FIFTY YEARS OF FORESTRY IN INDEPENDENT INDIA - GAINS AND LOSSES

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Introduction

We celebrated 100 years of scientific management of forestry in 1961. During the British rule the early years were spent in consolidation of forests. Prior to unification of India under the British rule most forest areas were under no management though some States were exceptional in looking after their forests very well. The British brought a team of German foresters led by Dr. Brandis to set up the foundations of forestry. To collect field data, series of sample plots, linear tree increment plots, preservation plots, etc. were laid in important forest types. Some of these research plots are over a century old. A system of maintaining their data at a central place and devising uniform methods of computations were also evolved. A practical system of forestry training, under which the faculty regularly moved from actually managing forests, to teaching in forest colleges was devised. The forests were surveyed, and rights and concessions of local inhabitants for grazing, timber and collection of firewood and non-wood products were recorded. The situation of forests, was thus stabilised. Periodic reviews through 10 or 15 year working plans ensured monitoring the results of prescriptions and suitably modifying them.

Management

For about 15 years there was little change in the management systems. Formation of States with fresh boundaries and redistribution of forest areas started affecting forest management. Increasing population of human beings and livestock, setting up of fresh industries based on forest products increased the demand of all products. Forest Departments in almost all States were revenue surplus. They contributed significantly to State exchequer. However in due course other sources of income increased and forest revenues lost their importance. Transfer of forest lands for non-forestry purposes to institutions and individuals became quite common. Large scale encroachments and their regularisation at the time of elections became very common. 4.3 million hectares of forest lands were transferred between 1947 to 1980. During 1977, the Constitution of India was amended and forests were brought under the "Concurrent list". Forest (Conservation) Act 1980 and amendments made in 1988 took away the power of State Governments for transfer of forest lands.

Social Forestry

By the middle of 1980 the Forest Departments of some States notably Gujarat and U.P. started programme of planting forest trees outside reserved forest areas with World Bank assistance. Other States soon followed with funding from other external agencies like USAID, SIDA,CIDA,ODA etc. Some projects were

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grants while others were loans at low rates of interest. In terms of the quantum of money the amounts involved were not large. The technology was locally available, no foreign exchange was needed and the major component was labour which was plentifully available. There was no real need for external funding except that the external funded projects were considered glamorous. Many Foresters were sent abroad mainly to U.K., Europe and U.S.A. to learn what was irrelevant to the problems prevalent in India. The projects emphasised setting up of nurseries in schools and farmlands. Even the choice of species was left to local persons. Since forestry has not been a commercial activity no experience or expertise was available outside Forest Departments. It was considered by officers at decision level that forestry needed no technical knowledge. The programmes of social forestry were bigger than those of conventional forestry. Large numbers of forestry personnel were recruited, summary training programmes were arranged and forestry divisions which were hitherto confined largely to forestry surplus small districts moved to elite towns. As expected the results were disastrous to forestry. The forest service lost its technical thrust.The training programmes were curtailed to fill up posts. After review of social forestry programme, the World Bank Report No. 10565 observes "Since results of afforestation efforts on non-forest public wastelands have not been upto expectations, more focus should be placed on forest lands in future afforestation efforts". Very few States carried out quantitative assessment of social forestry projects. Those States, which carried out proper surveys, found the results to be dismal. Orissa which performed comparatively better than other States carried out a survey of their Indo-Swedish Forestry Programme through a competent professional team. The results of Orissa Social Forestry Project yield study 1992-93 summarises the current biomass production as follows : "The maximum production of 4.4 tons per ha per year refer to net productive area, which is derived from the originally planted area by deducting failed areas and partly washed out areas. However, the net productive area only amounts to 41 per cent of the originally planted. The deducted 59 per cent area planted are likely to comprehend no or at least very little biomass of planted origin. If applying a cost-benefit approach to the investments made it is appropriate to estimate the rate of return projection of only 1.8 tons per ha per year is obviously a low figure, far below what is likely to be the potential production of the areas involved".

J.F.M Projects

Having seen the failure of the much advertised social forestry projects, whose theme was "to take forests to people", community participatory projects, whose theme was "to take people to the forests" were started in about 1981. To obtain publicity NGOs were engaged as go-between the local communities and Forest Departments. NGOs came in only because they saw money in this programme. The World Bank document states "Most NGOs are short on funds and therefore need advances. To date JFM arrangements have almost exclusively focused on heavily degraded lands. Relatively better forests also need protection and returns to both Government and villagers would be much higher on such lands". None of the JFM projects have been quantitatively evaluated by competent professionals, so far. Once the projects are evaluated by proper statistical methods the enthusiasm is likely to disappear.

Forestry Research

Amongst all tropical countries India had at one time the best traditions of field forestry research. India is the only country which has such large quantitative data of natural and planted forests. The system of central computation of field data was unique and provided growth data for the entire country of 3,287,263 km^2. These growth data formed the basis of all management decisions including rotations. Practically all important exotics have been field tested in India at various times. The large scale plantations of *Eucalyptus* were started about 200 years after their introduction in India. Poplars were introduced into farm lands after about 30 years of sustained field research. An important event that influenced forestry research the most was the formation of the Indian Council of Forestry Research and Education. The Indira Gandhi National Forest Academy (the changed name of Indian Forest College) was however kept out of the ICFRE. Thus training of IFS officers was delinked from forest research. The close relationship between the teacher and taught which helped forest officers to interact with scientists of Forest Research Institute was severed. Later on the ICFRE snapped its ties with the State Forest Departments. Research under ICFRE is now delinked with the needs of the field foresters. It has caused irreparable damage. The foresters have very little contact with forest scientists and the forest scientists are not aware of the problems that need research. ICFRE is at present a monolithic organisation, contributing very little to the technical needs of the forests. Unfortunately the standard of research in the State Forest Departments has also gone down due to several reasons. Even within the Forest Research Institutes there is very little interaction between the different directorates. Overall forestry research is in a bad shape. Large funds are now available through external funding. These funds are however linked to consultants, who in most cases are ill equipped to guide, it is distressing to see that Forest Research Institute now engaging consultants to advise on nurseries, etc. In fact every directorate is now flooded with consultants and periodic review committees.

Having discussed the major issues it will be worth while to analyse the present state of some of our major forest.

Sal Forests

Sal forests occupy large part of the country. They were worked under different silvicultural systems from selection to clear felling and planting under Taungya. Very successful plantations under Taungya system were raised in West Bengal, Bihar, Orissa, U.P. etc. In a recent study in U.P. 11 to 80 year old plantations gave m.a.i. of 5-8m^3/ha/yr which is higher than the recent plantations. Taungya system was given up by about 1960, due to law and order problems beyond the control of foresters. Though the problem of Sal regeneration was not fully understood the research was on going. The collection of Sal seed by raking the forest floors which started in about 1980 however totally stopped regeneration of these areas. For small local gains the forests are now being destroyed beyond recovery. In several States Sal is worked under the coppice with standard or coppice with reserve system; collection of Sal leaves for making plates is extensively practiced in several coppice areas as the coppice leaves are bigger and available at lower height. Unfortunately Sal leaves are also now lopped for fodder. The recent heavy attack of Sal borers (*Hoplocerambyx*

spinicornice) in Madhya Pradesh has received the attention of large number of persons who do not understand the problem but show concern. The problem is not new. The attacks in the past were quickly controlled by methods which were known to most foresters. The GoI has recently formed a task force and a steering committee. This is a well established method of silencing criticism. It is not likely to work with insects. The people who matter either do not know how to tackle this problem or are not sure of their capabilities. Sal forests are now suffering from lack of proper management.

Chir pine forests

Chir pine forests occupy the largest area in the lower hills and occur almost pure from Western to Eastern Himalayas. The method of getting Chir regeneration under the uniform system was perfected. Leaving 15 to 25 trees per hectare at the time of seeding fellings ensured complete regeneration, which established in about 20 years. Unfortunately ignorant people blamed the deterioration of some hill forests for fellings and got a ban on green felling over 1000 m imposed. Foresters in positions acquiesced in a totally unscientific order. The stoppage of fellings has not only stopped regeneration, it has also increased the dry needle mass resulting in more severe and frequent fires.

Bamboo forests

India had a very large area under bamboos. The large and growing population of livestock is destroying these forests. The shifting cultivation in now practiced on a bigger scale and shorter cycles. The production of bamboos is going down drastically each year. The areas that flower gregariously seldom regenerate due to lack of proper management.

Forest Education

14 Agriculture Universities started graduate programmes in forestry in early seventies. For want of jobs for forestry graduates, most universities closed down these programmes by 1990. Very few universities now teach forestry in India. The Forest Research Institute is now 'a deemed university' and awards Ph.D. Degrees. How far these are relevant to forestry needs of the country is difficult to say.

Forest Based Industries

The condition of forest based industries is not healthy in India. The paper industry that consumes the largest quantity of wood out of all wood based industries is on the verge of collapse. Many paper mills have closed down during 1997-98. Large quantities of paper and paper products are now imported. India's climate is excellent for growth of trees. We should have been exporting large quantity of paper. The example of Brazil is for all to see, how within a span of two decades this country has become the leader in pulpwood production by taking advantage of land and climate. Due to lack of wood, industries have not grown. Due to lack of industries, employment in forestry sector has not increased. This has adversely affected education, training, research etc.

General

After Independence forests showed lot of improvement for about 30 years but there is a constant decline since the start of

social forestry project. The Forest Departments have increased many fold in the strength of its employees at all levels. There are today many research institutes in several parts of the country. The forests are however much poorer in their over all stocking and productivity. The quality of our nurseries is poorer than those in 1970-80. The yields from our plantations are much lower than in 1970-80. There has been an over all decline in the technical aptitude of foresters at all levels. Even the quality of forest scientists at our research institutes does not give us any pride. We have become too dependent on foreign money and foreign technology. Unfortunately our forests are too different then temperate forests and the methods developed for the temperate forests have little relevance for us. During fifty years of independence the forests of India have lost, whether the foresters have gained anything is difficult to say.

Agenda for next 50 years

If we continue to use the forests as at present there well be no forests left by 2050. It should be realised that the damage to environment and biodiversity is alike whether the trees are cut for commercial or for local use. The following suggestions should be seriously considered in the interest of saving forests for the future generations.

(i) *End all foreign-aided projects*: The major inputs in Indian Forestry are labour, land, planting material, technical and managerial inputs. All these are available in the country. The experience of past thirty years clearly shows that our forests have not improved at all from foreign aided projects whether these are received as aid or loans. The collection of several hundred crores of rupees by forest plantations companies shows that there is no dearth of public participation in commercial forestry ventures.

(ii) *Develop Wood Based Industries* : All countries that have good wood based industries have preserved their natural forests and expanded forest plantations in quality and quantity. Wood based industries alone help in developing new relevant technologies and invest in meaningful research. The Government research organisations provide jobs and degrees to educated persons but seldom develop research that can be converted to usable technologies.

(iii) All reserved forests should be closed to livestock grazing and free removal of firewood. Grazing pressures are beyond sustainable limits. The removal of free firewood is responsible for annihilation of about 1 million hectares of forests each year. People keep livestock for business. It should not be permitted on forest levels. We have already been warned about the likely crisis of water in coming decades. One way to solve this problem is to stop destruction of forest floors. Animal husbandry can not be a legitimate business in public forests.

(iv) Rationalise the forest administrative structure. The forest administration has become too top heavy during the last decade. There are more supervisors than workers. A very large percentage of forest revenue is used up in establishment. Very little is being recycled in the improvement of the forests. Forests suffer while bureaucracy thrives. Once the forests disappear the bureaucracy will also not survive.

SUMMARY

This article reflects on the past, present and future scenario of forest management in India. The status of major forests, Social Forestry, Joint Forest Management, Forestry Research, Forest Education, Forest Based Industries have also been discussed.

स्वतंत्रता भारत में वानिकी के पचास वर्ष - लाभ और हानियाँ

ए०एन० चतुर्वेदी

सारांश

यह अभिपत्र भारत में वन प्रबन्ध के विगत, वर्तमान और भविष्य की स्थितियों पर तीव्र प्रकाश डालता है। मुख्य वनों, सामाजिक वानिकी, संयुक्त वन प्रबंध, वानिकी अनुसंधान, वन शिक्षा, वनाधारित उद्योगों की स्थिति का भी इसमें विवेचन किया गया है।

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