provided essential leadership for community involvement in forest conservation.

Presently there are 11,995 Van Sarankhyan Samities working in the state and nearly 1,36,000 hectare of forest area (18.6% of total forest land of the state) have been assigned to these samities for protection, enrichment and sharing of benefit.

Forest resources have been important for the prosperity of any nation and its communities. They are an essential natural resource providing multiple benefits to people besides other important functions such as biodiversity conservation, global carbon storage and a storehouse for future option values. The rich and the poor alike are dependent on forest resources, directly or indirectly, and forestry in many developing countries, including India is also seen as a means for eradicating rural poverty and achieving sustainable development. The pressure on existing forest resources is immense in India. Having only 2.5% of the world's geographic area and 1.85% of the world's forest area, we have 17% of the world's population and 18% of livestock population. In this context, it is imperative to preserve the forests and manage them sustainably, so as to ensure secure livelihood of the forest-dependent communities as well as conserving our biological diversity. Recently, as a result of increasing public awareness and various treaties and conventions all over the world, there is a

movement towards accepting only those forest products which have originated from sustainably managed forests.

ROLE OF GOVERNMENT

Though Orissa claims itself to be the number one state in implementing forest rights act, 2006, but there are more than lakhs of cases to be disposed. So, state govt. has ordered the Revenue Divisional Commissioners to monitor implementation of this act in Orissa. They have to take a review on monthly basis. Orissa has been able to recognize the largest number of tenures numbering 2,64,087 under forest Rights Act, 2006 and Rules 2007. Orissa Govt. has decided to extend benefits of developmental schemes to beneficiaries under Forest Rights Act. Chief Secretary directed the collectors on Wednesday to cover such beneficiaries under schemes like Horticulture Mission, Bamboo Mission, Watershed, OTELP etc. with a focus on land and water management activities. Collectors also can take help of good NGOs working in the district to create awareness about these developments. As per Central Govt. Report Orissa government was ahead of many other states in terms of implementation of Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of forest rights) Act, 2006.

Forest Conservation Act 1980: The forest act of 1927 was amended in 1976 by which, the forests were transferred from the state list to the concurrent

list. In 1980, the Forest Conservation Act was framed. The act stipulates that no forest land or any portion thereof may be used for non forest purposes without the permission of the Central Government. It provides for the constitution of an advisory committee to advise the Government on the matter. Acts in Orissa relating to the environmental protection passed are as under:

1. The Orissa Forest Act 1972.
2. The Orissa Communal Forest AND Private Lands (Prohibition of Alienation) Act 1948.
3. The Forest Produce (Control and Trade) Act, 1981.
4. The Orissa Kendu Leaves (Control & Trade) Act, 1961.
5. The Orissa Protection of scheduled caste and scheduled tribe (Interest in Trees) Act, 1981.
6. The Orissa Preservation of Private Forest Acts, 1947.
7. The Orissa Saw Mills and Saw pits (control) act, 1991.
8. The Forest (Conservation) Act, 1980.
9. The Wild Life (Protection) Act, 1972.

CONCLUSION:

Man is an integral part of the environment. Quality of life depends on the quality of the environment. Therefore it is essential to manage, preserve it for our own survival. Management is a discipline by itself growing rapidly and in no way it proposes to halt economic growth whilst conserving the scarce natural resources and protecting the environment.



In tropical regions, an area of rain forest the size of a football pitch is cut down every second.

CELEBRATION OF WORLD ENVIRONMENT DAY

On 5th June 2011, the Centre for Environmental Studies organized the World Environment Day Function at Rabindra Mandap, Bhubaneswar. Hon'ble Forest & Environment Minister of Orissa was the Chief Guest, Principal Secretary, Forest & Environment Department and Director, Environment-cum-Special Secretary was present. Hon'ble Forest & Environment Minister of Orissa distributed "Prakruti Mitra" prizes to 243 organisations. An exhibition of the award winning drawings and paintings was organized. Also an exhibition on eco-models was organized. Students from eco-clubs of Angul, Bargarh, Bolangir, Cuttack, Ganjam, Jagatsinghpur, Kendrapara, Mayurbhanj, Puri and Sambalpur participated in the exhibition. The exhibition was inaugurated by Hon'ble Forest & Environment Minister of Orissa. Dignitaries from all departments, retired officers, all staff of Environment Department, Pollution Control Board, Chilika Development Authority, Regional Plant Resource Centre, students and general public attended this function.



For Subscription & Query; Please Contact to :

Centre for Environmental Studies,
Forest & Environment Department, Government of Orissa
N-1/247, IRC Village, Nayapalli, Bhubaneswar-751015
Tel. No.- 0674 - 2551853; Fax- 0674 - 2553182
e-mail: ori@envis.nic.in & cesorissa@rediffmail.com
URL - www.orienvis.nic.in & www.cesorissa.org

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ENVIS EDITORIAL TEAM

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