

# FIELD FORESTER

VOICES FROM THE FIELD

VOLUME 1 • ISSUE 6

APRIL 2016



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## From the Chief Editor's Desk

Gujarat is a state of stark but diverse landscapes. Other than its southern districts like Dang which are densely forested, largely the landscape is vast dry tracts of scrub and dry deciduous forests. However, the state has a rich history and legacy of wildlife conservation. The fact as to how significant is Gujarat's conservation ethos can be better appreciated by looking at some statistics. Only about 9 per cent of the total geographical area of the state is under declared forest. This is much below the minimum 33 per cent mandated by the national forest policy. But as mentioned earlier there is spectacular diversity of landscapes and ecosystems ranging from hot saline deserts and marine ecosystems of the coastal plains to the humid hilly tracts...supporting a variety of flora and fauna. Talking of fauna, how can any mention of mega fauna of Gujarat be complete without the Pride of our country- The Asiatic Lions safe in the world famous Gir National Park!

The above mentioned reasons make Gujarat an important destination for trainee officers of various Forestry Training Institutes of India from point of view of imparting conservation education and training. Therefore, the West India tour for SFS Officer Trainees of 2015-17 Induction course in September-October 2015 included case study documentation from Dang, Valsad, Surat, Narmada and Gir. The stories that the Officer Trainees have documented are riveting and inspiring. There are stories of innovation like the "water ATM"; of community participation in Joint Forest Management; employee and staff welfare related issues...and many more. Definitely an enriching experience!



M.P. Singh

SURAT / GUJARAT

# A critical analysis of eco-tourism at Kevdi eco-campsite

*A collaboration between villagers and the Forest Department, the eco-campsite has started generating employment for the local people*

MRIGANKA BORAH

Eco-tourism is defined as responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education. Thus as a corollary, success of any scheme for conservation and education in relation to wildlife needs people participation. However, this is very difficult to achieve especially when the villagers are uneducated, poor and highly dependent on forests. They are not sure of a constant source of income as their main livelihood is on agriculture, which is rain fed. Considering the above facts it becomes difficult to seek people's cooperation for protection and conservation of forests and wildlife. One has to see the problem in right perspective and address the needs of the stakeholders for implementation of any new project. This case study takes a look at the inception of eco-tourism in Kevdi village and its implementation with the help of Eco development committees with an overall assessment of its success in prevailing condition.

Kevdi is a small village in

Mandvitaluka in Surat district of Gujarat. It comes under Kevdi panchayat. It is located 57 km towards east from the district headquarters Surat and 268 km from the state capital Gandhinagar. The Kevdi Eco-campsite is spread over 201.24 ha and falls under the biodiversity working circle and is a part of the Surat forest division. It has a wonderful location as it is situated on the bank of River Tapi. The Kevdi Eco-campsite is rich in biodiversity. Leopards, birds, giant flying squirrels are sighted at the site. The area is surrounded with beautiful hills and forest. It's more attractive during the monsoon season and during winters. The tribal communities residing nearby depend heavily on forests and forestry activities.

Kevdi Eco-campsite was developed as an eco-tourism site because of its rich forests and biodiversity. The main attraction of the campsite is the natural forest and the eco-tourism setup. It also creates awareness about the natural resources and contributes towards economic wellbeing of the local community. These sites are managed by the Eco Development Committees.

An Eco Development committee was formed in Kevdi with eleven members in 2006 in collaboration with the Forest Department and played an important role in generating employment for the common people. In 2006-07 in collaboration with Japan International Cooperation Agency (JICA) the committee has developed in various infrastructure developments.

Kevdi is a revenue village; almost every villager is dependent on agriculture, animal husbandry, and daily labour work. Majority of people in Kevdi are scheduled tribes, mainly Basawa and Choudhury tribes. People are mainly farmers; they cultivate paddy, wheat and vegetables as per their needs. The land holdings do not meet their needs, so they work as labourers. Their livelihood is mainly dependent on handcrafted bamboo products.

The Kevdi eco-campsite in collaboration with the local villagers and the Forest Department has started generating employment for the common people and also plays an important role in the development of the livelihoods. The funds from the government are pooled for employing fire watchers, anti-poaching squads, better transport and communication and habitat management, which provides protection for the forest and livelihoods for people.

Before initiating the eco-tourism project there was a need to build infrastructure and seek the cooperation of villagers. The Department of Tourism in collaboration with Forest Department in 2007-08 contributed

Rs 43.5 lakh for the development of infrastructure at the eco-campsite. In 2013-14 it granted Rs 2 crore for further development of the eco-campsite. The eco development committee takes responsibility for managing transportation, accommodation and camp arrangements for tourists. Selected members are trained for undertaking the above activities at local level. Some local youth are also trained as guides for the eco-campsite.

The accommodation provided by Forest Department includes beautifully, well-designed twin house, dome house, tent house and cottages. Other facilities include a trekking trail, watchtower, sunset point, boating and a restaurant and cafeteria where traditional cuisine is served. A separate area is provided for campfire, the campsite also has a beautiful nature trail and stops on the route provide refreshment in the forest for the tourists.

For ensuring that tourism and conservation are sustainable there is a need for assessment of present situation and planning for future. The carrying capacity of the site for tourism in the sanctuary should be assessed and controlled. This can be regulated by providing limited entry passes. Accommodation and other facilities need to be upgraded and advertised for promoting more number of tourists. Guides and caretakers must be well informed to tackle international tourists. An interpretation centre is planned to be created in near future. Increase in facilities like having telephone facility, primary health centre with medicines. Wildlife sightings can be

increased by habitat development. Limiting of unproductive cattle and their immunization is also planned. This will reduce grazing pressure in the sanctuary. Villages are still largely dependent on the forest for meeting their basic requirements of fuel wood hence providing alternatives is an urgent requirement.

The construction work which remains to be completed at the site should be initiated as soon as possible to meet the existing demand. Emphasis should be given in decorating the entrance gate for attracting tourists. The objective of this initiative is not only to enable the local people but also to motivate visitors to learn about the local environment and culture. This process will create employment, improve standards of living, by stimulating the local economy and provide incentive for conservation.

## Acknowledgement

At the foremost I would like convey my sincere thanks and gratitude to our tour-in-charge Ms Meera Iyer, IFS, Principal, CASFOS, Dehradun, for the support and guidance in all aspects for successful completion of our West India case study tour scheduled in September 2015 at Surat, Gujarat. Sincere thanks to our course director Dr KS Jayachandran, IFS and Dr Surabhi Rai, IFS faculty member who guided us in all aspects in the entire tour. My sincere thanks to the Forest Department of Gujarat and the officials of the entire department for making our tour successful. My special thanks to the PCCF, APCCF, DFO, ACF&RO of Gujarat who provided us the opportunity and also shared their valuable experiences.

I would also like to thank my group members and my colleagues of SFS batch 2015-17 for their kind cooperation.

JOINT FOREST MANAGEMENT / GUJARAT

# A remarkable achievement in forest protection

*The Joint Forest Management Committees (JFMCs) protect the forest area against encroachment, cultivation, fire, illicit cutting and grazing*

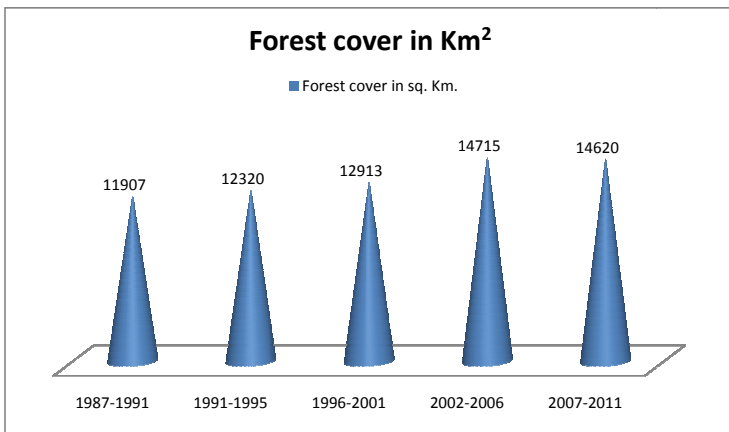
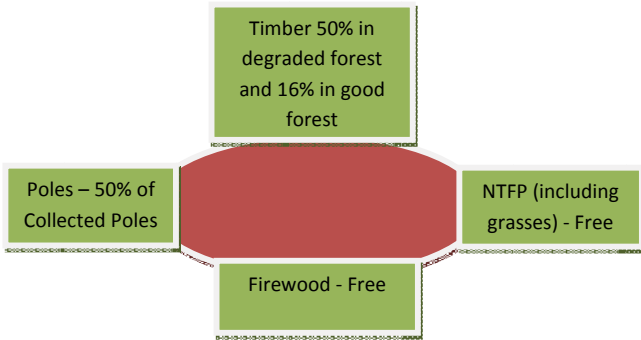
**BISWA JYOTI DAS**

**J**oint Forest Management (JFM) essentially translates into involving people in the management of natural resources along with the government on care and share basis. In the case of Gujarat, the state is basically an industrial state with a geographical area of 1,96,024 sq. km of which 18,927 sq. km is under forests. Thus the state with 9.66% of its total area under forests accounts for 2.4 per cent of the country's forest area and is thus deficient in forest cover compared to some of the other states. Despite that, forests are very important for the state as almost 15 per cent of its population is tribal and their lives are intricately interwoven with the wellbeing of the forests. The tribal population fulfils their day-to-day domestic requirement of the fuel wood, grass and fodder, fruits, timber and MFP from the forest.

With the growth of human and cattle population, the biotic pressure on the forests has increased and results in more degradation of forests leading to more poverty and thereby increasing the dependence of the local

population on natural resources, which further adds to biotic pressure on the forest land.

With a view to protecting the forest from further degradation and to support the livelihood of the tribal population, the participatory approach of Joint Forestry Management (JFM) was introduced in Gujarat in the year 1991. The local NGOs of the Gujarat – Aga Khan Rural Support Programme (AKRSP), Viksat, Sarthi, Sadvichar, Parivar, Sadguru Foundation, Development Support Centre Ahmedabad, Tree Growers Cooperative Society – act as a link between villagers and forest department to motivate villagers for JFM. Their role is to encourage villagers to form a society which protects, grows and expands forests. The Joint Forest Management Committee (JFMC) thus formed protects the forest area against encroachment, cultivation, fire, illicit cutting and grazing. They also carry out afforestation activities in barren forest area and in the village areas. In return for protecting the forest, the JFMC ensures extension of benefits in terms of various forest produce to JFMC which are entitled to free collection of



all NTFPs, dry and fallen firewood, 50 per cent of poles and other thinning materials obtained out of thinning and 100 per cent bamboo. In addition the JFMCs get 50 per cent of the net revenue realized from the final felling of trees from the degraded forest area and 16 per cent from dense forest area.

With the increase in activities of the JFMC the increase in forest cover has been remarkable. In the year 2013, the forest cover under JFM stood at 14,619 sq. km, accounting for over 77 per cent of the total forest area of the state.

The JFMC addresses the root cause of forest depletion, the dependence

of villagers on forest, which is largely due to their poor economic condition. It addresses this by providing them due share in forest produce like timber, grass, firewood and other NTFPS and thus fulfilling their economic needs. JFM thus ensures the support of the villager in its objective of protecting forests.

At present the Forest Department in collaboration with the local people have created 187 JFMCs, 77 EDCs in the Sanctuary areas and 231 SHGs in which 12-15 members are Below Poverty Line. Livelihood enhancement of these people is addressed by imparting training in modern techniques of agriculture

and horticulture. JFMCs are given pump sets and pipe lines for irrigation, group wells are dug, check dams are constructed for minor irrigation. These activities have motivated the members of JFMC in their involvement in intensive agriculture. In this activity of agriculture, High Yielding Variety (HYV) seeds were distributed to the villagers such as broad beans, red gram and vegetable kits (cluster bean, ladies finger, brinjal, tomato, etc.) along with grafted mango plants were distributed. With these facilities, the average income has increased by Rs 8,000 per family among 2179 households. Thus, by providing economic benefits to JFMCs, JFM utilises their effort and commitment to forest conservation, thereby ensuring ecological gains along with economic benefits to JFMCs.

With the proper blending of economic development and ecological conservation, the state hopes to conserve its forests with economically developed local communities joining hand with the Government.

## Acknowledgements

My sincere thanks go to the DFO, Narmada Forest Division and all the office bearers under the Division for helping us in all aspects to make our tour successful. I also like to thank Dr R Mohan Ram, IFS, ACF, for arranging the logistics and accommodation during the tour.

My special thanks go to Mr NM Pandya, RFO, Sorapada Range, Mr MK Parmar, Mr AD Rana, Mr FU Rathore, of the Sorapada Range for providing information on JFMCs operating in Sorapada Range.

I would like to thank all other Range Officers, Foresters, Beat Guards and forest watchers under Narmada Forest Division who took lots of pain to help make the tour worth meaningful. My thanks also goes to all the office bearers of different JFMCs, EDCs and SHGs who gave valuable inputs to carry out our group's case studies.

GIR NATIONAL PARK / GUJARAT

# Eco-tourism proves to be a success at Gir

*A rich biodiversity, increasing number of Asiatic Lions and tourism on the rise – the eco-tourism project at Gir has had a positive impact*

MARTHA RATAN

**E**co-tourism in Gir has proved to be a success, which is evident by a number of facts – lion population is increasing, biodiversity is intact, local communities are benefitted and tourist numbers are on the rise. Gir ecosystem *vis a vis* Gir eco-tourism has been sustainable and it has completed 50 years. The golden jubilee was celebrated on September 18 and 19, 2015. On this occasion, a two-day workshop on ‘Conservation of Asiatic lions: from regional to global perspective’ was conducted. Protection was first given to the Gir lions in 1900, when numbers were down to a mere 12 individuals! In 1936, the number rose to 250 and today it is 523.

## Biodiversity

Biodiversity is intact inside Gir and is, in fact, very rich. There are 600 leopards, 1,000 crocodiles, 38 mammal species, 37 reptile species, 300 plus bird species, 2,000 insect species and 606 plant species.

## Benefit to local communities

The local communities have been benefitted by various eco-tourism

activities. About 250 men are engaged in the Jungle Trail Vehicle Service, earning Rs 200 a day; 11 persons are Trackers, earning Rs 200 a day; 83 are Guides, earning Rs 250 a day; and, many are employed in hotels in and around Gir. Also, there are two dozen shops run by local people and there is a good market for local products like mango, sugarcane, coconut and local cuisines. The number of tourists who visited Gir in 2008-09 was 1,60,883 and in 2013-14 the number rose to 4,87,807.

## Eco-tourism, Gir management objective

Eco-tourism is one of the objectives of Gir management while wildlife conservation, especially of Asiatic Lions (*Panthera leopercica*), remains the main objective. Gir management holds that tourists should be provided with a meaningful exposure to the Protected Area (PA) so that they can appreciate India’s magnificent natural heritage and conservation benefits. Tourism in Gir is striving to be ecologically and socio-culturally sustainable, balancing conservation, education and entertainment, with active participation of the local communities.

## Objectives

1. To minimise the negative impact of tourists on PA and wildlife.
2. To provide economic benefits to local communities.
3. To maximise people's experience during their stay through education, interpretation and recreation.
4. To increase the visitors' concern for nature conservation.

Approximately two dozen shops at Sasan Gir are primarily dependent on tourism. Besides, a large number of people find employment through wildlife tourism at Sasan Gir. The reception centre and the Wildlife Orientation-cum-Interpretation Centre in the compound of Sinh Sadan are used for imparting wildlife and nature education to the visitors. A film show is organised regularly in the evening at the Orientation-cum-Interpretation Centre, which was established in 1980.

An area of 412 ha, that encompasses all the habitat types and wildlife of Gir, has been fenced at Devalia block. The basic aim of this facility is to provide opportunity of viewing lions and other animals in their natural habitats within a short time. The Gir Interpretation Zone (GIZ) reduces tourist pressure on the tourist zone. A facility of cafeteria is also provided at the GIZ.

The Gir education and interpretation facilities are at Sasan Gir. Orientation

facility has been renovated to cater to the information needs of tourists. Adequate information and interpretative print materials are available in form of booklets, brochures and leaflets. The signages displayed are user friendly. The quality of lodging and boarding facilities in and around Gir have improved. Regular training courses are organised for the local youth to train them as eco-guides, including courses on spoken English. Locals from nearby villages of Sasan Gir are also encouraged to provide facilities to tourists. To reduce the negative impact of pollution from vehicles, 5 bio-diesel operated vehicles were introduced by the Gujarat State Forest Department in Devalia Interpretation Centre. The use of diesel vehicles for tourism is discouraged. A ban on throwing plastics and polythene bags in the PA has been imposed by the Government of Gujarat. Efforts are being made to regulate vehicular movement in Gir.

## Acknowledgements

My sincere thanks to Dr Sandeep Kumar, IFS, DCF Wildlife, Sasan Gir, who has been my guide and resource person. My gratitude also to Mr M P Singh, IFS, Director, Directorate of Forest Education, Mr N Sonzalian, IFS, then Principal, CASFoS, and Ms Meera Iyer, IFS, Principal, CASFoS and tour incharge.

SURAT / GUJARAT

# The Kotwalia Bamboo Artisan Project: A case study

*The joint venture between the Forest Department and an NGO has helped in transforming the life of Kotwalias, a landless tribe traditionally dependent on bamboo craft*

RAJIV ENGTI

The Kotwalias are one of the most primitive tribes of south Gujarat. Traditionally, they have been engaged in making bamboo baskets. Almost all of them are landless since long. They are known for their bamboo craftsmanship and depend entirely on bamboo work and basket-making. Their literacy rate is very low. They used to live near forests to ensure regular supply of raw materials for making bamboo items, which they sell in the market. All family members contribute in making bamboo artifacts. With the passage of time, the availability of bamboo in wild became scarce and the tribe members had to travel long distances to collect raw material. This, coupled with other socio-economic factors, resulted in dwindling of their numbers. According to the latest census, out of the total Kotwalia population of 21,453, the district of Surat has around 14,194 members.

Apart from getting the raw material, the other major problem faced by the tribe was fetching a good price for their finished products in the local markets.

Since 1976, the Forest Department has been trying to improve their economic condition by launching a scheme of supplying them bamboos at very low cost of Rs 1 per piece. This scheme continued till 2003-2004. In 2004, the scheme was renewed under Ambedkar Hastkala Yojna to train the traditional bamboo workers in modern and niche bamboo products. The scheme saw participation of 622 families from Mandvi Taluka and Umarpada. The biggest challenge was to adapt to the changing scenario of products and market demands. For this, in 2013-14, the Forest Department took the Aga Khan Rural Support Programme (AKRSP) on board. The AKRSP works under the Aga Khan Foundation, which works across the world, especially the third world countries, towards improve the quality of life and rural development. AKRSP took care of the training of tribals in bamboo craft and creating market linkages for finished products.

The Kotwalia Bamboo Artisan Project was a joint initiative of the Forest Department of Gujarat, Tribal Sub Plan (TASP) and AKRSP. The

project was executed with Rs 55,80,400. Details of the project funding are given in the table.

### Infrastructure Development

The infrastructure developed in the unit included a godown, workshop, product outlet and offices near the State Highway 6 at Mandvi-Zankhaw Road, under Mandvi (North) Range, Surat Division.

### Training and skill development

AKRSP took upon itself the responsibility of training the members of Kotwalia tribe in bamboo works. Earlier, the items produced by them were confined only to baskets, containers, brooms, mats, fans, etc. Apart from training them on giving a good finish to their traditional items, they were taught to make furniture, lamps and other appliances of bamboo. They were taught to work on modern tools and implements, resulting in fine tuning of their craft according to market demands.

The workers engaged in the bamboo handicraft unit are categorised into three categories – unskilled, semi-skilled and skilled. Their remuneration ranges from Rs 160 to Rs 320 as per their skill. The active involvement of AKRSP has ensured that the work culture is healthy and the finished

products find their way to the market, fetching good prices. The participation of women members is encouraging as money in the hands of women is more likely to benefit the whole family. The strategic location of the unit, near a busy State Highway, ensures good sale from the outlet. The demand is increasing and the unit is finding it tough to meet orders. What is most striking is the journey of Kotwalias from making traditional baskets to making modern furniture. The fact that the handicrafts are finding their way to the intended market is quite contrasting from the earlier scenario when they were forced to sell their products to middleman at throwaway prices. That was the prime reason why, despite the best efforts of the Forest Department to enhance their livelihood, poverty continued to be prevalent.

The success of this project has a direct impact on the socio-economic status of this tribe in the Mandvi Taluka. At present, the handicraft unit earns an average of Rs 1,50,000 per month. The surplus amount, after disbursing the salary of workers and other management staff, is distributed among the workers as bonus. The direct indication of benefit to the tribal workers is seen from the fact that some of them have graduated from a bicycle to a motorcycle. Due to their enhanced

Sl. No.	Projects	Forest Dept. Support (40%)	AKRSP Support (20%)	TASP Support (40%)	Total Fund (100%)
1	Bamboo Artisan Project (Kotwalia)	22,20,400	11,40,500	22,19,500	55,80,400

economic status and surety in monthly income, the local shopkeepers and traders have started to give them goods on credit. Their children are getting education and are no longer malnourished.

### Present Challenges

One of the biggest challenges has been to change the attitude of tribal workers. The workers, who are used to freebies from the government, tend to work less and demand full remuneration. Maintaining a good work culture is difficult. Getting good raw material is also a concern as the availability of locale bamboo has become less. At present, raw material is being sourced from North-Eastern States.

This kind of project is very relevant for the states of North-East India, where, due to lack of value addition, bamboo's true potential has not been realised in terms of livelihood means. The project is a good example where the government can collaborate with sincere NGOs to

usher prosperity in tribal lifestyle with lasting impact on their rural economies. Replication of such projects, with required changes based on habit and lifestyles of an individual tribe, is the need of the hour to combat problems plaguing the North-Eastern States, like unemployment and insurgency.

### Acknowledgement

I would like to express my gratitude to Ms Meera Iyer, IFS, Faculty CASFOS, for coordinating with all the concerned DCFs of the Divisions where we were supposed to visit. Also, the tour would not have been possible without the kind cooperation of Mr Puneet Nayyar, IFS, DCF, Surat Division, who arranged all the logistics for me. I would also like to make special mention of Mr Janak Thakar, ACF, Mr SN Surma, RFO, Mandvi(N), Mr JP Rathore, RFO, Mandvi(S), and all the forest officials of Surat Forest Division for their immense support in helping me complete my case study.

DANG / GUJARAT

# Forest Department policy for tribal welfare

*The Gujarat Forest Department has taken a number of initiatives aimed at improving the quality of life of tribals in Dang district*

SUJIT N NEVASE

The district of Dang in State of Gujarat has 311 villages in a geographical area of 1,778 sq km and a population of 2,28,291 (2011 census). Of this, tribal population is 96 per cent and, out of total geographical area, about 95 per cent is forest. In other words, the tribe and forest are intrinsic to each other. Tribals are mostly depended on forest for their basic needs of fuel wood, fodder, 'small' timber for making houses and agriculture implements. They also supplement their income through collection of non-wood forest produce, such as *timru* leaves, *mahua* flowers and seeds, and various types of other products.

The Forest Department has its reach up to the most interior areas of the State and thus has a great responsibility to look after the welfare of the tribal people. The department's activities should balance between forest protection and socio-economic development of tribes. The department has implemented many tribal welfare schemes for the upliftment of these people. Some of them are:

## Malaki Scheme

Since pre-Independence, cultivation rights in protected forest were with Dangis and, later on, in subsequent policies, rights over standing trees were also given. The task of controlling and conducting felling has been consciously given to the Forest Department to protect bonafide interests of poor tribals and to avoid middlemen. This control was also aimed at keeping the forest of Dang as a single unit. The Forest Department has implemented innovative ideas, like permission for 10 trees at a time, planting of trees, e-auction, bank guarantee to repay loan (GKCC), etc.

## Green Kisan Credit Card (GKCC)

This is a modified version of the Kisan credit card extended to the teak crop on farmers' land. The sale of *Malaki* through the Forest Department results in higher financial returns, but delayed benefits. GKCC is best possible solution to address this delay. The Forest Department estimates the market value of marked trees/felled trees and gives certificate of valuation. The Bank

accepts this certificate as a mortgage and provides loan at cheap rate for up to 5 years. A comparative assessment shows very rapid availability of liquidity. There is much more scope to include Kotwalia tribes and NTFP in these schemes and to decrease the burden of interest on tribals. There should be a minimum period between application and final payment, which is now up to 4 years.

### Adivasi Vruksh Kheti Yojana

It is special agro-forestry scheme in Dang for tribals. It aims at improving the income of tribals through raising teak and other economic species and to improve tree cover. It encourages planting of teak and other economic species on private land in the district and providing it support for maintenance and protection. An assistance of Rs 2.5/plant/month is given for 18 years; this subsistence allowance depends on the survival of the plant. Nearly 400 hectares of plantation in 3 years with distribution of about Rs 2.32 crore as subsistence allowance shows the success of the scheme. But, as the scheme period is 18 years, it would require staff dedication for the successful execution of this scheme.

### Kotwalia Scheme

Kotwalia tribe is, economically most backward, socially neglected and the weakest as compared to other tribes. Leading a nomadic life, they had been engaged in making bamboo articles. With the objective to settle Kotwalia families at specific places and in the form of village hamlets, this scheme

was launched. Under this scheme, the department supplied the tribal members 800 Manvel bamboos plus additional 200 per annum with the royalty Rs 1 per bamboo. The operation of scheme for many years helped in settling them and bringing them above poverty line. But, currently, the scheme is in stagnated phase because the department can't fulfil some demands promised in the scheme. This has resulted in increased illegal cutting. Poor marketing strategy and lack of diversification of bamboo articles are the hurdles to an increased per capita income of tribals. Proper planning to fulfil bamboo needs is required along with training facilities and organised marketing efforts.

### Joint Forest Management

People participatory approach is important in protection and afforestation activities. Forest activities have long gestation periods and entail 'closure' of the area (e.g., plantation programme). So, the feeling that 'Forestry programmes' are 'government programmes' is developed. Thus, to win the trust and confidence of the people and to elicit willing participation of communities, the Dang Forest Department started entry point activities. In north Dang,, there are 129 Joint Forest Management Committees (JFMC) and 24 EDCs and in south Dang there are 85 JFMCs and 10 EDCs. The Forest Department gave benefits of Rs 263.95 lakh in the North division and Rs 294.5 lakh in the South division through JFMCs and EDCs.

In 2011-12, the Forest Department started Vanlakshmi scheme and share 16 per cent of total profit through

felling, sale of NTFP, etc., with JFMCs. This could be used for development activity of villages. From 2011-12 to 2013-14, JFMCs got Rs 454.5 lakh and Rs 307.45 lakh for developmental activities in South and North divisions, respectively. Share distribution also helped in developing goodwill for the Forest Department among local peoples.

To empower women, the Forest Department started Cluster Development and Livelihood Enhancement scheme through Self Help Groups (SHGs). At present, 189 SHGs are actively working in cultivation of vegetables, commercial activities like operating kirana stores, flour milling units and cafeterias, medicinal plant cultivation like *safed musli* and turmeric, and floriculture of marigold. To initiate business, the Forest Department provides 50 per cent subsidised loan (up to Rs 30,000) to a SHG.

After critical analysis of secondary data from the Dang forest division, data collected from conversation with local peoples and beneficiaries of various schemes, it is found that there is scope for the improvement in schemes. Like in the case of Malaki scheme, alcoholism

is a main hurdle to trickling down of benefits in the society, so awareness needed. Lopping operation for farming decreases wood quality and timber is priced low, so awareness about new agriculture practices is required. Now-a-days time lapse in Malaki application disposal requires 3-4 years, which will put burden of interest of GKCC on tribals, so timely disposal of the application is important. For more economical benefits, organised marketing efforts are needed in Kotwalia scheme. The round force is insufficient to operate all the schemes, so timely recruitment is important for good implementation. For better execution of Kotwalia scheme and timely disposal of Malaki cases, proper planning is needed. Adivashi Vruksh Kheti Yojana and GKCC are worth replicating in tribal-dominant regions. Sincere and reputed NGOs should be involved in welfare schemes.

### Acknowledgment

I would like to thank DCF, North and South Division, Dang Forest Department, for providing all necessary information to carry out the case study successfully.

VALSAD / GUJARAT

# Coastal shelterbelt, a success story

*Plantation of Casuarina trees have gone a long way in not only reducing soil erosion but also forming a line of defence against high winds and cyclones*

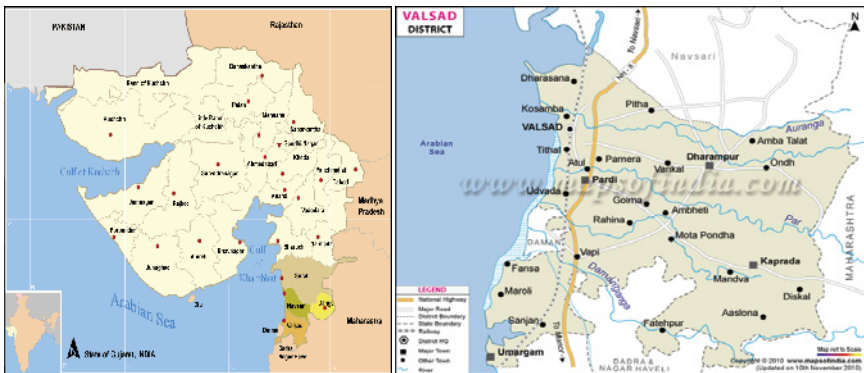
**KHANINDRA KALITA**

Valsad is one of the 33 districts of Gujarat, a State which has the longest coastline of 1,600 km. Valsad District is located on the southern-most end of the State and has an area of around 3,008 sq. km where 90 km is the coastline. Average rainfall here is 2,000 mm per annum.

Coastal erosion is a major problem in Valsad. The erosion takes place mostly under the action of strong tidal current accompanied by wave action, particularly just before monsoon and in monsoon season. The main occupation of the local people of coastal villages is fishing. That is the reason why villagers do not want to leave their original place of dwelling near the coast in spite of

heavy damages to houses, fertile land and other property due to coastal erosion. In view of this, and keeping in mind the nature of damage, anti-sea erosion works are carried out by the Gujarat government.

The Forest Department has been continuously pursuing coastal border plantations since 1951. Casuarina Shelterbelt plantation is a part of this. Coastal Shelterbelts are barriers of trees or shrubs planted in one or more rows to reduce wind velocity and thereby provide protection and minimise loss to agriculture crops during normal times and mitigate likely effect of cyclones on life, property infrastructure in the region. Shelterbelts also check the salinisation of agricultural land. Forest of some naturally grown species like



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mangrove, *Acacia nilotica*, *Prosopis juliflora* also act as shelterbelt in the coastal areas.

*Casuarina* (*Casuarina equisetifolia*) has been used for plantation as coastal shelterbelt in States like Orissa, Tamil Nadu, Gujarat, etc.

*Casuarina* is preferred for Shelterbelt plantation because:

1. It is a fast growing coastal plant.
2. It is capable of thriving in extreme climatic conditions.
3. It is easy to raise in a nursery.
4. It is the best form of firewood and is used in manufacturing charcoal.
5. It is used in pulp industry.
6. It possesses medicinal properties.

### Raising of *casuarina* in Nursery

1. Fruit is collected in the months of February-March.
2. It is dried and seeds are collected.
3. For preparation of bed, dry leaves are brunt and mixed with the soil of the bed.
4. Seeds are then sowed.
5. Germination takes place with 15-20 days.
6. When it grows to 3-5 inches, it is shifted to a polybag.
7. When the seedling becomes 3-5 feet, it is ready for plantation.

Nargol, Ambergaon, Tithal are some of the beaches in Gujarat where *casuarina* as shelterbelt is planted.

The difficulties arising out of *casuarina* plantation are that its natural regeneration is rare and there is a dry back in first two years of plantation due to accumulation of salt.

Another major problem is that these plants are sometime washed away due to soil erosion. The solution to this is the gabion structure, protection wall, etc., which are carried out by the Gujarat Government in some coastal areas like Tithal, Ambergaon, etc., where erosion was reported. Departments involved in this activity are the Tourism Development Department, PWD, etc.

Mangrove naturally grows well in coastal areas, but its success rate in plantation is very low. Raising mangrove in nursery is also very difficult. Natural regeneration of mangrove in some places under Sanjan and Chikli Range in Gujarat is thus very good news.

Shelterbelt plantation site in coastal areas has every possibility to be developed as a eco-tourism site and local people should be involved in that. Without the participation of local people, no developmental activity can be sustained.

Eco-tourism in PPP (public-private partnership) mode in the shelterbelt plantation areas can:

1. Create awareness about the forest as well as the importance of shelterbelt plantation among the local people.
2. Generate livelihood opportunities for the local people.
3. Open the door to the world.
4. Help in overall development of the place.

Shelterbelt plantation is equally important for riverbank erosion. The idea is same but the choice of species is different, depending upon the property of the soil. The Forest Department has

to play this role for the success and benefit of public.

Protection and development of forest is not possible without the participation of people. Planning should be done for a forest-related activity keeping in mind the socio-economic status of the local people.

## Acknowledgement

Special thanks to Mr Sureshbhai Vairagbhai Kedaria, Assistant Conservator of Forest, Valsad North Division, Gujarat, and the staff for their constant support and guidance during the case study.

SURAT / GUJARAT

# JFM at Belathi Village: Sharing of benefits and responsibilities

*Belathi is said to be the first village where the JFM programme was launched. This article explores the JFM initiatives in Belathi and its ecological and economic impacts*

SAUMITRO DAS

Joint Forest Management (JFM) has emerged as an important intervention in the management of India's forest resource. It was one of the main strategies to operationalize the National Forest Policy of 1988. JFM is the sharing of products, responsibilities, control and decision making authority over forest land between the forest department and local communities, based on a formal agreement. Most states have adopted this participatory forest management programme. In Gujarat, JFM was officially initiated by state government on March 13, 1991. The aim of JFM is to seek participation of village communities in the regeneration, conservation, development and maintenance of degraded forest to meet village community requirements such as grass, firewood, small timber and to promote sustainable forestry.

Surat Forest Division is considered to be the birth place of Joint Forest Management in Gujarat. According to some sources, it was initiated from Belathi village which falls under

Mandvi North Range, Surat Division. There are 25 villages in Mandvi North Range and each village has its own Joint Forest Management Committee also called *Van Mandli*. Before 1986, clear-felling system, combined with increasing human and livestock pressure, increased soil erosion and depressed natural regeneration leading to the degradation of forests. As a response to the ecological imbalance, the Gujarat Forest Department imposed a ban on felling in 1986, which is still in force today. During the period 1987-90, the villages suffered a long spell of drought. Scarcity of daily needs forced the villagers to do illicit felling despite the ban. Also the strictness of forest department regarding utilization of forests made the people stay away from the forests. This resulted in the loss of interest of rural people for protecting their surrounding forests which they had been doing traditionally.

Joint Forest Management in Mandvi was pioneered by Kishore Bhai Choudhury, who started conservation activities from his own village, Belathi. He used to go from house to house

to create awareness about forest conservation. He motivated people to join conservation activities. Initially people turned deaf ear to Kishore Bhai initiatives, but over time they realized the importance of community forest management. Kishore Bhai urged villagers to inculcate a sense of belonging towards forests. This mutual understanding between village communities and forest department not only resolved their dispute but also led to fruitful results in the direction of forest conservation.

In Belathi, community protection of local forest is the first and foremost activity taken up under JFM. The protection prevents the happening of forest degrading agents like forest fire, grazing and illicit removal of trees. Though most of the villagers are involved in animal husbandry, they have now opted for stall feeding instead of grazing. All these steps have induced natural regeneration and re-growth, resulting into increase in the productivity of degraded forest. However no specific silviculture system has been taken up by forest department. The only operation carried out by forest department is gap or patch plantation. The regeneration of degraded land is primarily done especially by coppicing and cutting back of existing root stocks. On cutting back the existing, struggling or stunted vegetative stems flush to the ground, new vigorous shoots come up in coppice. The JFM belt of Gujarat is basically a teak (*Tectonagrandis*) bearing zone. On cutting back the old but failing plantation of teak, Khair (*Acacia catechu*) and bamboo (TKB), strong promising

shoots have regenerated over the area. In places wherever teak plantation has failed, it is dominated by hardy species such as Saaj (*Terminalia tomentosa*) and Palash (*Butea monosperma*). A prominent feature of Belathi village is that people maintain homestead gardens where they grow banana, *jowar* and pulses.

Several benefits emanate from JFM these include ecological, community related and economic benefits. The ecological benefits arise in term of improved soil and water holding capacity, reduced runoff, and increase in local biodiversity and above all, the aesthetic beauty of village. The community related benefits arise due to frequent interactions among villagers. It makes people to know and understand each other well, and develops a culture of resolving conflicts through dialogue not through confrontation. Thus JFM fosters unity among people and rejuvenates the traditional leadership based on ethical values and prepares people to jointly endeavour to achieve some community objectives. The economic benefits derived are in terms of non-timber and timber products. The non-timber output includes fuelwood, fodder, gums, leaves, etc.; the fuel wood and fodder are highly valued by villagers. The major Non Timber Forest Products (NTFPs) collected by villagers include flowers of *Mahua* (*Madhucaindica*) and seeds, gums, leaves of *Timru* (*Diospyros melanoxylon*). The villagers are allowed to collect them freely without the forest department's permission. The other benefits which villagers value, are bamboos which they use for their huts and building of

fences or for sale in the market to meet their cash needs. A bamboo forest is maintained in Belathi village, where harvesting is carried out in rotation every two to three years. The benefits from JFMs are shared with all the members of the *Gaon Sabha* as well as the JFM committees.

Enthusiasm among villagers is evident from the fact that about 80% of families of the Belathi village are the member of JFM committees. The JFMC and the Panchayats are so organized that the former can take advantage of latter's administrative and financial position along with the organisational capacity for managing forest resources. In spite of this, the unique non-political identity of JFM committees is maintained and ensured. The success story of Belathi village spread to other villages of southern Gujarat and they also started implementing JFM programmes. The success of JFM in Gujarat inspired the Forest Department to bring many

ambitious programmes such as cluster development, imparting training to JFMCs and also providing them infrastructure which has resulted in the up-gradation of rural livelihoods.

### Acknowledgement

I sincerely acknowledge and thanks Mr Puneet Nayyar, IFS, DCF, Surat Forest Divison, Gujarat, for arranging the logistics for carrying out case study. I am grateful to Mr Janak Thakar, ACF and Mr JP Rathod, RFO, Mandavi (N) Range, Surat Forest Divison, Gujarat, for accompanying me during field work and in conducting the questionnaire survey. I am thankful to Mr Kishore Bhai Choudhury and members of JFMC of Belathi village for their kind co-operation and giving valuable information about JFM initiatives in their village. I also thank Ms Meera Iyer, IFS, Principal, CASFOS, for her moral support, constant guidance and helpful suggestions during entire case study tour.

FOREST PRODUCTS / GUJARAT

# Timber e-auction, a move towards good governance

*E-auction of timber has made the process fair, just, transparent, participatory and more democratic*

PRAMOD SINGH

The broad mandate of the Forest Department is to protect, develop and manage the forest and wildlife resources of the State. Timber auction is one part of this forest management. The Gujarat Forest Department auctions timber harvested from reserved forests and in case of some species (reserved by the State government) even from private lands. These auctions are organised for the sale of a variety of timber to prospective timber merchants and other buyers.

E-auction of timber has led to reduction of occurrence of malpractices of ring formation/ cartelisation by timber merchants. The process has become fair, just, transparent, participatory and more democratic. The goal of forest management in the given context has thus been satisfactorily fulfilled. The implementation of the initiative started in August 2010.

## Motivator(s) for the project initiative

Following needs worked as major motivators for the change in the auction

process which has been successfully brought about:

- i. Good governance that enhances elements of transparency; efficiency; and, public convenience.
- ii. Possibility of concurrent monitoring of the entire process by even distantly situated senior authorities.
- iii. Speed of the process, expected to result in financial gains.
- iv. Shift from local to distant or global participation in the auction.

## Purpose and priorities of the initiative

The following are the objectives of the Timber e-auction Initiative:

- i. **Increasing the transparency and ensuring good governance** by shifting to an online method of auction. The officials of the Forest Department will be able to ensure that no insider dealings happen among the bidders. The online system ensures accountability, efficiency and responsiveness.
- ii. **Widening the customer base** for timber auction rather than limiting it to just local communities and business entities.
- iii. **Doing away with cumbersome**

**manual documentation and supervision** of auction, avoiding chances of human error and making the details readily available for analysis or further work.

iv. **Tracking the bids made and keeping a check on malpractices** which generally happen during the traditional auction process. Also, since the identity of any bidder will not be revealed to other bidder, it will lead to a fairer auction process and appropriate prices for all the lots.

v. **Increasing participation** since the online nature of the auction would encourage people, who earlier didn't have resources, to come to the place of auction to take part in it. It would also facilitate participation of businessmen outside Gujarat, thus increasing the competition in the auction.

As of now, the e-auction programme has been started in Dang and Valsad districts, the most heavily forested districts of the State having four forest divisions. In these divisions, larger volume of timber trade is carried out by the Forest Department.

At each auction, there are three types of timber offered to the participants.

i. **Departmental wood/timber:** According to the Working Plan, some areas are harvested by the Forest Department. Besides, timber seized in forest offences needs to be sold after the due process of handling offence

cases is completed. These constitute departmental wood/timber, which is sold by the Forest Department regularly.

ii. **Government timber harvested through Forest Labour Cooperative Societies:** Annual forest coupes, which are due for harvesting as per approved Working Plans, are often harvested through various Forest Labour Cooperative Societies. The timber/wood from such felling is sold by the Forest Department because it is essentially government-owned timber harvested through a different agency, that is Labour Cooperatives.

iii. **Maliki wood/timber:** Five tree species – teak, *khair*, *mahua*, sandalwood and rosewood – have been reserved by the State government and prior felling permission from the Gujarat Forest Department is required even if such trees occur on private lands (Maliki lands). Maliki wood refers to timber coming from these reserved species on private lands. The owners of the Maliki reserved trees have to take permission from the Forest Department if they wish to harvest these trees. After the trees have been harvested, the owners can get their timber auctioned as a part of the Forest Department's auction.

The e-auction model, as pioneered in Gujarat, can be replicated across various States as it promises a transparent system.

VALSAD / GUJARAT

# Implementing JFM

*Barumal village has shown that forest protection cannot be successful without the involvement of the community*

## TABOM SOKI

Gujarat state has only about 7 per cent of the total forest cover in the country, but accords a high priority towards social and development work. Accordingly, Joint Forest Management (JFM) was introduced in Gujarat with great enthusiasm. JFM is a development programme designed to provide economic and environmental benefits to the rural people in terms of increase in availability of fodder, fuel, timber and minor forest products and improve the quality of the land and water resources.

JFM has yielded some positive results in Gujarat. However, there are some problems related to social, cultural and administrative factors which are obstacles to achievement of the desired results from JFM. These problems can be eliminated through some important changes in the policies of the Department of Forests of the Government of Gujarat and through proper training of the participants of the programme.

Each participant state in the country has developed its own resolution, according to its status of forest and

the social culture. The salient features of the resolution of the Government of Gujarat for JFM are:

1. Under JFM, a Van Mandali (village level forest protection institution) is formed, consisting of those villagers who are interested in the programme. This institution can be 'Village Panchayat' or any Cooperative society. A Van Mandali has to be registered under the Societies Registration Act, within two years of its formation.
2. Anyone can become a member of the Van Mandali, but a minimum 60 per cent of the households of the village should have membership in the Mandali. It is mandatory to keep a membership register, containing full details of members.
3. The Van Mandali selects a management committee of 12 members. The management committee has a minimum of two women members and one representative from the Gram Panchayat.
4. NGOs having necessary skills and interest in forest protection can participate in the JFM in terms of helping villagers in forming Van Mandalis and in its operations.

5. The members of the Van Mandali have the right to cut grass and collect dry fallen wood and minor forest products from the JFM plot.

### JFMC of Barumal Village

Barumal village is situated in Valsad district of south Gujarat and falls under Dharampur Taluka of Valsad south forest division. About 60 per cent of the population is tribals, and most of them belong to the BPL category. Kukana, Varli and Ghodiya are the main tribal groups of this village.

The villagers are solely dependent on the forest for their livelihood. With a view to protect forests and to enhance rural livelihoods, JFM was launched in Gujarat in 1988. In 1992, JFM was launched in Barumal village. The village has 742 sq. km forest area under JFM.

NGOs have played an important role in promotion of JFM in Barumal village. There is an emphasis on institutional development. The NGOs' support for mobilising and motivating communities was solicited. The members of the Van Mandali have selected the executive committee for forest protection, headed by a chairman and comprising 11 other members. The ground forester is member-secretary of this committee.

### Protection of JFM Plot

Usually forest plots or pasture land are open, and constant grazing results in deterioration of the land. For regeneration of variety of grasses and indigenous species of trees, protection is an important component of forest resource management. Under JFM, Van

Mandalis are responsible for protection of the plot. They are given the freedom to adopt their own methods of protection. No formal system of monitoring has been developed by the villagers, but protection is done informally as follows:

1. If someone sees any cattle grazing in the plot, either he/she removes it or informs the forest guard.
2. People decided not to cut grass and fuelwood from the plot without obtaining permission from the Van Mandali.
3. People staying near the forest keep an eye on the plot and if someone is damaging the plot, they immediately inform the forest guard or committee members of the Van Mandali.

The Barumal Van Mandali, as in other villages, has made rules for protecting the JFM plot. These are listed as follows:

1. Do not cut green branches for fuel; collect only twigs.
2. Do not cut timber wood. If somebody is caught, she/he has to pay penalty ranging from Rs 51 to Rs 1,000, depending on the quantity and quality of wood. If somebody is not able to pay the penalty, his/her axe would be confiscated by the Mandali.
3. Villagers are not allowed to take cattle for grazing on the protected plot, nor allow people from nearby villages. All cases of violation are reported to the forest officials.
4. Grass cutting from the plot is allowed only in winter.
5. Quarrying is not allowed in the JFM plot area.

6. In case of cattle grazing, the owner has to pay a penalty of Rs 25 per cattle, In case of fuel cutting, the penalty is Rs 50 and in case of timber cutting, the penalty is Rs 200.
7. If a member is caught breaking rules, he /she will not get a share in benefits.

Van Mandalis assist the forest department in preventing trespass, encroachment, grazing, fire, poaching, theft or damage but have little or no power to punish or decide the nature of punishment for those caught indulging in any of these prohibited activities. Since the Van Mandali is not given formal rights for punishing offenders, they are often not able to work effectively.

The Barumal Van Mandali has also formulated certain rules regarding sharing of benefits. These rules have been made in consultations with villagers and forest department and are as follow:

1. Hamlet wise equal distribution of grass on particular day.
2. Equal distribution of grass to all members.
3. Draw system is adopted for cutting grass. Under this system, time and part of plot is decided for each group.
4. On a particular day, all members cut the grass according to their capacity.
5. Only members can cut grass as per their requirement.
6. Collective collection of fuelwood, usually twice a year, which is equally distributed to members.

7. Draw system for deciding turn and location of cutting wood. Non-members are not allowed to cut fuelwood.

## Conclusion

Although there are many potentially productive and sustainable technologies available for regeneration of forest, sustainable forest development will not take place without the full participation and collective action of rural people. The sustainable regeneration of forest depends on motivation of individual as well as by action of group or communities as whole. For a long time, individual and local groups have been ignored in the process of forest management. This has led to increased degradation of forest and decrease in capacity of local people to cope with the changing environment.

JFM is one of the most important programmes of the forest department and involves people in forest protection activities. Wherever protection is successful, production of grass and fuelwood has increased, which led to a 15-20 per cent increase in the annual income of participant families. To some extent, JFM has helped to bridge the gap between the villagers and forest officials. The old attitudes are changing, as forest officials have come to appreciate the regeneration of degraded forest which follows community protection and have appreciated the growing satisfaction of working with, rather than working against the local people.

## Acknowledgement

My foremost sense of obligation goes to Meera Iyer, IFS Principal of CASFOS, Dehradun, for her guidance and management support and for arranging the case study tour in a very planned manner. I acknowledge all the forest officials (DFOs, RFOs, Foresters and Forest guards) of the Valsad forest

division, Gujarat for their hospitality, and for showing a keen interest in the West India case study. I would like to acknowledge my special thanks to Shri SB Kedariya, ACF of Valsad (North) Forest Division, for his guidance and for enriching the study with his rich experience of work in the Forest Department of Gujarat.

GIR NATIONAL PARK / GUJARAT

# Managing man-animal conflict

*The Gir Forest Department has taken a number of initiatives involving local people that have resulted in better monitoring and management of man-animal conflict situations*

## KEMPI ETE

Today human-animal conflict is a major challenge for the Forest Department. On an average, there are about 350-400 human victims annually apart from loss of property and revenue from man-animal conflict. Unless the human-animal conflict is effectively managed, all conservation efforts will be short-lived.

Spread over an area of 1412.13 sq km, the Gir National Park and Sanctuary is one of the oldest sanctuaries in India, constituted in 1965 for conservation of the last surviving wild population of the majestic Asiatic lion, *Panthera leo persica*. It is one of the best managed Protected Areas (PA), having also won 'The Best Managed Protected Area' in 2013 by *Sanctuary Asia* magazine. It is because of the sincere efforts of the Gujarat government, the Forest Department and the support of local people that Asiatic lions have emerged from the brink of extinction to their present number of 523.

However, with the rise of population of carnivores and herbivores and their migration and dispersal outside the PA, the cases of man-animal conflict have increased in the last decade and is

one of the major challenges faced by the Park authorities. These conflicts results in cases of human as well as animal fatality, injury and crop damage.

The Gujarat Forest Department has developed an appropriate strategy, infrastructure and skilled human resources with people's participation, for managing the man-animal conflict. These include habitat management and restoration with the aim to prevent animal migration outside the PA. Regular grass management as well as prey base census are being done for monitoring purposes. To solve the twin problem of water shortage and floods, number of waterholes and *pawan chakkis*, wind-driven watermills, check dams and reservoirs are constructed. There are four major reservoirs in the PA – Kamleswar, Singhoda, Machhudri and Ravaladam.

As no conservation effort will be successful without people's support and involvement, the Forest Department is giving much emphasis on this aspect by providing local people with livelihood options and provisions, like construction of roads, houses, drinking water, solar lights, subsidy for constructing parapet walls around open wells and barbed wire fencing

around fields. This has greatly helped in reducing animal mortality through falling in well as well as winning people's goodwill.

Awareness campaigns, workshops, trainings, meetings involving local people, NGOs, police, civil administration, etc., are regularly conducted. Such activities not only generate awareness about conservation needs, but also help in building good relations and cooperation between different departments, which is very important, especially during man-animal conflict situations.

Since the attack on human and livestock causes a significant loss to the life and property of humans, compensation is an important tool to mitigate the conflict. The Gir Forest Department has launched a landscape-level conflict resolution programme, which comprises well-designed compensation plan for livestock killings and human casualties as per the prevailing market price. It also has a well-designed compensation verification system, which allows the foresters to verify cases of compensatory damages in presence of village members. Validated cases are compensated accordingly.

Another very important part of managing the man-animal control in Gir is the role of rescue centres. There are four rescue centres in the Gir PA, one at Sasan Gir. It has all modern facilities for rescuing and treating animals. The rescue team provides a swift response, are well trained and follow robust protocol during such operations. Many mobile response

teams are also deployed for regular patrolling in sensitive areas.

One of the main strength of the Gir Forest Department is its woman power. In 2007, the Gujarat government gave 33 per cent reservation for recruitment of female 'Van Shanrakshans'. This greatly boosted the women's participation as a frontline staff in conservation. These women are sincere, fearless and dedicated towards their duty. They regularly patrol the area as well as actively participate in rescue events. The women force not only helps in the rearing of rescued cubs, but also plays an important role in case of illegal activities involving women. They mitigate chances of harassment allegations on the forest staff. One such women forester in the rescue team in Sasan Gir rescue centre is Ms Rasilaben, who has conducted more than 600 rescue operations. She proudly wears many marks on her body from animal attacks during these operations. These sincere, fearless women are inspiring coming generation of women through their work to actively participate in conservation efforts as a frontline staff.

Another important initiative since 2007 by the Forest Department has been the formation of an informant system at the village level. They are called the 'Vanya Prani Mitra'. They play a major role in managing man-animal conflict situations. Their duties include monitoring wildlife presence and behaviour, keep watch and vigil on suspects and visitors in the villages, inform and provide assistant during rescue operations.

The department is also focusing

on studies and research to monitor behaviour and movement of animals. These greatly help in understanding the behaviour and movement patterns of animals, which is useful for predicting vulnerable areas, seasons, etc., and accordingly, in pre-planning of management options. Moreover, as the number of animals is increasing, the department is now working on a ground-level management system. Through this, various corridors for animal movements are identified and important interventions, like building bypasses across railway tracks and sensitising people, are being planned.

With these mitigation measures and by including the man-animal conflict mitigation as a important,

long-term management goal, the Gir Forest Department is winning the support and confidence of local people in conservation efforts. Although the management of man-animal conflict has no single solution applicable for every place – each conflict scenario being different – it thus needs different approaches. But the need is to understand the reasons and problems for such conflicts and accordingly working out the best solution.

### Acknowledgements

Special thanks to Dr Sandeep Kumar, IFS, DCF, Wildlife Division, Gir National Park and Sanctuary, for his kind guidance and cooperation during the course of the case study.

VALSAD / GUJARAT

# Successful Integrated Watershed Management Programme

*The watershed project in Chavshala village follows both the participatory and scientific approach*

**GOPIN PADU**

Four Integrated Watershed Management Programme (IWMP) projects were sanctioned by the Government of India in 2009-10 (IWMP 1-4) and in 2010-11 (IWMP 5-8) for Valsad district through District Watershed Development Unit (DWDU), a subsidiary of the Gujarat State Water-

shed Management Agency (GSWMA).

Valsad is the southernmost district of Gujarat with its headquarters located at Valsad town. The district is surrounded by Navsari district in north, Dang in the east, Maharashtra in south and Arabian Sea on the west coast. Valsad district covers an area of 3,035 sq. km. The area receives 3,131 mm of rainfall and the temperature varies from 12 °C to 41 °C



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annually. With a large tribal population, the district has 460 villages spread over five talukas, viz. Valsad, Pardi, Dharampur, Kaprada and Umargao.

The entry point activities of all the IWMP projects have been identified by the respective PIAs in the district. The North-Valsad Forest Division implemented two projects each year, namely Pindval (IWMP-1), Murdad (IWMP-2), Hanmatmal (IWMP-5) and Paikhed (IWMP-6). Similarly, South-Valsad Forest Division implemented two projects namely Vavar (IWMP-3), Virkshetra (IWMP-4), Aslona (IWMP-7) and Chavshala (IWMP-8). Apart from the IWMP projects, Valsad district is also involved in a total of 176 pre – Hariyali and Hariyali projects; of these, 56 projects have been completed while 120 projects are still running in the district.

This article documents the success achieved by IWMP-8 which was undertaken in Chavshala village, Kaprada Taluk, Valsad District.

### Project Background

The Chavshala (IWMP-8) project is a cluster of nine micro-watersheds and the total project area of the watershed is 6,772.90 ha, of which 4,522.90 ha has been undertaken to be treated under the IWMP. The nearest town is Dharampur which is approximately about 68 km from Chavshala village and is well connected by Valsad. The project area lies in a dense forest region. The watershed includes Mendha, Matuniya, Dabkhal, Chavshala, Dabhadi, Amba Jungle and Narvad, a total of seven villages. The main inhabitants of these villages are from tribal communities. The livelihood of these people is

primarily based on rainfed agriculture, animal husbandry, daily wage labour, forest product selling, etc.

The project was taken up mainly through two approaches, viz. participatory approach and scientific approach.

## Participatory Approach

### 1. Project Implementing Agency (PIA)

The Project Implementing Agencies (PIA) responsible for implementation of the watershed project are selected by an appropriate mechanism by the Gujarat State Watershed Management Agency (GSWMA), the State Level Nodal Agency (SLNA) for Integrated Watershed Management Programme (IWMP) in Gujarat. These PIAs may include relevant line departments, autonomous organisations under State / Central Governments, government institutes/research bodies, intermediate panchayat, and voluntary organisations (VOs). The PIA for Chavshala watershed project is the Gujarat Forest Department (South-Valsad Division). The PIA has experienced staff comprising a Watershed Development Team (WDT) of civil engineer, experts in agriculture expert and community mobilisation and other staff such as data entry operator, surveyor, accountant and messenger. This team has the role of planning, implementing, supervising, documenting and promoting watershed development projects and related developmental activities in the district as per the new guidelines issued in 2008.

### 2. Participatory Rural Appraisal (PRA)

Past experience with watershed management has given tremendous input to focus on creating accountability of the stakeholders towards the programme. This has created an emphasis to include all the stakeholder communities and their local and Indigenous Technological Knowledge (ITK) while planning for any activity. The participatory approach provides a new path for planning, implementing, monitoring and post-withdrawal activities with complete accountability of the stakeholders. Various PRA techniques like resource mapping, social mapping, transect walk and season calendars were used to understand the physical and social orientation of the village in general and watershed in specific. These tools put the villagers at ease and worked better than the complicated questionnaires. Various tools like matrix ranking and venn diagrams were used to identify local vegetation, fodder, crops and even institutions to identify their significance in the life of the farmers.

### 3. Institution building Watershed Committee (WC):

This is a committee constituted by the Gram Sabha to implement the watershed project with technical support of the WDT in the village. This committee is registered under the Society Registration Act 1860. The Gram Sabha of the village selects the chairman of the Watershed Committee with the secretary who will be a paid functionary. A Watershed Committee was formed accordingly in Chavshala

village. Capacity building training to the members of the committee is given by the WDT. The Watershed Committee has a pivotal role to play during and after the project implementation period.

## Scientific Approach

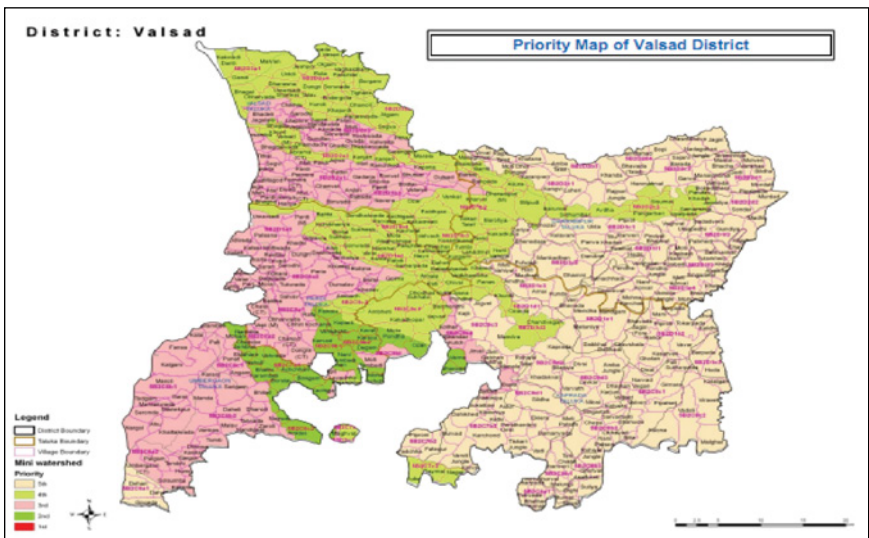
### 1. Cluster Approach

This envisages a broader vision of geo-hydrological unit which involves treating a cluster of micro-watersheds. The Chavshala Project consists of nine micro-watersheds (5B2D1e1c, 5B2D1e2e, 5B2D1d3f, 5B2C9d3f, 5B2C9e1c, 5B2C9d3d, 5B2C9d3f, 5B2C8c1e, 5B2C8c1d).

### 2. Baseline Survey

To assess the impact of any watershed development programme, a detailed baseline survey has to be conducted. This acts a benchmark for any intervention during and post implementation of any

programme. Accordingly, a detailed baseline survey was undertaken which involved household census survey, bio-physical survey; field-to-field survey, forest land survey and village level data collection from Talati-cum Mantri. Household census survey includes a detailed questionnaire which was filled by visiting each and every household in the village. This gave in detail the demographic profile of the village, the literacy percentage, SC/ST population, number of BPL household, cattle population, and net consumption rate in the village, average milk production of the cattle and various ongoing schemes and their benefits. The bio-physical survey was undertaken to identify various natural resources available in the village. It included soil typology, wells in the area, crop cultivation, cropping pattern, fertilizer application and various sources of irrigation.



### 3. Prioritisation of Watershed Development Programme

The Watershed Development Programme is prioritised on the basis of 13 parameters, namely poverty index, percentage of SC/ST, actual wages, percentage of small and marginal farmers, ground water status, moisture index, area under rainfed agriculture, drinking water situation in the area, percentage of the degraded land, productivity potential of the land, continuity of another watershed that has already developed/treated, cluster approach for plain or for hilly terrain. Based on these 13 parameters, a composite ranking was given to the Chavshala Watershed Project.

### 4. Use of GIS and remote sensing for planning

Use of various high technology tools has been promoted at various stages of watershed development which include GPS, satellite maps through BISAG. The A0 size cadastral and contour maps of each village has helped to plan the work as per the different survey numbers.

The action plan of the work to be done is roughly sketched on these maps.

### 5. Hydrological modelling

Hydrology modelling technique was used for locating drainage, stream length, flow direction, sink, and flow accumulation. This model was overlaid over the cadastral map to calculate the catchment area of each structure like check dam, etc. This has helped to remove human error which generally occurs while calculating the catchment area of a check dam.

## Watershed Development Works

The various watershed development works undertaken in Chavshala village include land development, soil and moisture conservation, water harvesting structures and maintenance. Some of the structures, we saw in the village were:

#### 1. Well:

- The estimated cost for a single well was Rs 2 lakh.
- The actual expenditure for construction of the well was Rs 1.8 lakh.
- The well has been completed and is ready to use.
- There are more than five numbers of this type of well in Chavshala village



#### 2. Paka Naka (Field outlet):

- The estimated cost was Rs 9,000 per field outlet.
- Total expenditure was Rs 8,000 per field outlet.
- It was decided to construct one field outlet per family.
- It was decided to allot funds for 10 families per year for this structure.



- The structure helps in checking soil erosion in an agricultural field.

### 3. Van Talavdi:

- It is projected to make 12 numbers of Van Talavdi under IWMP-8.
- The proposed cost for construction of one Van Talavdi is Rs 1.5 lakh.



## Other activities undertaken under IWMP, Chavshala Village

**Entry Point activity (EPA):** EPA activities are taken up under watershed projects to build a rapport with the village community at the beginning of the project generally. This helps to identify certain important works

which are in urgent demand of the local community. A group discussion was conducted with the Watershed Committee regarding the EPA activity, it was conveyed to the WC that an amount of Rs 21.70 lakh was allotted for EPA activity for the seven different villages, which was 4 per cent of total allocated budget. During the discussion, it was conveyed to them that only those activities can be taken up which revive common natural resources. It was also taken into priority that there should be an instrument of convergence which will result in sustainability of activities.

**Capacity Building:** Capacity building is the process of assisting the group or individuals to identify and address issues and gain insights, knowledge and experience needed to solve problems and implement change. There is a realisation in the development sector that there is a need to appraise the success of development interventions by going beyond the conventional development targets and measures of success (e.g. in the form of commodities, goods and services) and to take into account improvements in human potential. Capacity building of stakeholders is also increasingly viewed as an important factor in developmental projects that involve participation of stakeholders for effective implementation of projects.

Scope of capacity building at Chavshala Village:

- Alternative land use plan
- Scientific technique of soil and moisture conservation
- Improved and scientific agriculture practices

- Dairy development and management
- Development of vermicompost, *kand* cultivation, *Nagli Papad* production, pickle making, etc

## Expected Outcomes

**Employment:** Employment has always been a problem in the village. The principal occupations of the people are dryland agriculture, animal husbandry and casual labour work. However, with rainfall being very limited and erratic, agriculture suffers. At best, they can take only a single crop, which keeps them partially engaged for about four months. Lack of fodder makes animal husbandry very difficult too. Thus, the people mainly depend on casual labour, either in the village itself or outside it. The watershed project plans for creation of both wage employment and self-employment opportunities. Wage employment would be created by engaging people in physical works like construction of earthen bunds, village pond, plantation, etc., while self employment opportunities would be created by providing the people with cash support in the form of direct livelihood like agriculture, animal husbandry and enterprise development.

**Migration:** Due to heavy rainfall during the monsoon in Chavshala Project area, there is good fodder availability in monsoon and winter. But, there is an acute shortage of water in summer. On account of agriculture and animal husbandry providing only part-time employment for some part of the year, the people migrate for half the year for better wage labour in nearby sugar factory. Creation of employment

opportunities in the local area will reduce seasonal migration from the area.

**Groundwater table:** Demand for groundwater has been increasing all the time. The groundwater table has thus depleted over the years. Currently, the groundwater level stands at 30 to 45 metres. Proper water harvesting structures and percolation tanks would go a long way in increasing water table depth from 45 metres in the pre-project level to 30 metres in the post project period.

**Drinking water:** The village has open wells and bore wells on which the people depend for drinking water. Many an effort at finding sweet water at different other places in the same village has failed. The farmer uses an open well in the farm and allows the villagers to take water from the well.

**Crop:** The major crops grown are paddy, finger millet, hill millet and niger. This is due to scanty surface water during eight months of the year. Crop production is adversely affected by lack of water in the summer. All this can change with integrated land and water management followed during the watershed project. The planned SMC works and irrigation works would prevent the water scarcity and preserve some moisture in the project area. This will help in enabling additional area under cultivation and increasing productivity too. The farmer can grow more than just seasonal crops and have an additional income source. **Livestock:** The village has a considerable livestock population. These include cows, bullocks, buffaloes, goats and

hens. Interventions like provision of good quality cows and buffaloes, the establishment of a fodder bank and other such related activities will spur dairy development in the village. It is expected that the post project period would see a substantial increase in livestock population and yield from them.

### Acknowledgement

I would like to extend my deepest gratitude to our case study tour in charge, Smt. Meera Iyer, IFS, Principal, Central Academy for State Forest Service, Dehradun, whose keen interest, learned counsel and meticulous arrangements made this exercise a grand success. I wish to place on record my sincere thanks and profound gratitude to Dr. KS Jayachandran, IFS and Dr. Surabhi

Rai, IFS, Faculty, CASFOS, Dehradun for their unparalleled encouragement, valuable suggestions and guidance. As the learnings from this case study will be very helpful for us in future for any watershed management project and other related activities, I express my heartiest thanks to Shri Kadaria, ACF, Valsad (N) Division, Gujarat Forest Department, for his continuous support throughout the programme and making it successful. I am also very thankful to the other resources person of Valsad Forest Division for their kind help rendered during our exercise. Finally, I would like to thank all the members of Integrated Watershed Management Programme (IWMP-8) for their unconditional support and for allowing us to carry out our exercise unhindered.

DANG / GUJARAT

## A case study of eco-tourism

*Income generated through eco-tourism has benefited the locals and they have diversified their livelihood opportunities*

PROMOTHESH DEB ROY

Dang is located in the extreme southern region of Gujarat state adjoining the neighbouring state of Maharashtra. It is also the site of a successful eco-tourism project, examples of which are difficult to find in mountains. It has been established that properly planned eco-tourism can change the fortunes of people in remote and less developed regions. As an activity, eco-tourism is has various interpretations, criteria, such as benefits to local people, support for conservation, low scale development, low visitor volume and educational experience if tourism develops in these regions as an eco-tourism centre, it can bring various economic benefits to the local population.

Primarily a tribal district, the major tribal groups in Dang are Bhil, Konkani, Varli, Kotwaliya, Kathodi and Gamit. Dang is a mountainous area, the mountain range in the district is the Sahyadri – the western most extension of the Western Ghats. The district comprises of 311 villages and a single taluka. The total population of the Dang district is 226,769 individual comprising of 36,498 households. The

administrative headquarters of the district are located in Ahwa. Waghai, Subir, Pimpri, Samgahan, Saputara etc., are villages having population more than 1000 people. Saputara, the only hill station in Gujarat is an important tourist spot not only in district but also in the state.

### Economy of Dang

Nearly 85 per cent of population depends for their livelihood on agriculture and they are either cultivators or employed as agricultural laborers. Animal husbandry and bamboo cutting are the other economic activities in the district. There is high pressure on land as a major portion nearly 59 per cent is forestland. About 66 per cent of total land is available for cultivation which also situated on slopes with uneven terrain, of which only 13% is irrigated. Due to hilly nature of the district, opportunities for irrigation are also limited. Major cultivation is done during the monsoon and due to this farmers can grow only a single crop and their agriculture produce include rice, ragi, kharsani (a type of oil used for cooking), tuvar (pigeon pea), groundnut, mangoes, custard apples and others. Ragi is main crop in Dang.

The forestland in Dang predominantly falls under the reserve forest and is the richest forest in Gujarat. The forest is a rich resource of medicinal plants like *Mardasingi* (*Helicteres ixora*) and *Baheda* (*Teminaliabelerica*). *Sag* (*Tectonagrandis*), *Khakro* (*Buteamonosperma*), *Umbero* (*Ficus racemora*) and Bamboo are some of the important species comprising the thick forests of Dang. Forests provide opportunities to generate sustainable livelihood and employment for the village people. Animal husbandry and dairy production have increased business opportunities for the local people of the district. Agro-processing and tourism are the other supporting pillars of rural economy of Dang. Plantation and nursery development activities too have the potential to generate maximum wage employment.

### Dang eco-tourism

Eco-tourism is defined as responsible travel to natural areas that conserve the environment and improvises the wellbeing of local people. The eco-tourism advisory board, in Gujarat, selected a total of 42 ecotourism sites, of which 4 sites are in Dang district. Another 6 sites have been selected for eco-tourism by the forest division in Dang (north and south division). The main sites in Dang districts are:

- Saputara (Step Garden, Log Hut): The Step Garden, located about 1.4 km from Saputara, is a unique garden constructed completely on steps or terraces. The garden has different varieties of flowerpots, plants and has exquisite wood work. In the centre of this garden, forest huts are

placed for the tourists.

- Gira Water Falls (Waghai): The Gira waterfall in Waghahi ministered by forest division South Dang and the Eco-development Committee, Kilad. This is one of the highest water fall located on Ambika river near Waghai. With an amazing and exhilarating atmosphere, the best time to visit Gira waterfall is between July and October.
- Girmal Falls & U-Turn: This is a very beautiful eco-tourism site administered jointly by forest division North Dang and the Eco-development Committee, Girmal. The site is on way towards Girmal Falls. A restaurant called the U-turn restaurant run by the eco-development committee in Girmal village serves the local traditional food of Dangs.
- Purna Wildlife Sanctuary: The Purna wildlife sanctuary is an important wildlife sanctuary in Dang as well as in Gujarat. The sanctuary with an area of 160 sq. km is very rich in flora and fauna.
- Vansda National Park: Spread over almost 24 sq. km, the Park is home to animals like the tiger, panther, bear, sambhar, chital and wild boars. Vansda National Park represents the thick woodlands of the Dangs and southern Gujarat. The Park lies about 65 km east of the town of Chikhali on the National Highway 8, and about 80 km north-east of the city of Valsad.
- Kilad Campsite: The Kilad campsite is one of the important eco-tourism sites in Dang. This site is administered

by forest division South Dang and the Eco-development Committee, Kilad. The site is located near Waghai. The campsite is used for overnight stay in the outdoors forest environment.

- **Mahal Campsite:** The Mahal campsite is administered by forest division North Dang and the Eco-development Committee, Chikhlaand Savardakasad. The site is located in Purna wildlife sanctuary. An important feature of the site is an eco-friendly campsite used for nature education and awareness for school children in Dang.

There have been a number of benefits for the people in Dang from activities centred around eco-tourism. People have developed alternate livelihood opportunities, and have found employment as guides, in housekeeping, landscaping, as security personnel, waste recycling and as drivers. A number of secondary activities have also sprung up. These include vermicomposting, vegetable cultivation, organic farming, poultry, darning, shop for cottage and industrial items, local products like farm fresh products, edible products, handicrafts for sale as souvenirs.

### Tourists Arrivals in Dang

S.No	Year	No. of tourist
1	2005-06	127675
2	2006-07	130921
3	2007-08	119983
4	2008-09	154739
5	2009-10	186944

Source: Government of Gujarat, 2010

Data on tourism indicates that Saputara attracts 33% of the tourists in Gujarat and the highest number of visitors in Dang, visits to Saputara have grown by 87% between 2012-13. The most visited destinations in Dang are Saputara, Gira Falls, Girmal Falls, Vansda National Park, and Sabridham temple. The average stay is one night and two days for the tourists in Dang. The other events which attract visitors to Dang include the Dang monsoon festival, Dang winter festival, paragliding festival and the Dang Mahotsav.

### Positive observations on Eco-tourism in Dang

Income generated through eco-tourism has benefited the locals and they have diversified their livelihood opportunities. Eco-tourism has amply demonstrated its potential to be a huge earner. The money earned is ploughed back into the local society. This helps create a better life for the local people though development of better infrastructure like roads, schools and hospitals. The most valuable contribution of eco-tourism is the preservation of biodiversity. Biodiversity is increasingly looked upon as a sustainable asset. Foreign visitors also benefit since eco-tourism provides an educational glimpse of a world very different from their own and this cultural exchange can form a healthy bridge between developed and developing nations. The value of local products has been enhanced and business initiated through eco-tourism ventures have become self-sufficient within a short span of time and can

enhance long term economic prospects of the community. Eco-tourism has helped to create jobs and also create interest and awareness among local people especially among school and college students.

### Negative observations on Eco-tourism in Dang

Conversion of undeveloped land into profitable space for tourism, wilderness areas may be compromised by influx of tourists. Displacement of some local residents has also taken place. Coordination needs to be enhanced for proper management by the Eco-development Committees. An increased level of coordination among the Eco-development Committees and the forest department might deliver better results. The training by the forest department is not adequate, IT enabled tools and techniques may be adopted for advance training. More infrastructure needs to be developed for attracting more tourists as well as creative innovations. A close eye needs to be kept on the

pollution levels which increase day by day. Lack of proper marketing chain has a negative impact on livelihoods and local foods and products.

### Scope for improvement

Local culture should be taken into consideration while making an eco-tourism policy. A marketing chain should be developed to help market better local products and promote organic farming and organic products (products like Nagli, Nagli biscuits, bamboo pickles). Local youth should be involved in eco-tourism. There is need for improving coordination between the forest department and the Eco-development Committees, for better management and better planning. Each of the sites should have their own management plans. There should be more tracks (nature and wildlife trails) to attract visitors; bird watching points should be developed for viewing birds. Other creative inputs could include setting up of a Butterfly Park, Eco-park and a Deer Park.

VALSAD / GUJARAT

# Implementation of Forest Rights Act 2006

*With a large number of records digitised and an effective post-claim system, FRA 2006 has been effective in Valsad*

## MITO RUMI

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, is a landmark legislation in recognising rights of forest-dwelling communities over forest land and other natural resources. It was passed in December 2006 and came into force on December 31, 2007. It is commonly called as the Forest Rights Act (FRA) 2006. The FRA rules were notified in 2008 and later amended in 2012 with guidelines to implement FRA 2006 in all the States of India. The Act envisages registering and conferring the traditional habitat, social, economic and livelihood rights of the ST and Other Traditional Forest Dwellers in Scheduled as well as Non-Scheduled forest areas of the State. FRA 2006 provides for Individual, Community and Infrastructure facility Rights to the forest dwelling communities which are as follows:

### 1. Individual Rights

Under Individual Rights category, as per the Act, the eligible claimant is conferred with the rights of land for

residential and agriculture purposes (maximum up to 4 hectares). The beneficiary needs to be:

- Traditional ST or Other Traditional Forest Dweller who lives in forest and depends upon forest for bonafide livelihood for three generations;
- The recognition of such rights under FRA 2006 shall be subject to the condition that such ST or OTFD had occupied forest land before December 13, 2005, and had possession of those lands on December 31, 2007.

### 2. Community Rights

The rights of the community over the forest land and its products are approved for collection and use of Minor Forest Produce (MFP), fishing, grazing, use of water bodies and habitat rights to primitive tribal groups, etc.

### 3. Diversion of Forest Land for Infrastructural Facilities

As provided in the Act 3(2), in the category of Developmental Rights, the diversion of forest lands is approved for 13 types of infrastructural facilities like schools, hospitals, minor irrigation, drinking water facilities, etc.

### Implementation status

As on June 30, 2013, there have been 32 lakh claims in the country. Of these, 13 lakh distribution titles (Individual + Community Rights) have been sanctioned. In Gujarat alone, the extent of forest land covered in under FRA is 46,360.95 ha (Individual Rights) and 3,25,324 ha (Community Rights). The Tribal Department, with collaboration of the Forest and Revenue Departments, is implementing FRA in Gujarat like in all major States of India. Valsad district has forest cover of 30 per cent of the total geographical area of 3,029 sq. km, with 80 per cent tribal population. Tribal sub-plan (TSP) office at Valsad, headed by Project Administrator (SDO), is the nodal agency carrying out FRA implementation in collaboration with Forest and Revenue Departments. The figures of the total number of FRA cases in Valsad district are given in Table 1.

Various committees formed in the district for FRA implementation are:

1. **Gram Sabha:** It initiates and determines the nature of rights and approval thereof. It appoints the Village Level Forest Rights Committee (FRC).

2. **Village Level Forest Rights Committee (FRC)-Rule 3(1):** It consists of 10 to 15 members elected at the Gram Sabha, comprising two-thirds from tribal communities of which one-third of the members must

be female candidates.

3. **Sub-Divisional Level Committee (SDLC)-Rule 5:** The committee consists of the Sub-Divisional Officer or equivalent, forest officer in-charge or equivalent and three members from block or tehsil level panchayats. Among them, one must be a woman nominated by the district panchayat. Out of the three, two members shall be from Scheduled Tribes/forest dwellers.

4. **District Level Committee (DLC)-Rule 7:** The committee consists of the District Collector as chairperson, concerned divisional forest officer in-charge or equivalent and three members of district panchayat to be nominated by the State government. Out of the three, two members shall be from Scheduled Tribes/forest dwellers, one shall be a woman and the Project Administrator from the Tribal Development Department will be the Member Secretary.

5. **State Level Monitoring Committee (SLMC)-Rule 10:** The committee consists of the Chief Secretary as chairperson, secretaries in-charge of Forest, Revenue, Panchayat and Tribal Development Departments, Principal Chief Conservator of Forest, three members from Tribal Advisory Council or Members of Legislative Assembly, to be nominated by the State government and the Commissioner of Tribal Development as Member Secretary.

Total No. of Claims	Sanctioned/ Approved	Left out for further scrutiny	To be approved	Remanded cases to FRCs	Liable to rejection
34167	22160	12007	3521	3964	4522

(Source: Office of Project Director, TSP, VALSAD, Gujarat as on August 5, 2015)

The procedures followed are:

1. FRCs receive, examine, keep records and forwards claims to the Gram Sabha.
2. Gram Sabha forwards (Resolution) claims with recommendations or otherwise to SDLC.
3. SDLC examines claims and evidences produced and forwards claims to DLC with recommendations.
4. DLC is the final authority to take decision in the matter.

The authenticity of the claims can be determined with the help of submitted evidences, such as public documents, government records like Gazetteers, Census, surveys and settlement reports, maps, satellite imageries, working plans, micro plans, forest enquiry reports, other forest reports, government-authorised documents such as voters identity card, ration card, passport, house tax receipts, domicile certificates, permanent attributes such as house, huts, bunds, check dams, etc., quasi-judicial and judicial records, court orders and judgments, any record on privileges, concessions, favours from princely states, research studies documents on custom and traditional of forest rights, traditional structures such as wells, burial grounds sacred places and statement of elderly persons. Common documents submitted by masses in Valsad district are ST certificates, Residential Proof (electricity bill/ ration card/ voter ID or claimant land records).

Although Tribal Development Department is the nodal agency, the role of Forest Department is pivotal in carrying out field work of site

inspection, verification and scrutiny of claim cases. Vigilant and strict scrutiny of claims by the Forest Department field staff and higher officials is vital to fighting encroachments and checking illegal FRA claims at large. FRA implementation poses a big challenge for the Forest Department to check the loss of forest area of already dwindling forest cover all over the country. It has been reported that several NGOs are also involved in training of FRCs regarding usage of GPS, satellite imagery and documentation for claims at the village level.

A study was carried out by visiting the office of Project Administrator and FRA cell of TSP, Valsad, to understand the process of filing of claims, their scrutiny, database management and processing. Use of technologies like Differential GPS and digital mapping have been adopted for carrying out survey works of land plots which were outsourced to professional companies for the entire Valsad district. Employing of professionals in survey works has resulted in more accurate and fast digitisation of forest boundaries. Thousands of claim files have been systematically arranged in alphabetical order of the village name inside the FRA cell with detailed database entry maintained in the systems, which has resulted in efficient claim files management. The FRA Cell of TSP Valsad is working in mission mode to process the remaining 12,007 claim cases in the district. The Gujarat government has further institutionalised post-claim support to FRA beneficiaries. Rule-16

of FRA 2006 (Revised) dated September 6, 2012, provides for post-claim support and handholding to the holders of forest rights through all relevant departments. The State government has issued instructions to Department Heads and District Collectors to extend the benefits of the schemes to the FRA beneficiary. The Agriculture Department has put the list of FRA beneficiaries on its e-portal. FRA 2006 implementation progress in Valsad district is thus satisfactory and a successful.

### Acknowledgement

I am grateful to Mr MP Singh, Director of Forest Education, Mr N Sonzalien, the then Principal, CASFOS, and tour

in charge Ms Meera Iyer, faculty, CASFOS, for arranging this new module in the West India Tour. I extend my gratitude to Mr Khedaria, ACF, Valsad North Division, for valuable information, support and endeavored guidance to impart us knowledge and letting us experience the on-field survey work carried out in a village for FRA implementation. I would also like to thank Mr AK Mehta, Assistant. Project Administrator, TSP (deputed ACF), for letting us visit the FRA cell of the TSP office, Valsad, to understand and system. Last but not least, my humble regards to my fellow officer trainees for their cooperation and support to make it a successful and memorable tour.

**Note:** Articles may be sent at the following email ID:  
**fieldforester@gmail.com**

### **Evaluation and Review System**

There will be two layers of review of the contributions; Faculty and the Directorate review. Evaluation and review at the faculty level in the training institutes/academies will be undertaken under the guidance of Director/Principal/Head of the institutions. Even very specialized and technical topics shall be presented in simplified format so that frontline staff and forest community are able to appreciate and understand the topics. Articles shall be written in a popular style, easily understandable and in simple English.

However depending on the response to this programme, arrangements can be made for translation of the magazine into the vernacular. A short note about the contributor and the reviewer shall accompany the article. The note shall contain name, age, postal and e-mail address, course, academic accomplishments, and important assignments held. The evaluation would be done on following criteria:

- a. **Style:** The article should be interesting and informative. The introduction should draw the reader in and convince them that the remainder is worth reading. The remaining should be written in a lively and concise style, and should leave the reader convinced of the importance of the topic.
- b. **Structure:** The article should be within 1000 words, and formatted in 1.5 line spacing in Times New Roman 12 point font.
- c. **Organization:**
  - Instead of an abstract the article will give information on the location, the period when the field work was carried out
  - Integration - the article organized in a coherent form and all ideas are clearly leading to a single main argument.

The review at the Directorate level will be done through an editorial board constituted by the DFE, which will be responsible for the content, design and review of the journal articles. The editorial board shall consist of expert/experts constituted by DFE and reconstituted every year, which would screen contributions and recommend their publication. Articles previously published elsewhere, or simultaneously sent for publication elsewhere, may be accepted with modifications. Article submitted shall carry a declaration that the article is original. The Editor would reserve the right to reject articles without assigning any reason and articles not found suitable will be sent back.



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