

### WHAT IS WRONG WITH OUR FORESTRY EDUCATION?



*New courses related to socio-economic faculties including extension needs to be developed and promoted in forestry education, argues Dr Binoo P Boney.*

#### CONTEXT

Forestry forms the second largest land use category in India after agriculture, catering to 16% of the human and 18% of the cattle population needs. The Indian population directly dependent on forests is roughly estimated at 275 million (27%) which include both tribal and non-tribal forest users (World Bank, 2002). This covers the 200,000 Indian villages declared as forests dependent for timber and non timber forest products (NTFP) for their livelihood (Raveendranath and Sudha, 2004). Forests also meet about 40% of the energy needs including more than 80% of the rural energy requirements mostly in the form of fuel wood. However, the challenges of growing population and rapid industrialization have skewed the demand – supply curve against forest resources leading to over-harvesting and degradation of ecosystems. Poor conservation outcomes have forced planners to reconsider the role of the forest community in resource use and conservation through policy revisions and enactments with little tangible outcome.



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## THE CHALLENGE

In fact, most of the forests and forests management problems in India can be categorized under the class of human problems which Hardin (1968) called as no-technical solution problems. No-technical solution problems demand change in human values or attitudes and requires little change in techniques of the natural sciences. Unfortunately the underlying philosophy that guides contemporary forestry research and education has been based on bionomics of forests. It remains skewed towards conservation, ecosystem management and resource use optimization. The research domains remain dictated by the economic theory of natural resource utilization that are owned in common and exploited under conditions of individualistic competition. The model lacks integration with behavioral components of the forest dependent population and matching soft skill competencies in the regulatory systems.

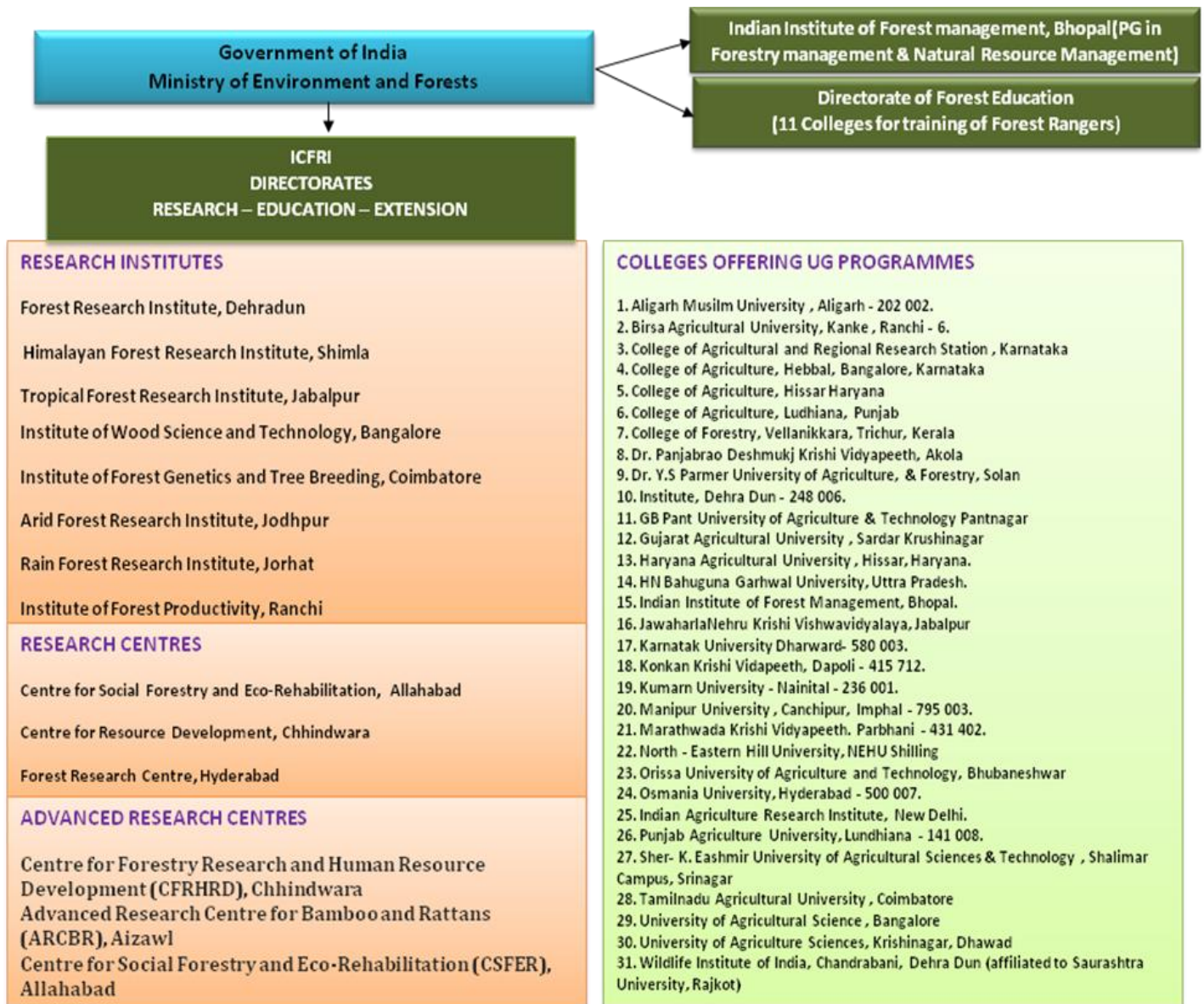


**In India, several tribal communities depend on forest resources for their livelihood**

The mismatch emanates from the fact that historically Indian forest policies followed an exclusive management regime in which adaptive livelihood use of forest and grazing land were not tolerated. Moreover, the general attitudinal disposition favors forests resources as free goods for the individual but scarce goods for the society. Therefore it involves social, political and economic dimensions that shape behavior, opportunities, rights and power relations of people concerned. The challenge is to evolve institutional innovations that have inbuilt mechanisms to resolve the problems related to tenure rights, ownership, control and management of forest resources at local level. The responsibility rests predominantly with the regulatory system that involves officials of the public sector Forest Department and to some extent nongovernmental organizations working in this sector.

## FOREST RESEARCH & EDUCATION SYSTEM IN INDIA

Indian Council of Forest Research and Education (ICFRE), the apex autonomous body under the Ministry of Environment and Forests (MOEF) governs the National Forestry Research and Education System. It is aimed at developing holistic forestry research through planning, promoting, conducting and coordinating research, education and extension on all aspects of forestry for ensuring scientific management of forest, tree improvement, and forestry productivity. An overview of the major institutions that forms components of the national forestry system is illustrated in Fig 1.



**Figure 1: Forestry Research and Education Institutions in India**

The Directorate of Forest Education (under the MOEF) is involved in induction and in-service training of State Forest Officers. There are four colleges under the Union government and four colleges under the various State governments. Indian Institute of Forest Management (IIFM) is another premier autonomous Institute under the MOEF established in 1982. The Institute has four main activities, namely research, teaching, training and consulting in the forestry and allied sectors. It offers Post Graduate courses in Forestry Management and Natural Resource Management. The UG programmes in Forestry are run by Colleges affiliated to various Universities and receive grant-in-aid from ICFRE for development of facilities and infrastructure.

## “Extension” in Forestry

Though Research, Education and Extension form the three main building blocks (along with several other actors) of the National Forestry Innovation System, Extension continues to remain as one of its weakest links. Right from the days of colonial rule that enacted the first Indian Forest Act of 1865, attempt has been to establish government’s claims over forests. All local rights on forests were abolished and even those accepted were treated as privileges offered under law (ADB, 2009). No effective mechanism has been evolved that could disseminate the adaptable research findings to the user groups including farming community. Even adaptation of research to suit the local needs could not be pursued due to absence of a proper dissemination mechanism including trained and skilled extension staff.

The onus of the scenario rests mostly with the traditional forestry education model emulated from other nations (Ratnasingam *et al*, 2011). The system appears to be ill equipped to produce human capital with necessary skills to cope with the challenges. The stakeholders in the forestry sector, especially the change agents in the sector who work more closely at the ground level need to be equipped with required expertise and skills in promoting linkages & collaboration; organizing awareness campaigns & demonstrations and co-coordinating the forestry innovation system. To develop these skills and expertise, Forestry Extension Education and related disciplines should form a major constituency of forestry education. However, in reality, this is not the case.

### **Box 1: Forestry Research & Education in India -A brief history**

Scientific forest management in India started in 1864 with the appointment of Sir Dietrich Brandis as the first Inspector General of Forests (Aggarwal, 1954). Following his recommendations, trained foresters from Germany and France were appointed to manage the country's forests, and the Imperial Forest Service was initiated in 1866. However the history of professional forestry education in India starts with the establishment of the Forest School for training rangers and foresters at Dehra Dun in 1878 by the British Provisional Government. It offered a two year Ranger Course for over thirty years which was the highest degree in forestry offered in India at that time. The Forest School was transferred to the Government of India in 1884 and became the Imperial Forest College and later the Indian Council of Forest Research and Education (ICFRE).

The first Forest Research Institute came into being as an adjunct to the Imperial Forest College in 1906. With the opening of recruitment for the Provincial Gazetted Services to Indians in 1912, the Forest Research Institute started offering Provincial Forestry Course. Though of two year duration, it was of higher standard and only graduates in science with a good university record was eligible for it (Ranganathan, 2000).

In 1920 Indian Forests Services too (IFS) were made open to Indians. However, the probationary training of these IFS officers was done in British universities till 1926 when it was started at Dehra Dun. The Provincial Forest Service Course was terminated and replaced with the new Indian Forest Service Course, which too ended in 1932 due to lack of demand and political uncertainties that existed at that time. The Indian Forest College was started in 1938 to train personnel for the gazetted forest services in the provinces and states and has since been evolved to meet the forestry research and education demands of the country and was renamed as Indira Gandhi National Forest Academy (IGNFA) in 1987.

## The curriculum

The present course content especially at the undergraduate level of B Sc (Hons) in Forestry mostly covers topics on forest biology and regulatory and protective methods designed for the conservation of forest stock. In the total class room credits of 132 hrs spread in 8 semesters, courses related to socio-economic faculties comprise a meager 6.8% (KAU, 2007). There is only one course in Forestry Extension Education of 2 credits in the sixth semester.

The sea change in policy reforms from the regulatory regimes of the Forest Policy of 1894 to the participatory reforms through Forest Rights Act of 2006 is rarely reflected in the course content. This forms a major constraint in the development of human capital in forestry sector that requires knowledge and skill sets suitable to translate participatory management and cost sharing policies into main stream forest management strategy. Even the successes reported in joint and participatory forest management, eco-tourism and forest based entrepreneurial development remain as ad-hoc cases of sporadic individual or team efforts. In fact the challenge is to incorporate technical competence along with business, advocacy and organizational capabilities through effective curriculum revision and reorientation.

## Curricula Reforms

To develop effective and relevant human resources in forestry, the current curriculum of forestry science undergraduate courses needs thorough revision. New courses that can build on human faculties from an expert regulatory role to a facilitation role need to be promoted. Courses on property rights and land tenure statuses including group tenure practices in primitive societies, community and group property rights on indigenous knowledge has to be included (rather than extending the blue prints of successful activities from agriculture and related sectors which follow different property rights and tenure regimes). This will be important in developing unique strategies in forestry. Yet the complementarities of non-farm activities like forest use and pastoralism with agriculture on rural livelihoods need to be retained.

Apart from these, specialized courses on group dynamics and conflict management; micro-finance and credit linkages; development communication; and basics of forest policies, laws/enactments and enforcement issues need to be included in the curriculum. Emphasis on climate smart integrated models of forests and family farms; Public Private Partnerships (PPPs) in ecotourism; concepts and experiences of forest based producer organizations; , indigenous knowledge in biodiversity conservation: project evaluation and monitoring techniques; and participatory need assessment also have to be promoted.

## CONCLUSIONS

The growing crisis of forest loss and related problems seem to be aggravated by the command and control bureaucratic model followed by the Indian forest department. Demand for meeting the mutually exclusive goals of environment, economy and society has made forestry a multidisciplinary domain where coordination and collaboration skills have unprecedented importance. Though the Joint

Forest Management (JFM) initiatives (since the early 80's) tried to legitimize participatory rights of local population in profit sharing from forest resources, it failed in institutionalizing the rights. Even the implementation of Forest Right Act (FRA) as an enabling legislation (to redress the historical deprivations) depend on the capacity of Forest Department to play facilitation roles and evolve strategies to organize and institutionalize the reforms utilizing formal and informal sources of local power including Panchayat Raj institutions. The implementation process requires dynamic leadership, substantial resourcing and academic training in related social science faculties and soft skills along with technical competence.

## REFERENCE

**ADB**, 2009. Indigenous Peoples' Forest Tenure in India. Asian Development Bank.

**Aggarwal, K.L.** 1954. Forest education and research in India. *Indian Forester*, 80(12): 736.

**Hardin, G.** 1968. Presidential Address. American Association for the advancement of Science, Logan

**KAU** 2007. BSc (Hon) Forestry Programme-Course Syllabi and Lecture Schedule. Kerala Agricultural University, Thrissur

**Ratnasingam, J; Mariappan, M. and Tan, T.S.** 2011. Malaysian Forestry-Past-Present and Future. Selangor; University Putra, Malaysia Press (E-book downloadable from – [www.forr.upm.edu.my](http://www.forr.upm.edu.my))

**Ranganathan, C. R.**2000. Forest research and education in India. Department of Forestry, FAO Vol 5(3) ([www.fao.org/docrep/x5356e/x5356e04.htm](http://www.fao.org/docrep/x5356e/x5356e04.htm))

**Ravindranath, N. H. and Sudha, P.,** 2004. Joint forest management in India: spread, performance and impacts, Universities Press, Hyderabad.

**World Bank.** 2002. *India - Forestry Research Education and Extension Project*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/2002/06/1940617/india-forestry-research-education-extension-project>

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