

Forest Resources In Economic Development In Bihar

Dr. Md Maqsood Alam

M.A GEOGRAPHY,PATNA UNIVERSITY PATNA

P.HD,B.N MANDAL UNIVERSITY MADHEPURA, BIHAR

ABSTRACT

*The Indian government is trying to increase forest areas that are close to human settlement and have degraded over the years due to human activities. Trees were to be planted in and around agricultural fields. Planting of trees along railway lines, roadsides, rivers and canal banks were carried out. They were planted in village common land, government wasteland, and Panchayat land. The social forestry scheme was initiated in India to increase fuel availability in rural areas and to prevent soil erosion. This programme was a failure because it lacked governance. It is important to know that social forestry includes maximum utilization of land for several purposes. Bihar has notified forest area of 6,764.14 km², which is 7.1 percent of its geographical area. The sub-Himalayan foothills of the Someshwar and Dun mountain ranges in West Champaran district are clad in a belt of moist deciduous forest. As well as trees, this consists of scrub, grass and reeds. Here the annual rainfall is above 1,600 mm and this promotes luxuriant sal forests (*Shorea robusta*) in the favoured areas. Bihar has 3,208 km² (~3.41%) of Protected Forest Area and 76.30 km² of Protected Non-Forest Area. Bihar is one of the states that has taken "considerable" steps to implement the "Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006".*

KEYWORDS: Forest, Bihar, India, Resources, Forestation

INTRODUCTION

Forest Development aims at use and conservation of forest resources while at the same time meeting the development goals of an economy. At present, in India, this objective is met almost entirely through the use of legal & administrative controls rather than encouraging voluntary compliance. In this context, need has been felt to evolve an integrated strategy so that the contribution and requirements of various stakeholders in management of forests are incorporated. This would also require appropriate valuation of forests to account for the broader dimensions of benefits and costs incurred by the people and concerned institutions. It is suggested that a holistic approach for valuation of forests is essential while examining the issue of compensation for expansion and maintenance of forest cover. There is need to identify the set of people/institutions that bear the cost vis-à-vis the beneficiaries in order to develop an appropriate incentive mechanism. Here, the involvement of local people is of paramount importance. Since benefits

from forestry are widespread, stakeholders that bear greater costs should be suitably compensated. For this, the modus-operandi in the Indian context needs to be worked out.

IMPORTANCE OF FOREST COVER

There has been increasing realisation that forests provide numerous benefits to mankind including improvement of the quality of environment. Forests provide goods and services and maintain life support systems like timber, fuel wood, fodder, and a wide range of non-timber products. Further, forests are a source of natural habitat for biodiversity and repository of genetic wealth, provide means for recreation and opportunity for eco-tourism. In addition, forests help in watershed development, regulate water regime, conserve soil, and control floods. They contribute to process of carbon sequestration and act as carbon sink, which is important for reduction of green house gases and global warming. In ecologically sensitive areas like mountains, as well as river catchments, forests play an important role for prevention of floods, etc. Degradation of forest resources has a detrimental effect on soil, water and climate, which in turn affects human and animal life. This has created global concern for protection and preservation of forests. It is important to recognize that the benefits of natural forests are rather different than man-made forests. The ecological benefits of natural forests are difficult to replicate in a man-made forest. Functions like carbon-sequestration, would depend on topography, soil conditions, density of forests, etc. The functions of forests both for the natural system as well as the social dimensions can be briefly seen in the following statement. It may be mentioned that while natural forests provide for all these functions, only some of these benefits may arise from man-made forests.

POLICY ON ENVIRONMENT AND FOREST

The Indian Government's policy towards Environment is guided by the principles of Agenda 21. The overnment of India has issued Policy Statements on:

- Forestry
- Abatement of Pollution
- National Conservation Strategy
- Environment and Development

FORESTS, WILDLIFE AND BIO-DIVERSITY

1. Forests are important for maintaining ecological balance and preserving the life supporting system of the earth. They are essential for food production, health and other aspects of human survival and sustainable development.

2. Indian forests constitute 2% of the world's forest area but are forced to support 12% of the world's human population and 14% of world's livestock population. This is sufficient to indicate the tremendous biotic pressure they face.
3. Forests in India have been shrinking for several decades owing to the pressure of population on land for competing uses, such as agriculture, irrigation and power projects, industry, roads etc. In India, forests account for about 19.27 per cent of the total land area. On the other hand, in advanced countries, the area under forests is often about a third of the total land area. There is a need to have massive reforestation programmes, control over hacking and grazing and provision of cheap fuel through alternative technologies.
4. The National Forest Policy (1988) stipulates that a minimum of one-third of the total land area of the country should be brought under forest or tree cover. It is envisaged that this will be achieved by involving local stakeholders like the farmers, the tribals, the women, the NGOs and the Panchayat Raj Institutions (PRIs).
5. Another concern relating to the state of forest resources is that of bio-diversity and extinction of species. India has a rich heritage of species and genetic strains of flora and fauna. Out of the total eighteen bio-diversity hot-spots in the world, India has two, one is the north-east Himalayas and the other is the Western Ghats. At present, India is home to several animal species that are threatened, including over 77 mammal, 22 reptiles and 55 birds and one amphibian species. For in-situ conservation of biological diversity, India has developed a network of protected areas including national parks, sanctuaries and biosphere reserves.

HUMANS FOR WILDLIFE AND VICE VERSA

“We have managed to get jobs near our homes because of the presence of wild animals, especially tigers that remain the centre of attraction for the tourists coming from far flung areas to see them. Our survival would have been virtually impossible without the big cats. Around 548 young people from the nearby villages have been deployed on casual basis as tiger trackers, members of anti-poaching team and patrolling team among other jobs inside the reserve. “We had noticed in the past that those involved in poaching and timber extraction were aided by the locals who had full knowledge of the area. Large-scale unemployment had forced the local residents to help criminals. The authorities then decided to employ the youth staying close to the reserve,” said S. Chandrasekar, conservator of forests and field director of VTR, adding that their employment had begun in 2012. “It was thought that the jobs would not only dissuade them from helping criminals but will also make them guard wild animals. The plan worked and we managed to virtually curb the killing of animals and wood theft.”



GPS-based forest patrolling. Photo by Shariq Shafi.

A FOUR-FOLD INCREASE IN TIGER NUMBERS

It comes as no surprise then that the reserve has managed to increase its population of tigers in the past few years and has also earned kudos from the Indian government. The population of big cats that stood at eight in 2008 jumped to 31 in 2017. It included around 10 female tigers. The official figures for 2018 are yet to arrive as the National Tiger Conservation Authority (NTCA) census has just concluded. Officials estimate the numbers of adult tigers to be as high as 33 excluding 12 cubs. The use of modern technology such as the global positioning system (GPS), monitoring sensors and cameras, has also helped the forest department trace the exact location of big cats inside the reserve and have proper planning for their protection. The Valmiki Tiger Reserve was conferred with the Earth Heroes Award in recognition of its efforts at habitat and species management in the reserve area in 2017. Situated at the Indo-Nepal border in the West Champaran district of Bihar, VTR is home to many wild animals such as tigers, elephants, sloth bear, leopard and chital, among others. It is spread across an area of around 898.94 square kilometers with core area of 589.79 square km and buffer area of 309.14 square km. It is contiguous to the Chitwan National Park in Nepal across the border and lies adjacent to the Sheopur range of Sohagi Barwa Sanctuary in Uttar Pradesh.

RESCUING VTR FROM A POACHERS' HEAVEN

The journey from oblivion to stardom has not been easy for the reserve. It has taken years of concentrated efforts and outsmarting the threats of poachers to script the success story. The extensive forest area of Valmikinagar was previously owned by the Bettiah Raj and Ramanagar Raj until the early 1950s, when the state government took over the management under the Bihar Private Protected Forests Act (1947). From early 1960s to 1974, the forests were under the management of the Bihar Forest Department. In 1974, the entire forest was handed over to the Bihar State Forest Development Corporation on lease, which managed the forests with commercial objectives. The wildlife protection took a back seat and the forest was full of people and machines engaged in pebble mining that obviously took a toll on wildlife. On 11 March

1994, Valmiki was declared as 18th tiger reserve in the country and was brought under Project Tiger but poaching and mining continued. The stone crushing units and generator sets threw up dust and noise. The thinning herbivore population was also affecting tiger density. Funds for staff salaries and conservation programmes were short and the tiger census was irregular. The major boost came in 2002 when the Supreme Court banned mining from the river Pandai and the green cover began to improve. “The major problem that we faced was the shortage of grassland areas for the herbivore. We first focused our efforts on removing weeds to make way for grasslands. It increased the prey population. The trackers were equipped with GPS-enabled gadgets and were trained, entrances were barricaded, tourists flow were regulated to ensure that the core area remained untouched,” said Gourav Ojha, divisional forest officer, Division- 2, VTR.



Testing the camera trap. Photo by Shariq Shafi.

A significant breakthrough was also made in the crackdown of poaching syndicates. The state was jolted when four tigers were killed between December 2015 and March 2016. The entire state machinery swung into action and sixteen poachers were nabbed within two months of the incident. It was for the first time in Bihar that warrants were issued against the poachers that led to the crackdown of international poachers, with arrests spreading to Nepal. Since then there has been no incident of poaching reported.

World Wide Fund for Nature – India (WWF-India), played a significant role by imparting technical training to casual workers and other staff members for increasing tiger population since 2012. “We helped in capacity building of the staff members of the reserve for tiger monitoring,” said Shariq Shafi, project officer (species conservation), WWF, India. “Apart from identifying pugmarks, the technology helped in tracking the movement of tigers and take concrete steps for their protection. Around 463 pairs of cameras were used in 2016-17 to track tigers. The manual patrolling has given way to GPS-based app mode of patrolling. A detailed report about the presence of tigers and other wild animals is prepared on day-to-day basis and sent to the senior forest officials,” Shafi said.



Training the field trackers. Photo by Shariq Shafi.

MORE VISITORS, MORE MONEY BUT LESS STAFF MEMBERS

The efforts are clearly visible in terms of the increase of ecotourism with the rise in the numbers of Royal Bengal tigers. According to figures made available by the officials, around 14,629 tourists visited the VTR from January to June 2018, helping it generate a revenue of around Rs. 580,000 as compared to 2012-13 when 1,921 tourists had visited the reserve, generating revenue of Rs. 159,000. But everything is not hunky-dory in the reserve. The major problem is that of a severe staff crunch. The reserve has just ten forest guards against the sanctioned strength of 167. There have been no appointments in the post since 1989. Retirements every year have added to the woes. There is severe shortage of manpower in almost every part of the forest department. Another issue is the delay in the clearance of salaries of the casual staff, which often takes months to come, “They are paid too little and the situation turns adverse when they are not paid for months. Even this year, the salary had been delayed for six months. We fear that they might be lured by poachers because they are locals and well aware of the topography of the forest and movement of tigers. The intense economic pressure might stray them into wrong path,” feared a senior forest officer requesting anonymity. Moreover, the tiger trackers who roam in the forest round the clock have just bamboo sticks to save their lives. “We are like sitting ducks. We do not have any weapons to chase away the wild animals. There have been attacks, though rare. We also remain at the receiving end of threat of poachers. It often becomes difficult to run our family with non-payment of salaries for months,” rued a casual staff wishing not to disclose his name.

AFFORESTATION AND ECO-DEVELOPMENT

A). Afforestation on degraded forests

8.71 The National Forestation and Eco-Development Board was created at the time of the bifurcation of the erstwhile National Wasteland Development Board, then under the Ministry of Environment and Forests in July, 1992. Areas adjoining forests and fragile eco-systems were brought under the National Forestation and Eco-Development Board (NAEB), while other

wastelands were covered under the newly created National Wasteland Development Board in the Department of Wasteland Development in the Ministry of Rural Areas and Employment. An outlay of Rs. 461 crore was finally allocated to the NAEB for reclaiming degraded forest area adjoining forests during the Eighth Plan. The schemes of NAEB are:

(i) Integrated Afforestation and Eco-Development Projects (IAEPS) Scheme

8.72 This is intended to promote afforestation and development of degraded forests by adopting an integrated watershed-based approach. This 100% Centrally Sponsored Scheme envisages micro-plan preparation by a multi-disciplinary team in consultation with the local people. During the Eighth Plan period under this scheme an area of about 2,89,917 ha. was covered with a total expenditure of Rs. 203.12 crore.

(ii) Fuelwood and Fodder Project Scheme

8.73 This is meant to augment the production of fuelwood and fodder in 229 identified fuelwood deficient districts of the country to meet the needs of the communities. The cost of raising the plantations of fuelwood and fodder is shared equally between the Central and the State Governments. Under this scheme an area of about 3,87,216 ha. was covered with a total expenditure (central assistance component) of Rs.154.19 crore during the Eighth Plan period.

(iii) Non-Timber Forest Produce Scheme

8.74 The scheme provided for financial assistance to State Governments for increasing the production of Non-Timber Forest Produce (NTFP), including medicinal plants by raising plantations. This 100% Centrally Sponsored Scheme has a focus on creation of NTFP plantation assets in tribal areas. During the Eighth Plan period an area of about 1,06,170 ha. was covered with a total expenditure of Rs. 56.47 crore under this scheme.

(iv) Grants-in-Aid Scheme

8.75 Promotion of people's participation in afforestation activities is a mandate of the NAEB. Under this scheme, non-governmental organisations (NGOs) are assisted financially for taking up afforestation and tree planting in public and private wastelands adjoining forest areas and building upon people's movement for afforestation. A total of 338 projects were sanctioned and Rs. 7.51 crore were released to voluntary agencies during Eighth Plan period.

(v) Seed Development Scheme

8.76 Developing facilities for collection, testing, certification, storage and use of quality seeds for afforestation purposes is the aim of this scheme. The scheme also aims at establishing seed certification protocol in the long-run, which would ultimately increase the productivity of forests.

Under this scheme a total amount of Rs. 7.80 crore was released to States/UTs during Eighth Plan period.

(vi) Scheme of Aerial Seeding

8.77 A Centrally Sponsored Scheme of aerial seeding, which was started on a pilot basis in 1988-89 with 100% central assistance, continued during the initial years of Eighth Plan period. The objective of the scheme was to study the effectiveness of aerial seeding technique of afforestation for regenerating/revegetating difficult and inaccessible areas like ravines, hills/mountains, desert areas etc. However, this scheme was discontinued after 1993-94 on the basis of technical report of Indian Council of Forest Research and Education (ICFRE). The ICFRE advised that they were not aware of any technologies which make the seed penetrate in highly degraded and compacted soils on which better results were possible manually. In two years (1992-94) of its implementation during the Eighth Plan, an amount of Rs. 2.49 crore were spent and an area of 37,320 ha. was covered.

CONCLUSION

The role of forests in the national economy and in ecology was further emphasized in the 1988 National Forest Policy, which focused on ensuring environmental stability, restoring the ecological balance, and preserving the remaining forests. Other objectives of the policy were meeting the need for fuelwood, fodder, and small timber for rural and tribal people while recognising the need to actively involve local people in the management of forest resources. Also in 1988, the Forest Conservation Act, 1980 was amended to facilitate stricter conservation measures. A new target was to increase the forest cover to 33% of India's land area from the then-official estimate of 23%. In June 1990, the central government adopted resolutions that combined forest science with social forestry, that is, taking the sociocultural traditions of the local people into. The cumulative area afforested during the 1951-91 period was nearly 179,000 square kilometres. However, despite large-scale tree planting programmes, forestry is one arena in which India has actually regressed since independence. Annual fellings at about four times the growth rate are a major cause. Widespread pilfering by villagers for firewood and fodder also represents a major decrement. In addition, the 1988 National Forest Policy noted, the forested area has been shrinking as a result of land cleared for farming and development programmes. Between 1990 and 2010, as evidenced by satellite data, India has reversed the deforestation trend. FAO reports India's rate of forest addition has increased in recent years, and as of 2010, it is the third fastest in the world in increasing forest cover. The 2009 Indian national forest policy document emphasizes the need to combine India's effort at forest conservation with sustainable forest management. India defines forest management as one where the economic needs of local communities are not ignored, rather forests are sustained while meeting nation's economic needs and local issues through scientific forestry.

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