

MAHARASHTRA AHEAD



**Forests For A
Prosperous Future**

Harbingers of Sustainability

Maharashtra has five forest types as per the Champion and Seth's classification. Each forest type represents a unique Eco-system.

1 Southern Tropical Semi-Evergreen Forests

Forests of this type occur mostly on upper hill slope from 450 meters to 1050 metres above the m.s.l. in Western Ghats. The main species are *Terminalia paniculata* (Kinjal), *Memocylon umbellatum* (Anjani), *Terminalia chebula* (Hirda), *Syzigium cumini* (Jambul), *Olea diocea* (Parjamun) and *Mangifera indica* (mango), *Actinodaphne hookeri* (Pisa), etc.



2 Southern Tropical Moist Deciduous Forests

Two main sub-types occur under this group.

i) Moist Teak bearing Forests

Important and valuable forests of the State from commercial view point, these are mainly confined to Project Tiger area in Melghat region of Amrawati district, Chandrapur, Gadchiroli and Thane districts with *Tectona grandis* (Teak), the associates are *Terminalia tomentosa* (Ain), *Delbergia latifolia* (Shisham), *Adina cardifolia* (haldu), *Madhuca indica* (Moha), *Pterocarpus marsupium* (Bija), *Mitragyna parviflora* (kalam), *Salmalia malabaricum* (Semal) and *Dendrocalamus strictus* (Bamboo) etc.



ii) Moist Mixed deciduous Forests

Teak is present occasionally and the evergreen component of species is larger than in case of Teak bearing forests. The main species are *Pterocarpus marsupium* (Bija), *Salmalia malabaricum* (Semal), *Terminalia bellarica* (Behada), *Dalbergia latifolia* (Shishum), *Syzigium cumini* (Jambul), *Terminalia tomentosa* (Ain), *Lagerstremia parviflora* (Bendara) etc.



3 Southern Tropical Dry Deciduous Forests

Forests falling in this group occupy a major part of state. Main specie being *Tectona grandis* (Teak), these forests produce middle and small size timber. Following are the main forest sub-types.

i) Dry Teak Bearing Forests:

Principal species is *Tectona grandis* (Teak) and the associates are *Ougeinia dalbergiaoides* (Tiwas), *Acacia catechu* (Khair), *Gmelania arborea* (Shivan) and *Anogeissus latifolia* (Dhawada) etc.



ii) Dry Mixed Forests

Teak is present occasionally and the evergreen component of species is larger than in case of Teak bearing forests. The main species are *Pterocarpus marsupium* (Bija), *Salmalia malabaricum* (Semal), *Terminalia bellarica* (Behada), *Dalbergia latifolia* (Shishum), *Syzigium cumini* (Jambul), *Terminalia tomentosa* (Ain), *Lagerstremia parviflora* (Bendara) etc.



4 Southern Tropical Thorn Forests

Under this forest type fall the forests of the low rainfall areas of Marathwada, Vidarbha, Khandesh and Western Maharashtra. Majorities of these forests are heavily degraded due to low fertility coupled with low rainfall. The main tree species found in these forests are *Acacia arabica* (Babul), *Acacia leucophleca* (Hiwar), *Zizyphus jujuba* (Bor), *Butea monosperma* (Palas), and *Belanites rexburghii* (Hinganbet) etc. These forests are full of *Euphorbia* and *Cassia* scrub.



5 Littoral and Swamp Forests

The littoral and swamp forests occur along the creeks and littoral in Sindhudurg and Thane district. Although their comparative extent in the State is marginal, these forests are important for protection of seacoast and marine life. The typical mangrove species found in this area are *Avicennia* spp. and *Rhizophora* spp. etc.





Our Forest, Our Future

I have immense pleasure in extending my best wishes to all, on the auspicious occasion of Gudhi Padwa. This month is also special for Directorate General of Information and Public Relations, as it's first and foremost publication, Marathi 'Lokrajya' is entering 65th year of its existence. The uninterrupted journey of Lokrajya since pre-independence era in Mumbai State continued through the Bilingual State and in Samyukta Maharashtra. During this period Lokrajya created its own identity. With extensive support of readers and active cooperation from the Government this journey has become successful.

Every year, World Earth day is celebrated through various awareness programmes on 22nd April to create an emotional bond with earth, water resources, flora, and fauna and to share the responsibilities of maintaining the ecological balance. On this occasion, we are bringing out Forest Special issue.

Of the total area of 3,07,713 Sq.Km, forests of Maharashtra is spread over 61,939 sq km. This is around 20% of the total land area. The Western Ghats in the Sahyadri Hill Ranges, Satpuda Hill Ranges, Ajanta Hills, Balaghat, Gavilgad in Vidarbha, Tadoba and Sironcha bring grandeur for Maharashtra. A noteworthy mention is that Vidarbha is replete with 38% of forest area in the State. Maharashtra has six National Parks at Navegaon, Borivali (Mumbai), Gugamal (Amravati), Pench, Tadoba and Chandoli besides 43 sanctuaries and 4 Tiger projects located at Melghat, Tadoba, Pench and Sahyadri.

We are aware that human culture is nurtured and developed by forests and rivers. The Indian culture visualizes forests as a Goddess and even today it is worshipped traditionally. Due to industrialization and modernization forests are seen with commercial approach and as supports for human needs and facilities. Human beings brutally attack forest by neglecting eco-balance. Its dreadful results are felt from the beginning of the 21st Century. The ecological imbalance has astonishingly increased global average temperature and also affected season cycles.

Due to absolute neglect of forest resources a huge number of wild animals are endangered. Many species have almost extinct and some others are at the stage of extinction. Tiger, the core of biodiversity is being poached brutally. A century ago, the number of tigers was around 10,000 has come down to 1,500 only. Hunting any animal cannot be termed as valour and definitely not as an achievement. However human beings hunt wild animals and ramshackle foundations of biodiversity resulting in their downfall.

For sustainable development of forest, special attention is paid to management, conservation of forest and wildlife.

Various schemes are being implemented at Central and State level to set up Sanctuaries, reserved areas, tiger projects and protection of wildlife. Everyone has now realized that infrastructure facilities should be created for golden maiden of symbiosis of nature. Hence, the concept of Joint Forest Management with the participation of locals is implemented effectively. Income sources have been created for locals through implementation of forest-based employment-self-employment schemes. In Maharashtra, experiment of Joint Forest Management Committee has effectively curbed illegal activities of wildlife poachers to a great extent.

During last few years many instances of panthers crossing into the human habitats near forests has been noticed and it is due to human interference in the wildlife habitats. This can be avoided by implementation of Joint Forest Management, people's participation and their awareness.

The issue carries a review of untiring efforts of State Government for conservation of flora and fauna in Maharashtra. I am especially thankful to Praveen Pardeshi, Principal Secretary for Forest Department for his immaculate cooperation. I hope this issue will invaluablely contribute to enhance love, affection and concern for forests and wildlife. Chhatrapati Shivaji Maharaj was a great visionary. He has mentioned importance of forest resources for human beings in his commandments and recognized the support of nature for a huge leap towards progress and development. We all know the important role played by dense forests of Sahyadri, hills, rivers alongwith his soldiers in his efforts for foundation of Swarajya. In present circumstances it is our duty to restore old grandeur to forest by keeping him as an ideal.

**Vrikshavalli Amha Soyari Vanachari
Pakshihi Susware Alawiti ...**

In tune with these lines of Saint Tukaram nurturing of the forests and spirituality will lead human beings to the eternal happiness. Let us prove ourselves worthy of this confidence fostered by our culture through conserving forest resources.

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A Government of Maharashtra Production

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Let Us Inherit the Realm of Forestry

The number of tigers at Melghat, Tadoba and Pench ,Andhari Tiger Project is on rise.

The forests in the State are amply rich with Biodiversity and great resource of animals and birds. The State Government is fully committed to protect the same. It is the duty of everyone to protect and conserve the same. We can exist only if the forests and the environment exist. This is a universal truth. This is a war for our own existence. Let us win it with honours...the Chief Minister **Prithviraj Chavan** explains...



The significance of forests is immense from the point of view of the Earth, all the living beings here, environment as well as atmosphere. More protected the forests remain the more protected would be all of us. The importance of forests has been carried through the words of eminent Saint Tukaram.

**Vrikshavalli Amha Soyari
Vanachare....
Pakshihi Susware Alawiti**

*(The trees, the creepers and
the animals wild
Are our kith and kin in these
woods so kind)*
Saint Samarth Ramdas advises us

to enjoy the forests in order to gain happiness. Since the Vedic era the Indian Culture has provided immense importance to nurturing trees. Many evidences for the same have been referred to in ancient literature. Ayurveda that has been gifted by India to the World is a symbol of the same. The forests are the sole reason for our existence on every count.

The total area of Maharashtra State is 3,07,690 sq.km. Out of this area, the forests occupy 61,939 sq.km. According to the National Forest Policy, 1988, it is essential that 33% of the land area should be under forest cover. However in Maharashtra State, the forest cover is at about 20%. In order to achieve the forest cover as prescribed by the National Forest Policy it is necessary to undertake plantation of trees on a large scale. With comprehensive consideration of enhancing Global warming and the resultant dangers we have taken a decision to plant 100 crore trees within five years.

AMBITIOUS INITIATIVE

Plantation of 100 crore trees in the State is a very ambitious project. This project is being effectively implemented by coordination among various Departments of the

Government such as Agriculture, Forests, Rural Development, School education and all the Divisional Commissioners, District Collectors, Chief Executive Officers of the Zilla Parishad and Divisional Forest Officers. The coordination control responsibilities of the movement are being exercised by the Chief Secretary of the State. In comparison to around 3 crores tree plantation achieved last year by the Forest Department the tree plantation this year has touched around 8 crores. However it is also essential to care, nurture and protect the trees that have been planted. The control activities are being exercised with modern tools such as GPS system and others.

RECRUITMENT OF FOREST GUARDS

The responsibility of protection of the forests lie with the forest guards on a divisional level. Due to certain reasons the recruitment process for the forest guards was stalled. Considering the inconveniences arising out of this we carried out a special recruitment plan and 1172 posts of forest guards have been filled. The recruitment process emphasized the need for physically competent candidates from tribal class for recruitment of forest guards



Tigers at Melghat, Tadoba, Andhari and Pench Tiger Projects is on the rise. Alongwith this Sahyadri has been declared as a new National project.

THE GREAT INDIAN BUSTARD SANCTUARY

Earlier the designated area Great Indian Bustard Sanctuary was 8496.44 sqkm. This Great Indian Bustard is of utmost importance in conservation of Nature. However with a view to conservation and nurturing of these birds and also streamline the developmental activities in this region, there was a continued demand for a long time from the local public representatives and other institutions for reorganization of the Great Indian Bustard Sanctuary Area. Now this Sanctuary has been reconstituted with an area of 1229.24 SqKm.

Maharashtra State has a sea shore of around 720 Kilometers. In order to overcome these natural disasters like cyclones, it is inevitable to protect and nurture the mangroves in the sea shore areas. For this the action is under way for notification of total areas of mangroves in the Government and Private sector. An independent Mangrove Cell has been established at the State and under the administrative leadership of Chief Conservator (Mangrove) 37 new posts have been created. According to the Government Notification dated the 20th September 2012 the Mangrove species of trees have been notified as 'Reserved' and have been provided with protection of Constitutional rights.

PROTECTION AND CONTROL

With a view for effective protection and control of the forests situated at far away locations and difficult terrains, steps have been taken to establish network upto Divisional level through the use of computer systems. The patrol through the Divisional Forest Officers, the efforts taken by them and the work carried out for wild life management at divisional level would all be controlled

for difficult areas. The plan provided jobs to the tribal candidates and the Forest Department accrued competent forest guards who know the forests and have an emotional attachment with the forests.

JOINT FOREST MANAGEMENT

The programme for Joint Forest Management is being implemented all over the country for the last 20 years. Under the programme there is a provision to constitute Joint Forest Management Committees for conservation of forests at villages near to forests. At present we have set up approximately 15,000 Joint Forest Management Committees in the State. However they did not have a constitutional support. However under the Government Resolution dated the October 5, 2011, the Joint Forest Management Committees have been declared as a constituent of the Gram Panchayat under the Mumbai Gram Panchayat Act 1958. Now these Joint Forest Management Committees have been provided with a legal standing they can be motivated to undertake the forest conservation activities more effectively.

The State Government has taken a decision to protect the forests

and to set up an International level Zoo at Gorewada near Nagpur. The zoo is being set up at Gorewada by Maharashtra Forest Development Corporation. Permission has been sought from the Hon. Supreme Court to set up Rescue Centre at the zoo.

Maharashtra forests are amply rich in Biodiversity. The State Government is committed to protecting these. The existence of Tiger is inimitable evidence of completeness of the rich forests and Biodiversity. In order to protect all these, 6 National Parks and 36 Sanctuaries have been established in the State. These are being managed efficiently through Forest Departments.

Tadoba Tiger Project is by far the best habitat for Tigers not only in the State but at the National level as well. Considering the importance of conservation of tiger the total Tadoba Tiger project has been brought under integrated administration. For prevention of illegal poaching of wild animals, Tiger Task Force has been established. With untiring efforts from the Forest Department there has been an impressive growth in the number of Tigers at Tadoba National Park since 2009. Nagpur is the Tiger Capital of the Country. The number of

from the Headquarters through this system. The Divisional officers could be guided in their duties of forest protection by senior officers and also at the Headquarters level.

HISTORIC INHERITANCE

The State has an eminent historical inheritance of hill forts and forts. Most of the forts are in the forest areas or the approach roads are invariably through the forests. Due to the increased number of tourists visiting these forts the amount of waste gathered in these areas was on the rise and this has adversely affected the environment and Biodiversity of the area. In order to overcome this, the Government has recently taken a decision for participation of the Joint Forest Management Committees in preservation of the historical forts. For preservation of the forts the tourists would be charged for nuisance prevention and photo-shooting fees. The Joint Forest Management Committees have been authorized for collecting the same.

With a view to reduce the dependence of the tribals on the forests schemes such as provision of bio-gas at concessional rates with 75% Grant, Gas supplies for cooking, grant for the milching animals and encouragement for conservation and protection of tree plantation have been implemented.



The Schemes would benefit 18036 families in the State.

The forest zones of Kuhi and Bhivapur in Nagpur forest area as well as Pauni forest zone in Bhandara forest area with an expanse of 189.29 Sqkm have a sizeable number of wild animals especially Tiger. Considering this factor a Wildlife Sanctuary exists at Umrer Karandla. According to Government Notification dated the June 29, 2012 this has been notified as a Sanctuary. This project is affiliated to the 6 Tiger Projects in

Central India.

The areas from the State in proximity of the Indravati National Park from Chhatisgarh State have been included in the Sironcha Forest Zone of Gadchiroli District. In the Kolamarka area here Indian Wild Buffalo is seen. This is the only place in India where the almost extinct species of Wild Buffalo exists. With a view to protect this specie the Kolamarka area has been notified as Reserved Forest with effect from 8th January 2013.

Protection and conservation of the forests is not the work to be carried out by the forest department alone. Forests are rich inheritance for every one of us. Hence we are duty bound to preserve the same. It is possible for each one of us to share the responsibility individually. It would be a great job done even if we just follow the rules made by the Government for maintaining the existence of forests. Finally it is only if the forests and the environment is maintained we shall be existing. This is a universal truth. In a way this war is for our own existence and with the cooperation of every one we would be able to easily win this war. ■

- As told to **Satish Lalit**



Retaining the Green Cover

Public awareness and participation is most important part of forest development programme

Maharashtra is known as most progressive and leading State in the Country. We have a huge challenge to stall the reduction in forest areas of the State due to growing industrialization and urbanization and also to increase the forest cover. The increase should not just relate to statistics but should be qualitative. Keeping this in view we should move forward, says the Deputy Chief Minister **Ajit Pawar**.

Maharashtra is a magnificent State bestowed with excellent natural resources such as forests and wild life. This opulence has been coming from generations together. When we always reiterate that the history of Maharashtra so far has been one of bravery, valour and development we must also acknowledge the fact that this history was created in the forests, valleys and terrains here. We should also keep in mind that Chhatrapati Shivaji Maharaj and his soldiers-Mavale stayed in the same forests of Sahyadri, fought the Moghals with a guerilla warfare and also nature here helped them.

We can see that the Maharashtra has been crafted by the nature, forts, valleys, hills, dense forests, medicinal herbs, wild animals and has been related to a great extent to the people revering the forests and their nature complementing culture. The protection and prosperity of nature, forests and wild life has been the ancient culture of Maharashtra. All of us must be happy and proud for the fact that we have preserved the same so far.

Presently the forest cover of the State is about 62,000 sq km which is 20% of the total land area of the State. With a view to maintain the ecological balance, we have set a target to increase the forest cover to 33% and



are striving to achieve the same. No doubt there are certain obstacles in our efforts due to industrialization and urbanization. However we need to eliminate these obstacles and move forward in future at a higher speed.

Public awareness and participation is going to be the most important part in the forest development programme. Large scale tree plantation is the first and foremost important stage. With large scale tree plantation the forest development is being accelerated. The development of the forests will not be achieved just by increasing the area of the forests. The increase should

be qualitative. For this we should plant large, useful and long lasting trees such as Mango, Jackfruit, Fig and Banyan instead of going in for exotic types. We must concentrate on enhancing the diversity, density and quality of the forests. The Forest Department has set an aim to plant about 3 to 4 crore trees in each of the six divisions namely Konkan, Nashik, Pune, Aurangabad, Amravati and Nagpur. These efforts would help in conservation of forests in the State.

The efforts of the Forest Department need to be supported by various departments of the Government, schools, colleges, industrial establishments, housing societies, voluntary organizations, cooperative institutions working in various fields as well as individuals. Such persons and institutions should help the Forest Department and at the same time take a lead in planting more and more trees in their areas.

Tree plantation programme is organized every year by the Government as well as various Institutions. A question arises in my mind that and where do the trees planted every year go. Keeping this in mind we must also look after maintaining the trees after plantation and it should be given a serious thought. In order to bring transparency in the tree plantation programme the State Government

has implemented a Satellite Image Monitoring System. This will definitely prove beneficial.

The United Nations declared 2011 as International Year of the Forests. During the year we implemented many projects for protection, permanent management and development of forests in the State. The concept behind International Year of the Forests was Forests for the People. On this occasion we tried to seek co-operation of locals living in the forests and those on the peripheries to enhance the forest cover and enrich the forests. In fact we had already initiated this programme and with the International Year of the Forests, the programme was accelerated. On this occasion we also accelerated the process of providing financial benefits of forest produce to those locals who participated in enriching the forest areas.

The culture of Maharashtra reveres the nature. We have faith that every part of the nature is sacred. The warp and weft of this cultural faith is being nurtured by the people living in the villages as well as the people migrated to urban areas in search of employment. Tribals living in the forests enriched this forest culture with heart and soul and also improved the same. They looked after the forests in a real sense. They followed certain rules such as not to cut a live branch of a tree, not to use a plough on the forest land, not to rob the forests more than that was essential and other traditions they followed. They considered themselves blessed with whatever limited forest produce they got for their livelihood. The forest protection and prosperity programme will only be successful if we seek active participation of tribals who love forests and understand the language of the forests. Considering these facts we planned the State Forest Policy some 5 years ago.

In this forest policy special responsibilities were placed on the people living in the forests and in the forest periphery. For forest

management, committees of these people were formed. The State today has around 12,500 Joint Forest Management Committees which are shouldering responsibilities of more than 27 Lakh hectares forest area. It would not be wrong to say that these people are the real ambassadors of forest area development in the State. Considering the work and the importance of these committees I have made a special provision of Rs. 9.5 crore in the annual Budget.

Through the medium of these committees many responsibilities are being handled such as prevention of tree cutting, protecting forests from fires, prevention of wild life poaching apart from protection and prosperity of the forests. As the stance is complementary with 'As it is your forest, the benefits from the forests also belong to you' and as the same is beneficial for everyone I am confident that in the near future we shall be definitely able to witness growth in the forest area of the State.

As another step towards these efforts, the Forest Department is implementing Eco Tourism Centres with the participation of locals, at places such as Tadoba-Pench, Bor, Tipeswar, Melghat and Bhimashankar. The youth from these areas are getting an opportunity for employment through this initiative. This is an excellent example of how forests can help in economic development of an area.

The United Nations declared year 2011 as International Year of the Forests. The concept 'Forests for the People' was implemented. This concept was an integral part of lives of our people and tradition from thousands of years. One can say that International Year of the Forests provided an opportunity to review this age old concept again. The concept of forest management in a scientific manner was officially implemented in the State in 1860. Considering all these facts and various aspects you can see that Maharashtra has always been an alert and prompt regarding



forests and wild life protection and conservation.

Fortunately both our Country and our State are considered preciously important in terms of Global Biodiversity. India is considered to be amongst top 12 Nations in the World with maximum Biodiversity. India can boast of at least 1.5 Lakh species of plants and animals and most of them are found in the Western Ghat areas. It is an important, happiness and matter of pride that 33 % of the Western Ghat area considered as the richest in terms of Biodiversity is located in the State including Matheran, Mahabaleshwar and Panchgani in the Sahyadri ranges. At the same time it also places a responsibility on us to protect and enhance this Biodiversity.

The importance of National Parks and Sanctuaries is extremely important for protection and prosperity of forests and wild life. Considering this fact the Government has taken a decision to prioritize rehabilitation of villages in the areas of National Parks and Sanctuaries. Under this rehabilitation programme I have made a provision of Rs. 11 crore in the Annual Budget this year for rehabilitation of villages in Sahyadri Tiger project, Dnyanganga, Katepoorna and Tipeswar and acquisition of lands for Great Indian Bustard Bird Sanctuary. This will definitely help to a great extent in developing the forest areas of the State. ■

- As told to **Sanjay Deshmukh**

Movement for Maha-Forest-Rashtra



The biodiversity of seashores has been maintained due to the mangroves

With the forest conservation reforms undertaken over the last few years, it has been a comforting development that the number of tigers forming the most important link off the forest food chain has been constantly increasing says

What is the condition of forests in the State as on today?

Considering the geographical expanse of our State the picture is quite positive. It was only during the last year that a huge section of the Western Ghats has been declared as a World Heritage Site for the uniquely rich Biodiversity observed here. This notification is immensely helpful in making the forest movement more comprehensive through various new schemes for the rich biodiversity in the State. Considering the population density, we have created five new protected areas. Keeping in mind

the requirement of manpower for the Forest Department we are also recruiting Forest Security Guards, Rangers and Officers. Positive results are now visible with the forest conservation reforms undertaken over the last few years. It has been a comforting development that the number of Tigers forming the most important link of the forest food chain has been constantly increasing. Two special battalions have been established for Tiger conservation at Tadoba and Pench. In order to increase the forest cover in the State a very ambitious tree plantation

movement has been undertaken. Last year we planted 3 crore trees and this year we shall be planting 8 crore trees.

Climate Change is affecting everywhere in the World. What is its effect on the forests?

Most of the Rivers in the State have originated from forests. Hence the resources for water at the forests are excellent. Although there has been a shortage of rainfall, the forest areas have received a better share of the same. The erosion of soil is less with larger number of trees. As a result of this the evaporation is reduced

and the same helps in maintaining the water levels. This enables the availability of water for the wild life at many places. We have made adequate arrangement for the water wherever it is not easily available. The climatic change is adversely affecting the mankind in many ways and probably more than the wild animals. However it is essential to undertake an increase in the forest density and drastically reduce the erosion of soil in future. It is only with this view that we have undertaken tree plantation on a huge scale. The State has vast and expansive seashore. The Biodiversity at these seashores has been maintained due to the mangroves. We have taken up conservation activities for these mangroves.

What are the Schemes for enhancing the Forest cover in the State?

We have undertaken many remedial measures for enhancing the forest cover in the State to around 33 % within few years. We have taken up an ambitious scheme for planting 100 crore trees in the next five years. Under this scheme 15 crore trees have been planted in 2012 and during 2013 our objective is to plant 20 crore trees in the State. We are also taking measures to see that the trees planted should be nurtured properly. Due to this the density of forests in the State will increase in the next few years. With the increase in forest cover the wild life and the natural resources would also be increased.

What decisions have been taken for more comfortable life of forest dwellers and to lessen their dependency on forests ?

With a view to reduce the dependency of people living in the forests, scheme has been implemented for provision of Bio gas or cooking gas to members of the Joint Forest Management Committee and villagers at 75% subsidy. Besides this, under the same scheme grant has been provided to the people for rearing milching

animals and encouragement scheme for tree plantation, conservation and protection. The scheme will benefit 18036 families residing in forests of Maharashtra. Provision of Rs. 25 crore has been made for tribal and Rs. 100 crore for other Scheduled Castes beneficiaries. The objective of the scheme is to reduce the use of trees as fuel for household cooking purposes as also to encourage the greenery.

How is the Forest Rights Act implemented in the State?

The Central and the State Governments have implemented many schemes for bringing tribal into mainstream. These schemes have benefitted thousands of tribal. Government of India enacted a revolutionary Act in 2006 for transferring the records of rights for the land tilled by tribal families for years together to earn their livelihood. The State is effectively implementing the provisions of this Act and 1571 Authority letters on 477336 acres of forest lands have been issued. At the same time except for Gadchiroli, Gondia and Amravati districts 301 Authority letters have been issued for 25172 acres of forest lands.

What are the measures taken for preventing illegal tree felling, encroachments and wildlife poaching in forest areas?

Since last year we have started recruitment for forest security guards. We have also taken up strengthening and enhancing the efficiency of the forest department through increased number of security guards and other manpower. The instruments for a better organized security are being made available. This will help in preventing crimes such as illegal tree felling, encroachments and wildlife poaching in the forest areas. We are also creating a strong network of informers about these crimes. Funds amounting to Rs. 50 lakhs have been



made available for the same. This will help in the number of such crimes getting reduced drastically from now onwards.

What about the rehabilitation of the people affected by sanctuaries, parks and forest projects?

The rehabilitation work of those affected due to Sanctuaries, National Parks and other forest projects has been undertaken. However we have now declared a new policy for such rehabilitation to accelerate the process. According to this policy, an amount of Rs. 10 lakh per family for total rehabilitation will be provided and the process has been lined up on the Government of India policy for project affected persons. ■

- As told to **Yuvraj Patil**

Let Us Join Hands for Forest Conservation

Human being has main responsibility to protect the bio diversity

Our lives are totally dependent on the nature and the forest resources. If we can place more and more emphasis on preservation and protection of the forests the water scarcity will not be able to threaten us, says **Bhaskar Jadhav**, Minister of State for Forests.



The most crucial problem today is that of the adverse effects on human lives due to escalating Global temperature and ecological imbalance. The contribution of forests in maintaining the environmental balance is both infinite and precious. The forests have been life support for both the population and the industries. However as the forest cover is dwindling we have to face calamities such as Global warming and others.

The forest cover in Maharashtra is around 20%. The Government is constantly making efforts to enhance this. Forests are said to be protector of earth, hence people's co-operation is need of hour to protect the forest cover. With this aspect it is necessary that every citizen should participate in the activities of forest conservation. The forest department is committed to preserve and rehabilitate this life support for Earth. The forest department is shouldering the total and able responsibilities in the ambitious forestation movement of the State Government. The protected areas in the State have been enhanced so as to protect wildlife habitats. The progressive rehabilitation of the villages has been accelerated. The modus-operandi of such schemes has properly identified the necessity of public participation, public interest as well as keeping the nature in full focus.

The State has aimed to plant 100 crore trees within the next two years and we have planted around 16 crore trees even during the famine like situation last year. The nurturing of these trees would be a responsibility of the local people. The Government has recently taken a decision to provide Gas stove on a 75% Grant basis to villagers who pass a resolution for Axe prohibition, Grazing prohibition and illegal cutting of trees. Under this scheme 30,000 tribal families have been provided gas stoves in place of their traditional chulhas. The grants payable to each tribal for the next two years has been credited to the accounts of the Joint Forest Management Committee. This will halt the passage to the forests for those who are dependent of the forest. Maximum help would be sought from the local people in protecting the forests. The policy of the State Government is that the villagers

should enhance the forest cover following the three conditions of Axe prohibition, Grazing prohibition and illegal cutting of trees and also reap the benefits accruing from the forests. In order to bring in the required transparency in the tree plantation campaign the State Government has initiated a Satellite Image Monitoring System. Through this system any one can get the information on every tree planted online by visiting website of the State Forest Department which is www.mahaforest.nic.in

Under the Scheme accepted by the Forest Department for Joint Forest Management and Nature Tourism a special status has been provided for environmentally supportive people participation. The forests alone are helping in the development of the villages specifically dependent on forest based needs.

With a view that people should be able to visit the natural habitats of animals, birds and plants at the forests, a Tourist Bus Service for Nature Tourism on the basis of Nashik Darshan with the cooperation of the Maharashtra Tourism Development Corporation is on the cards. Presently number of students who are interested in mountaineering, wild animals and birds and medicinal herbs have increased. With this in view there are plans to develop Kalsubai Peak and Bhandardara as tourism locations.

For nature and environment lovers who have an inherent attitude to stay close to nature, can stay at such places and make a career out of their hobbies. This is known as Forestry



and Wild life Conservation. This field has ample opportunities not only in India but at other countries as well. The deteriorating environment is warning us of an impending natural calamity. Apart from Global warming other natural dangers are hovering on us such as heavy rains, floods, famines, earthquakes and Tsunami. With the devastating effects of these there is a great need for environmental awareness. Considering this factor the industries such as forestry, wild life conservation and natural resources are proliferating very fast and the need for experts in the field is also increasing rapidly. Adventurous and environment conscious youth can obtain education and training in this field and take up the responsibilities for conservation of forests and plants in the Country.

Forests are an integral part of the Biodiversity and immense species of plants and herbs are found here. The plants, the insects, the animals, the birds, the snakes are all to be found

in the forests. Hence it is essential to conserve the forests. The human beings cannot just get the inherent biodiversity of forests even at the expense of huge fortunes. Human being is also a part of the biodiversity and as such he has main responsibility to protect the same.

The Government is considering provision of water through tankers at watering places for animals in the forests where there is a scarcity.

There is a very close relationship between the nature and human beings. Our lives are totally dependent on the nature and the forest resources. If we can place more and more emphasis on preservation and protection of the forests the water scarcity will not be able to threaten us. The participation of each and every one from school students to youth and citizens at all levels of the society in protection of forests is sincerely essential. ■

- As told to **Dr. Dilip Sadhale**

The Way Forward

Today, a major effort is underway to win support for organic farming in the neighbourhood of this sanctuary

We have evolved a nuanced strategy to meet our biodiversity objectives, while simultaneously catering to the sensitivities and the needs of local communities. In Tadoba's core area, we began with the voluntary rehabilitation of villages, states **Praveen Pardeshi**, Principal Secretary for Forests.

THE GREAT INDIAN BUSTARD AND NANNAJ

It is four a.m. in Solapur, the year is 1996. My five-year-old daughter and I creep across the still dark grasslands of Nannaj to sit in our little hide. As the sun rises, casting a pinkish glow across the eastern horizon, a soft booming call echoes across the undulating landscape. An alpha male Great Indian Bustard (GIB) is courting females, head thrown back, gular pouch raised, and tail up. Moments later, a covey of female bustards shufflepast, foraging for crickets that have come to gorge on the fresh, green grass.

Though this bustard and his countless ancestors have exhibited their mating rituals on the small lookout plateau of Nannaj-Mardi for

millennia, there is no guarantee that our children will still see this display 20 years from now.

The GIB sanctuary was scattered over 8,200 sq. km., whereas a much smaller forest area needed to be made inviolate for the bustards to breed. If even this small area could be well protected, we could secure the future of this endangered bird for posterity. It was vital, however, to include areas such as the Gangewadi grasslands into this more tightly-protected bustard haven. People had begun to turn hostile towards the birds because they considered the declaration of a vast 8,200 sq. km. sanctuary dedicated to bustards as illogical, since the birds were not found in most of the areas here. What is more, entire towns such as Solapur,



Mohol and Karmala were included within the Protected Area boundary! Wildlife conservation was proving to be an obstacle as it came in the way of the alignments for highways, canals and even in the decisions they had to make about how best to use their own lands. Blackbuck learned to hide in protected forest patches in the day and then to devastate jowar and groundnut crops of farmers at night. Had the State Government not denotified a huge chunk of the GIB Sanctuary, neither the blackbuck, nor the bustards would have been able to survive.

Today, a major effort is underway to win support for organic farming in the neighbourhood of this sanctuary, a step that will enhance the food availability and safety of the GIB which consumes beetles and other insects.

How quickly things can deteriorate can be judged by the fact that as the



Great Indian Bustard

District Collector of Solapur from 1995 to 1997, I would see GIBs on every visit to Nannaj.

On none of my recent visits was I able to see a bird, not even on the bird's favourite hillock. It worries me, of course, to observe how farmers who were once happy to grow coarse grains like jowar now want to grow sugarcane, flowers and pomegranates, thanks to the abundant water they obtain from the Ujjani dam. If this trend continues, then grassland species, such as the blackbuck, chinkara, grey wolf and the GIB face a bleak future.

THE MELGHAT TIGER RESERVE: CATTLE AND PEOPLE

I first visited Melghat in 1979, when it had just been brought under the Project Tiger mantle. On night drives, we came across gaur and sambar, but during the day all we saw were cows and buffaloes... no wild herbivores. A decade later, I returned as Chief Executive Officer of the Zilla Parishad, Amravati, with a clear mandate to implement programmes to reduce poverty. The sustenance of Korku tribal communities depended on lightly-cultivated soils on which they grew wild millets including kodo andkutki. Each year roughly half their crop would be lost to deer and wild pigs, not to mention beetles and grasshoppers. The sanctuary regulations did not permit black topping of access roads, new dams for irrigation or setting up cotton ginning and dalmills, all of which were possible just a few kilometres outside the wildlife sanctuary.

Protecting wild animals in the 1,500 sq. km. Melghat Tiger Reserve, with 28 villages, a population of 16,000 humans and 11,000 head of cattle, was a huge challenge. Particularly, when you consider that the estimated number of herbivores was a mere 3,500 on which 34 tigers were supposed to depend. At that time, neither the tiger, nor the Korku people seemed to be doing



too well. The tigers would resort to cattle raiding, particularly during the monsoons, and Korku cattle owners and farmers had to suffer not only crop losses, but bear attacks and cattle kills.

We had to cut this Gordian Knot if both people, and the reserve, were to be provided a real and sustainable future.

We took a conscious decision to develop variegated strategies based on local geography, social conditions and ecological circumstances. We also aimed to involve local communities in regenerating ecosystems on which their own lives would ultimately depend. In the last 18 months, with the support of the Chief Minister, Prithviraj Chavan and Forest Minister, Dr. Patangrao Kadam, Maharashtra's political and administrative system, the Forest Department has been able to put these plans to the test. And while it is still too soon to pass judgement, the landscape-wide approach seems to be showing results that point towards a renewal that will benefit both livelihoods and biodiversity conservation.

A NUANCED APPROACH TO PROTECTING MELGHAT, AND TADоба

The Satpuda and Tadoba landscapes are two of the largest contiguous

forests remaining in Maharashtra. Home to source populations of tiger, gaur, chital, sambar and endemic birds such as the Forest Owlet, the hill forests of Melghat have relatively low herbivore and tiger populations, in contrast to the plains of Tadoba and the Karandla, Bor and Nagzira landscapes, all of which have dense populations of herbivores and consequently, tigers.

Over the past two years, we have evolved a nuanced strategy to meet our biodiversity objectives, while simultaneously catering to the sensitivities and the needs of local communities. In Tadoba's core area, we began with the voluntary rehabilitation of villages. And to provide space for spillover populations of tigers and herbivores, we have managed to expand inviolate Protected Areas such as Nagzira and Navegaon and their corridors. In Melghat, however, 15 of 28 villages will remain in the core. Here, we are trying to promote co-existence by reducing their dependence on forest biomass. This involves providing alternative fuelwood, fodder and also by encouraging eco-tourism based livelihoods.

THE MELGHAT LANDSCAPE: CO-EXISTENCE AND CONSERVATION



In Melghat, we have been implementing a strategy of ecological development in the buffer zone villages. Six out of 28 villages have already been rehabilitated after they passed the necessary Gram Panchayat and Gram Sabha resolutions. These include Vairat, Churni, Dhargad, Barukheda, Amona and Nagartas whose rehabilitation package was specifically tailored to fit individual requirements. Churni and Vairat, for instance, wanted land for the land they gave up. This was done, even the landless got land and the new village gaathan was provided water supply, electricity, black top approach roads and access to schools. Their farms were provided well-irrigation by tapping existing state schemes. They all agreed to move away from free grazing of livestock in the forest to stall feeding, which also supplies biogas-based fuel for kitchen fires.

Amona, Nagartas, Dhargad opted to collect the National Tiger Conservation Authority package of 10 lakh rupees per adult in the family. The Forest Department and Collector's Office chose to 'hand-hold' the process by providing two lakh rupees for relocation and construction of homes. To prevent men from squandering this sum, seven lakh rupees was placed in a long-term, monthly interest-yielding annuity,

which cannot be encashed without the prior permission of a committee headed by the District Collector. Each family thus draws a monthly income of Rs. 6,500. With prior permission of the Collector, 60 families chose to encash the bank deposit, and have purchased more than 70 ha. of valuable agricultural land.

Going beyond the legal stipulations of the 'cash package' to help develop the new village sites, the administration provided drinking water, electricity to each home, internal roads to newly-settled villages and more. All four newly-settled villages chose their own sites next to, or as part of an existing, developed gaathan so that they could benefit from existing infrastructure and connectivity to larger towns.

Credible NGOs such as the Satpuda Foundation led by Kishor Rithe worked with dynamic forest officials such as Srinivasa Reddy, then the Deputy Conservator, Akot and A. K. Mishra, Field Director, Melghat, because they knew that delivering real benefits to villagers was key to the tiger's future.

Camera trap images reveal the return of gaur, chital and tiger to all the meadows that magically regenerated after the villages moved out. Following the principle of 'nothing succeeds like success', villages that were initially hesitant

are now flooding us with requests for similar rehabilitation packages. This includes Semadoh, Somthana, Talai, Rora, Gullarghat and we now need to obtain the resources to enable this. An independent socio-economic study by the Amravati University reveals that in the rehabilitated villages the per capita income has tripled!

THE LARGER TADoba LANDSCAPE

"Why is the tiger coming to our village every day? Do something about it!" That was the continual refrain of one resident of Jamni village who kept disrupting a meeting I was attending to discuss the park-people relationship. I imagined that in bygone days Jim Corbett must have faced similar outcries, but the villager no longer had the option of summoning Jim Corbett to solve the problem his way!

Later that day I was at the Pandharpauni lake in Tadoba, when I saw a tigress with her four cubs that showed up as if on cue in response to the heat of summer. Ideally, villagers living around Tadoba and similar wild landscapes should profit from the presence of tigers. Instead today, the tourism trade and visitors benefit, while villagers are left paying the price in terms of loss of livestock, crop raiding and constant fear.

Tadoba, Jamni, Navegaon, and most of the families of Kolsa have opted for voluntary rehabilitation outside the park. Funds were allocated for Navegaon and Jamni to move to chosen sites at Amdi and Khadsanghi on the Mul-Nagpur road with irrigation, electricity and drinking water facilities at the gaathan itself. Tiger conservationist Bandu Dhotre, and the husband and wife team Poonam and Harsh Dhanwatey who run the Tiger Research And Conservation Trust (TRACT) have both played positive roles by working with the Forest Department, while representing the villagers' interests.

But this is not enough. In the buffer zone and in forests under the

Territorial Division of the Forest Department, serious tiger-poaching incidents have recently taken place. It is here that the spillover populations of tigers are lost after they leave the protective care of the 10 to 12 breeding females that occupy Tadoba's core critical habitats. Strengthening less-protected forests such as the corridors leading to Bhivapur, Navegaon and Bor is therefore essential. This is what has occupied Dr. Vinay Sinha, Field Director, Tadoba, who did his PhD. in participatory Forest Management, over the past year. Working on a strategy to share revenues earned from tourism with villagers in the buffer zone, he used the gate fees of Rs. 45 lakhs lying with the Tadoba Tiger Foundation to give a sum of Rs. 51,000 to each of the 53 villages in the buffer zone. This was used for community welfare on necessities such as biogas plants and stall feeding of cattle.

He also placed a moratorium on more than 51 vehicles entering Tadoba's core, while empowering the Junoana and Devada villages outside core areas to erect a gate and collect fees from visitors who chose to avail of a specially-created wildlife route managed by the village Eco-Development Committees (EDC). Additionally, local youth were trained

as wildlife guides. With 15 more routes planned in the protected buffer, these areas promise wildlif sightings comparable to those in the core. The experiment seems to have succeeded. Seeds have been sown for livelihoods that sustain people, while benefitting the tiger.

SUSTAINABLE LIVELIHOODS LINKED TO A RISE IN TIGER AND WILDLIFE POPULATIONS

Villages in the Koyna Sanctuary, like Dichauli, Punawali, Nahimbe and Ambheghar suffer a double burden. The Koyna reservoir has cut them off from their normal economic markets in Karad and Satara, and the declaration of the Koyna Wildlife Sanctuary has led to further restrictions on them, making transportation, livelihoods and energy a huge challenge. Such villages have been petitioning for rehabilitation for several years and we are trying to raise resources to meet their demands. Over the past year, the State Forest Department has managed to develop village infrastructure in Pulus and Babar Machi, where nearly 200 families have already shifted, free from crop depredation by wild pigs and sambar!

In the vast buffer zone around Koyna, Joint Forest Management Committees have become active.

Working with the Sahyadri Tiger Reserve officials they have developed trekking routes for intrepid hikers who will be invited to walk designated trails on the understanding that theirs will be zero-garbage visits, and that all waste will be carried back out of the park. Local village guides, familiar with the area have been trained by expert naturalists who will add to the monitoring strength of poaching squads, particularly in the remote crest areas that are difficult to reach daily, even for forest guards, particularly during the monsoon.

HOPE FOR THE FUTURE

In recent years, with advancing climate change, habitat destruction and pollution, India has been battered by bad news. But we also have news of resurrection and recoveries – for instance, the slow return of Gyps vultures (with the Bombay Natural History Society taking the lead) and olive Ridley sea turtles (thanks to Bhau Katdare and his inspirational team of volunteers off the coast of Ratnagiri and Sindhudurg).

Recognising the wisdom of using the internal motivation of NGOs, the Maharashtra Forest Department is adding its strength by co-financing 'vulture restaurants' to ensure Diclofenac-free food. Support for collecting and hatching of olive Ridley turtle eggs and releasing them is underway. All the tiger reserves of the State have received support from Hemendra Kothari's purposeful Wildlife Conservation Trust (WCT), which donates patrolling vehicles and equipment for forest staff. In the case of the GIB and the grey wolf, the process of protecting grasslands is underway, though the course is predictably long and uncertain.

It is my view that Homo sapiens may well be able to reverse the destruction of nature. This article is a plea to all of you to join hands with Forest Departments and conservationists to make this a reality. Admittedly we have a long way to go. But we now know the right direction. ■



Tiger, Tiger Burning Bright

Project Tiger proved a superb conservation project not only for India, but a conservation model for entire world

Tadoba is now very famous place for Tiger and wildlife watching. So many international wildlife film companies are working here for making wildlife films. East Tiger sighting is one of the main reasons behind such success. Full credit for this goes to some very good decisions of the Government and the Forests Department. It's surely now a world class tiger reserve and a jewel of Maharashtra State says **Atul Dhamankar**.



Maharashtra State is one of the best ecologically rich State of India. Its biodiversity is exceptional. From the Western Ghats forest in western boundary to the eastern Maharashtra's very rich dry deciduous forest, to nice hill ranges of Satpuda in north-eastern boundary to the grasslands and scrub forest of southern-western part, it is a rich diverse habitat in this State. Maharashtra having mountains, rivers, sea coastline, lakes, reservoirs, grasslands, scrub land, different types of forests. So the wildlife in these habitats is very diverse and lots of endemic species are found in the State.

Maharashtra State now has four tiger reserves. Three of these tiger reserves are situated in eastern Maharashtra's Vidarbha region, which is a very good forest covered region. Melghat Tiger Reserve is first tiger reserve of the State which was established at the time of foundation of "Project Tiger", a Central

Government's most successful conservation initiative at that time. Project Tiger later proved a superb conservation project not only for India, but a conservation model for entire world. This project was started in 1973 and it was the time when India's national animal Tiger was on the verge of extinction and now 1700 tigers are remaining in various Indian forests.

MELGHAT TIGER RESERVE

Indian Government started "Project Tiger" in nine different forests of India. Melghat is one of them. Melghat lies in Amravati district of Maharashtra, on the border of Madhya Pradesh. 'Melghat' means 'meeting of the ghats', which describes the area as a large tract of unending hills and ravines. This type of habitat is very good for apex animal like Tiger and other predators like Leopard and Wild Dog. It is also nice forest for many herbivores angulates.

The total area of the Melghat Tiger

Reserve is about 1677 sq. km. The forest type is southern tropical dry deciduous forest and main trees are Ain, Tendu, Teak, Arjun, Jamun, Mango, Mahua, Dhawda, Garadi, Bhera etc. Melghat Tiger Reserve is a good catchment area for some rivers like Sipna, Gadga and Dolar, Khandu. These all rivers are tributaries of Tapti. So this Tiger Reserve is very important for water security of lower villages and cities.

The mammals variety of Melghat is exceptional. The main mammal found here is national animal Tiger. In the past Tiger population was very good in this territory, but in recent years due to some cases of poaching, their population dropped and Forest Department is working hard for conservation and protection of this apex predator. Melghat is a different habitat with hill, so it is very difficult to monitor Tigers in this forest.

The other predator in this forest is Indian Leopard. This animal also lives in territory of Tiger, but its size is very small compared to Tiger, some time it prefers to stay on tree and even take a prey upto his own size on it. Other predator is Dhole or Wild Dogs are also found in Melghat. This small dog like animal always live in pack and hunt together. Mammals like Sloth Bear, Chital or Spotted Deer, Sambar, Indian Gaur, Barking deer, Nilgai, Mouse Deer, Four-horned

Antelope, Honey Badger, Jackal, Flying squirrel, Wild Boar, Hanuman Langur, Rhesus Macaque, Porcupine, Pangolin and Indian Hare are also found in this forest.

Melghat is famous for newly rediscovered and very rare "Forest Owllet" (Athene Blewitti). This owl was believed to be extinct by ornithologists in the past, but it was rediscovered in Melghat's teak forest, which is an excellent habitat for this rare Diurnal Owllet. Other birds are also found in this forest. The bird list is over 270 species and some are like Crested Serpent Eagle, White-eyed Buzzard, Shikra, Sparrowhawk, Eurasian Eagle Owl, Spotted Owllet, Indian Roller, Racket-tailed and white-bellied Drongo, Rufous Treepie, Asian Paradise and Tickell's Flycatcher, Brahminy Starling, Lesser Whistling Duck are found in this nice jungle.

This tiger reserve also sheltered some unique variety of reptiles like Monitor Lizard, Indian Rock Python, Indian Cobra, Crait, Russell's Viper, Calotes, Lizards, Geckos. It is also a home for many types of butterflies, Moths, Insects.

TADOBA ANDHARI TIGER RESERVE

Tadoba is the oldest protected area of Maharashtra State. It was declared as a national park in 1955. That time

it was only 116 sq. km. In 1986 about 506 sq. km. area adjacent to Tadoba national park was declared as Andhari Wildlife Sanctuary. In 1995 both these areas were attached and formed 625 sq. km of "Tadoba Andhari Tiger Reserve". This is undoubtedly one of the best Tiger Reserve not only of Maharashtra but of India. I think it is the best Tiger breeding habitat in country and it is a real magical land of the Tiger.

Tadoba is situated in eastern Maharashtra's Chandrapur district. This is a land of Gond tribal kings who ruled in past on this area and Chandrapur which called "Chanda" in the past. You can still see many ancient pillar inside the Tadoba along the main road built by the Gond king about 300 years ago. Tadoba's forest is "Southern tropical dry deciduous forest" and mainly dominant by Teak and Bamboo. Despite these flora Tadoba is having Mahua, Bhera, Bhehada, Hirda, Ain, Saja, Arjun, Jamun, Movai, Rohan, Sawari, Palas, Amaltas, Kavath, Tendu, Bel, Jujube, Babul and Dhawada trees. Bamboo is seen all over the Tadoba and it is very important for herbivorous animals as fodder and for Tiger for hiding and catching prey. Many types of grasses, shrubs, herbs, climbers are also found in this jungle. Tadoba Andhari Tiger Reserve is a very good catchment area of Irai dam and many other rivers. The Andhari river originate from a nallah near Khatoda and it is a important river for Tadoba's wildlife. In harsh summer when there is water scarcity all over in Tadoba, Andhari river contains plenty of water in its small pools which are called "Doh" in local language. These doh are main source of water for wildlife and so some pool get name like Waghdoh which means "Tiger's Pool". It is a best place to watch Tigers in summer when temperature rises upto 48 degrees and heat is on its peak and Tiger come into waterhole for drink and soak him.

Tadoba Tiger Reserve having three ranges, Moharli, Kolsa and Tadoba.





The biggest water body is Tadoba reservoir which is in Tadoba range and surrounded by Chimur hills. This reservoir is about 5 km in diameter and a main attraction for wildlife. In the morning and evening, one can see big herds of Chitals, Sambars and Wild Boars, grazing on the bank. This reservoir is surrounded by lush green Jamun trees and a best place for wildlife sighting. Some more water bodies are Kolsa reservoir, Telia Dam are also superb wildlife habitat. Tadoba's main attraction is the Tiger. Number of this national animal is about 60 in Tadoba Tiger Range. Tadoba having highest tiger breeding success is more than any Tiger Range in India. Now Tadoba is a special attraction for nature lovers who come across the globe to watch and photograph this excellent wildlife. Maharashtra Government now encourage to eco-tourism in Tadoba, so the local people get employment for this. Many local young people are working here as tourist guide, gypsy owner and drivers and related eco-tourism industry, which benefits both, wildlife and local people.

Tadoba's mammals consists of very successful predator Leopard, Whistling Pack Hunter Wild Dogs, Flatfooted Four-horned Antelope, Alert herds of Spotted Deers or Chital, India's largest Deer Sambar, Barking

Deer, Wild Boar, Hanuman Langur, Chinkara, Nilgai or Blue Bull, Jungle cat, Pangoline, Porcupine, Flying Fox, Flying Squirrel, False Vampire Bat, Indian Tree Shrew, Sloth Bear, Squirrel, Ruddy and Grey Mongoose, Jackal.

More than 280 species of birds are recorded in this tiger reserve like Indian roller, Spotted and Eurasian Collared Dove, Green Bee-eater, Changeable Hawk Eagle, Grey-headed Fish Eagle, Lesser Adjutant Stork, Painted and Woolly-necked Storks, Golden and Black-headed Oriole, Sirkeer Malkoha, Egrets, Herons, Grebe, Ducks, Geese, Cormorants, Darter, Munia, Prinias, Baya etc.

Tadoba is having good variety of reptiles which including a large number of Marsh Crocodile which are found in Tadoba reservoir, Telia dam, Pandharpauni ponds. Indian Python, Cobra, Krait, Saw-scaled and Russell's Viper, Rat Snake, Blind Snake, Checkered Keelback, Forest Lizard. 94 species of butterflies are also recorded here.

Tadoba is now very famous place for Tiger and wildlife watching so many international wildlife film companies are working here for making wildlife films. East Tiger sighting is one of the main reasons behind such success. Full credit for this goes to the Forest

Department and Government's some very good decisions in the past. It's surely now a world class tiger reserve and a jewel of Maharashtra State.

PENCH TIGER RESERVE

Pench is India's first inter-State tiger reserve which is divided in the two States, Maharashtra and Madhya Pradesh. Indira Priyadarshini Pench National Park, was created in 1983, carved out of the Sanctuary. The Tiger Reserve, 19th in the series, was formed under the Project Tiger scheme in November 1992.

The Reserve lies in the southern lower reaches of the Satpura Range of hills on the southern border of Madhya Pradesh. Pench Tiger Reserve is covered by small ridges and hills, with a number of seasonal streams and nullahs. Pench river flows through this forest and it is an important water source for Pench's wildlife. Southern boundary of Pench Tiger Reserve, Totladoh dam has been constructed on the Pench River. It acts as a State boundary between Madhya Pradesh and Maharashtra. This dam is a good place to watch for tigers and wild animals in summer when other small water sources are dried up and animals remain with no option but to come at the dam water for a drink. Hundreds of Chitals and Nilgais are seen foraging on the bank of dam's open area, where some green grass will be seen. Sometimes you can see the tiger sitting in the water near dam's back water.

Pench jungle is mainly a tropical Moist Deciduous Forests, which dominated by Teak trees. The other trees in this forest are Tendu, Saja, Dhawda, Mahua, Arjun, Mango, Jamun, Lokhandi, Bhera, Ber, Temrind, Amaltas, Bel etc. In some area, bamboo is seen in clusters and its mainly near hill slopes. In ravine and nullahs, some lush green evergreen patches are also found. Karu or Ghost tree is also a one of the attractive tree in Pench Tiger Reserve. Near Totladoh dam some area is covered with grasslands and scrub

forest. These areas attract herbivore animals for grazing. In summer when dam water evaporate, banks are exposed and green grass is attraction for herbivore and they attracts the predator like Tiger, Leoprad and Wild Dogs.

Major predator of Pench Tiger Reserve is Tiger. This forest also supports good number of Indian Leopards and Dhols, which are seen in dense forest. The herbivore like Indian Gaur, Chital, Sambar, Nilgai, Four-horned Antelope, Barking Deer, Chinkara are found in this Tiger reserve. Omnivorous mammals like Sloth Bear, Wild boar, Palm Civet, Ruddy and Grey Mongoose are also a attraction of this park. On park's dry and open areas, mammals like Indian Wolf, Striped Hyena, Jungle cat and Jackal are seen in small number. Hanuman Langur, Pangolin, Honey Badger, Flying Squirrel, Indian Hare are some other mammals.

About more than 250 species of birds are recorded here in which Crested Serpent Eagle, Malabar Pied Hornbill, Rufous Treepie, Indian Roller, Blue-tailed Bee-eater, Grey and Purple Heron, Large and little Cormorants, Spotbilled Duck, Comb Duck, Little Grebe, Cotton Pigmy Goose, Black-rumped Flameback, Openbilled Stork, Plum-headed and Rose-ringed parakeet, Brown Fish Owl, White-brested and Common Kingfishers, Yellow-footed Green Pigeon, Purple Swamphen, Indian Pitta, Eurasian Blackbird, Red-rumped Swallow, Plain Prinia are some of them. Totladoh dam is also a superb wintering place for many migratory birds like Ruddy Shelduck, Red-crested Poachard, Black Stork who come all the way from Russia, Mangolia and Himalayas.

Pench Tiger Reserve's forest is known as "Mogli's Land" which is described by famous Nobel prize winner English writer Rudyard Kipling in his world famous book "Jungle Book". It is still a best forest

for any nature lover who wants to feel jungle and wildlife experience.

SAHYADRI TIGER RESERVE

This is the fourth and youngest tiger reserve of Maharashtra. Sahyadri Tiger Reserve, including all of Chandoli National Park and Koyna Wildlife Sanctuary was declared by The National Tiger Conservation Authority as a Project Tiger Reserve on May 2007. The Sahyadri Tiger Reserve was then estimated to have nine Tigers and 66 Leopards. Today there are 24 Tigers in the Tiger Reserve and its vast western ghat landscape.



Buffer and core area of the Sahayadri Tiger Reserve will combine an area of 1,165 sq km. It includes buffer zone of 424 sq km. The State had notified 741 sq km STR on January 2010. It consisted of Chandoli National Park and Koyna Wildlife Sanctuary.

Sahyadri Tiger Reserve is situated in Western Ghats area of mountains. Western Ghats is declared as a World Heritage Site by the UNESCO, which indicates its ecological importance of this jungle. Western Ghats are home for many endangered species of mammals, Birds, Reptiles, Amphibians and plants. So formation of this tiger reserve is a good step towards conservation of this biodiversity hotspot.

Sahyadri is having low population of Tigers compare to other Tiger reserves of Maharashtra. Despite of

very nice and dense forest, this area lost its Tigers in past because of poaching and other industrial activities. But now it recovers from this loss and hope very soon will be an excellent Tiger habitat with high density of this big cat. Other than Tigers, Sahyadri Tiger Reserve is having good number of Indian Leopard. Because of low density of Tigers they get the chance to increase their population and now their number is good. Rhesus Macaque, Hanuman Langur, Indian Gaur, Chital, Sambar, Barking Deer, Indian Palm and Small Indian Civets, Indian Giant Squirrel, Sloth Bear, Nilgai, Chinkara, Wolf, Hyena, Porcupine, Wild Pig are some major fauna.

Sahyadri is a paradise for birdwatchers. This jungle contains over 300 bird species. This includes Grey, Malabar and Great Hornbill, Common Peafowl, Yellow-crowned Wood Pecker, Brown-headed and Coppersmith Barbet, Indian Roller, Common and White-throated Kingfisher, Greater Coucal, Alexandrine Parakeet, Cylon Frogmouth, Nightjar, Owls and Owlets, Green Imperial Pigeon. Doves, Vultures, eagles, Kites, Shikra, Harriers, Buzzards, Falcons, Shrikes, Orioles, Drongos, Jungle Crow, Minivets, Flycatchers, Lora, Cuckoo-shrikes are some birds.

In reptiles Monitor Lizards, Indian Rock Python, Hump-nose pit Viper, Malabar pit Viper, Saw-scaled Viper, Cobra, Flying Snake, Gecko, Gliding frog and lizards are mainly seen. Hundreds of variety of Butterflies, moths and other insects are include in lesser fauna is a major diet for birds.

Eco-tourism activities are present in this area as tracking, camping, bird watching in past. But now Forest department and Maharashtra Government plan to introduce wildlife tourism which increase awareness among local persons and give a sustainable source of employment for them. Such steps are very much needed for conservation of forests. ■

Wildlife At Its Best



The avifauna of the Sanjay Gandhi National Park is its most attractive wildlife features

The Sanjay Gandhi National Park is home of many endangered species. The vertebrate fauna of the parks includes 42 species of mammals, 251 species of birds including migratory land and water birds, 38 species of reptiles and 9 species of amphibian. The National Park is notable for its wealth of birds and is indeed a bird watchers paradise says **Sunil Limaye** Chief Conservator of Forests and Director, Sanjay Gandhi National Park Borivali.

The Sanjay Gandhi National Park is a tropical wilderness within the limits of Mumbai, but not known to many Mumbaikars, as well as to the people living outside Mumbai. A protected area of almost 104 sq.kms, the park is fringed by a burgeoning population of more than twelve million people and is possibly India's most visited and least understood nature reserve.

The park is home to 274 kinds of birds, just under a quarter of India's avifauna; 42 kinds of mammals, of which the most renowned is the elusive leopard. 150 species of

butterflies and nearly 8,000 species of insects are found here. It has a floral extravagance of nearly 800 species of flowering plants from humble herbs and woody climbers to terrific teak trees and two types of bamboos. Recently noted naturalist Sanjay Monga has witnessed some birds 'Oriental Hobby' 'Oriental Hawk Eagle' and 'Orange Breasted Green Pigeon' for the first time in the history of the park indicating the wilderness of the park with a capacity to support the varied wildlife in spite of tremendous biotic pressure. Indian Kino tree i.e. Pterocarpus Marsupium

and Wild Hog Plum i.e. Spondius Acuminata are the two important indigenous trees of this park.

This National Park is home of many endangered species. The vertebrate fauna of the parks includes 42 species of mammals, 251 species of birds including migratory land and water birds, 38 species of reptiles and 9 species of amphibian. The National Park is notable for its wealth of birds and is indeed a bird watchers paradise. The rare mammalian species seen in this national park is the Rusty-spotted Cat [Felis Rubiginosa].

The National Park is abode of

innumerable insect species, nearly hundred and fifty butterfly species and over two dozen species of ants. The insect fauna of the National Park are covered under twelve different natural orders. Nearly 42 species of mammals belonging to 8 natural orders and 17 families are seen in the National Park; out of which 8 species are of endangered status. These are Panther, Rusty Spotted Cat, Jungle Cat, Small Indian Civet Cat, Common Palm Civet Cat, Jackal, Four Horned Antelope and Mouse Deer.

The avifauna of the park is its most attractive wildlife features. Well over 250 species belonging to 18 different order of species like Sparrow Hawk, European Kestrel, Black Breasted Quail, Marsh Sandpiper, Stone Curlew are also found here. The National Park is a home of five endangered birds. They are Peafowl, Osprey or fish-eating eagle, White Bellied Sea Eagle, Hawks and Lager Falcon.

The National Park is abode of 38 species of reptiles belonging to 3 natural orders and 14 families of which 7 species are of endangered status. Out of which Marsh Crocodile or Mugger, Rock Python, Indian Cobra, Russel's Viper, Krait and Saw Scaled Viper are the commonly seen. The National Park is home of many interesting varieties of frogs and toads like tree-frog, bull frog, six-toed frog, an uncommon toad-Ramanelia Montana etc, In all 9 species of amphibian belonging to 4 different families are seen in the national Park.

The Bassein Creek, Tulsi Lake, Vihar Lake and other water sources in and around the park have abundant variety of fishes. 25 species of fish like Mumbai duck, Golden anchovy, Hekru, Malrine Catfish, Murre, Singala, Catla, Rohu, Vadas, etc. are seen within the National Park.

During dawn or dusk any one can have an encounter with the stealthy Leopard and the Langur Troop, several species of birds-Grey Junglefowl, Red Spurfowl, Greater Racket tailed Drongo, Indian Grey

Hornbill, Emerald Dove, Black hooded Oriole, Puff-throated Babbler and White-eyed Buzzard on any of the nature trails like Shilonda, Malad or Gaimukh; such is the diversity of this great park.

The total number of insect species could possibly be in the range of 8,000 to 10,000 Naturalist, Sunjoy Monga has so far identified twenty species of ants, nineteen of mantis and 150 or more of butterflies. Most of the naturalist have a vague idea of the variety of beetles, flies, grasshoppers, moths and other insects and its due to the vast wilderness of this parts and its mind boggling biodiversity.

During a visit on nature trail when children hold a grasshopper or a glistening beetle or come face to face with an Owl Moth as big as 12 cm, there is a noticeable change in their perception of the so-called lowly insects and this insect variety thriving in the park itself will bamboolize the nature lovers for a long period.

The park abounds with spiders in an incredible array of forms. Over seventy varieties have been located in the park and there are many more. The best time for observing spiders is between end July and mid-November. While it is the web-weaver or orb spider that people are familiar with, there are many that do not weave a web, preferring to hunt by ambush. The most widespread web-weaver is the Giant Wood Spider that emerges

from its self-imposed hiding by early August, sometimes even sooner and the ever mesmerizing 'trap door' spider will leave you spell bound when you see its amazing power to tap the small, unsuspecting insects as prey.

The post-monsoon change in the park is quite rapid. A few weeks earlier visibility from the road would be hindered by a curtain of Karvi growth and other floral profusion, but once the monsoon is over it becomes possible to see many meters into the forest. This marks the beginning of the finest bird-watching period in the park. Winter migrants from the Himalayas and beyond; and a few local migrants from several hundred kilometers around the park, begin arriving by early September. Among the earliest bird to arrive is the Long-tailed Shrike. It mostly keeps to the scrub areas on the park's periphery but some of them are visible around Tulsi lake and Vihar lake. October sees an avian influx, with over a hundred species of winter visitors spreading over the many kinds of terrain in and around the forest.

Blue Rock Thrush, Common Stonechat, Black Redstart, Common Hoopoe, Bluethroat are birds that one can see in Vihar lake's precincts and would be less seen around Tulsi lake. Small bands of restless wagtails frolic by the waterside, frequented by Pheasant-tailed Jacana. Bronze-





winged Jacana, Purple Swamphen, Little Cormorant, Grey Heron, Purple Heron, Egrets and Standpipers, Painted Storks, Asian Openbills and Black-headed Ibises can sometimes be seen feeding in deep waters. Each winter there is tremendous variation in the number of birds visiting the Vihar lake. Waterfowl come to the edge of the lake on winter mornings, their numbers fluctuating by the day. On some mornings there are hundreds of birds, a bevy of species. A few days later, hardly any can be seen. Perhaps the Tulsi and Vihar lakes are just fleeting stopovers for migrating waterfowls.

Predatory birds too frequent these lakes. Oriental Hoeny-Buzzard flies overhead and the long-drawn, plaintive three-note whistle of a soaring Crested Serpent Eagle can be heard over a nearby hill. Black-shouldered Kite, Brahminy Kite, Black Kite, Eurasia n Marsh Harrier and an occasional Grey-headed Fish Eagle fly low while White-bellied Sea Eagles and Booted Eagles soar high over the lakes. Bassein Creek attracts sea eagles and an occasional Osprey. The Shaheen falcon flies overhead



to its feeding site on the rock above Kanheri. In winter morning, one can see Laggar Falcon flapping its wings over waterbodies. An Osprey pair spends much of the winter over the calm waters of Tulsi lake and indulges in raptor hunt a timeless performance.

Early summers i.e. February is the best time for Gaimukh and Yeur trail. A vivid orange cluster of flowers in the brown and pale green of the forest catches everyone's eye. The Flame of the forest looks spectacular and is a fortnight's bonanza for forest birds. The Indian Coral tree has flowered too and its glowing scarlet flowers lasting nearly a month are visited continuously by birds for nectar. April announces the flowering of the Indian Laburnum, its dropping flowers an exhilarating shade of lemon-yellow. The Firmiana tree in bloom is a beaming scarlet. This mass-flowering during the dry months breaks the monotony of dull browns and tawny shades that so characterize the forest at this time of the year. By early May, when the summer sun is at its most oppressive, an entire hillside in the tourism zone of the park turns a flaming scarlet as the exotic flamboyant flame trees flower a mimicking the 'Rangoli' of the nature. It is the most breathtaking sight before the monsoon.

In the parched forests during summer one can see a barking deer sprinting away at the sound of human

footsteps. Sambar stag glaring before bolting with an ear-splitting alarm cry. The elusive Fourhorned Antelope can also be seen in & around Tulsi lake.

Deer, Langur, hare and sometimes the elusive wild pigs can be spotted occasionally and the signs of their presence are seen usually around water bodies. In a landscape abounding in withered stalks, it is confounding what these animals live on. Over the last few years the forest department has created several waterholes and for last two summers they are regularly filled up with external water supply to take care of the animals. Phanasache Pani, one of the waterholes below Kanheri, normally has regular water supply as at-least trickling water will be there in the height of summers also and one can normally observe fresh leopard pug marks and the diggings of Sambar and wild pigs in search of water. Spot Swordtail and Common Blue bottle butterflies frequent the damp surroundings adding colour to the muted landscape in the summer.

As again the monsoon sets in or ever before that a few seasonal showers in the early June; make the listless, leafy carpet to drip with water. Glorious Pink-striped Trumper lilies sprout as if by magic but they barely last the first week of rain. and disappear as quickly followed by the gorgeous pink and white flowers of the Hill Turmeric. For the next four months, many flowering species add to the beauty of the park. Malabar Glory Lilies, Garden Balsams, Smithias, Sesame, Commelina and Costus are only some of them. In late September, several orchids burst forth on high plateaus a gradual change in species composition takes place. Where there would usually be a pageant of Garden Balsam and Sensitive Smithia, Silver-spiked Cockscomb or Sesame.

Thus the wildlife of this park, which includes flora and fauna adds to the everlasting mystery of the park and makes it a beautiful place of ' WILDLIFE – AT ITS BEST ...'. ■

The Dream 'Re-Green Maharashtra'

More than 2000 vacant posts of guards have been filled by giving primacy to local tribal youth

To bring the Maharashtra's green cover upto that magic figure, the Forest Department of Maharashtra is working with the dream- Regreen Maharashtra alongwith tiger and its ecosystem. To help this Herculean task, the Government of Maharashtra has empowered the forest officials with delegated powers and filling all vacancies of officials and staff explains Principal Secretary Forests, **Praveen Pardeshi**.

According to the Constitution of India, the onus of protecting the environment, biodiversity and forest cover is the responsibility of the State. The State Government is taking efforts for the management of wildlife and forests to bring 33% of land under forest cover.

To bring the Maharashtra's green cover upto that magic figure, the Forest Department of Maharashtra is working with the dream- Regreen Maharashtra alongwith tiger and its ecosystem. To help this Herculean task, the Government of Maharashtra has empowered the forest officials with delegated powers and filling all vacancies of officials and staff.

With a practical approach, the Chief Minister Prithviraj Chavan and Dr. Patangrao Kadam, Minister for Forests have issued orders to fill all the vacancies of Forest Department right from guards to senior level officers. While filling up these vacancies, preference has been given to the local residents. More than 2000 vacant posts of guards have been filled by



giving preference to local tribal youth.

Maintenance of forests is impossible without involving the villagers residing near or within the forests. Considering this fact the State Government has approved a path breaking policy to empowering

forest dwellers to govern forests. Thereby the Government ensured people's participation in forest protection by strengthening Joint Forest Management Committees. These committees are now under the control of Gram Sabhas and delegated

with powers 'To Govern, Protect, Use and Afforest'. This has resulted in strengthening nearly 12,500 Joint Forest Management Committees to govern forests, share in bamboo and minor forest produce.

RESPONSIBILITIES OF JFMC

The Joint Forest Management Committees are responsible for maintenance of forests. For this they have been delegated with some powers and rights. According to the policy of the State Government, if there is forest within 3 km of existing villages, the maintenance of the forests should be carried out by elected members of Joint Forest Management Committee. For this Gaathan should be treated as a unit and not the Gram Panchayats. With the coordination of these committees, the Forest Department can manage the manpower necessary for fire protection, anti poaching camps, chowkidars etc. To reduce over extraction of forest it is necessary to create parallel employment opportunities for the forest dwellers. To provide employment to the local people, by outsourcing the services from these committees, maintenance of eco-tourism complex is also being carried out. It is very difficult for the forest staff to keep track of the individuals grazing animals illegally or over extracting forest or grazing their animals in newly planted area. With the help of Joint Forest

Management Committees, the Deputy Conservators of Forests can make micro planning to keep track of such illegal activities.

The lives of the forest dwellers are dependent on forest produce. To avoid illegal removal of forest produce, it is necessary to have their share in the minor forest produce. Considering this fact the Joint Forest Management Committees have been given authority to extract 33 minor forest produce. The Committee also has powers to assign specific areas to family individual for protection and extraction of minor forest produce. If JFMC nurtures and protects the timber plantation, the committee has 20% share in that major timber wood.

For the management of tourists to eco tourism spots like waterfalls, forts etc. the Joint Forest Management Committees have powers to levy fees for entry, parking etc besides taking deposits for non-littering plastic, non-degradable waste. The JFMC can use the revenue collected from these activities to employ youth as a guide for visitors or to carry out activities related to forest protection.

The Joint Forest Management Committees also plays an important role in forest protection. These Committees are join with the schemes State Forest Development Agency [SFDA] and Compensatory Afforestation Fund Management and Planning Authority to implement no grazing, no fire wood collection,

protection against forest fire and illegal encroachment in the forest areas and also availing grants for plantation.

The villagers residing near forest and tribal families are totally dependent on forest for fuel wood. To reduce pressure of fuel wood on forest land and to decrease tree falling, nearly 20,000 tribal and Scheduled Castes families have been provided connection of cooking gas. Under the Tribal Sub Plans total 14,676 families received LPG connection and 2931 tribal families have received bio gas connection. Under Special Component Plans, total 3360 Scheduled Castes families received LPG and 1632 families received biogas connection. This not only helps in improving the health of tribal women by reducing her exertion for fuel wood collection but also protects her from being affected from the asthmatic diseases.

The Forest Department has a dream of re-greening Maharashtra. To fulfill this dream, the Department aims at plantation of 1 billion trees, Saving Tiger and its ecosystem. The Chief Secretary Jayant Banthia has put his efforts for implementation of 100 crore trees in five years. Till the year 2012 total 16 crore trees have been planted in the State. Besides this efforts are also being taken for protecting tigers. So there is no doubt that Maharashtra will shortly have its rightful green cover. ■

Rejuvenating the Biodiversity of Western Ghats

Western Ghats Ecology Authority should strive to promote nature conservation activities

Various statutory and other bodies, responsible for the clearance or implementation of projects have been empowered to ensure that the ecology in the State is protected, states **Abhay Mokashi**.

The Maharashtra Government has always been committed to ecological issues and the protection of environment and ensured that these issues are taken care of while implementing developmental projects in the State.

Various statutory and other bodies, responsible for the clearance or implementation of projects have been empowered to ensure that the ecology in the State is protected. Maharashtra Regional Town Planning Act, Maharashtra Municipal Corporation Act, Maharashtra Land Revenue Code and CRZ guidelines are in place to take care of environmental concerns in the State.

In the light of these laws and the existence of certain bodies that take steps to protect the ecology in the State, the Government feels that it is redundant to set up a

separate Western Ghat Ecology Authority (WGEA), by the Ministry of Environment and Forests with the powers it enjoys under section 3 of the Environment Protection Act, 1986, as recommended by the Western Ghats Ecology Expert Panel (WGEEP), headed by Madhav Gadgil.

The committee was set up by the Ministry of Environment and Forests, Government of India, taking into consideration the environmental sensitivity and ecological significance of the Western Ghats region and the complex inter-State nature of its geography, as well as possible impacts of climate change on this region.

The Panel was asked to perform the following functions:

(i) To assess the current status of ecology of the Western Ghats Region.



- (ii) To demarcate areas within the Western Ghats Region which need to be notified as ecologically sensitive and to recommend for notification of such areas as ecologically sensitive zones under the Environment (Protection) Act, 1986. In doing so, the Panel shall review the existing reports such as the Mohan Ram Committee Report, Hon'ble Supreme Court's decisions, recommendations of the National Board for Wildlife and consult all concerned State Governments.
- (iii) To make recommendations for the conservation, protection and rejuvenation of the Western Ghats Region following a comprehensive consultation process involving people and Governments of all the concerned States.
- (iv) To suggest measures for effective implementation of the notifications issued by the Government of India in the Ministry of Environment and Forests declaring specific areas



in the Western Ghats Region as eco-sensitive zones under the Environment (Protection) Act, 1986.

- (v) To recommend the modalities for the establishment of Western Ghats Ecology Authority under the Environment (Protection) Act, 1986 which will be a professional body to manage the ecology of the region and to ensure its sustainable development with the support of all concerned States.
- (vi) To deal with any other relevant environment and ecological issues pertaining to Western Ghats Region, including those which may be referred to it by the Central Government in the Ministry of Environment and Forests.
- (vii) The Ministry has subsequently



asked the Panel to include in its mandate (a) the entire stretch of Ratnagiri and Sindhudurg districts, including the coastal region, and to specifically examine the (b) Gundia and (c) Athirappilly Hydroelectric Projects. (d) recommendations with regard to the moratorium on new mining licenses in Goa.

On the recommendation of setting up of Western Ghat Ecology Authority, Maharashtra Government is of the opinion that such mechanism would operate parallel to existing environmental agencies and there would be dangers of divergent

approaches to the issues. The resulting bureaucratic setup will result in bottlenecks in clearance of developmental projects, which are otherwise permissible under existing laws.

The expert panel has recommended that the WGEA should comprise 24 members from different domains and should be headed either by a retired judge of the Supreme Court or an eminent ecologist from Western Ghat region.

WGEA should strive to make a transition from regulations and negative incentives to promote nature conservation-oriented activities to a system of use of positive incentives to encourage continued conservation-oriented action in the context of traditional practices such as sacred groves and to initiate other actions in modern contexts.

The WGEEP has stated that technical inputs would be required to decide on a common system of assigning conservation value to specific elements of biodiversity and to organise a reliable, transparent system of monitoring biodiversity levels within the territories assigned to various local communities, in the form of either Community Forest Resources assigned under FRA, or Panchayat areas are assigned to Biodiversity Management Committees. “Educational institutions at all levels, from village primary schools to universities, could play an important role in this effort. Indeed, these exercises could become very valuable components of environmental education curricula. In the long run, only a very lean bureaucratic apparatus should be retained to play a coordinating, facilitative role and to ensure that local communities can effectively enforce a desired system of protection and management of the natural resource base. Such a system would create a very efficient market for conservation performance so that funds earmarked to promote biodiversity would flow to localities and local communities endowed with

capabilities of conserving high levels of biodiversity,” the report has stated.

The Panel has observed that mining, power production and polluting industries have seriously impacted, both environmentally and socially. The impacts being manifold; depletion and pollution of ground water, siltation of water bodies, increased flood frequencies, loss of fertile agricultural land, depletion of fisheries, deforestation, loss of unique biodiversity elements such as herbaceous plants of lateritic plateaus, air pollution, noise pollution, traffic congestion and accidents, increase in respiratory ailments, and so on. The situation clearly warrants a careful assessment and mid-course correction.

It has noted that the Maharashtra Government has prepared a Regional Plan for Ratnagiri and Sindhudurg districts emphasising the natural endowments and strengths of these districts and prescribing land use priorities.

The Development Research, Awareness and Action Institute (DEVRAAI), Kolhapur has assigned ESZ1, ESZ2 and ESZ3 categories for some areas falling in Satara, Sangli, Kolhapur, Ratnagiri and Sindhudurg districts following WGEEP methodology. These categories have been accepted by WGEEP and as a result, entire Taluka is proposed to be included in these categories.

The State Government feels that this would mean that even the Taluka towns which may not fulfill the criteria of steep slope or forest cover will fall under the ESZ-1 and is of the opinion that only those pockets, which actually fall in the category of ESZ-1 should be so classified. As such, the State Government is not inclined to accept this recommendation. Further, the methodology defined is complex and needs to be reviewed, while at the same time there is a need to review the definition of ESZ-1 and ESZ-2 as they cover comparatively larger areas.

The panel has proposed strict



restriction in ESZ-1 in terms of land use, waste water management, waste treatment, water, agriculture etc, which Maharashtra Government feels are well intended with the objective of fragile eco-system. However, some of them are based on one or two field examples and not based on thorough social cost-benefit exercise.

In general, the recommendations for ESZ-1 should be acceptable for forest areas, protected areas and eco-sensitive zone around the protected areas.

While the recommendations of the panel are in the interest of preservation of ecology of the Western Ghat, there seems to be a lack of application of

mind in terms of the social costs of the on-going projects. For example, the panel has recommended a complete ban on wind mills in ESZ-1, but it needs to be noted that the sites for the wind mills are geo-specific. Areas, where the people have to depend on wind power for their daily needs, will then be deprived of power and they would then be forced to revert to the use of wood as a source of energy, thus damaging the environment. Maharashtra has 32 Taluka in the ESZ-1 category, while Karnataka has 26 and Kerala has 15. Even the Kerala Government has taken strong exceptions to many recommendations of the WGEEP.

Among the WGEEP recommendations are complete ban on mining and setting up of new thermal power projects. Maharashtra has a power deficit of 4000 MW and the recommended ban on new thermal power station would affect the power situation in the State. Maharashtra has taken

exception to the ban on mining, as it feels that mining of minerals outside the forest area should be allowed, while stone and sand mining could be banned.

Transport is one of the major factors for development of an area. WGEEP has recommended a complete ban on new railway lines, new highways, major roads in ESZ-1. Even power generation is dependent on railway for transport of coal. Also, geographically, given the location of some of the ports, it would be essential to have railways and good roads to connect the ports, making the recommendation detrimental to growth.

If the recommendation banning Inter-basin diversion of rivers is accepted, it would result in a huge loss to Maharashtra in respect of substantial power generation to the tune of 3900 Million Units through Koyna Hydroelectric Project.

The State Government is of the opinion to entirely reject the recommendation banning the issue of new licenses for quarry and sand mining, as it would adversely hamper the financial viability of water resources projects.

As regards the recommendations that only small hydro-power projects, below 10MW, should be allowed in ESZ-1 and no new dams above 15 metres and in case of ESZ-2 no new thermal power project be allowed, with permission for hydro-power projects up to 15 MW, the State feels that these recommendations are objectionable. Large hydropower projects having optimal sizes and which are techno-economically viable should be allowed within existing framework of law.

WGEEP has recommended that dams and thermal power projects, which have crossed their liable life span to be de-commissioned in phased manner. The Maharashtra Government is of the opinion that the recommendation is not based on technical reasoning and deserves to be rejected in its entirety. ■



Managing the Woods Jointly

Joint Forest Management Committees have been established in 12,760 villages.

Forgetting our total indebtedness to the trees and forests we went on to destroy them brutally. We are experiencing the adverse effects of the same in the form of Air pollution, water scarcity and infertile soil. The Forest Department under the Government is carrying out its duties for protection and nurturing trees. However the efforts will not be successful without total participation from the citizens says, **Popatrao Pawar**.

The Indian Culture was born in a forest and these forests alone provided it the way to prosperity. In the ancient times the trees and the herbs from the forests were one of the main supports of human life. The one who bestows everything on us is called the God. Therefore our saints and sages revered the trees which provide everything for leading our lives. They revered the trees and worshipped them. The life is dependent on the water, air, fire, space and earth and therefore the people also worshipped all these five elements. All the ancient epics such as Vedas, Puranas, Upanishadas, Ramayan and Mahabharat have also explained the eternal importance of the trees and herbs. The forests have been considered as the Deity which bears

all the living creatures on the earth and also maintain the environment. The Devrais, the sacred groves also evolved from this concept. It was considered as a heinous sin to cut down any green tree from these sacred groves. This resulted in the protection of forests. Even today we have a huge number of Devrais in our State.

When the British arrived they set their sight on the Indian forests and used these dense forests for business. In 1855 Lord Dalhousie declared a policy for the forests. In 1856 all the forests except privately owned ones were brought under

the ownership of the Government. A special Forest Department was created with an objective to use the forests for commercial purpose. Accordingly they over exploited and destroyed many forests for Railways and providing coal for Industries in Britain. The Indian forests continued on way to ruins since then. When this came to light, the British enacted the 1st Forest Conservation Act in 1927. After independence the Forest Conservation Act was modified in 1952 and 1988. However there was even larger devastation of forests under the name of development than during the British regime. The rising population, increasing industrialization, increasing urbanization are some of the main reasons for the same.

During the British regime a large tract of Indian soil was under the forest cover. This greatly dwindled after independence. According to the National Forest Policy, it was decided that the forests should occupy 33 % of the total land area of the Nation. However according to a Government survey report in 2007, only 21.02 % land area was under forests. This means that out of the 3,07,713 sq km of total area of Maharashtra State only 61,939 sq km land is under forests. The national parks and sanctuaries covers the total area of 15,539 sq.km.

There was a huge deforestation under the name of development and the forests got cramped. This has adversely affected the environment.



The trees are the nectar vessels consuming the Carbon Dioxide and providing us Oxygen. Besides this the soil alone provides us everything that we need to survive. It takes around 250 to 700 years for creation of one inch of soil layer on the earth. If this life giving soil cover would washed off the land would be converted into deserts. The trees and plants prevent the process of soil erosion. Forgetting our total indebtedness to the trees and forests we went on to destroy them brutally. We are experiencing the adverse effects of the same in the form of Air pollution, water scarcity and infertile soil. The present drought situation is definitely not a natural calamity but is the result of the brutal destruction of nature carried out by humans.

The Forest Department under the Government is carrying out its duties for protection and nurture of the trees. However the efforts will not be successful without total participation from the citizens. Acknowledging this factor the Government of Maharashtra established Social Forestry Department in 1982. Through this a movement for administration of forests through public participation has commenced. Forestation on the Government and private lands has started in the earnest. Joint Forest Management Committees have been established at 12,760 villages out of 15,000 which have Government lands belonging to the Forest Department. The State is leading at a national level in this aspect.

With a view to strengthen Joint Forest Management Committees and make them more efficient the Government of Maharashtra took certain major decisions under the visionary initiative of Principal Secretary for Forest Department, Praveen Pardeshi. Earlier there was harmony between the tribals from the forests, the villagers near the forests and the forests themselves. The people used to protect the forests with the concept of forests for humans

and the humans for the forests. During the British era this concept was ruined. The British established ownership rights on the forests. Due to this the people got distanced from the forests.

The following major Government Resolutions from the Government of Maharashtra have once again established a relationship with the forests.

1. GR dated the October 5, 2011
2. GR dated the January 8, 2012
3. GR dated the July 10, 2012

All these Government Resolutions have a precious contribution from Praveen Pardeshi Principal Secretary for Forest Department. According to the GR dated the 5th October 2011 the constitution of the managing committee has been modified with 50 % women members. This has been a great reform.

The Government Resolutions dated the January 8, 2012 and July 10, 2012 have provided more authority to the Forest Managing Committees. Praveen Pardeshi organized camps and workshops for strengthening these Committees and to guide them at Shahapur in Thane Region, Chandrapur in Nagpur Region and at Amravati Region. These camps ensured dissemination of information about Government Resolution to the people. It also immensely helped in making and accelerating the Joint Forest

Management Committees as a people's movement. The Joint Forest Management Committee was acknowledged as a self established public system. These four Government resolutions also made sure of the coordination between the Government Forest employees and the people at large. This will help in achieving 33 % forests on the lands at Maharashtra State. It is also slated to enhance the forest production and prevent forest fires. The devastation due to these fires would be stalled.

Greater budget for the Forest protection comes from the Employment Guarantee Scheme. It would be of great help if 5 % of this budget (as per earlier Employment Guarantee) is provided for Forest management. If the works such as Deep CCT, Forest ponds and Contour Bunding etc are carried out with the use of machines, there would be great work in the forest areas in terms of soil and water conservation. This will not only benefit the people but also make provision so that the wild animals will not need to enter the human





habitats for their fodder and water requirements. The villages will not experience the hardships of water scarcity. This will ensure sustainable development of both humankind and wild animals. If this happens Maharashtra will emerge as a leading State to guide the nation for forest conservation. The labour does not go to the faraway place for Employment Guarantee work. He is also not interested to work at the forests due to lack of facilities, meager wages and greater distances. If the labourers are provided with all the facilities from the Non-Plan budget, they will surely go for work and also carry out a good job.

These Government Resolutions would greatly benefit the society. To cite an example we can take the case of a village Lekhamendha in Gadchiroli District. The Joint Forest Management Committee of the village could reap a profit of Rs. 8 crore from the sale of Bamboo. The Maharashtra Minor Forest Produce Act was helpful in this action. There is a great opportunity to enhance the income of Joint Forest Management Committees and people residing in

the forest. The dreams of Mahatma Gandhi of Self Reliant and Self Sufficient villages will come in true when the forest managing committees and forest rights committees will work more effectively and contribute in resource development.

Under the present circumstances the forest dwellers were on way to a mass exodus. However due to the Government Resolutions their income levels have improved and they are on way to prosperity. The Government Resolution dated the 5th October 2011 has provided many authorities and rights to Gram Sabha and Gram Panchayat. However there is a danger of marketing agents and mafia taking over Gram Sabha. This will lead the movement in a totally wrong direction. Thus, to prevent this danger, it is essential that Gram Sabhas should be empowered and every one from the village should participate in Gram Sabha. Just as the Gram Sabha must be empowered to prevent this danger it is equally essential that everyone must participate in the Gram Sabha to maintain efficiency, alertness and transparency in their overall activities. The Government Resolutions have been enforced now it's proper implementation at village and tauka level is important. For this forest committees should seek proper guidance and there should be

coordination among Joint Forest Management Committees, Gram Sabhas and Gram Panchayats. The honesty at work is most important. If all these aspects are understood the forest conservation movement will get huge acceleration and the problem of environment would be resolved. The Chief Minister Prithviraj Chavan, the Deputy Chief Minister Ajitdada Pawar and Minister for Forests Dr. Patangrao Kadam have resolved for plantation of 100 crore tree. The forest department is taking efforts for fulfillment of this. The direction of Forest Department in Maharashtra is thus changing ...

Praveen Pardeshi is also an enthusiastic social activist from administration. Under his guidance a great movement for forest management and forest conservation can flourish. For this it is necessary that the Joint Forest Management Committees should include members who are gentle, honest, and studious and who consider the village as a family. The individual benefits accruing out of the Government Resolution should reach the proper individual. It would be a loss to the movement if these benefits reach wrong individuals. The efficiency of the committee would be reduced. With honesty in working more and more funds would be available to villages. The economic and social structure would be changed positively. ■

Boosting Nature Tourism

The forest trail provides freshness to mind and body

Nature Tourism can be defined as cultural performance of the local residents, study of wild life as well as flora and fauna in their natural habitats, introduction to nature and a nature trail to rejoice with the nature says **Gauri Suryawanshi**.

“Let every village be replete with Kalpavriksh a benevolent tree that yielded everything that was desired, let it have live powers as Chintamani to ward off anxiety and let the speech from the village be sweet as the nectar...” Saint Dnyaneshwar placed this demand as a disciple with his mentor Saint Nivrittinath in his epic Dnyaneshwari. The Kalpavriksh from the heavens would not be available at forests near any village as demanded by Saint Dnyaneshwar. However the forest near village cannot be less than the Kalpavriksh. A question may arise whether there is a real and existent Chintamani which could ward of all the anxiety and awaken the vigour amongst everyone but if a village is surrounded by a forest each of the villagers will be able to receive pure air and water. Soil erosion would not take place. At the same time non-conventional forest based herbal medicines and forest fruits such as Blackberry, Temroo, Mahua, Almondette, Khirni and Marking Nuts etc would be available. A human being is a social animal and leisure is an integral part of his life. The peace and tranquility experienced through forest trail and variety of bird sounds provide essential freshness to both the body and soul.

Presently the large cities are growing in a haphazard manner. The conversion of small towns to cities and urbanization of the villages have resulted in a horizon increasingly dotted with concrete jungles everywhere. The pollution is increasing due to industrialization



and the city folks are seen evidently distanced from the nature. Due to this we cannot find a village that was expected by Dnyaneshwar. Due to increased industrialization the lifestyle seems to have mechanized and busy. Hence the tourism area is getting accelerated for attaining essentials such as a bit of mental peace in proximity of nature and a bit of leisure. Maharashtra has no dearth of Tourist locations. The forts with historic inheritance, religious places, hill stations are places duly visited by the tourists. However even these places are getting more and more crowded. It may be for this reason the tourists now prefer to go for a forest trail for the needed peace, observation of wild life and leisure.

NATURAL HERITAGE

As the forests and wild life belong to our natural heritage it is most

essential to preserve them. With a view that the tourists can enjoy the nature without harming the natural heritage in any way the Government of Maharashtra has declared State Nature Tourism Policy on the 20th February 2008. According to this Policy it is expected that Nature Tourism in a small window of the environmental perspectives should be socially, culturally and economically proper, experience proved and with learning modules. The nature tourism should have participation from the local population. It should not be detrimental to nature and should comply with the aspirations of the tourists with certain regulations.

Nature Tourism can be defined as cultural performance of the local residents, study of wild life as well as flora and fauna in their natural habitats, introduction to nature and a nature trail to rejoice with the nature.

While going on a Nature Trail the tourist attraction usually is limited to observation of wild life. In a poem by Shanta Shelke a small child is seen addressing the Grass Flower...The gist of the poem is that the child is so engrossed with the flower that he almost forgets his own world...

In the same way if the nature tourists also rejoice with a meaningful observation of flora and fauna, fruits and flowers and small creatures in the wild forgetting the world they arrive from while enjoying observation of Tiger and other wild life the objective of nature tourism will be fulfilled.

FACILITIES ABOUND...

Just as a common tourist visits Tiger project for observing a Tiger, the visitors to religious places consists of all types of people such as first timers, amateurs and professionals. The flock of Nature Tourists consists of hobby tourists, leisure and peace seeking tourists, tourists who rejoice in the proximity of nature and serious nature study tourists. Due to this tourists facilities are being made available on great extent near the tiger projects. This resulted in compression of tiger habitat. The National Tiger Conservation Authority, New Delhi have promulgated guidelines for Tiger Projects and the surrounding areas on the 15th October 2012 in compliance of orders passed by the Hon. Supreme Court on a PIL in connection with

tourism at the Tiger projects. Action is being taken at divisional level based on these guidelines. A maximum 20 % of the Core area of a Tiger project will be declared as Tourist area. Hence maximum activities related with nature tourism will be undertaken in buffer zone. The Government of India guidelines also mention the tourism facilities around Tiger projects and the income generated from the same, development of a sustainable livelihood for the local population and the remedial measures for wild life protection. In this connection the following decisions have been taken as per Government Resolution dated 9th November 2012:

A maximum of 20% from core area of a Tiger project but not more than the capacity available for tourism earlier has been made permissible for nature tourism.

Permission has been accorded for charging a Conservation Fee as mentioned below for all the tourism related accommodation facilities in the Tiger Project areas.

When the local residents in the buffer zone areas provide residential accommodation for the tourists the conservation fees will not be charged. When the residential facilities are jointly owned by the Village Development Committee or Gram Panchayat the Conservation Fees will not be charged. However Government undertakings and

Private Hotel Resorts (upto 10 rooms) will have to pay a Conservation Fee of Rs. 500/- per month per room. Similarly Hotels/Resorts with more than 10 rooms will have to pay a Conservation Fees of Rs. 750/- per room per month to the Government.

The reserved areas of the State such as National Parks and Sanctuaries, nurseries, plant forests, water bodies, Devrais and historic locations are ideal for nature tourism. Maharashtra State has many such locations. All these locations are expected to be developed gradually with a tourism viewpoint. The nature tourism work at present is undertaken on priority where an inclination of the tourists is well defined. Under the development scheme for the tourist locations the works undertaken for development of watch towers, water bodies, nature trails, eco-friendly wash rooms, repairing of circuit house, residential accommodation, tents, check-posts, entrance gates, advertisement and publicity, solid waste management and drinking water.

NATURE TRAILS

With a view that the tourists should enjoy the purity of nature tourism, nature trails have been prepared. For enthusiast tourists sports facilities such as adventure tourism, cycling and rope climbing have been provided. In order that the local population should get an employment and for comprehensive progress of villagers, Home Tourism Training (employee, guide, hospitality management) is provided on priority. However these development works are undertaken considering the rules in vogue and provisions under the Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972. The implementation of these activities is done through the Village Eco-Development Committee. The local residents would develop toilets and bathrooms as well as star category bedrooms and provide these facilities for the tourists at proper rates. With this the tourists will be able to





enjoy traditional home stay and the local citizens will receive financial benefits. The local people have been trained for creating such residential accommodations as well as in hospitality to tourists.

SIGNIFICANT ACTIVITIES

According to the policy of the Government, Village Development Committees have been established and through their medium the nature tourism projects are being implemented. Here are some of the worthy activities undertaken by these Committees:

SEMADOH

The Semadoh Village Eco-Development Committee organizes Nature Camps for students from major cities. Each camp is organized with a 2 days stay at Semadoh and Shahanur Nature Education and Interpretation Centre. Catering and housekeeping facilities are available at these centres and Forest Circuit House. The committee provides employment to the members by making food arrangements and keeps the profits earned. During the 1st year the Village Eco-Development Committee has earned revenue of Rs.1,51,340.

SHAHANUR

Under the aegis of Shahanur Village

Eco-Development Committee conducts Adventure Tourism, Bird watching, acceleration to hill trekking through the medium of various groups and Nature Education and Interpretation Centre as well as arranges for residential accommodation and food for the tourists. The Committee has earned revenue of Rs. 2,55,480 during the 1st year alone.

GULLERGHAT

The Gullerghat Village Eco-Development Committee is developing Medicinal/Ayurvedic plant gardens under the Forest Department and with the help from Punjabrao Deshmukh Agricultural University, Akola. The tourists will be attracted towards Ayurveda as well as the precious treasure from Nature. Bird watching at the Gullerghat Lake is also attracting the tourists. The Committee has earned revenue of Rs. 31,000 in a year.

PITTEZARI AND BAKKI GRAM

During the period from 1st November 2012 to 31st January 2013 the Pittezari and Bakki Village Eco-Development Committee through Nature Tourists (on account of rents for tents for the number of tourists visiting tent house) has collected a revenue of Rs. 2,54,260 and Rs. 49,600.

NAGZIRA

During the period from 1st November 2012 to 31st January 2013 the revenue earned by the local youth through Guide services at the Nagzira Wild life Sanctuary, New Nagzira Wild life Sanctuary and Navegaon National Park was Rs. 4,52200, Rs. 5,900 and Rs. 41,400 respectively. With this the youth not only got an employment opportunity but also a permanent source of income.

Nature Tourism is on the rise. Considering Tourism Policy, guiding instructions from Tiger Conservation Authority with regard to wild life as well as disturbances in their habitat the restrictions have been imposed on the number of entrants at every tourist centre.

As such in order to avoid disappointment the tourists should opt for advance reservation. Online reservation for major tourist locations has already started. The developmental activities for nature tourism are being carried out at all the reserved areas of the State. The trilogy adopted by the forest department is that of village development through nature tourism development with economic development of the local citizens.

IMPORTANT NATURE TOURISM LOCATIONS

- Pench Tiger Project
- Melghat Tiger Project
- Sahyadri Tiger Project
- Bor Sanctuary
- Radhanagari Sanctuary
- Kalsubai Harishchandra Gad
- Bhimashankar Sanctuary
- Kaas Plateau
- Karnala Bird Sanctuary
- Sanjay Gandhi National Park as the - eminent verse by Saint Tukaram elaborates the trees and plants are our relations from the forests and also are our friends. As such these should not be ever troubled in any way. Therefore while visiting the nature the tourists should not behave in any way as to harm the nature...This is an affectionate note... ■

Enabling Forest Management for Sustainable Livelihood

Income sources are generated through nurturing insects at trees instead of cutting trees

The Forest department has come out with an innovative scheme with participation from District administration and the local Forest Management Committee for enhancement of lifestyle of tribals from Gadchiroli District, says **T. S. K. Reddy**.

In Gadchiroli District 76% of the land is occupied by forests. Five forest divisions are working here for bringing prosperity to these forest areas. Majority of the population here are Adivasis. They neither have their own land or agriculture. Their livelihood is mainly earned by works carried out under forest department on a seasonal basis such as Kup Tod, Water conservation, collection of Tendu leaves and the daily wages earned from work. To some extent they get some employment opportunities at paper mills like Bilt for bamboo cutting. The duration of permanent work and the working days are limited. The work is available for 4-5 months on an average and for rest of the year these Adivasis collect minor forest produces such as gum, honey, moha flowers, amla, myrobalan, medicinal behada and sell the same to the retailers at the weekly market. As the rates of these products are not defined, the businessmen purchase the same at nominal prices than the market rates. As the options for storage and processing are not available these perishable goods are sold at whatever price they fetch.

Many production oriented projects such as incense stick production, medicinal seed collection such as Myrobalan and Behada as well as their processing and sales, Moha flowers purchase and sales, Gum, honey



purchase and processing project, Palas leaf plates manufacturing project, bamboo artefacts and furniture, Biodiversity Centre establishment and caretaking have been undertaken. For candidates with less education, vocational training such as hotel management, construction and automobiles which surely provide employment have also been started. Abhishek Krishna District Collector Gadchiroli and the Chief Conservator of Forests Gadchiroli Forest areas T. S. K. Reddy have taken special efforts for all these activities. Sustainable Management of the forests is the basis of these efforts. Employment generation from the forest oriented industries and prosperity of the forests have been effectively joined together at Gadchiroli District

bestowed with rich and exhaustive forest resources.

INCENSE STICK PRODUCTION

Incense stick production projects have been established at 7 locations namely Porla, Deulgaon, Ghot, Sironcha, Rompalli, Bhamragad and Tadgaon. More than 20 women have found employment at each of these centres. The daily wages earned are more than Rs. 150. The priority has been given to widows, deserted, without any support, poor and Adivasis. The raw materials such as coal, jigat, bamboo sticks are supportive to the environment. The remuneration is provided at Rs. 10 per kg. One male Supervisor and 20 women have found work at each centre. Presently 150 women have been employed at 5 functioning centres. Women Self

Help Groups have been activated.

In the next phase a machine for fabrication of bamboo sticks for Agarbatti manufacture will be installed at Kurkheda. A positive value addition will be provided as the sticks would be manufactured from readily available bamboo in the forest and the coal would be obtained from the dry leaves collected locally. The financial benefits from the project would be distributed to Adivasi women workers.

This is a self supported project and during 3-4 months of the year 2012-13 more than 1,000 women will find employment in their own villages. The funds have been sanctioned from the Integrated Action Plan, Human Development Programme, District Planning Committee and others. Work on establishment of 46 Production centres is going on. As the women are receiving their wages every 15 days, there is a huge demand for this work from Adivasi women.

MYROBALAN-BEHADA PURCHASE PROCESS

During 2012-13 around 8 tonnes of Myrobalan was processed for separation of bark and the seed. The same has been sold to Baidyanath Pharmaceuticals Company. The Adivasis have received an enhanced price for the same.

MOHA FLOWER PURCHASE AND SALE

31 tonnes of Moha flowers were purchased through Adivasis at a guarantee price. The flowers were dried and then sold. Due to this the Adivasis received increased rates and also payment in cash on the spot.

SEALING WAX-LAC PRODUCTION PROJECT

Nurturing Lakhs of insects on the naturally grown trees such as Kusum and Palas the Adivasis are able to receive a substantial income within a short span of 6-8 months. At locations such as Bhamragad, Alapalli and Sironcha more than 4,000 trees have

been made available to 800 Adivasi people. 5 trees are being allotted to each beneficiary. This will bring an income of Rs. 10,000 to Rs. 12,500 within a span of 8 months. The rates for sealing wax in the International markets are on the rise and at present are around Rs. 500 to Rs. 1200 per kg. Income sources are being generated through nurturing insects at trees instead of cutting the trees. This is also an environment friendly project.

PALAS LEAF PLATES

Production of plates from Palas leaves has been started at Wadsa forest division.

BIODIESEL PROJECT

The forests are replete with Moha trees. Planning has been carried out for a Bio-diesel manufacturing project from Moha seeds. With this innovative project the Adivasis depend on the forest for their livelihood will have a permanent source of livelihood.

HONEY COLLECTION PROCESS PROJECT

A Honey processing project has been set up at Etapalli. This year the work on projects at Sironcha, Gadchiroli and Alapalli has been undertaken. With the participation of Government of India Honey Research Centre Pune, training will be provided in scientific honey collection process. Work will be provided to local youth at the process centre. At the local markets the rates for honey is around Rs. 60-70 per kg. The process centre will offer a rate of Rs. 100 to Rs. 120 per kg.

BIODIVERSITY CENTRE

A Biodiversity Garden has been created at Semanadeo near Gadchiroli city. The garden is being looked after by the Joint Forest Management Committee, Mauja Wakdi. Through an income source from the entrance fees work has been provided to 10-12 labourers as caretaker. A Biodiversity Information centre has been set up near city and the citizens as well as the students are taking advantage



VOCATIONAL TRAINING

200 inadequately educated Adivasi youth have been given free 3 months residential training through a well known institution "Pratham" in hotel management and construction. After undergoing training these youth have found employment with 5 Star Hotels such as TAJ Group and Sun 'n Sand as well as at international companies such as Larsen and Toubro. Many young boys and girls are undergoing training at locations such as Aurangabad, Latur, Ahmednagar and Dhamtari sagar. The minimum guaranteed wages are Rs. 3,750. According to the skill levels the salaries earned are in the range of Rs. 6,000 to Rs. 10,000. Inadequately educated Adivasi youth is securing jobs with well known companies in this competitive era. Presently, more than 300 students are undergoing training. It has been planned to provide training and employment to more than 2,400 youth next year. Under the Human Development programme training is given under the aegis of Employment and Self-Employment Department.



of the same. The work for setting up Biodiversity Gardens at Mauja Chamorshi, Alapalli, Sironcha and Wadsa has also been taken up. Through this the Tourism sector will also be accelerated apart from training in the field of environment. A Tourist campus and information centre will be established at the revered location of Markandadeo. Local youth will get employment opportunities by looking after these facilities. ■

Spectacles for Incredible Wildlife

Maharashtra is important States of the country for conservation of wildlife and biodiversity

With numerous National Parks and Wildlife Sanctuaries Maharashtra Tourism Development Corporation can explore Wildlife tourism, which is already a multi-million dollar industry globally, to attract both domestic and International tourists feels **Chandragupta Amritkar**.

I was in Singapore and was pretty impressed in the way Singapore tourism department had developed Wildlife tourism - showing animals in their natural habitat. A model that Maharashtra Tourism Development Corporation (MTDC) can successfully implement across some of the prominent Wildlife Sanctuaries in the State.

Wildlife tourism is watching wild animals in their natural habitat and has experienced a dramatic and rapid growth in recent years world wide and is closely aligned to eco-tourism and sustainable-tourism. With public-private partnership travel agents can offer customized tour packages and safaris to tourists.

Due to its diverse topography and varying climatic conditions, India is

the second largest country to have such diversified wildlife tourism. India's rich tropical forests have over 1200 species of birds and 350 mammals, preserved in different regions of the country within 59 National Parks and 372 sanctuaries. Maharashtra is one of the most important States of the country as for conservation of wildlife and biodiversity is concerned.

The State has 6 National Parks and 36 Wildlife Sanctuaries with a total of 15,732 sq km area, amounting to 5.02% of the State's geographical area. Maharashtra has four major Tiger Reserves: Melghat Tiger Reserve (Amravati District); Pench Tiger Reserve (Nagpur District), Tadoba-Andhari Tiger Reserve (Chandrapur District) and Radhanagari- Koyna Tiger Reserve

(Sahyadri Tiger Reserve). The Western Ghats including those in Maharashtra were recently included as a World Heritage Site bringing them into global prominence. These biological treasures represent diverse vegetation types and the forests in their climax conditions form a unique Biological Heritage. There are 386 sacred groves in Maharashtra under different agencies, such as Forest Department, Revenue Department, Temple Trust, and in villages under private property.

These national parks and sanctuaries are home to a large number of animals and bird species, including the tiger, Crocodile, Bison, Gawa, Neelgai, Wild Deer, Sambar and rare migratory birds. They are also home to many rare species of flora

and fauna. The magnificent forests, rare animal and fish species make Maharashtra a wildlife hub. The parks offer splendid opportunities to see a variety of wildlife in a spectacularly natural setting.

It's now very important for the Government to convert these into hi-tech sanctuaries suitable for both domestic and International tourists-probably with support from private entities. The important national parks and sanctuaries should have comfortable lanes so that jeep rides and night safaris are possible, library and audio-visual facilities, cost-effective accommodation and efficient connectivity to the nearest town/city.

In the following paragraphs we have compiled interesting information on the prominent national parks and sanctuaries in the State.

SANJAY GANDHI NATIONAL PARK BORIVALI, MUMBAI

In the center of congested Mumbai is the miraculously preserved green oasis - Sanjay Gandhi National Park (SNGP). Many may not be aware but SNGP is the largest park in the world located within city limits having a sizable population of big cats like

panthers.

The rich and diverse forest holds more than one thousand species of plants, 40 species of mammals, 251 of birds, covering migratory, land and water birds, 38 species of reptiles, 9 species of amphibians besides a large variety of fishes. The park is a tree lovers delight in all seasons with the great amount of bio-diversity, ranging from *Adina cardifolia* (kadamb), *Albizia lebbek* (Shirish), *Pongamia pinnata* (Karanj), *Tectona grandis* (Teak) *Dalbergia latifolia* (Sishum) to *Acacia*, *Zizyphus* and evergreen patches of *Euphorbia*. The national Park is a bird watcher paradise. From the tiny Tickell's flower pecker (small bird in India), many species of sun bird (humming birds) to the majestic white bellied sea eagle, it is virtual visual feast with birds like paradise flycatcher, the elusive Trogon, many species of Kingfishers, Woodpeckers, and Drongos. The continuous calling of large large green barbet, the wildly screeching parakeets, the metallic calls of the Racket-tailed Drongo, the musical call of the Blue flycatcher or the extremely melodious some of the Malabar whistling thrush or the familiar refrain of the Spotted

babbler are just a few facets of nature's symphony in this forest. Four rest houses and two camps sheds are available for visitors on prior reservations.

ALLAPALLI, GADCHIROLI

The Glory of Allapalli is located in Gadchiroli district. It is a Permanent Preservation Plot established in 1953. Biodiversity of the region has been preserved very nicely and so very old and straight growing trees may be observed here. Tallest tree is Teak with 39.70 meters height. Largest tree is also Teak with 5.27 meters girth at breast height. Because of fire protection thick layer of humus exists on the forest floor. Teak is the predominant species other associates are Dhaoda, Ain, Bija, Sehna etc. Occasionally Tiger, Sambar, Chital, Blue bull, Giant Squirrel, Wild boar, Barking deer are also visible.

MELGHAT TIGER RESERVE

Melghat Tiger Reserve is located in Chikhaldara and Dharni Tehsils of Amaravati District in Satpuda hill range. This tiger reserve of 1676.93 Sq. km. was founded in 1974 with objectives of maintaining viable tiger



population and preserve the national heritage for posterity. The forest in rugged and hilly area of Melghat is typical Southern dry deciduous forest. This consist mainly of Tectona grandis, Ain, Tiwas, Aola, Lendia, Dhawada, Kusum are the important tree species. Bamboo is widely spread in the forests. Some orchids and strobilanthes in the upper hills. The area is rich in Medicinal plants. There are 750 species of plants in the area. There are 260 species of birds in the published checklist. Serpant eagle, Paradise Flycatchers are commonly seen in the area. The area is rich in wild mammals. Tiger, Leopard, Sloth bear, Wild dog, Jackal, Hyaena, Chausingha, Sambar, Gaur, Barking, deer, Wild boar, Mondeys are commonly seen. Ratel, Pangolin, Cheetal, Mouse deer are rarely seen. There are about 25 types of fishes, many varieties of Butterflies.

PENCH NATIONAL PARK, NAGPUR

The Pench National Park and Tiger Reserve extends over an area of 257 sq. km. in the lower southern reaches of the Satpura hill ranges, along the northern boundary of Nagpur District. It was declared a National Park by the Government of Maharashtra in 1975 and received the official status of "Tiger Reserve of India" in February 1999.

The 25th Tiger Reserve of India, Pench National Park nestles in a picturesque setting of hills and dales. Being close to Nagpur city, it bids fair to be a popular tourist center, not only on account of wildlife therein, but also due to scenic beauty of park, to which meandering Pench river lends special charm. In summer the river retains water in pools strewn along its bed, locally known as 'doh'. To the east lies 'Golia Pahar' about 670 meters above the main sea level, which is the highest hill in Nagpur district.

The park is home to 33 species of mammals, 164 species of birds, 50 species of fish, 10 species of amphibians, 30 species of reptiles,



MAJOR WILDLIFE ATTRACTIONS IN MAHARASHTRA

- Anerdam Wildlife Sanctuary
- Bhamragarh Wildlife Sanctuary
- Bhimashankar Wildlife Sanctuary
- Dajipur Bison Sanctuary
- Chaprala Wildlife Sanctuary
- Gugamal National Park
- Karnala Bird Sanctuary
- Mahim Nature Park
- Nandur Madhmeshwar Bird Sanctuary
- Peshwa Udyan Zoo
- Tadoba National Park
- Chikhaldara Wildlife Sanctuary
- Jayakwadi Bird Sanctuary
- Katepurna Sanctuary
- Melghat Tiger Reserve
- Navegaon National Park
- Radhanagari Wildlife Sanctuary
- Tansa Wildlife Sanctuary
- Yawal Wildlife Sanctuary
- Kalsubai Harishchandragad Wildlife Sanctuary
- Koyna Wildlife Sanctuary
- Nagzira Wildlife Sanctuary
- Nayagaon Mayur Sanctuary
- Sanjay Gandhi Wildlife Sanctuary
- Tipeswar Sanctuary
- Wan Sanctuaries

and a wide variety of insect life. The common animals in this sanctuary are Common Langur, Jackal, Wild dog, Sloth bear, Indian Grey Mongoose, Striped Hyaena, Tiger, Leopard, Jungle cat, Wild Boar, Spotted Deer, Sambar, Barking Deer, Indian Bison, Nilgai, Chausinga, Large Brown Flying Squirrel, Porcupine, Pangolin.

Main trees species are Anjan, Bhirra, Bija, Haldu, m Hirda, Kalam, Khair, Medsing, Moha, Mokha, Palas,

Rohan, Tick and Shisham, Tendu and Tiwas. The main shrubs found in this area are Bharati, Dudhi, Ghaneri, Nirgudi, Phetra, Bamboo, Katang bamboo, Kusal. The undergrowth consist of Divali, Gajargawat, Goakru, Rantulsi, Tarota and Marvel, Sabai and Thikhadi are the main grasses. Eroni, Gunj, Gulvel and Khobarvel are main climbers.

TADOBA NATIONAL PARK , CHANDRAPUR

Tadoba National Park (116.55 Sq. Kms.) - Andhari wildlife sanctuary (508.85 Sq. Kms.) together form the Tadoba-Andhari Tiger Reserve (625.40 Sq. Kms.). The National Park derives its name from the local tribal God "Taru", whereas the Andhari river flowing through the forests gives the Sanctuary, its name.

The land vegetation is typical Tropical Dry deciduous type having Teak as dominant species. Some of the major tree species found within the protected area are Teak, Ain, Arjun, Behada, Bija, Bhera, Bor, Bel, Chichwa, Dhawada, Kusum, Mahua, Mowai, Phetra, Rohan, Salai, Semal, Shisham, Sisoo, Shivan, Surya, Sirus, Tendu.

Although the major attraction is the Tiger, the large herds of Chital, the stately Sambar, the elusive Barking Deer, the fleet footed Chausinga, the majestic Gaur, the robust Nilgai, the shy Sloth Bear, the whistling Wild dogs, the omnipresent Wild Boar, and

the stealthy Leopard make lasting impressions on the visitors to this Reserve.

As the night falls the Small Indian Civet, the Palm Civet, the Ratel, the Flying squirrel make their presence felt. Hyenas, Wild Boars, Spotted Deer, Barking deer, Gaurs, Blue bulls, Four horned Antelopes, Indian Pangolins, Porcupines and Common Langoors are main wild animals found in this national park.

NAVEGAON NATIONAL PARK, GONDIA

Nature here is wreathed in smiles, with the peerless Navegaon Lake spreading its silvery mirror beneath the mountains over an expanse of 11 sq. km. There is an interesting legend about Navegaon Lake. It is said to have been built by one Kolu Patel Koli at the beginning of the eighteenth century. He is now defined as Kolasur Deo and his shrine is on one of the peaks surrounding the lake. The peaks are known as 'sat bahini' or the 'seven sisters'. It is believed that these deities helped Kolu in building the lake. On the fringe of the lake is an idol of Hanuman, the deity of strength, whose feet are said to go below the embankment.

The forest is typical "Southern mixed dry deciduous forest". The main species are Teak, Haldu, Jamun, Kawat, Mahua, Ain, Bhel and Bhor etc. Fauna: Tigers, Panthers, Bisons, Sambars, Nilgais, Chitals, Wild boars,

Sloth bears, and Wild dogs are main wild life species in this national park.

BHAMRAGARH WILDLIFE SANCTUARY

It is home to a variety of wild animals including quite a few endangered species like the leopard, jungle fowl, wild boar and sloth bear. You can also find the barking deer, blue bull, peacock and flying squirrel among other animals.

The land vegetation can be classified as moist deciduous mix forests. The local people in and around the Bhamragarh Wildlife Sanctuary are mostly tribals belonging to the Gond-Madia tribes. The main tree species are Ain, Arjun, Behada, Bija, Bel, Shishamendu, Hirda, Kusum, Jamun, Mango, Haldu, Kadam and

Vidarbha region is well known for its lush green deciduous forests which are home to a variety of flora and fauna. Most of Maharashtra's tiger reserves are located in Vidarbha. These are Melghat Tiger Reserve in Amravati district, Tadoba-Andhari Tiger Reserve in Chandrapur district and Pench Tiger Reserve in Nagpur district. The Nagzira wild life sanctuary and Navegoan Bandh National Park (bird sanctuary) of Gondia District are also very popular. Although the eastern region of the Vidarbha is poorer in natural resources in comparison with the west, it contains Maharashtra's oldest National Park created in 1955, the Tadoba Tiger Reserve spanning 575.78 km², one of India's 39 Project Tiger Reserves.

bamboo. Kudgudi, Tarwad, Gokhru, Tarota, Neel & Kuda are some of the main shrubs found over here. The common grasses are Chir, Mussam, Gawat, Khus and Kusal.

CHIKHALDARA

Featured in the epic, the Mahabharata, this is the place where Bheema killed the villainous Keechaka in a herculean bout and then threw him into the valley. It thus came to be known as Keechakadara Chikhaldara is its corruption. But there's more to Chikhaldara. The sole hill resort in the Vidarbha region, it is situated at an altitude of 1118 m and has the added dimension of being the only coffee-growing area in Maharashtra. It abounds in wildlife - panthers, sloth bears, sambar, wild boar, and even the rarely seen wild dogs. Close by is the famous Melghat Tiger Project which has 82 tigers. The scenic beauty of Chikhaldara can be enjoyed from Hurricane Point, Prospect Point, and Devi Point. Other interesting excursions include Gavilgad and Narnala Fort, the Pandit Nehru Botanical Gardens, the Tribal Museum and the Semadoh Lake.

DAJIPUR

The jungle resort of Dajipur is situated on the border of Kolhapur and Sindhudurg districts. Surrounded by rugged mountains and dense forests, this secluded little place is home to bison, wild deer, chital, gawa and many more spectacular wild animals and birds. Dajipur is an exciting and beautiful holiday getaway, situated 1200 metres above sea level.

NAGZIRA WILDLIFE SANCTUARY

The sanctuary has a number of fish, 34 species of mammals, 166 species of birds, 36 species of reptiles and four species of amphibians. The invertebrate fauna includes, besides a number of insects and ant species, several species of butterflies. Nearly 30,000 tourists visit this sanctuary annually. ■



Exploring the Wild World in Jawali

Tapole is developed as a tourist spot

The western part of Mahabaleshwar i.e. the Jawali valley still has dense forests. Apart from Wild Boars, Peacocks, Monkeys, Deer and Bears one may also come across Leopards in these forests states **Hrishikesh Yadav**.

Mahabaleshwar region is one of the major destinations for trekkers. It holds many attractions. This area has gained historical importance due to the forts constructed by Shivaji Maharaj and the meeting of Shivaji Maharaj with Afzal Khan, the bridge over the Koyna river has also added to its importance. There are numerous passes such as Radtondi, Par, Hatlot etc. connecting the Mahad-Khed region in the Kokan to the Satara-Wai region on the Deccan Plateau which make various treks enjoyable in this area. Even though most of the forests of the Sahyadri have been destroyed by tree-felling, the western part of Mahabaleshwar i.e. the Jawali valley still has dense forests. Apart from

Wild Boars, Peacocks, Monkeys, Deer and Bears one may also come across Leopards in these forests.

Day-1 : Reach Mahabaleshwar in the morning. Spend some time in visiting nearby areas and last minute purchasing. After lunch, set-off by the road going towards Poladpur. A 15-20 minutes' walk brings us to a check-post. The road bifurcates here. The straight road goes to the Mumbai point while the one turning to the right goes to Poladpur via Pratapgad. We take the road on the right.

Half a kilometer's walk brings us to a Jananidevi temple on the left side. After walking ahead from the temple for another half a kilometer, we see a foot-track descending to our right. We leave the road here

and descend by this age-old track, in the direction of Pratapgad. As we go down, the metalled road crosses our path a number of times. A one and half hour's descent takes us near the Vada Kumbhroshi village. From here a metalled road leads right up to Pratapgad. We, however choose to continue walking on the foot-track and reach the fort entrance within half an hour.

Pratapgad is one of the important forts built by Shivaji Maharaj during the establishment of Swarajya. When Shivaji Maharaj captured Jawali in 1656, he noticed the Bhorpya hill in the region. Realising the importance of the strategic position of the hill, situated near the path joining the Kokan and the Wai region, Shivaji



Maharaj decided to fortify the hill. The fort was built in two years time, by Hiroji Indulkar, under the supervision of Moropant.

Later in order to control the spread of Swarajya, Adilshah sent Afzalkhan to get rid of Shivaji Maharaj. Shivaji Maharaj invited Afzalkhan for a meeting on Pratapgad. During this meeting, on the 10th November 1659, Afzalkhan tried to kill Shivaji Maharaj. But Shivaji Maharaj, who was prepared for such an attack, managed to kill Afzalkhan and also defeated his army. In 1818, Pratapgad went into the hands of the British. Currently, the fort is being maintained by the Bhosale family of Satara.

As we enter the first entrance of the

fort, we see the watch-tower right in front of us. Turning left, we climb up the steps by the side of the lake on the right side and come to the Bhavani Mata temple. On the fort, there are Dharamshalas and rest-houses which offer accommodation, but one can also make arrangement with the local people. Food is available at the restaurants.

Dumping our sacks at one of the rest houses, we set off for a visit of the fort, starting with the Bhavani Mata temple. The eight handed Mahishasurmardini idol astride a lion, was sculpted out of a Shaligram stone, specially brought by Shivaji Maharaj from the Gandki river in Nepal. It was installed here in

July 1661. The temple also holds a quartz Shivling which used to be worshipped by Shivaji Maharaj. Coming out of the temple, we start climbing the steps in front, which lead to the Balekilla. To the right we see the Hanuman idol installed by Swami Ramdas. After entering the Balekilla, we visit the temple of Shri Vetal, the Kedareshwar Mahadev temple and the statue of Shivaji Maharaj stride a horse. Later, walking by the side of the fort wall, we have a look at the valleys below in the Kokan, from the western side of the fort. After sunset, we return to the restaurant, have dinner and also arrange for some packed food for the next day.

Day-2: We leave Pratapgad early morning and walk down to Afzalkhan's tomb at the base of the fort. From here, a foot-track descends over a spur. Taking this foot track, we reach the Sondpar village within 20-25 minutes. Then proceeding along the unmetalled road, we pass Parpar village within 5 minutes and after another 15 minutes, we come across the unmetalled road going towards Dudhgaon. We turn right here and continue on this road. After some time, we come across a stone bridge built over the Koyna river. This bridge, built by Shivaji Maharaj is still in a good condition. Crossing the bridge, we continue further till we reach a junction. Here, we leave the road going to Dudhgaon and instead, turning right, take the road going to Hatlot. An hour's walk brings us to the Hatlot settlement. The settlement is spread across four hamlets. To the left of the first hamlet, stands a Maruti temple which can be used as a shelter for the night. All the hamlets have tap-water facility; the lower hamlets get water from the Hatlot pass while the upper hamlet gets water from Makarandgad.

After having lunch in Hatlot we proceed towards Makarandgad. Crossing the iron bridge built over the stream in front of the temple, we pass the upper hamlet and enter the thickets. An hour and fifteen minutes' climb brings us to the base of the left wall of the fort. Turning right here, we walk for 20 minutes and reach the Gamdevi temple. The path going straight from the temple leads to Ghonaspur. We take the path, on the right climbing towards Makarandgad and reach the top within 25 minutes. Although the fort is named Makarandgad (the fort of honey), there may not be any honeycombs around, and in any case, it is not a layman's task to extract the honey from them.

The fort is divided in two sections. On the top of the first section stands a Mallikarjun Mahadev temple which has been renovated by the villagers.

About a 100 ft descent from behind the right side of the temple brings us to a rock-cut water cistern. There is nothing else of interest on this section. To go to the second section, we have to descend down the fort half way and then take the path going towards the right, as there is no path directly going from the top to this section. Except for some broken fortifications, there is nothing on this part of the fort. If one wishes one can spend night on the fort. We descend down to Ghonaspur and make arrangements for our stay with one of the villager. The villagers may also cook food if supplied with the provision.

Day-3 : As we have to cover a longer distance, we leave much before day break. Taking the path descending from Ghonaspur, we reach a flat stretch after 20 minutes. Two paths



can be seen here. The one on the right descends to Dabhe village from where a launch leaves for Tapole village at 7 am. We take the path on the left which enters the thickets. After descending for a while we cross a stream on the way, and come to an open patch on the hillock to the left. We turn right here and enter the thickets.

From this point onwards, we walk towards the left side without turning anywhere on the right. This path descends to the 'Chaturbet' settlement.

The Ghonaspur-Chaturbet treks takes about one and half hour. From Chaturbet we take the path going to Dudhgaon. On way we cross a junction, over a river. There are buses which ply from Mahabaleshwar to Dudhgaon. Without spending much time in Dudhgaon, we start climbing in the direction of the Zolai pass by a prominent foot track and reach there within two hours. There are some settlements on the way. The Mahabaleshwar Tapole road opens through the Zolai pass. We board a bus coming from Mahabaleshwar and arrived at Tapole.

Now Tapole is developed as a tourist spot. The waters of the Koyana and the Solshi rivers join the back waters of the Koyana dam. Private boats are available for boating. Some hotels have also been built. As we have to spend the night in Kusapur, we had lunch in Tapole and then left for Kusapur, by the 3pm launch of the Zilla Parishad. The launch slowly winds its way through the Koyana lake, stopping at Gadavli, Tetli, Sotadi, Bannoli, Dar, Shembadi, Pimpili and Shelti villages on the way. It reaches Kusapur after one hour. The launch does only one trip per day and therefore it is important to reach Tapole in time. Otherwise one can take private launch to reach to Kusapur. In fact, Vasota is nearer to Met Indavli than Kusapur and private launches are available at Tapole for Met Indavli. But since there is no settlement at Met Indavli, one has to stay at Kusapur. We spend the night in the 'Samaj Mandir' at Kusapur.

Day-4 : As we have to catch the evening launch to Tapole from Kusapur after returning from Vasota, we leave very early in the morning. Walking in the east direction, between spur on the right and the bank of the lake on the left, we come across a foot-track after 15-20 minutes. Turning right, we take this foot-track and start climbing the hill. After 45 minutes we come to a col. From here, a 10 minutes descent brings us to the bank of the lake. At this spot, one or two huts of

Met Indvli hamlet can be seen. After 5 minutes walk by a foot track along the bank of the lake we come to one tip of the lake. The private launches from Tapole to Met Indvli stop at this point. Also one can come here by launch from Bamnoli. From here, we take the prominent foot-track leading towards Vasota. After 15 minutes, we come across a Maruti temple. The route from here onwards up to the wall of Vasota goes through thick forest but is quite prominent. It takes about an hour and a half to reach the fort. Fortunately, this area is still being spared from deforestation and even the fort top has dense vegetation.

According to historical record the Vasota fort was built by King Bhojraj II of the Shilahar dynasty. In 1656, Shivaji Maharaj annexed this fort to his kingdom along with the Jawli region. Later, in 1730, there was a conflict between the Peshava and the Pant Pratinidhi of Aundh. Babu Gokhale, Senapati of the Peshavas, defeated the Pant Pratinidhi. Angered by this defeat Tai Telin, the mistress of Pant Pratinidhi, went to Vasota and led a revolt against the Peshavas. Babu Gokhale then fought her as well and captured Vasota after a tough battle.

On the left side of the fort top lie some water tanks. As we proceed ahead from the tanks, we see the old Vasota fort in front, in the southern direction along with its Babu cliff. Below, to the left, the ridge connecting old Vasota to Chhota Vasota is seen. We then turn back and go behind the thickets which lie above the water tanks. Ruins of an old house can be seen after some time. Going further, we come across a lake and a single wall of the Maruti temple carved out in rock. We take the path in the front of this temple and climb down a bit to reach a Mahadev temple. This is the only shelter available on the fort and can accommodate 8 to 10 persons. There is a bastion and some fortifications slightly ahead of the temple. From here we can see a pinnacle in front. Behind this



pinnacle, the Nageshwar pinnacle can also be seen along with the cave at its base. The route going from Vasota to this spot is also visible.

Soon after lunch, we start descending. After about 10 minutes descent a path branches off to the left. Taking this path, we descend through thick bushes of Karvi and come to a grassy plain. From here, we walk along the edge of the valley on the left, in the direction of Nageshwar. Near the Nageshwar pinnacle, slightly below on the right, stands a recently built water tank. As it is not visible from the main route a board indicating its location has been placed on the way. Standing next to the board and looking down over the cliff we can see small steps carved out in the wall. This is the route coming up from Chorwane village in the Khed taluka. Proceeding ahead from this spot we come to a bifurcation on the right side. One of the paths leads to the water tank below and the other goes to Kusapur. We decide to first visit the cave. It takes about an hour to reach there from Vasota. There is a Shivling inside the cave with a continuous drip of water from the rocks falling on it. After a brief rest here we return back and take the

Kusapur route.

Initially there is a descent but soon a climb begins and the path passes by the side of a water pipe, from the right side of the hillock and comes to a plateau. From here it descends down on the other side and enters a thicket after 15 minutes. The descent is quite steep and some places it is also slippery, thanks to the small pebbles on the path. The descent ends at the lake. It takes about an hour and fifteen minutes to reach here. Turning right, we take the cart-road and walking by the side of the lake towards the east, we reach Kusapur within half an hour.

Take a launch from Kusapur to Tapole and from there take a bus for Mahabaleshwar for the return journey.

Those who want to get down in Kokan via Chakdev can take an evening launch from Kusapur and get down at Arav. From here, one can walk by the lake side for about half an hour to reach Met Shendi village. Take a halt for a night in the village. Next day visit to Chakdev village. The villagers belong to the Lingayat Jangam sect. From here a prominent path descends to Amboli village in Kokan and from there one can reach Khed by bus for return journey.. ■

Framework for All Inclusive Development

The current fiscal year budget shows what made Maharashtra, the progressive State, its policies of integrated development with equilibrium of growth of agriculture and industry; rural and urban; science and technology. The budgetary allocations for these sectors corroborate this.

ECONOMIC REVIEW



- During 2012-13 Gross State Domestic product is expected to increase by 7.1%.
- For the year 2011-12 Per Capita State Income estimate at Rs. 95,339.

STATE ANNUAL PLAN

- Size of Annual Plan of the State Rs.46,938 crore.
- Scheduled Caste Sub-Plan Rs. 4,787.68 crore.
- Tribal Sub Plan Rs. 4,177.48 crore
- District Plan (General) Rs. 5,200 crore.

AGRICULTURAL AND ALLIED SECTORS

- The Provision for the scheme of Providing Agriculture Loan at subsidized rate Rs. 346.75 crore.
- To Keep Buffer Stock of Fertilizers

- Rs. 53.50 crore.
- For Various Agricultural Development Programmes Rs. 751.04 crore
- For Mahatma Gandhi National Rural Employment Guarantee Scheme Rs.787.39 crore.
- Provision For Irrigation Projects Rs. 7249.70 crore.
- Maharashtra Water Sector Improvement Projects Rs. 400 crore for rehabilitation of canal and distribution works.

ANIMAL HUSBANDRY DAIRY AND FISHERIES

- Poultry Development, Distribution of Goat Unit, Artificial insemination for heredity improvement and milk production Rs. 68 crore.
- Distribution of fodder seeds, chaffcutter, silage making and grass land development including grass reservoirs Rs. 43.97 crore.
- Development of Fishing Jetties Rs. 25 crore.



- Mechanisation of Fishing Boats, Preservation and Marketing of Catch Fish- Rs.37.65 crore.

VARIOUS MEASURES ON SCARCITY SITUATION

- Provision for Supply of Water Rs. 850 crore.

- Provision for Fodder Supply Rs. 186 crore.
- National calamity response fund Rs. 1050 crore.

INDUSTRY



- For Industrial Promotion Subsidy Rs. 2500 crore.
- Electricity subsidy for Powerlooms Rs. 939 crore.
- Allied and basic infrastructure for promotion of Industry Rs.123.11 crore.

HEALTH

- Rajiv Gandhi Jeevandayee Arogya Yojana Rs. 325 crore.
- Construction of Health Institutes Rs. 477.98 crore.
- National Rural Health Mission Rs. 500 crore.



EDUCATION AND SPORTS

- Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shiksha Abhiyan Rs. 711.50 crore.

- Provision for Girls Hostel Rs. 100 crore.
- Non salary Grants for Granted Private Primary, Secondary and Higher Secondary School Rs. 266.82 crore.
- Computer Training Programme Rs. 452 crore.



- Providing Educational Material to the Student Rs. 193 crore.
- Provision for State Sports and youth Policy Rs. 150.83 crore.
- Technical Education Quality improvement Programme Rs. 80 crore.

WATER SUPPLY AND SANITATION



- National Rural Drinking Water Programme Rs. 200 crore.
- Rural Dalit Vasti Water Supply and Sanitation Rs.60 crore.
- Maharashtra Sujal Nirmal Abhiyan Rs. 145.45 crore.

INFRASTRUCTURAL DEVELOPMENT

- Road Development Rs. 2716.67 crore.
- Maharashtra State Road Develop-



- pment Corporation Rs.120 crore.
- Viability Gap Funding for Four Laning Works Rs. 175 crore.
- Pradhan Mantri Gram Sadak Yojana Rs. 64crore.
- Mihaan Project Rs. 200 crore
- Railway Projects Up-gradation of Railway Tracks Rs. 63.72 crore.
- For Aviation Projects and Modernization of Airports Rs. 240.69 crore.

ENERGY

- Projects of Mahajeneco Rs. 1902 crore.
- Hydro Electric Projects Rs. 196.47 crore.



- Government Contribution for Various Projects of Mahadiscom Rs. 409.42 crore.
- Share Capital for the Projects of Mahatransco Rs. 300 crore.
- Non-conventional Energy Sources Development Rs. 80 crore.

URBAN DEVELOPMENT AND HOUSING



- Jawaharlal Nehru National Urban Renewal Mission Rs. 1600 crore.
- Maharashtra Survarna Jayanti Nagarotthan Mahabhiyan Rs.650 crore.
- Assistance for Amenities Developments for Newly Created/ Newly added areas of Urban Local Bodies Rs. 20 crore.
- Scheme of Basic Services to Urban Poor Rs. 220 crore.
- Rajiv Awas Yojana Rs. 40 crore.

WELFARE OF SCHEDULE CASTES, SCHEDULE TRIBES AND WEAKER SECTION

- Aam Admi Vima Yojana Rs. 34.29 crore.
- Financial Assistance to Families belonging to Schedule Castes for construction of dwelling units Rs. 320 crore.
- Construction of Tribal Ashram Schools, Hostels and other works Rs. 501.38 crore.
- Golden Jubilee Pre-Matric Scholarship for Tribal Rs. 203.68 crore.
- Thakkar Bappa Adivasi Vasti Sudhar Yojana Rs. 245.23 crore.
- Electrification In Tribal Areas Rs. 82.89 crore.
- Programme for Health in Tribal Area Rs. 244.33 crore.
- Minority Development Rs. 280 crore.
- Janashree Bima Yojana Rs. 12 crore.

WOMEN AND CHILD DEVELOPMENT



- Nutrition Programme for children in age of 0 to 6 and Pregnant woman and Lactating Mothers Rs. 1264.76 crore.
- Rajiv Gandhi Sabala Yojana Rs. 110.78 crore.

HOME DEPARTMENT

- Modernization Of Police Force Rs. 317.17 crore.
- Installation of CCTV Surveillance Rs. 149.78 crore.



RURAL DEVELOPMENT AND TOURISM

- Backward Regions Grant Fund Rs. 309 crore.
- Rural Pilgrimage Development Scheme Rs. 25 crore.
- Kokan Rural Tourism Rs. 50 crore.



- To Develop Infrastructure For Tourism and Land Acquisition of Land for Sea World Project in Sindhudurg Rs. 285 crore.

PLANNING DEPARTMENT

- Development Plan for Taj Bagh area at Nagpur Rs. 20 crore.
- Development Plan for Seva Gram At Wardha Rs. 30 crore.

CONSTRUCTIONS OF BUILDING

- Constructions of Administrative Buildings, Government Quarters, Various Government Offices Rs. 118.08 crore.



- Constructions of Administrative Building and Government Quarters of Zilaparishad/Panchayat Samiti Rs. 55 crore.
- Constructions of Residential Buildings for Police Rs. 100.30 crore.
- Constructions of Police Stations and Office Buildings Rs.88 crore.
- Constructions of Court Buildings and Residential Quarters for Judges Rs. 213.60 crore.
- Constructions of Godowns Rs. 24 crore.
- Constructions of Administrative Building under Revenue Departments.133. 66 crore.

DEVELOPMENT OF MARATHI LANGUAGE

- Provision for Various Programmes for Preservation and Development of Marathi Language Rs. 15.60 crore.



CULTURAL ACTIVITIES

- For Preservation and Conservation of Historical Heritage of Monuments and Museums Rs. 37 crore.

TAX PROVISIONS

- Surveillance of transactions by Sales Tax Department to go up.
- Tax exemption on essential commodities, Solapuri chadars and towels, wet dates to continue up to 31st March, 2014.
- Tax exemption on currants and raisins to continue up to 31st March, 2014.
- Concessional rate on tea to continue up to 31st March, 2014.
- VAT exemption on Braille watches and vehicles for handicapped.
- Reduction in rate of tax of AICD heart implant from 12.5 per cent to 5 per cent.



- Reduction in rate of tax on certain excavators from 12.5 per cent to 5 per cent.
- Rice bran, hand pumps, water meter exempt from tax.
- Increase in tax rate of gold, silver and their jewellery from 1 per cent to 1.10 per cent and sugar cane purchase tax from 3 percent to 5 percent to raise fund for drought relief for one year.
- Increase in tax on bidi, cigarette and tobacco.
- Textile for industrial use to be taxed at 5 percent.
- Tax on paver blocks to be increased from 5 percent to 12.5 percent.
- Financial Institutions liable to pay stamp duty on mortgage deeds.
- Increase in excise duty on country liquor, I.M.F.L. and strong beer.
- Increase in tax on Lottery. ■



Overcoming Drought and Railways on Track...

Presently the issue of scarcity is on the anvil at scene in Delhi and it can be seen that there is a unanimous verdict from all the parties on many related issues related with scarcity. It is very heartwarming for the State to see that the young Members of Parliament are taking the lead in this matter. The impression is strongly observed due to the vast and varied political and administrative experience of the Chief Minister Prithviraj Chavan in New Delhi and his untiring efforts being ably supported by the senior leaders from the State including Union Minister for Agriculture Sharad Pawar, Union Minister for Home Sushilkumar Shinde and others. The concerted unanimity was reflected in the adequate help received by the State for drought mitigation and the additional provision in the Railway Budget resultant of a demand from the peoples' representatives. The unity of Maharashtra stance was the only reason that Maharashtra received so many projects. Under the leadership of Sharad Pawar all party Members of Parliament met the Prime Minister and apprised him of the various projects and demands from the State.

HELP TO OVERCOME DROUGHT

The major achievement of the month was the financial help of Rs. 1207 crore received by the State for drought mitigation. The help was announced after a decision by the Empowered Group of Ministers on Drought. Before the decision an Inter-Ministerial Central Team had visited the drought hit areas of the State. This reflected a clear picture of



the devastation of farms before the Central Government. Union Minister for Agriculture Sharad Pawar is the Chief of this Committee and according to him the present situation is worse than 1972. Hence, Maharashtra was successful in presenting the actual position of the drought in the State. Depending on the situation the State is expected to receive more help from the Centre. The Chief Minister and the Deputy Chief Minister are constantly in touch with Centre for the same. As elected representatives from the area Union Minister for Home Sushilkumar Shinde and Union Minister of State for Coal Pratik Patil are also explaining the circumstances to the Central Ministers, leading the drought situation in the State.

ALL PARTY UNITY

The all party unity in the State was evident even in the Railway Budget this year. After the Railway Budget was presented in the month of February many MPs expressed their regret over the lack of representation for the State in the Railway Budget. As the Budget had no mention of

many projects the sentiments of the MPs ran high. Therefore young Members of Parliament had a meeting with the Union Minister for Railways Pavankumar Bansal on the 27th February to question him on the reasons why many projects and demands from Maharashtra were not considered in the Railway Budget. He understood the sentiments of the MPs and assured that ongoing projects in Maharashtra in connection with the Railways as well as those projects which have already been sanctioned would not lag behind just because these have not been mentioned in the Budget. He provided a status report on the projects where the MPs had their doubts. Apart from this action was taken on the recommendations made by the Chief Minister for the State.

However even after this explanation the MPs were not satisfied about the progress of certain projects. Therefore on the 1st March all the MPs from the State irrespective of party met Prime Minister Dr. Manmohan Singh under the leadership of Shrad Pawar. During this meeting the



On the occasion of Shahid Din, a Postage Stamp was released in honour of Huttama Rajguru at Rashtrapati Bhavan and these are his family members. This went on to become an occasion of revered indebtedness for Marathi community and for MP Shivajirao Adhalrao Patil a serene moment of fulfillment of a commitment.

Prime Minister assured that a State such as Maharashtra would not be neglected. Under this consolidated pressure Union Minister for Railways Pavankumar Bansal declared two new routes Nashik-Pune and Manmad-Indore as well as additional weekly express trains Mumbai-Karikal and Nagpur- Ajmer while sanctioning the supplementary demands of his Ministry. He announced 260 kms Nashik-Pune Railway route. This route will pass through Nashik Road, Sinnar, Sangamner, Rajgurunagar, Chakan and Pegdewadi. He also announced Manmad-Indore track as Rs. 2,200 Crore project passing through Malegaon, Dhule and Nardana.

During the same period an important decision from the Supreme Court resolved an issue between Maharashtra and Andhra Pradesh on Babhali Dam. The apex court passed orders for blocking the water from the dam. The State will be able to close the doors of the dam with effect from 28th October resolving the irrigation problems of 20,000 acres of land in Nanded District. This will also resolve the drinking water issue of 50 villages. According to the orders passed by the Hon. Court Babhali Dam would be able to store 2.78 TMC of water. At the same time for Pochampad dam in Andhra Pradesh we will have to release 0.6 TMC water. This is really a good news for Nanded District as the decision

will make available drinking and irrigation water available for villages in 5 Talukas of the District namely Dharmabad, Billori, Umari, Naigaon and Mudkhed. The Municipalities of Kondalwadi, Dharmabad and Mudkhed will also be supplied water from Babhali dam.

SCINTILLATING MARATHI PROGRAMME

India Gate witnessed two scintillating as well as rich Marathi language programmes. New Delhi has been one of the pioneer Marathi language centre outside Maharashtra. The Drama Festival at Delhi being held for the last 70 years. Marathi Rangabhoomi Din, Marathi Bhasha Din are some of the programmes which represent and showcase a rich Marathi cultural movement. The Culture Affair Department is the strength behind this. The Maharashtra Information Centre,



At a glittering ceremony in the Capital a book authored by Prof. Sunayana Singh on the work of former President of India Pratibhatai Patil titled "Reinventing Leadership" was published with all grandeur. In a great celebration a copy of the same was presented to the President Pranab Mukherji .

New Delhi under the Directorate General of Information and Public Relations plays a leadership role in this. This year the Marathi Language Day event was a colorful celebration. Nirmala Samant-Prabhawalkar, Member National Commission for Women and MP Hussain Dalwai guided the audiences through their treatise on prosperity of a Language. In order to make Marathi richer and prosperous and to make it expansive,

everyone should start speaking this language at their homes. Both made it clear that in such a manner the proportion of Marathi speaking people will be maintained and increased. They appreciated efforts for love for Marathi language carried out outside Maharashtra. On this occasion 3 non-Marathi journalists from other States and who learned Marathi were felicitated. These were Prashant Natu, Bureau Chief of a Kannada News Channel, Rajiv Sharma, Delhi Representative, Hitvada and Ranjeet Singh, Delhi Representative TV9 Maharashtra News Channel. They shared their happiness of learning Marathi while being a journalist in Maharashtra. With Marathi as the 4th topmost public language these journalists expressed their pride to possess knowledge of this language.

Under the joint aegis of Sahitya Sanskriti Mandal, Marathi Language Department and Maharashtra Information Centre a 3 day Book Festival was organized. In a justified reverence for the World Women' Day on the 8th March, a Symposium was organized on the topic of inculcation of reading habits and women leadership. The symposium that was graced with attendance by elite women personalities from Delhi expressed the great resolve of Savitri and Jijau in the Capital city. Another momentous occasion in the Capital was the publication of 24 Akbar Road translated by senior journalist Suresh Bhatewara in the presence of a large number of dignitaries.

During the last few years the Marathi Cinema has shed its skin. Mandi House area of the capital is abounding with huge discussions on Marathi theatre and cinema. Vikram Gokhale has performed in many quality plays staged in Delhi. Therefore it was an occasion for celebrations for Drama lovers when he was bestowed with the Best Actor Award. Actor Usha Jadhav also snatched the Best Actress Award this year for her role in the film DHAG. ■

- Amarjyot Arora

Punishable Offences Under Forests Act

What are the Acts prohibited in the forests?

Under Indian Forest Act, 1927 section 26 (1) the, kindling in or setting fire, trespassing and pasturing of cattle, felling or damage to the trees, quarrying stone or removing any forest produce, encroachment and poaching are the main acts prohibited in the reserved forests. Similar activities are prohibited in the protected forest if a notification under section 30 or Rules made under section 32 are contravened.

What is the punishment for the prohibited acts?

As per section 26 (1) and section 33 (1) of the Indian Forest Act 1927, the prohibited acts are punishable with imprisonment for a term which may extend to 1 year or with fine which may extend to Rs.2000/-, or with both, in addition to the compensation for damage done to the forests. In addition the tolls, vehicles used in committing such offences are liable to seizure and may be confiscated.

Whether a forest officer has the powers to arrest the offender?

Under section 64 (1) of Indian Forest Act 1927, any forest officer, police officer or revenue officer may without orders from a Magistrate and without a warrant, arrest any person against whom reasonable suspicion exists of his being involved in a forest offence. Under section 65 Of Indian Forest Act any forest officer of the rank of Range Forest Officer and upwards, police officer of the rank of sub Inspector and upwards or any Revenue Officer of the rank of Tehsildar and upwards may release such person on his executing a bond.

Do the forest offenders have to be compulsorily prosecuted?

Although the majority of the forest offences are non bailable as per section 64 A, there are provisions

of summary trial under section 67 in the court of Judicial Magistrate (1st class) as well as the compounding of offences under section 68. At present the Forest officers of the rank of Conservator of Forests, Dy. Conservator of Forests and Assistant Conservator of Forests are empowered to accept from an offender, the payment of a sum of money by way of compensation for the damage and compound the offence.

What are the duties of a common man in preventing the forest offences?

Under Section 79 of Indian Forest Act 1927, every person who exercises any right in the forests, or who has been permitted to take any forest produce or to pasture cattle in such forests or every person in any village contiguous to forests who is employed by the Government or who receives emoluments from the Government is bound to assist forest/police officers for preventing of forest offences.

Whether anything produced or found in the forests is forest produce?

Under section 2(4) everything when found in or brought from forest is a forest produce. But there are several items which are forest produce irrespective of the fact whether these are found in forest or not. These include – timber, charcoal, caoutchouc, catechu, wood-oil, resin, natural varnish bark, lac, mahua seeds, kuth, apta and tembhurni leaves, rosha grass including oil derived therefrom, Rauwolfia serpenditina and myrabolams.

Note : For details, the Indian Forest Act 1927 should be Referred.

MAHARASHTRA FOREST



O.I.G.S. Presented by The Government of India

MAHARASHTRA AHEAD

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