

Doi: [HTTPS://DOI.ORG/10.23910/2/2021.0398](https://doi.org/10.23910/2/2021.0398)

Forestry Education in India: The Lasting Value

Naincy Sagar* and Susmita Subba

Dept. of Forest Biology and Tree Improvement, College of Forestry (University of Agricultural Sciences), Sirsi, Karnataka (581 401), India

Corresponding Author

Naincy Sagar
e-mail: nancysagar2018@gmail.com

Article History

Article ID: IJEP0398
Received in 28th November, 2020
Received in revised form 13th February, 2021
Accepted in final form 23rd February, 2021

Abstract

The protection and management of forest resources have always been engulfed in the Indian heritage since ages along with the contribution of the ecosystem and its services. India is not only famous for its diverse wildlife and culture, but also for its dense and vast forest cover. Indian climate befits the variety of flora and fauna. B.Sc. Forestry course provides an insight to subjects regarding silviculture, tree improvement, forest products, mensuration, forest management and others and the student are also provided with professional training in some universities in India like weapon training, etc. The course B.Sc. forestry which provides knowledge to this science is still not as popular in the country as the subject agriculture is recognized. The inadequacy in jobs and opportunities for the thousand of forestry graduates has lessened the wide scope of this course. The recent awareness of the world in the protection and effective management of forest resources has increased massively the importance of courses like B.Sc. forestry in national as well as international organizations. This is the 'golden hour' for a course like forestry in government and private sectors from centre, state to research perspectives. However, a little reform in some structure of the recruitment policies of the graduates could massively create employment for the foresters.

Keywords: Employment, fauna, flora, forestry, management, protection, resources

1. History and Importance of Forestry in India

Forests are an integral part of the Indian society, as the importance of forests is well explained in our historic epics like the *Ramayana* and the *Arthashastra*. The history holds evidence in maintaining a staff for the protection of forests when Chanakya made the cutting of trees as a crime and Ashoka stressed on protection of wildlife. According to Forest Survey Report, 2019, the total forest and tree cover of India is 24.56%. The forest sector is ranked the second largest land use after agriculture. Forests hold such an immense importance but course like B.Sc. Forestry is still undiscovered and unrecognized in the country today (Arunachalam and Arunachalam, 2012).

Forestry education acts as a framework between humans and the nature (Nair, 2004). Forestry has a potential to connect social sciences, economics and political sciences. Every year when more than thousands of forestry graduates pass out from recognized universities, they experience challenges for their recruitments and further study due to lack of professional guidance. This article tends to unravel the present scope of forestry in our country and how the awareness and encouragement into such a course could boost the opportunities for the forestry youth today. The

potential of forestry graduates can be well utilized in private and government sector by enabling some structural reforms in the existing policies of the State and Central Forest Services by providing them job reservation or preferences in forest and allied sectors, which will also justify the professional education and training provided to them.

2. Forestry Education in India

The Forestry Education in India dates back to 1986 when the National Commission on Agriculture (NCA, 1976), under the Ministry of Agriculture proposed the initiation of forestry education in India for better conservation of forests, natural resources management and protection of the environment, which was properly released in the third National Forest Policy of India, 1988.

The Bachelors in Science degree in forestry, like any other agriculture subject is guided by Indian Council of Agricultural Research (ICAR) norms, is of four years duration and students are assigned courses like Forest Ecology, Silviculture, Silvicultural Systems, Agroforestry, Social Forestry, Wood Science and Technology, Forest Management, Tree Improvement, Agrometeorology, Non-timber forest products (NTFPs), Wildlife Science Management, Eco-Tourism



Management, Natural Resource Management, Environment Management, Watershed Management, Entomology, Wildlife, Forest Mensuration, Watershed Management, Statistics, etc. In the final year, fieldwork for one year under the Rural Forestry Work Experience (RFWE) programme or Rural Agriculture Work Experience (RAWWE) programme is also done (Bhat, 2005).

As shown in Table 1., B.Sc. degree in forestry is provided by 51 universities along with M.Sc. degree and very few with Ph D

programmes, where the student intake also differs according to the institute or university (Dhaka and Choudhari, 2018). In India, forestry education was introduced first in 1976 at Solan in Himachal Pradesh (ICAR, 2009). However, practical outlook should be enhanced in the forestry education at university level to expand the horizon (Ramesha et al., 2013). That is why networking is an essential step to encourage education in forestry in the country through agencies, web portals, societies, etc. (Nayak et al., 2011).

Table 1: List of agricultural universities that provide quality education in forestry

Sl. No.	Name of Agricultural University	State
1	Central Agricultural University	Manipur
2	Rani Laxmi Bai Central Agricultural University	Uttar Pradesh
3	Dr. Rajendra Prasad Central Agricultural University	Bihar
4	ICAR-Indian Agricultural Research Institute	New Delhi
5	Acharya NG Ranga Agricultural University	Andhra Pradesh
6	DR. YSR Horticultural University	Andhra Pradesh
7	Assam Agricultural University	Assam
8	Bihar Agricultural University	Bihar
9	Indira Gandhi Krishi Viswa Vidhyalaya	Chhattisgarh
10	Sardar Krushinagar Dantiwada Agricultural University	Gujarat
11	Anand Agricultural University	Gujarat
12	Navsari Agricultural University	Gujarat
13	Junagarh Agricultural University	Gujarat
14	Chaudhary Charan Singh Haryana Agricultural University	Haryana
15	Haryana State University of Horticultural Sciences	Haryana
16	Ch. Sarwan Kumar Himachal Pradesh Krishi Viswavidyalaya	Himachal Pradesh
17	Dr. Yaswant Singh Parmar University of Horticulture & Forestry	Himachal Pradesh
18	Birsa Agricultural University	Jharkhand
19	Sher-e-Kashmir University of Agricultural Science & Technology	Jammu & Kashmir
20	Sher-e-Kashmir University of Agricultural Science & Technology	Jammu & Kashmir
21	University of Agricultural Sciences	Karnataka
22	University of Agricultural Sciences	Karnataka
23	University of Agricultural Sciences	Karnataka
24	University of Horticulture Science	Karnataka
25	University of Agriculture & Horticulture Sciences	Karnataka
26	Kerala Agricultural University	Kerala
27	Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya	Madhya Pradesh
28	Jawaharlal Nehru Krishi Viswa Vidyalaya	Madhya Pradesh
29	Dr. Balaesahib Sawant Kokan Krishi Vidyapeeth	Maharashtra
30	Vasantrao Naik Marathwada Krishi Vidyapeeth	Maharashtra
31	Matatam Phule Krishi Vidyapeeth	Maharashtra
32	Dr. Punjabrao Deshmukh Krishi Viswa Vidyalaya	Maharashtra

Table 1: Continue...



S. No.	Name of Agricultural University	State
33	Orissa University of Agricultural & Technology	Orissa
34	Punjab Agricultural University	Punjab
35	Maharana Pratap University of Agriculture & Technology	Rajasthan
36	Swami Keshwanand Rajasthan Agricultural University	Rajasthan
37	SKN Agriculture University	Rajasthan
38	Agriculture University	Rajasthan
39	Agriculture University	Rajasthan
40	Tamil Nadu Agricultural University	Tamil Nadu
41	Sri Konda Laxman Telangana State Horticultural University	Telangana
42	Professor Jayashankar Telangana State Agricultural University	Telangana
43	G.B. Pant University of Agriculture & Technology	Uttarakhand
44	VCSG Uttarakhand University of Horticulture & Forestry	Uttarakhand
45	Chandra Shekhar Azad University of Agricultural & Technology	Uttar Pradesh
46	Narendra Deva University of Agriculture & Technology	Uttar Pradesh
47	Sardar Vallabhbhai Patel University of Agriculture & Technology	Uttar Pradesh
48	Banda University of Agricultural and Technology	Uttar Pradesh
49	Sam Higginbottom University of Agriculture, Technology & Sciences	Uttar Pradesh
50	Bidhan Chandra Krishi Viswavidyalaya	West Bengal
51	Uttar Banga Krishi Viswavidyalaya	West Bengal

3. Employment in Forestry

3.1. Public Sector

Firstly, getting to the heart of the matter- the Indian Forest Service which is considered as one of the prestigious jobs in the country and sometimes the sole reason that why many students join the forestry courses. So starting from history of Indian Forest Service which is by 1920 the Forest Service consisted of three branches: the Imperial Forest Service (399 officers), recruited in Britain and trained at Oxford, Cambridge, and Edinburgh; the Provincial Forest Service (293 officers), recruited and trained in India at Dehradun; and the Subordinate Forest Service, comprising over 15,000 rangers, deputy rangers, and guards recruited and trained in the provinces. At present the Forest Service is under Union public Service Commission (UPSC) where recruitments occur every year (Sivaramakrishnan, 1995).

State Forest Services also hold a wide scope for students who have pursued B.Sc. Forestry courses. Forestry students have faced challenges for attaining the reservations from the State Forest Service in many states. The quality of research and dissemination of information by the state forest department has actually failed to meet the expectations mainly due to the lack of technical expertise which could only be brought by forestry professionals (Chaturvedi, 1998). In 2010, forestry students at the Forest College at Mettupalayam, Tamil Nadu, petitioned the then Chief Minister to get reservation in direct recruitment of range officers in state forest services. In

Odisha, forestry students of Odisha University of Agriculture and Technology (OUAT) demanded recruitment in the State Forest Departments by protesting on World Forestry Day and argued that B.Sc. Forestry degree should be made the minimum qualification for recruitment in the range officer cadre (Down to Earth, 2016). The forestry students in 2016 of Akola and Dhapoli in Maharashtra undertook a hunger strike against the state government in order to seek changes in the recruitment policy of the Forest Department and wanted full reservation for forestry students in state forestry services (The Hindu, 2010). The Table 2 shows the names of state along with the reservation provided. However, this is saddening that such reservation is not implemented throughout the country. Protected areas in India has risen by 0.5–5% of the land mass from 1969 to 2001 which has increased the opportunities for

Table 2: Percentage of reservation provided by the states in India

Sl. No.	Name of the State	Reservation provided to B.Sc. Forestry (%)
1.	Haryana	70%
2.	Tamil Nadu	25%
3.	Himachal Pradesh	70%
4.	Odisha	50%
5.	Kerala	25%
6.	Jammu and Kashmir	100%

forestry graduates in national parks, wildlife sanctuaries and protected areas (Rangarajan, 2001)

The institutions under State and Centre Government also release several projects under forestry who recruit forestry graduates in the research sector. However, there is still lack of funds in the research for forestry science. ICAR releases every year two to three seats under Assistant Research Scientist (ARS) in forestry which are recruited under the Centre directly giving opportunities in research and harboring creativity (Bhat, 2006).

3.2. Private sector

The Private Sector for forestry also has opportunities. The “world herbal renaissance” has led to increasing the awakening of the industries towards forest-based products. Private Industries like Himalayas, Patanjali, Dabur, etc hold a good position in the present market but these industries also do not provide sufficient money and facilities to the forest graduates (Singh et al., 2014). There are only a few companies in India which require forestry graduates to work with them, such as paper and pulp industries, agriculture and plantation-related companies, NGOs, matchbox industries, Katha and Cutch industry, sandalwood industry, composite wood industries, etc. Forest management and certification courses are provided by management institutes like Indian Institute of Forest management which employ graduates for forest certification in the country (Arunachalam and Pandey, 2019).

4. Prospects of Forestry Education

It is time that we address the future of forestry graduates and bring in some structural changes in the forestry education sector through central ordinance as agriculture is a state subject, while forest is in the concurrent list, indicating that it requires immediate attention of the forest administrators and policy makers. Forestry has become a burning topic in the country now when the massive exploitation of forest resources and increasing awareness of the public towards the conservation. The conservation aspect has changed in few years. We live in an era of Conservation 2.0, wherein the old conservation aspect of only putting boundaries to forest and no human activities was a prime objective. Now, in Conservation 2.0, we need an involvement and working of people who are trained in such forestry studies so that the forests could be preserved in a more scientific manner.

5. Conclusion

Promoting forestry education in the country can lead to strengthening diversified and integrating the knowledge on biodiversity, ecology and management on a common ground. Forestry graduates with their knowledge could assist in the preparation of a knowledge-driven scientific working plan for managing forest resources and contributing to carbon trading and climate change mitigation. Greater contribution

in economic viability and livelihood security by forestry graduates by increasing the forest area and achieving the goals of forest cover could also enhance in some ways the present GDP of the country.

6. References

- Arunachalam, A., Arunachalam, K., 2012. Socio-economic impact of the ban on timber felling in Arunachal Pradesh, North-Eastern India. *International Journal on Ecology and Environment Science* 38(2-3), 119–132.
- Arunachalam, A., Pandey, L., 2019. Transforming forestry education for better job prospects. *Current Science* 117(5), 748–752.
- Bhat, K.M., 2005, Forest Education and Research in India: Country Report, *Forest Science and Technology* 1(2), 185–192.
- Chaturvedi, A.N., 1998, Fifty Years of Forestry in Independent India-Gains and Losses. *Indian Forester* 124 (6), 391–396.
- Dhaka, R.K., Choudhari, C., 2018, Forestry education in India: Objectives, needs, current status and recommendations. *The Pharma Innovation Journal* 7(12), 320–324.
- Down to Earth., 2016 The sad plight of India’s forestry graduates, 2016; <https://www.downtoearth.org.in/blog/the-sad-plight-of-india-sforest-graduates-53637> Accessed on 31st August 2018
- ICAR., 2009. New and restructured post-graduate curricula and syllabi of Forestry. Indian Council of Agricultural Research, New Delhi, 2009.
- Nair, C.T.S., 2004, What does the future hold for forestry education? *Unasylva* 216 (55), 3–9
- NCA. 1976. Report of the National Commission on Agriculture. Govt. of India, Ministry of Agriculture and Irrigation, New Delhi.
- Nayak, S., Nayak, P.S., Pandey, V., Jain, S.K., 2011, Forestry Internet Information Resources. *The Indian Forester* 137(1), 29–46.
- Ramesha, M.N., Srinidhi, H.V., Dubey, S.K., Janoo, N.K., 2013, Forestry education at the state Agricultural Universities: opportunities and future perspective. *Indian Forester* 139(4), 341–345.
- Rangarajan, M., 2001. India’s Wildlife History: An Introduction, Permanent Black, Delhi in association with the Ranthambore Foundation.
- Singh, M.P., Bhojvaid, P.P., Reddy, S.R., Ashraf, J., 2014, Evidence and aspects of forest transition in India. *Indian Forester* 140(8), 737–746.
- Sivaramakrishnan, K., 1995, Colonialism and Forestry in India: Imagining the Past in Present Politics, *Comparative Studies in Society and History* 37, 1–40.
- The Hindu, 2010. Forestry students demand job reservation. Available from <https://www.thehindu.com/todays-paper/tp-national/tp-tamilnadu/Forestry-students-demand-job-reservation/article16482039.ece>

