

ECO-DEVELOPMENT - A UNIQUE APPROACH IN BANDIPUR NATIONAL PARK (KARNATAKA)

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Introduction

Right from the beginning of the Protected Area (P.A.) networks for preservation of Wildlife in India, the approach has been to protect by policing and enforcing prohibitory laws against the miscreants and the local people. The opinion of the local people who inhabit the wildlife habitats, from time immemorial has never been taken into consideration. As a result, the current scenario of these P.As. reveals that, such policing approach has been proved to be increasingly ineffective. The public opinion in the mass media, and the prevailing strife between the wildlife authorities and the affected people also throws light on the fact that the policing approach is considered to be undesirable in the present situation of ever increasing human population and its pressure on forests of P.As. for biomass resources like fodder, fuelwood, timber and non-timber forest produce (NTFP) and then land for extension of agriculture and other infrastructure like roads, settlements, dams, industries etc.

Basing on the present scenario of the P.As., the Government of India, came to the conclusion that perhaps, the most effective and desirable way of protecting National Parks and Wildlife Sanctuaries is only by funding for establishing real alternatives

for the basic needs of the people, dependent on these areas. This 'Eco-development' approach has been followed since 1991-92, with the sole idea of conserving its rich biodiversity throughout the network of P.As.

The concept of eco-development is an holistic approach to protect the target area ecosystem and its biodiversity including the human being. It is a site specific, conservation friendly package of measures, derived through peoples' participation, which addresses all aspects of land use, and other resources in order to promote sustainable land use practices, as well as off farm income generating activities which are not deleterious to P.A. values (Panwar, 1992).

The general activities of Eco-development, aim to address the provision of alternatives to biomass, its economical use and higher production, strengthening of existing economic activities (farming, arts and crafts of friendly rural technology), improvement of land use practices, conservation of soil and water resources, better management of common and private property resources, and over all development of socio-economic conditions and preservation of the cultural heritage of the rural society concerned in and around the P.As.

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Famous wildlife resort, and one of the earliest sanctuaries and Tiger Reserves of India, the Bandipur National Park of Karnataka is one of the P.As. selected for implementation of the "Eco-development".

Bandipur National Park

It is one of the nine Tiger Reserves of India, initially launched in the year 1973. It was a sanctuary started in the year 1931 by the then Maharaja of Mysore. It is situated in Mysore District.

It is contiguous to Madumalai Sanctuary of Tamil Nadu and Wynad Sanctuary of Kerala, thus constituting the Niligiri Biosphere Reserve including the famous Nagarhole N.P. It is abutted by thickly populated human habitation along the northern border. It encompasses an area of 880 km² with core zone of 523 km², buffer zone of 274 km², tourism zone of 82 km² and tourist campus of 1 km². The climate is equitable. Rainfall varies from 625 mm to 1250 mm, from East to West and the vegetation also changes from tropical scrub to moist mixed deciduous forests with the increase in rainfall. It is rich in floristic composition, with a lot of forage for herbivores. The terrain comprises chains of broken hill ranges and water courses. The rivers Kabini, Nugu and Moyar flow through the National Park, thus forming one of the best habitat for Elephant, Gaur and Tiger.

Obviously, the Bandipur National Park is rich in fauna having a good population of Elephants, Gaur, Sambar, Chital, Tiger, Leopard, Wild Dog, Sloth Bear, Wild Boar etc., with varieties of reptiles like Python, Crocodile, Lizards, Cobra and other Snakes etc., and more than 180 species of Birds.

Constraints in Management

The present management scenario of Bandipur National Park, is complex due to the high dependency pressure of the people living around it.

The issues responsible for the problems and conflicts between the P.A. managers and the people living around the Park have been analysed by the author while writing the "Eco-development Plan" for Bandipur National Park by hearing the Park managers and staff and the affected people through series of Participatory Rural Appraisal (PRA) and Rapid Rural Appraisal (RRA) exercises in the representative villages.

Impacted Zones

Bandipur National Park is affected by the pressure of the people and their live stock all along the northern boundary over a length of 180 km and to a width of 2-3 km belt i.e., in about 310 km². On the other hand, the National Park has caused an adverse impact on the human habitation living along its northern boundary to a width of 4-5 km belt of 200 villages i.e., about 700 km² having human population of 1,50,000 with 12,000 tribals, Cattle - 65,000, Buffaloes - 8,000, Sheep - 10,000, Goats - 33,000, denuded local forest area of 146 km², barren and rocky wastelands of 76 km² and the rest of the land area under cultivation. The agriculture practice is dry land farming with cultivation of Ragi, Jowar, Cotton, Tobacco, Sunflower, Pulses and Oil seeds. The main profession of the local people is agriculture, supplemented with animal husbandry and labour. Economically, educationally and socially a backward region with a lot of potential for development.

Issues

The issues concerning the P.A. authorities and local people in the impacted zones inside and outside the P.A. affecting each others interests, causing confrontation and problems are identified as follows after series of discussions and meetings with both the concerned.

- Live Stock grazing and fodder.
- Energy and fuelwood for bonafide consumption.
- Timber and NTFP for bonafide consumption/smuggling.
- Crop damage by wild animals.
- Cattle kill/human injury or kill by wild animals.
- Forest fires.
- Poaching of wild animals.
- Socio-economic problems.

Strategies to resolve the issues

Live stock, Grazing and Fodder : The live stock population in the affected zone is as high as 1,16,000. The people in this belt rear the cattle as traditional symbols of prestige being practiced from generations. The impact of the live stock on the fringe of the P.A. is severe due to continuous grazing, browsing and trampling, causing degradation of forests, transmission of communicable diseases to wild animals and competition for fodder and water resources with wild animals.

More than 75% of the live stock from the adjoining 200 villages is visiting the fringes of Park for grazing seasonally from May to December. This problem is being compounded every year due to shrinkage of common grazing lands outside the N.P. due to occupation for cultivation by the landless. Even the hillocks, stony blanks with scrub

vegetation and valleys are not spared. Thus, pressure for grazing on N.P. is on the increase. No efforts of the Authorities to persuade the local people to reduce the live stock and stop letting cattle into Park have yielded fruit and the use of force as per law is also not effective due to politicization of the issue, right from the beginning of Project Tiger.

The strategies adopted to resolve this problem are as follows :

- Persuasion of the local people to reduce the cattle heads.
- Improvement of cattle breed and bull centres.
- Development of fodder crops like jowar.
- Encouragement for stall feeding, by allowing the people to cut and carry the fodder from the P.A.
- Introduction of controlled or deferred or rotational grazing in the local forests and wastelands.
- Strict enforcement of law to stop the entry of live stock into the N.P. with the co-operation of people.
- Persuasion of Government to ban the movement of cowdung out of State from this belt and also to not grant loan for rearing goats in the impacted belt.
- Improvement of the affected belt in and around the P.A. through water and soil conservation measures.
- Persuasion of the Government to stop granting of the grazing lands-wastelands for cultivation.

Energy and Fuel Wood : About 1.5 lakh rural population living in the impact zone in about 200 villages, exerts pressure on fringe forests of National Park for its bonafide requirement of fuelwood. This dependency is being compounded due to smuggling of fuelwood for tobacco curing,

and also for sale in near by towns on head loads to earn livelihood. The damage due to these pressures is severe in fringe forests of the P.A. in over 310 km². There is also no alternative for the people to meet this demand, since the local forests have been already consumed and almost all the pieces of wastelands (scrub forests) are being fast encroached for cultivation. Moreover, the people have no interest in raising their own fuelwood requirement. As a result, about 25% of the fuelwood requirement i.e., about 41,500 tonnes is being estimated to be annually removed from the National Park.

The strategies followed to mitigate this problem are :

- Provision of economic chulhas, gobar gas, solar cookers and pressure cookers free of cost to reduce the fuelwood consumption.
- Raising fuelwood plantations in wastelands and local forests.
- Supply of multi-purpose tree seedlings to the farmers to raise in their marginal lands and no bunds.
- Enforcement of law and stoppage of collection of firewood from the P.A.

Timber and N.T.F.P. for bonafide consumption/smuggling : (a) Timbers like *Tectona grandis*, *Petrocarpus marsupium*, Rosewood, *L. lanceolata* and *T. tomentosa* are precious. The local people indulge in smuggling of these timbers, for bonafide use and also smuggle for pecuniary gains.

The strategies adopted to alleviate this problem are :

- Raising of Social Forestry Species on common lands and wastelands.
- Supplying of timber yielding tree

seedlings to farmers to raise on their marginal lands and no bunds in large.

- Erection of gates across entry routes of the N.P. and plugging of cart routes with Elephant Proof Trenches (EPT) along the P.A. demarcation lines to stop smuggling.
- Supplying the timber on subsidy, to the people for agriculture implements and house construction in the impacted zone, by removing dead timber from the P.A.

(b) NTFP collection is a professional and traditional job for the local tribals, living close to the N.P. They indulge in collection of goose berry, honey, antlers, lichens, gums, tamarind and selling the same to the contractors, who have ready market in Kerala. Tribals also collect edible tubers for self consumption. Obstruction to these collections by P.A. authorities, causes friction between P.A. authorities and tribals and it may end even in incendiary fires in the N.P. during summer. This is a socio-economic problem of tribals causing concern to the P.A.

This is aimed to be resolved by the following measures :

- Allowing collection of NTFP through tribal unions in the buffer zone with understanding in sharing the yield with tribals.
- Improving the socio-economic conditions of tribals through cottage industries like basket making, beekeeping, horticulture and provision for housing, sanitation and social care through unions.

Crop damage by Wild Animals : The farm cultivations close to the National Park are very badly affected by the depredation of Elephants and Wild Boar. The people are agitated against the Park due to this crop damage problems as the compensations paid are not realistic and timely. This is a socio-economic problem since most of the men have to spend their nights in fields guarding their crops against wild animals depredation in addition to extra cost for scaring and fencing. This problem, needs early solution as the farmers are emotional, as it affects their hard earned bread.

This is aimed to be resolved by the following measures :

- Provision of barrier of Elephant Proof Trench (EPT) or stone walls all along the Demarcation line, in combination with electric fencing.
- Encouragement for changing the cropping pattern i.e., cultivation of crops that do not attract the wild animals.
- Provision of crop insurance with subsidy by the P.A.
- Quick assessment of crop damage and early payment of compensation.

Cattle kills and human injury / death caused by Wild Animals : Whenever a human being is injured or killed by the wild animals, there will be hue and cry in spite of compensations paid. However, it needs humane and warm dealing with the aggrieved by the P.A. authorities by involving NGOs and farmers unions in settling the claims. Regarding the Cattle kills the P.A. authorities should be quick in assessment and payment of compensations

commensurate with value of cattle killed.

Poaching of Wild Animals : The poaching of male Elephants for ivory is the worst problem, that is being faced in this N.P. There is no problem of poaching of other animals except trapping of Wild Boars for meat, whenever they depredate into the agriculture fields. Nearly 25% of the funds are spent for antipoaching measures. It is believed that the tribals living close to the N.P. who have the knowledge of the tracks of the P.A. are conniving with the poachers in guiding about routes and also in passing on the information about the movements of P.A. staff.

This requires open dialogue with the tribals and the provision for socio-economic development works, for the benefit of tribals through unions to win over them. They can act as better guards against poaching of any wild animals in the P.A.

Forest fires : Nearly 25% of the funds of the Bandipur N.P. are spent for the control of forest fires every year. In spite of it, quite a chunk of the N.P. is burnt in summer every year, causing panic to the wild animals and damage to the young flora and fauna. The fires are all incendiary, as consequential cumulative effects of all the protective measures, that are being undertaken by the P.A. authorities against the prevailing problems. The local miscreants in general and the tribals in particular, cause fires as an act of revenge against P.A. staff and also for their self motivated ends.

This problem is being tackled on the following lines :

- Pragmatic attitudinal change in P.A. staff in perception, while dealing with local people in resolving other problems

concerned.

- Compartmentalisation of the P.A. by creating North-South wider fire brakes (fire lines) across the summer wind with East-West narrow and straight fire lines, instead of the existing crisscrossing and narrow fire lines.
- Early burning of open patches and hilly grassy blanks and also the fire risky patches.
- Removal of dead wood along the fire lines to reduce the risk of rekindling of fire from the dead wood, which catches fire while fire tracing the fire lines.
- Seeking the co-operation of the tribals and villagers living close to the P.A. in fire protection.

Socio-economic and Unemployment problems : Socio-economic and unemployment problems of the people living in the impacted zone are complex in nature having inter-link with other problems. To resolve these problems, the P.A. authorities have changed their attitudinal perception and are carefully studying the problems to tackle them, like social engineers through ecofriendly rural developmental works, by integrating the activities with other sister departments, to gain the trust and co-operation of the people, for preservation of the biodiversity and ecosystem of the P.A. The site specific ecofriendly and user group acceptable developmental works being implemented in the impact zones are as follows :

- Water and soil conservation measures with Ravine Reclamation Structures (RRS), Check dams, Gully-plugs and Contour bunds with other community

works like village approach roads to generate employment to the affected people in the lean period, when there will be no job in agrifields.

- Encouragement for improvement in farming techniques by supplying modern agriculture implements and improved seeds.
- Encouragement to horticulture by supplying fruit yielding tree seedlings of economic importance.
- Encouragement to Apiculture by supplying beekeeping boxes with training.
- Mushroom cultivation by supplying technical know how and seeds with training facility.
- Encouragement to pisciculture to cultivate fish in village tanks by supplying fingerlings.
- Encouragement for eco-tourism to benefit the local people, by giving them training as local guides, on nature camps trekking, mountaineering etc.,

People's Participation

To involve the people in eco-development it is proposed to open Wildlife Farmers or Wildlife Youths Clubs or Wildlife Farmers Sanghas in each villages. It will enroll one male or female member each from all the families of the village. Through these Sangha arrangements, the farmers are proposed to be educated about wildlife, environment and other modern scientific issues. The leaders of the Sanghas will be involved in planning and monitoring the eco-developmental works, by forming eco-

development committee for each region or Range as a unit.

A minimum of 10% of the budget is proposed to be utilised for funding the unions to train the farmers about eco-development and its benefits and also to encourage eco-tourism.

The NGOs (Non-Governmental Organisations) present in the affected zone i.e. Myrada, Fedinova Vikas Vedhike, Swamy Vivekananda Youth Movement in the H.D. Kote Tq. are proposed to be involved in education and training the farmers through PRA and RRA exercises and in planning and monitoring of the developmental works and its benefits to the farmers.

Monitoring

For the overall assessment of the effect of eco-development project, in terms of reducing the dependency pressure of the people on the Park and improvement of their economic conditions will be entrusted to a team of 3 members comprising one Sociologist, one Wildlife Researcher and one retired Forest Officer, for critical assessment and suggestions for improvements.

Conclusion

It is aimed to achieve 50% reduction in dependency pressure of the people from impact zone on the fringe forests of the Park for firewood, fodder, timber and NTFP in a span of 5 years.

SUMMARY

The management of Bandipur National Park is complex due to the high pressure of the people living around the Park. Therefore an approach like eco-development to conserve rich biodiversity through network of protected area is described in detail.

परिस्थिति विकास - बांदीपुर राष्ट्रीय उपवन (कर्णाटक) के लिए एक विलक्षण दृष्टि
बी०एम०टी० राजीव

सारांश

उपवन के चतुर्दिक रहने वाले लोगों का भारी दबाव पड़ते रहने के कारण बांदीपुर राष्ट्रीय उपवन का प्रबन्ध करना जटिल कार्य है। इसलिए रक्षित किए हुए क्षेत्रों का जाल बिछाकर उसकी सम्पन्न जैवविविधता संरक्षित करने के लिए परिस्थिति विकास जैसी विशिष्ट दृष्टि का विस्तार से वर्णन दिया गया है।

References

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