Making of a popular debate: The *Indian Forester* and the emerging agenda of state forestry in India, 1875–1904

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Form and functions of the colonial state were remarkably different from the mode of the 'Asiatic' state. The compulsions of colonial discourse notwithstanding, 'democratisation' of social institutions appears to be a dividing line. Thus, colonial policies with regard to social, educational, scientific or technological projects were shaped as much by the mutually acceptable views of the main participating actors as by the collision of extremely opposite views of various other state functionaries and interest groups.[1] Colonial intervention in the management of local forest resources, for example, came through a long process of discussion and debate at various levels among extremely heterogeneous constituents—working foresters, the state bureaucracy and, lately, the local people. The set of rules formulated initially was revised at different intervals depending on new requirements

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[1] While the education policy drafted by the colonial state in 1835 was preceded by the Orientalists–Anglicists controversy, colonial scientific and technological projects were also marred by vested interests other than the India House. Elsewhere, I have underlined the heterogeneity of colonial scientific discourse; cf., Satpal Sangwan, 'The strength of a scientific culture: Interpreting disorder in colonial science', *The Indian Economic and Social History Review* (hereafter *IESHR*), Vol. 34(2), 1997, pp. 217–50.

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and changing social realities. Creation of a public opinion—'educating the laymen'—being the main preoccupation of nineteenth century conservation movement, there was continuous feedback from the public debate leading to further negotiations and changes in state policies. The early roots of this debate involving forest-related issues dates back to the beginning of the nineteenth century when the medico-botanists interacted through the agency of corresponding network. Visibly operating in relative professional isolation, their agenda was restricted to a small audience, appearing only occasionally in local scientific journals.[2] Backed by the growing ranks of scientific professionals, including foresters and an improvement in communication technology towards the close of the nineteenth century, the level of public debate was further lifted to new heights. Various means of communication like public lectures, demonstrations and displays, newspapers and science magazines helped in collating divergent views on a matter of public importance.

Public image of colonial scientific projects has lately been accepted as a major research area among social historians of science. Historians are also looking for information from non-conventional sources. Popular science journals have already been identified as one of the most useful networking factor for the growth of public science.[3] Instead of promoting original research, popular science journals strove to broaden the base of the republic of science. A lay constituency of audience was added, leading to public participation in the process of policy formulation. To what extent did this lay constituency understand the larger implications of the gospel of forest conservancy? What was their level of participation? And how effective was their participation in matters of policy formulation? One way of reconstructing these thought processes could be by revisiting one of the earliest forestry magazines, the *Indian Forester* (*IF*).[4]

This article contextualises the role of *Indian Forester* in creating awareness about the principles of forestry among both the learned few and the mass of general public during the first 25 years of the magazine, which also coincide with a crucial stage in the whole history of 'organised' forestry in India. It was a formative phase, not only from the point of view of state forest policy, but also from the stand-point of foresters' role as issue educators and the emerging public appreciation of scientific knowledge. There were many 'measures' which further required specialised and public opinion. Thus, the agenda of forest conservancy, the structure of forest service, the thrust of forestry education and the limits of rights and privileges in

[2] R.H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860,* Delhi, 1995, pp. 380–473.

[3] Susan–Sheets Pyenson, 'Popular Science Periodicals in Paris and London: The Emergence of a Low Scientific Culture 1820–1875', *Annals of Science,* Vol. 42, 1885, pp. 549–72.

[4] The idea of a magazine for working foresters in India was first floated in 1873 by William Schlich, a German forester recruited by Dietrich Brandis in 1864 to help him in the organisation of forestry in India. In January 1874, Henry Baden-Powell, civil servant-turned-conservator of forests carried the proposal to the conference of forest officers held at Allahabad. The idea was welcomed by the participating forest officers as yet another means to strengthen their ranks. The first issue was brought out in October 1875 under the joint editorship of Schlich and Baden-Powell.

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forests, all of them were greatly influenced by the 'public' debate so timely initiated and so meticulously organised by the *Indian Forester.*

Forest Conservation: Beginning in India

Human intervention in the natural world has been a continuous activity since the first appearance of *Homo sapiens,* though scales have been different at different intervals depending on a multiplicity of factors. It is beyond the limits of this article to demarcate the depth of deforestation at different intervals. It is fairly reasonable to assume, however, that the British had inherited a mixed landscape. Upon his arrival in India in 1855, Brandis found that drier provinces of north-western India were bare and without forest, and further guessed that in the extensive and densely populated plains of northern India, the forests had probably been cleared several thousand years ago.[5] The colonial state, instead of putting an immediate stop to further devastation, only encouraged forest clearance, at least in the beginning. The watchword of the day was to increase the area under cultivation at the cost of the still existing forests. Taken in by the academic appeal of the Malthusian agenda, the British colonisers looked upon the forests 'rather as impediments to agriculture than as source of wealth'.[6]

Part of such anti-woodland thinking was rooted in the British notion of a progressive society, a notion which found expression in many ways. Dr. Thomas Preston told the House of Commons Committee in 1791 that decline of oak trees in England was not 'to be regretted for it is a certain proof of national improvement'.[7] For him and many of his contemporary Puritans, wilderness was 'evil and malevolent, and to conquer it was a moral duty'.[8] The same mandate was carried to the new lands by the Englishmen looking for fortunes. Thomas Munro, who opposed the early conservation measures on the western coast of India, had found the forests impeding the march of civilisation. Therefore, during the first half of the nineteenth century, the extension of cultivation was so rapid in India that in many districts large tracts were completely cleared, the forest rooted out and the land brought under cultivation.[9] Brandis noticed such tracts in Burma, in the Central Provinces, in South Berar, at the foot of the Himalayas, and in many other parts of India. The fertile plains of Thrawadi in Burma, which were almost continuous forests in 1856, were converted into open rice fields, leaving only a group of trees and small forests as the last trace of a lost 'paradise'.[10]

[5] The *Indian Forester* (hereafter *IF*) Vol. 12, 1886, 468–72.

[6] J.F. Royle, 'On the Advantages of Tree Planting in Some Parts of India', Home–Public: Letters from the Court of Directors, 1857, The National Archives of India, New Delhi, India.

[7] Robert Greenhalgh Albion, *Forests and Sea Power,* Cambridge, Massachusetts, 1926, p. 119.

[8] Jeremy Swift, *The Other Eden: A New Approach to Man, Nature and Society,* London, 1974, p. 23.

[9] C.A. Bayly, *Indian Society and the Making of the British Empire,* New Cambridge Modern History, Vol. 2(1), Delhi, 1987, pp. 137–47.

[10] D. Brandis, 'Progress of Forestry in India', *IF,* Vol. 10, 1884, pp. 452–62.

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Where forests were left, most of the accessible timber was cut and brought away to be used as fuel and charcoal, for ship-building, for railway sleepers, for bridges and other buildings. We have this chilling account from the Central Provinces where railway contractors, 'went into the jungles with bags of rupees in their hands and spread them broadcast among the wild tribes with instructions to fell, fell and spare not'! The ensuing assault on forest resulted 'in every teak tree larger than a sapling being laid low and marked with the contractors' own mark'. Nothing except scrub escaped the axe. Captain Forsyth found the forest-covered hills on the blue horizon 'as an agreeable vanishing point in the landscape'.[11]

Running parallel to the process of destruction was a plan of sparing the forest for more impending futuristic needs. Roots of such early forest conservation in India can be traced to the beginning of the nineteenth century when, threatened by the depletion of oak timber in England, shipping interests began looking for alternative local sources of shipping timber in the colonies. In 1792, the Treaty of Mysore had extended the British control over the two teak districts of Malabar and Canara. In August 1800, the CoD authorised the Bombay government to assume the right of felling timber on behalf of the EIC. It was part of this strategy that in 1806 Captain Watson was appointed Conservator of Forests in Malabar and Captain Johnson in the same post in Canara.[12] Right from the beginning Johnson was appalled by the reckless cutting of young forests. With not less than 'twenty thousand young teak trees being annually sold as Rafters in the Bombay market only', Johnson cautioned the government on the issue and further suggested that 'to ensure continuous supply of teak from that area we need to prohibit the cutting of small teak trees for any purpose whatever'. Earlier, in 1805, he had impressed upon W.T. Money, the then President of the Forest Committee, 'to prohibit the cutting of young teak under a certain size for any purpose'. His efforts resulted in a proclamation issued in 1807 that forbade felling of timber by private individuals. Though intended only for public forests, the Conservators extended their control over the whole territory including even those growing on cultivated lands. Originally launched to secure a permanent supply of shipping timber, the system turned out to be one of 'oppressive monopoly'. Johnson's disregard for private rights even in cultivated lands antagonised local authorities including the 'Judges, the Magistrates and the Collectors'. Ultimately, Thomas Munro, the then Governor of Madras, demanded its withdrawal arguing that 'no paltry profit in timber can compensate for the loss of their (peoples') goodwill'.[13]

With the first attempt at forest management proving 'a great mistake, an act of injustice', there were only a few occasional demands for state intervention in forests, mostly made by professional botanists touring the interiors. Nathaniel Wallich,

[11] Captain Forsyth's *Highlands of Central India,* quoted in E.P. Stebbing, 'Pioneers of Indian Forestry', *IF,* Vol. 30, 1904, pp. 339–46.

[12] Grove, *Green Imperialism,* p. 396, n. 2.

[13] T. Munro, 'Timber Monopoly in Malabar and Canara', in A.J. Arbuthnot, ed., *Major-General Sir Thomas Munro: Selections from his Official Minutes and Other Writings,* Vol. 1, London, 1881, pp. 178–87.

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Superintendent of the Calcutta Botanical Garden, came up with proposals for forest conservancy measures. As Secretary of the Plantation Committee he advocated state intervention in forests because 'the Indians, from their extremely injudicious mode of felling forests, cut and carry away all that is easily accessible, both young and old plants, without planting anything new in their place, or encouraging the growth of the young seedlings'.[14] In 1827, Wallich was deputed to report on the forests of Tenatterim (Burma) where he found a rich but not inexhaustible supply of teak which ought to be saved. Six years were spent in discussing the proposition, framing rules and estimating consequences. At last, in 1833, a small Indian establishment was formed. Here, as elsewhere, the old boggy of 'ancient rights' cropped up and the rules became a dead letter.[15] In the final analysis, these early strategies failed to add up to a general policy of forest management. There was an obvious lack of public display of the emerging notion of forest conservancy, except perhaps for the evidence collected by the Committee of the House of Commons.[16]

There was a long silence until 1840 when Dr. Alexander Gibbson, another botanist then managing the Bombay Botanical Garden, was sent to report upon the forest of the Northern Division of the Bombay Presidency. In 1847, he was appointed Conservator of Forests. Working under the Military Board, he formulated 'an extraordinarily comprehensive system', much too comprehensive perhaps, as it afterwards proved, to give any satisfaction to the people. Complaints were again rife as to interfering with the ancient rights of the community for the collection of timber, firewood and jungle produce. Besides, the system did not pay and in 1851 the Board recommended that the operations be restricted. Nine years later there was no man in that post. In Sind, Major Scott was appointed Forest Ranger and was later succeeded by Captain Crawford. The duties of forest ranger included raising revenue from grazing fees, firewood, building material and other jungle produce. Here, too, the establishment proved unproductive, so much so that the salaries of the European staff remained a charge to the treasury.[17]

In Madras, forest conservancy began in 1837–38 when Dr. Helfer Tremehneere was appointed Superintendent of Forests. A code of rules drawn up in 1842 was, however, disallowed by the Court of Directors. In 1842, Henry Valentine Conolly, Collector of Malabar, commenced teak plantation on a large scale at Nilambar.[18] Unaware of the principles of silviculture, Conolly tried to germinate the thick coated teak and failed. Eventually, an Indian forester obtained success and became the originator of successful silvicultural research in India. Around this time, Captain

[14] J.F. Royle, *Essay on the Productive Resources of India*, London, 1840, p. 190.

[15] 'Early History of Forestry in India', *IF*, Vol. 17, 1891, pp. 101–2.

[16] In 1832 Wallich gave evidence before the Committee of the House of Commons. R.H. Grove, *Green Imperialism*, p. 415.

[17] *Ibid.*, pp. 456–58.

[18] H.V. Conolly was one of the four famous brothers who laid their lives in the service of the British empire. While Capt. Edward was killed at Purman Durrah in 1840, Capt. Arthur was murdered with Col. Stoddard at Bokhara in 1840. Two years later, Capt. John was killed during the capture of Kabul. Henry Valentine fell to the Moplah on 11 September 1855.

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Frederick Conyers Cotton (brother of Sir Arthur Cotton) reported on the teak forests in the Annamalai Hills and asked for the services of an officer to explore these forests. Accordingly, in June 1848, Lieutenant James Michael was sent to explore the Annamalai forests. In August 1849, the CoD called for reports on the results of Michael's work. The report submitted by Captain Cotton helped Michael to get an extension. In February 1851, he was sent to Moulmein to learn the methods of dealing with heavy timber, and in December 1853 to the Canara forests. In 1854, he was formally appointed Superintendent of Annamalai forests. Michael obtained the lease of valuable teak forests from the Nambadi of Colengode, and started a system of clearing teak seed lines and young teak trees of dry leaves and other inflammable matter in the forests. A large portion of forests was thus saved from annual fires of the dry season. In 1856, ill health forced Michael to take early retirement and his place was filled in by Captain Douglas Hamilton. Hamilton remained in that charge for a few years and was finally succeeded by Lieutenant Beddome, when a regular Forest Department was organised for the Madras Presidency.[19]

At the same time, Hugh Cleghorn,[20] while working as Assistant Surgeon at Shimoga in the Naggar Division of Mysore, noticed the 'wholesale destruction of forests' through '*kumri*' (swidden cultivation). He drew the attention of Sir Mark Cubbon, then Commissioner of Mysore, and of Colonel Onrslow, the Superintendent of the Naggar Division, to the necessity of forest conservation. Cleghorn's work in Mysore arrested the attention of the British Association for the Advancement of Science (BAAS). In its annual meeting at Edinburgh in 1850, BAAS appointed a committee to consider the possible effects (economic and physical) of the destruction of tropical forests. The committee, consisting of J.F. Royle, R. Baird Smith and R. Strachy, approached Hugh Cleghorn for information. The report, drafted by Cleghorn himself, was discussed and debated in the next meeting of BAAS at Ipswich in 1851. The report induced influential members of the GoI and India Office to consider the necessity of organising systematic measures of forest conservancy in India.[21] In August 1856, Cleghorn submitted a similar proposal to the Madras government. Accordingly, in December 1856, he was appointed conservator of forests in the Madras Presidency. With Lieutenant Beddome and Dr. Drew as his assistants, Cleghorn founded a small subordinate establishment, the whole costing no more than Rs. 5,000 a month. This marked the beginning of the Imperial Forest Department although it did not actually take

[19] R.H. Grove, *Green Imperialism*, pp. 460–61.

[20] Cleghorn was born at Madras on 9 August 1820. His father was Administrator-General in the Supreme Court. As a boy he was trained in rural pursuits, studied at the university of St. Andrew and came to Madras in 1842 as Assistant Surgeon, and later became Professor of Botany at Madras. After retirement he taught botany at Glasgow University for some time in the absence of Prof. Walker–Arnott. 'The late Dr. H.F.C. Cleghorn', *IF*, Vol. 21, 1895, pp. 276–78, reprinted from the *Scotsman*, 17 May 1895; D. Brandis, 'Dr. Cleghorn's Services to Indian Forestry', *IF*, Vol. 14, 1888, pp. 395–401, reproduced from the *Proceedings of Royal Scottish Agricultural Society*, July 1887.

[21] 'Early History of Forestry in India', *IF*, Vol. 17, 1891, pp. 101–2.

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that form until Brandis came centre stage in 1862–64.[22] In this phase, it was conservation 'on the cheap'—establishments were small, their powers limited, funds virtually on a shoe string.

The origins of organised forestry in India is marked by provincial considerations. While Conolly and Cleghorn made their experiments in Madras, Lord Dalhousie, the then Governor-General of India, focused his attention on the forests of Burma. His attention was drawn to these forests by John McClelland, a successor of Wallich at Calcutta, who, having inspected the Pegu forests in 1854, called for a sustainable use of the shipping timber. Compared to his predecessors Dalhousie had a vision of long-term British interests in India. His administrative reforms and technological projects, especially the railways and the electric telegraphs, stood testimony of his imperial agenda.[23] In the matter of forest management also, he thought of long-term investment. In 1855, he invited Dietrich Brandis, a private tutor of botany at Bonn in Germany, to take charge of the Pegu forests. On his arrival in Calcutta in December 1855 Brandis met Dalhousie and briefed the Governor-General about his plan of action which, Dalhousie thought, 'will confer a lasting benefit upon the people of Pegu'. Brandis remained in Burma from 1856 to 1862, working indefatigably to bring the forests of Burma under systematic management. The method he employed in Burma was based on the circumference measurements for regulating the cutting of the teak. He laid down the principle of controlling private interests in timber and thus set the example not only for India but also for other countries struggling to save their forests from the timber mafia.[24] In 1862 Brandis was called upon to suggest and initiate forestry measures in other provinces of India, and two years later he was appointed the first Inspector-General of Forests in India.

With such provincial and personal priorities deciding the course of conservancy measures, there was utter confusion over the question of the place and time of the origins of organised forestry in India. In this background, conflicting claims came from people having affiliations to different interests in forestry. The debate was initiated by Sir George Birdwood who, while speaking at the International Forestry exhibition at Edinburgh in 1883, observed that 'before 1848 no check whatever had been imposed in India on the reckless clearing of the primeval forests for cultivation'. He then sought to trace its roots in the forestry plans of James Michael in Madras.[25] It was here, he argued, that the government first enunciated 'the principle that the conservancy of forest resources was the primary, and the acquisition of revenue but a secondary consideration in forest work'. The reference sparked off two lines of debate—whether Madras was the place of its origins and whether the early pioneers came from Scotland or elsewhere. Old-timers launched an attack on such 'mutual admiration' societies. Writing in *IF*, 'Enquirer' wondered

[22] *Ibid.*

[23] S.C. Ghosh, 'The Utilitarianism of Dalhousie and the Material Improvement of India', *Modern Asian Studies,* Vol. 12(1), 1978, pp. 97–110.

[24] In America, for example, Gifford Pinchot's future battle with the powerful lobby of lumbermen was set against this background. G. Pinchot, *Breaking New Ground,* New York, 1947.

[25] 'The International Forestry Exhibition at Edinburgh', *IF,* Vol. 10, 1884, pp. 462–63.

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if James Michael could be considered 'the pioneer' of forest work in Madras and whether conservancy was part of his project at all.[26]

In December 1894 the Society of Arts invited James Michael to give his opinion on the subject. Unflappable by the growing appreciation for 'scientific' forestry, Michael claimed that it was their 'enthusiasm born on a love of woodland life', 'and out-of-door experience acquired . . ., whether as foresters or sportsmen which really prepared a firm foundation for the stately fabric of scientific forestry'.[27] Michael was supported, among others, by Sir George Birdwood, Sir Joseph Fayrer, and later by Sir George King,[28] and Professor Robert Wallace of the University of Edinburgh. While King and Fayrer argued on a simple chronological point, Wallace drew attention to the fact that the forestry agenda initiated by Michael and Cleghorn in Madras was people-oriented. 'The benighted Presidency', he argued, 'not only gave origin to the Imperial Forestry Department for all India but the absence of friction between the forest officers and the people remained a conspicuous feature of the forest management in that presidency'. The so-called 'old-zealousies' were experienced further north, where forest conservation was introduced more on the cast-iron German system which did not sufficiently respect and adjust itself to the interests of the agricultural community.[29]

On his part Brandis also applauded the services of Hugh Cleghorn. Responding to the debate Brandis explained that when Cleghorn laid the foundation of an effective system of forest conservancy in Mysore and Madras, forestry was very little known in India. Though his record during the first five years of his tenure in Madras was not one of a complete and scientific system of forest administration, Cleghorn had directed his attention to very crucial issues. He laid great stress upon the necessity of acquiring a good knowledge of the principal trees and shrubs, as well as of the climate, soil and forest growth in different forest tracts. His major investment was in the area of safeguarding forests from indiscriminate cuttings, fires, an *kumri* cultivation.[30]

The debate was now beginning to take a new shape with contesting claims coming from the supporters of Scottish and German foresters. The issue of narrow nationalism was further added by a Scottish newspaper in 1892. Calling upon 'Scotland' to 'do for itself what its sons have affected for many other countries',

[26] Col. Michael, he observed, 'had a sort of roving commission to cut timber for the Public Works Department . . . and this he did, combining the work of felling trees with a considerable amount of Shikar'. Enquirer, 'A Pioneer of Forestry in Madras', *IF*, Vol. 10, 1884, pp. 418–20.

[27] Engineer, 'The Father of Indian Forestry', *IF*, Vol. 26, 1900, pp. 52–56.

[28] In June 1901, Sir George King published a paper 'Forestry in Madras', *Journal of the Society of Arts* in which he claimed that forest conservancy in India had begun in 1848 when Michael was appointed in Madras.

[29] R. Wallace, 'Indian Forestry', *IF*, Vol. 26, 1900, pp. 514–16. The pro-people sentiments of British forest officials in Madras have also been prominently referred to in both agricultural and forest histories of the country. See for example, Ramachandra Guha, 'An Early Environment Debate: The Making of the 1878 Forest Act', *IESHR*, Vol. 27, 1990, pp. 65–84.

[30] D. Brandis, 'Pioneers of Indian Forestry: Dr. Hugh Cleghorn's Services to Indian Forestry', *IF*, Vol. 31, April 1905, pp. 227–34.

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the *Scotsman* referred to the great services rendered by two Scotsmen—Marquis of Dalhousie and Dr. Cleghorn.[31] At this stage William Schlich, the German successor of Brandis in India, who had now moved to the Coopers Hill College as Professor of Forestry,[32] sought to reconstruct the development of forest conservancy in India. Eighteen forty-eight, he declared, 'is either too late or too early, according as to how the matter is looked at'. Forest conservation, he further noted, did not originate at one place under the command of single individual. 'No single person can be considered to be originator of the business (of forestry) which grew up gradually. Every one of the pioneers of the Department helped in a greater or less degree. It was Sir D. Brandis's good fortune to arrive upon the scene when the matters were ripe for a general more. He seized the opportunity promptly', and laid a permanent forest policy in India.[33]

William Schlich might have been constrained to be a little modest in his assessment of the contribution of his countrymen, but others were not. Writing to the editor of *IF* one 'Engineer' observed that 'the amount of work done by Brandis may earn him the honour (having done more forestry in India than all his predecessors and contemporaries put together)'. This gentleman then underlined the importance of a thorough study of forestry agenda of the early pioneers. 'Until I see a proper official history', he concluded, 'I shall continue to believe that the first forestry in Madras was done by Conolly, that the first real forest officer in that presidency was Dr. Cleghorn and the father of forest 'conservancy' in India was Sir D. Brandis'. [34]

Brandis, it appears, was being missed in the whole debate. In fact, it was not until his death in 1907 that his name found any reference in relation to the 'origins' of forestry in India. Brandis might not have been the first to go into the forests of India, yet he was certainly the one who lifted forestry from a casual revenue-generating project to an organised, competitive part of civil administration. This fact was repeatedly expressed in the obituary notices *IF* published on his death. Eardley-Wilmont, the Inspector-General of Forests, announced that 'let it stand as his monument that he created a state Forest Department in India, that through his exertions about one-fifth of the area of the Empire which, without his initiative, would have been lost to the use of the public, was saved.' Brandis, he further noted, began 'from a scratch, without any organisation and without any controlling or directing staff'. He invented his own system, his own policies, his own methods

[31] Quoted in 'The Indian Forest Service and Its Founders', *IF*, Vol. 18, 1892, pp. 73–75.

[32] Though not a claimant of parenthood, William Schlich was a legitimate 'nurse' of the Indian Forest Department. Evaluating his contribution to Indian forestry, *IF* observed that 'everybody can not be the "papa" of the Indian Forest Department, a relationship which has already at least three claimants in the field; but if Dr. Schlich can not pretend to that honourable appellation, he can at least establish his title to a no less honourable one, that of nurse, for he nurtured and tended the child in its infancy, and has handed it over, a sturdy and well-developed stripling, to his successor'. 'Dr. William Schlich', *IF*, Vol. 15, 1889, pp. 45–51.

[33] William Schlich, 'Forestry in India', *IF*, Vol. 27, 1901, pp. 616–24.

[34] Engineer, 'The Father of Indian Forestry', *IF*, Vol. 26, 1900, pp. 52–56.

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of carrying them out, and upon his retirement in 1883 left behind a sound organisation and an efficient service.[35] D.E. Hutchins, one of the most senior Nancy men still in harness who had earlier worked with Brandis at Kew, called him 'Father of Indian forestry'.[36]

Brandis' legacy was, however, not confined to India. Some of the most remarkable results of his precepts and example were seen in America and South Africa. Gifford Pinchot, the American admirer of Brandis who went on to run American forestry like a monarch for almost half a century, provides a broader context to judge the legacy of Brandis. Brandis, Pinchot recalled, 'was pre-eminently a statesman. What he did for forestry does not end with his great achievements for forestry in India and elsewhere. His mission was to ensure a proper place of dignity and respect for forestry. Under Brandis forestry in India made a forester the equal of any other man in the civil administration. He respected his profession as a great man should. His profound regard for it, his great achievement in it, his use of it for the general good, his capacity as statesman, his character as a man, and his personal dignity, all combined to give forestry a higher position.'[37] There could not be a better occasion than this to conclude the debate with Dietrich Brandis having been accepted as the 'Father' of systematic and scientific forestry in India.

Agenda of Scientific Forestry: From Utilitarian Conservation to the Internal Dynamics of Nature

At an academic level, the history of forest conservation has been a history of graduation from simple utilitarian demands on the woods to an appreciation of the dynamics of natural system. The guiding principle of early nineteenth century forest conservancy measures, if at all it be known by that term, was essentially commercial. The colonial state had expected, as one observer noted later, that the forest officers would 'emulate Jack Horner of the nursery rhyme, that is to say, retire in isolation to exploit timber, making justifiable noises of self-approval about the results in their annual reports'. The forest officer, on his part, 'saw that timber entered very little into the lives of the people, but that firewood and poles entered a great deal'. Many officers were imbued with the idea that revenue production was their primary role and were deceived by the luxuriant appearance of tropical forests. The demand of projecting revenue surplus haunted the forestry service well into the twentieth century. At the Empire Forestry Conference held in South Africa in 1935, the Indian delegation conceded that the greatest stabiliser of forestry was the 'production of good annual surplus. If you say you are doing wonderful work and want so many thousands of pounds to keep it going, you will have the cold eye of the financier turned on you; whereas if you go with a good sum of

[35] *IF*, Vol. 33(7), July 1907, pp. 305–8.

[36] *Ibid.*, pp. 349–50.

[37] G. Pinchot, 'Sir Dietrich Brandis', *IF*, Vol. 35(8), August 1909, pp. 475–79.

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money in your hand you will be able to talk to him as man to man with much better results'.[38]

But the Jack Horners in forests were soon pushed back by the Oliver Twists who were capable of listening to the whispering trees. In a highly innovative literary piece, *The Autobiography of a Teak Tree* (1891), one of them sought to recapture the pains of a mighty teak bereft of its natural allies, e.g., 'the birds and the bees', 'the lordly elephant', 'the Nilgiri langur', and the sun. There was an all-round chorus before that 'mercenary creature', the timber merchant, came to reap the harvest. When no one knew what the failure of monsoons meant or for that matter 'the partial droughts, the burning heat of the sun, the loss of soil above its roots, irritating and plebeian thatch grass of the dry water-course, the cutting wind, the burns and smoke of devastating fires'. The 'devastating' changes, however, ushered in a new eco-consciousness. Its central premise was that destruction of one resource affects all the others. It was found to be 'a short-sighted policy' to spare the teak and yet allow all that was 'sacred' to it, 'all that makes life worth living to go', and thus to destroy the environment that favours its full development. The growth of centuries was being destroyed, the humid soil and vegetable going in the stream to silt up the backwater. This denotation of forest also affected the rainfall. The pressing practical demands of forest management called for the interaction of ecologists and foresters, men who understood the complexities of the natural world.[39]

The ecological rational was, however, confronted by initial apprehensions emerging from lack of information on this issue. When *IF* first drew the attention to the possible effects of forests on climate the revenue hungry officials dismissed it 'as an after-dinner joke for camp reading'. They refused to believe that the bareness of a tract was the cause of its aridity, saying that it was much like saying that the 'inferior quality of the shoe-leather worn by the little boys about town is a cause of the noise in the streets'. There was, they thought, 'room for a good deal of work' on this subject. The 'muddy floods of weak science and wrong-headed observations', it was argued, would redeem 'public estimation' of forestry.[40]

Not only the revenue-hungry forest officials, even Brandis was reluctant to buy the argument that 'by preserving and improving the forests of India we may hope materially to change and improve its climate'. But Brandis was not unaware of the growing appreciation of such a theory in Europe. 'Much of what is known regarding the history and the present state of the countries round the Mediterranean', he noted, 'seems to support this theory'. In India, where directly or indirectly the success or failure of the crops depends on rain at the right time and in suitable quantity, it was only natural that the conservancy and improvement of the forests

[38] N.V. Brasnett, 'Finance and the Colonial Forestry Service', *Empire Forestry Journal,* Vol. 21(1), 1942, pp. 7–11.

[39] 'Autobiography of a Teak Tree', *IF,* Vol. 17, 1891, pp. 240–44.

[40] K.H., 'Influence Exercised by Trees on the Climate and Productions of the Peninsula of India', Letter to the Editor, *IF*, Vol. 5, 1880, pp. 460–64.

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should have been regarded as one of the means to be employed for a better regulation of the rainfall. Brandis demanded 'sufficient evidence to prove that a material deterioration of the climate has been the result of denotation in any part of India'.[41]

Lack of evidence was not the only reason for the difference in the Indian and Western precepts of forests and climate. This difference was also rooted in the physical realities of two cultures. In the West, as Baden-Powell would explain, 'people can feel the difference of temperature, which a reboised tract causes. They cannot help seeing the change whereby what was once an occasionally running torrent, has become a permanent gentle stream, owing palpably to the process of clothing the slopes which surrounds its source, with foliage. In India we have not yet reached so far'.[42] A similar notice was taken by 'J.K.B.'. Making a difference between the Western and Eastern civilisations on account of their appreciation of the climatic influence of forests, he observed that 'the very circumstance which retarded Western civilisation at its outset—that is, the rigorous climate and its unyielding soil—have proved most wholesome spurs to its onward progress. One of the lessons learnt in this progress is the immense value of forests climatically and economically. In the East the lesson has not yet been taken to heart, though Nature is ever teaching it'.[43]

Gradually information began coming, especially from meteorological observations. H.F. Blanford was the first to articulate the relationship between forests and climate. Using meteorological data, Blanford explained that firstly forests help to store the water by protecting the soil and so keep up a constant evaporation, and secondly by checking and obstructing the movement of the wind, they prevent the evaporated vapour being carried away, and tend to produce that calm state of the atmosphere that is favourable to local precipitation. Blanford noted that in Central Province, forest conservancy had increased annual rainfall by 20 per cent over the average of last 10 years.[44] The same meteorological data later helped the metropolitan experts to articulate their arguments. In a paper published in the *Quarterly Journal of the Royal Meteorological Society,* Dr. A. Woeikof used evidence afforded by the Indian rainfall registers, to demonstrate that 'the action of forests is to increase the rainfall of a country'. He noticed that the contrast afforded by rainfall in Assam with that of the Gangetic Valley plain, in about the same latitudes and the same distance from the sea, was wholly or mainly to the fact that, 'while the former is extremely covered with forest, the latter, up to the Terai, is a broad sheet of field cultivator'.[45]

Such observations inspired few foresters to make independent observations. Brandis founded his experimental stations at Dehra Dun and in Central India where

[41] D. Brandis, 'On the Distribution of Forests in India', *IF,* Vol. 9, April 1883, pp. 173–83, and May 1883, pp. 221–33.

[42] Baden-Powell, 'Forest Conservancy in its Popular Aspect', *IF,* Vol. 2, July 1876, pp. 1–16.

[43] J.K.B., 'Some Notes on the Connection Existing Between Forestry and Agriculture in India', *IF,* Vol. 15, September 1889, pp. 329–40; October–December 1889, pp. 371–86.

[44] 'Influence of Forests on Rainfall', *Indian Meterological Memoirs,* Vol. 3(2); H.F. Blanford, 'Rainfall of India', *IF,* Vol. 14, 1888, pp. 34–47.

[45] *Ibid.*

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he made observations to test the effect of forests on temperature, humidity of the air and the soil and the preservation of mountain slopes. Brandis also compiled a rainfall map in 1871 showing the relation between rainfall and forest vegetation in several parts of India. Convinced of his findings Brandis was now able to show how the water supply in the wells and streams in Madras had become uncertain. Many of the tanks constructed by Colonel Dixon were rendered either useless because the smaller tanks silted up from the sand and loose soil washed down from the naked hills, and because in many cases the *bands* were breached by sudden floods rushing down the bare hill-sides.[46] More importantly, he could now take note of the 'very close relations between the character of the forest and the amount of annual rainfall in India', particularly in the Central Provinces where afforestation had caused increase in the annual rainfall. The relation, though complex, was found to be 'reciprocal'.[47]

Further simplifying the forest–climate dialectical relationship, Brandis announced that the guiding principle of state forestry in India 'was to prevent the erosion of the mountain soil'—the washing away in the heavy rains of the loose soil, and the silting up of the beds of streams and to put a stop to destructive floods which arose from landslips and other disasters on the mountainside.[48] William Schlich, Brandis's successor in India, found himself in a commanding position to defend the notion of climatic influence of forests *vis-à-vis* revenue collection. The real value of forests, according to Schlich, was through 'the influence they exercise upon the climate, the regulation of moisture, the stability of the soil, the healthiness of a country and allied subjects'.[49] The forest, according to Gamble, 'preserved the catchment areas of the great rivers from erosive action and consequent drying up, and ensured permanent supply of water for the great canals by receiving the amount of water caught in these areas'.[50] Gradually this appreciation of the climatic influence of forests began reaching the Indian foresters also. Mian Moti Singh noticed that 'climate forms the mainspring of the machinery which regulates all important changes in the Forest Vegetation. It is simply due to the change of climate that some trees which form very extensive forests in the moist region would simply vanish in similar localities where the annual rainfall does not exceed 20 inches, while there are others which would hardly be found except in localities where the annual rainfall falls below 20 inches'.[51]

Generation of empirical evidence thus helped the foresters to negotiate with the government *vis-à-vis* the demands of revenue from the woods. Later, foresters

[46] D. Brandis, 'Progress of Forestry in India', *IF*, Vol. 10, 1884, pp. 452–62.

[47] D. Brandis, 'The Influence of Forests on Rainfall' (Paper Read before the German Meterological Society, trans. B.H. Baden-Powell), *IF*, Vol. 14, 1888, pp. 10–20.

[48] *Ibid.*

[49] W. Schlich, 'The Utility of Forest and the Study of Forestry', Paper Read at the Indian Section of the Society of Arts, London, 7 February 1890, *IF*, Vol. 16, 1888, pp. 212–34.

[50] G.S. Gamble, 'The Forests of India and their Management', *IF*, Vol. 29, 1903, pp. 368–69.

[51] Mian Moti Singh, 'Another Effect of the Influence of Climate on Forest Vegetation', *IF*, Vol. 20, 1894, pp. 16–17.

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like G.S. Gamble considered it to be a dangerous policy to assume that collection of large surplus revenue was the chief aim of scientific forestry. Forest conservancy, according to Gamble, had 'a higher aim than that of merely giving so much revenue'.[52] A few others successfully made a distinction between 'wood' and 'forest'. The disappointment of the government at the turn of events was understandable. It is much more important to note here that the debate which began around this time later provided an ecological arm to the champions of scientific forestry.

State, People and the Forests: Contesting Claims

Forests have been a contested territory between people living in or near them and the state. The history of state intervention in forests in India dates back to the Mauryan period. In the later period also, the state found it convenient to claim authority over forests whenever it felt the need. Demarcation of the *shikargah* (royal hunting grounds) in Sind and the brutal Bishnoi episode when more than 300 villagers were slaughtered along with the *khejri* trees they had pledged to save by the axe-men belonging to one of the Rajput states, are only recent examples of state intervention in the forests. Though the Mughal state derecognised 'the prescriptive right' in forests, yet for the convenience of administrative records forests were considered to be 'waste'. Such 'waste', though in theory a property of the state, remained only a potential property, something that might become 'property' only when appropriated by grant, cleared and cultivated. Under the circumstances people continued to get what they wanted from the forest, to graze their cattle, and to clear jungle growth for cultivation. Such 'inactivity' on the part of state brought about a situation in which the rights of the state were found mixed up with what later became 'the prescriptive rights of villages or private persons'.[53]

When the British first got interested in the forests, they devised a strategy to restrict private right in the forests with almost no reference to the regeneration of the forests.[54] But the fragility of their political agenda compelled the British to withdraw the restrictive measures. General feeling at that juncture, in almost all sensitive issues like education, religion, social reforms, etc., was against state interference lest it may inflame popular unrest. In matters of forestry also colonial statesmen advised that contended people were better than flourishing forests. With the consolidation of their political authority and with a new developmental agenda in its fold, the colonial state began reconsidering its policy of 'masterly inactivity'. In the emerging centralised administrative machinery, departmental spirit became

[52] G.S. Gamble, 'On Some Important Forest Questions', *IF*, Vol. 29(2), 1903, pp. 487–94.

[53] B.H. Baden-Powell, 'Protected Forests', *IF*, Vol. 19, August 1893, pp. 294–97. Story of early British interest in Indian forests has also been reproduced in R.H. Grove, *Green Imperialism*, pp. 386–99.

[54] Captain Watson's appointment as first Conservator of Forests in India in November 1806 set the tone, control egnating. A policeman by training, Watson was required more to keep vigil against people rather than to evolve strategy for a sustainable use of forest management and conservation.

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more strong. Each department in its laudable wish for progress and advancement pushed on measures which would have further tightened the grip of state over natural resources. Running high on the catchword of 'utilitarianism', Lord Dalhousie, the Governor-General, wished it to be 'the duty of the Government of India to preserve the forest resources . . ., and not allow them to be wasted'.[55] Later, the experiences from Burma, especially with regard to the wholesale destruction of forests by private enterprise, taught a lesson that 'it is not safe in India to entrust the management of public forests to private enterprise', an enterprise which was largely represented by the European speculators whose only aim was 'to get rich as quickly as possible'.[56]

The colonial state realised this goal by imposing a legal structure on the traditional users. It had the required civil and moral explanations to experiment with that option. Almost every European observer, beginning with Captain Watson from the Malabar coast in 1806 to Captain Forsyth in Central India around 1860s, noted the wasteful practices of the traditional forest-users. Raising the slogan of 'efficiency' they demanded some check on such thoughtless use of forests. Forest jurisprudence, Baden-Powell and many of his contemporaries declared, was part of a larger strategy to secure, not only the forests but to ensure the health of forest users.[57] The explanation, though unusual, was convincing: 'if you give a child a whole cake, it would make itself sick, and destroy the cake in a very short time. It was just the same with a village; if it managed its own forest, it set fire to the grass, in the vain idea of getting a crop of young shoots for the cattle; it cut down a young tree when a plough-beam was wanted. The government, on the other hand, promised to give the cake slice by slice, thus managing not only the forests but the health of users also'.[58] Empirical evidence was produced by observers passing through the forests. 'J.K.B.' reported that 'average Indian prefers not to look after himself, and allows others to do it for him; and so it is in the matter of grazing. The ryot allows his flocks and herds to multiply as they please, confident that a benevolent "Sirkar" will provide for them somehow or another'.[59]

Nineteenth century colonial readings of the life patterns of the Baigas in Central India depict the latter as the 'most terrible enemy to the forest'. Not only the *dhya* cultivation which these tribals practised, but their day-to-day business in the forests was found to be a strange case of human arrogance. While touring the tribal areas, Captain Forsyth stumbled upon some of the largest *sal* (*Shorea robusta*) trees girdled by the Baigas for extracting the gum resin. Besides, the Baigas' fascination

[55] D. Brandis, *Indian Forestry*, Woking, 1897, p. 29.

[56] *Ibid.*, p. 36.

[57] 'The Resolution on Forest Policy', *IF*, Vol. 21, 1895, pp. 230–33.

[58] W. Schlich, 'The Utility of Forests and the Study of Forestry', *IF*, Vol. 26, 1890, pp. 212–34,.

[59] J.K.B., 'Some Notes on the Connection Existing Between Forestry and Agriculture in India', *IF*, Vol. 15, September 1889, pp. 329–40; October–December 1889, pp. 37–86. As late as 1931, D.S. Khandelwal protested against the enormous economical waste that was still going on in India owing to huge herds of famished cattle being kept by villagers purely on 'false sentiments of *ahimsa* and *daya*'. D.S. Khandelwal, 'In Defence of Forest Policy', *IF*, Vol. 57, 1931, pp. 373–75.

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for honey was also considered to be 'death-blow of many of forest giant' as the 'wild jungli did not hesitate to fell a mighty sal tree for the sake of securing a single comb attached to a branch far up in the spreading crown'. A Gond or a Baiga, according to Forsyth, could not refrain from doing 'wanton injury' to the trees. Passing along a pathway he would 'almost certainly, and apparently unconsciously, drop his axe from the shoulder on any young sapling that may be growing by his side, and almost everywhere young trees so situated will be found cut half through in this manner'.[60]

The wasteful tendency of local forest users was found to be more serious in the hill areas owned by the Indian states in the Himalayas. The Hill Chief, like American lumberman, 'sees in the trees, or thinks he does, so much money, and he aims to secure it by the most rapid means'. The same was true of the miner. The lumberman and the miner alike cut with reckless profusion, wasting often more than they directly consume, leaving upon the ground large portions of what they cut, and breaking down and destroying much of the young wood in getting what they seek'. Becoming dry over time the waste and broken down wood was ignited by some accidental cause and thus would often result into an uncontrollable fire, 'carrying destruction over a wide space'.[61]

Thus having convinced themselves of the need to regulate forest use the British brought in a civil code of conduct *vis-à-vis* the forests. The *jungle raj* could only be checked by civil values. In a quick succession four Forest Acts, two for India as a whole and one each for Burma and Madras, were passed. The legal epistemology of colonial forestry caused a great divide between the rulers and the ruled. Both had their prejudices and beliefs, tacit or expressed, on the subject of forests. Since time immemorial people of India had been using forest resources according to their needs. Forests were part of their daily lives. There was a further divide among the ruled. While the pastoralists demanded a better pasturage for their cattle, the ryots desired to have enough space for shifting cultivation. In 1884 about 26,000 ryots of the Vidharba Collectorate petitioned local authorities for revoking their 'privileges in respect of forest and jungles'.[62] In a similar petition submitted by the people of Palmaver, North Arcot, to the Governor of Madras, the petitioners complained of 'the hardship caused to the ryots and inhabitants of the Up Ghaut Taluq by forest conservancy'. Apart from affecting the livestock, their main 'wealth', forest rules had drastically curtailed their daily routine including their daily meals which they used to take 'not in dishes and cups, but on leaves'. Besides, the restrictions on forest leaves 'deprived a thousand people, old men and women

[60] Captain Forsyth's *Highlands of Central India,* quoted in E.P. Stebbing, 'Pioneers of Indian Forestery', *IF,* Vol. 30, 1904, pp. 491–99. For a more analytical description of British assessment of the Baigas *vis-à-vis* forests see Mahesh Rangarajan, *Fencing the Forest: Conservation and Ecological Change in India's Central Provinces, 1860–1914,* Delhi, 1996, pp. 95–137; and Archana Prasad, 'Forests and Subsistence in Colonial India: A Study of the Central Provinces, 1830–1947', unpublished Ph.D. Thesis, Jawaharlal Nehru University, New Delhi, 1994.

[61] 'A Neglected Duty of the Government', *IF,* Vol. 14, 1888, pp. 188–91.

[62] *IF,* Vol. 10, 1884, p. 102.

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who carried the leaves from the jungle, out of livelihood'. In November 1891, the Khonds of the Mohiri hills of Berhampore in Ganjam district made a petition to the Governor of Madras, Lord Wenlock, complaining of oppressive measures of the forest department which had 'abolished their ancient privileges of taking timber of ploughs, fuel, house-building, etc., and put a ban on shifting cultivation'.[63]

Compared to the demands of ryots and pastoralists, the people of the forests, the tribals, needed only a breathing space. At the margin of social security, new forest rules proved 'a fatal blight, thunderbolt from a clear sky' for them. Their precarious situation was expressed much more explicitly by neutral observers. Contemporary literary magazines and newspapers carried appeals on behalf of the tribals. *IF* reproduced some of these commentaries with the explicit intention of having the opinion of the champions of forest conservancy on the subject. One most significant note reproduced from the *Bombay Gazette* exposed the mask of a 'people-oriented' agenda of colonial forestry. Here was one Bhugut at his literary best. He recaptured the emotions of the 'sons of the forests' separated from their mother.

> By one direful stroke of pen the poor tribal finds himself at once a proscribed outcaste in his own wilds. His hills and jungles fastnesses are suddenly proclaimed to be state forests. Every vegetable and mineral substance therein is declared to be 'forest produce'. All forest produce is declared to belong to the Crown. And no one is allowed to move any forest produce whatever without the formal permission of the 'Jungle-walla sahib', the new forest king. Does a wretched Varli scratch clean half an acre of slope and cover it with a layer of bushes and scrub, all ready to burn, down comes the forest guard and arrests him for committing waste! Does he lop a *kheir* or an ain tree, or any of the hundred and one kinds specially reserved, he is taken away to the magistrate for injuring Crown property. Does he cut a few reeds for his hut, or bamboos for his cattle shed, he is a thief for he has stolen public property. Does he collect a little store of mowha flowers, or korinda berries, or nuts or edible roots, or what not,—poor fool, he little knows that he is committing a crime, that mowha flowers and all other forest produce are no longer his, and that all property in them is transferred to the neighbouring Parsee or Hindu contractor! Of course he is fully informed—that all is done for his own good, that the mowha belongs to the Queen, that illicit distillation must be stopped, that intoxication is a great sin, which cannot be allowed under a moral British raj, etc.

Bhugut wondered 'whether snakes and jungle fever are or are not "forest produce" within the meaning of the Act'. And with the term 'forest produce' including everything in a forest which might under any conceivable circumstances be turned to pecuniary account', 'it was quite possible that if any poor Bhil were to make a profit out of catching snakes or curing jungle fever he might fairly be

[63] 'Forest Petitions in Ganjam', *IF*, Vol. 18, 1892, pp. 50–51.

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prosecuted for attempting to appropriate forest dues which clearly belong to our energetic and omnivorous conservator'. 'What on earth', asked Bhugut, 'are these poor wretched forest tribes to do under the present system? It is not too much to say that under the present *regime* of so-called scientific conservancy the treatment of these unfortunate forest tribes has been simply scandalous'. They had no place to go, not even to the neighbouring Indian states which were gradually being lured to the gospel of conservancy. Under such compelling circumstances, warned Bhugut 'if their grievances are not carefully taken into account they will be apt, sooner or later, to assert their rights, or what they consider to be their rights, in a very awkward and indiscriminate fashion'.[64]

This graphic description of tribals' plight and the petitions from other communities created a further debate on the rights and privileges of traditional forest users. 'Fidelis' pointed out that privileges granted to the forest tribes were being reaped by people living in trade centres who received produce under the cover of passes held by the forest tribes. On the other hand, 'Decentraliser' noted that the very preservation of the forest tracts gives these tribes their only means of subsistence, and that 'were it not for the protection of their domain under the forest rules the advancing tides of civilisation would have sooner or later annihilated them'.[65]

But local authorities were too sure of their sucess as the saviour of forests to withdraw or modify the rules. The western *sahibs* only reassured the petitioners that their complaints 'were mostly due to a misapprehension of facts'. Defending forest conservancy Grant Duff, the Governor of Madras, declared: 'I do not think we have stepped in an hour too soon. Things had come to such a pass, that if the government had not stepped in, . . . you would very soon have had no leaves, and no wood, and no grass. Then you would have turned on the government, and asked why such wanton and wicked waste was permitted? The time will come', he assured, '[when unreserved forests are disappeared] that you will bless those who saved you from yourselves, and be uncommonly glad that the government reserved a certain portion of the forests from the general destruction to give you and your children fuel, and leaves and grass for your cattle . . .'.[66] Lord Wenlock also noted that 'it is difficult for those who pay fees to thoroughly appreciate the fact that their payment is desirable in their own interests'. The Khonds, he further explained, were not going to be benefited by any concession in the forests which would be ultimately harvested by the greedy moneylender.[67]

[64] Bhugut, 'A Plea for the Forest Tribes', Letter to the Editor of *Bombay Gazette*, reproduced in *IF*, Vol. 11, July 1885, pp. 301–5.

[65] *Ibid.*, pp. 305–6.

[66] The Governor of Madras on Forest Conservancy', *IF*, Vol. 10, 1884, pp. 415–17.

[67] 'The Governor even suspected that the petition had 'really emanated from the latter (moneylenders) and the khonds were merely the "stalking horse" of the sowcars', to whom they were heavily indebted and 'who hope to make a profit from forest produce under cover of khond rights'. 'The Right of Khonds', *IF*, Vol. 19, 1893, pp. 317–18.

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Such dismissive postures by the champions of scientific forestry invited a few others to contextualise the traditional resource management practices in India. 'Jago' wondered how 'any forests were left and no fuel or wood famine was caused all this time'. The fact is that, he further explained, the people of India, 'whether wild or civilised, have an instinctive desire for the preservation of their trees as much as their cows, consuming only the products in each case; and if this feeling is giving way to a desire to cut and chop as opportunity offers, it is because the new policy of "conservation" leads them to apprehend that they will not be allowed the benefits of their abstinence as heretofore'. Arguing that 'no conservancy can succeed in the face of a whole people inspired with such a distrustful and hostile attitude', he demanded that the 'radical conservator' should reshape his policy on 'hard-hearted lines'.[68]

Public controversy on the ill-effects of strict forest administration on a large section of Indian society forced the government to reconsider the whole forestry policy, hence the Forest Policy Resolution in 1894. The idea was that a 'more lenient policy' spelled out in the Resolution 'will, by removing what has undoubtedly been felt as a grievance, do much to strengthen the reliance which the people repose in the Government, and confirm their feeling of attachment to it'.[69] The Resolution was framed on the general feeling that the constitution and presentation of a forest involved, in greater or less degree, the regulation of rights and the restoration of privileges of user in the forest area. The new forest policy then classified forests in four broad functional categories: (*a*) forests, the preservation of which was essential on climatic or physical grounds; (*b*) forests which afford a supply of valuable timber for commercial purposes; (*c*) minor forests; and (*d*) pasture land.[70]

The Resolution evoked considerable interest across the country as well as in contemporary English press. It was reviewed at length in the *Times*, prominently alluded by the Viceroy in an important speech, and was hailed by the vernacular press. The *Times* carried a report on the Resolution for the general use of its readers. One ex-forester demanded to know 'what has rendered such a resolution necessary, and was it expedient to reopen such a wide field for discussion and possible misconstruction by publishing it broad-cast?' 'Not one in a million', he feared, 'will ever see it, or would understand it. The petty timber dealer, the village headman, the needy vakil, the unscrupulous agitator and even subordinate officials of other departments inimical to the forest, may all twist the wording of the Resolution to their own advantage'.[71] Besides, 'there was no necessity for a reiteration of the forest laws of the government of India, for if any local government or administration

[68] 'The Forest Policy of the Government of India', by a Veteran Forest Officer, *IF*, Vol. 21, 1895, pp. 142–49.

[69] 'The Resolution on Forest Policy', *IF*, Vol. 21, 1895, pp. 230–33.

[70] 'Resolution on the Forest Policy of the Government of India', *IF*, Vol. 20, 1894, pp. 414–22.

[71] 'Our Forest Policy', *IF*, Vol. 21, 1895, pp. 283–84.

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had appeared inclined to go too far, and to render the forest laws oppressive, it would surely have been more expedient to warn it through the ordinary official channels, rather than by a resolution'.[72] The *Englishman* observed that 'what may appear now to be a liberal measure in view of the present needs of the people may prove half-a-century hence to have been a most shortsighted and truly illiberal proceedings'.[73]

The Indian Forest Service: Structure and Organisation

The agenda of 'scientific' forestry or 'organised' forestry from the administrative point of view, included a whole range of technical and non-technical specifications. While the technicalities of the profession (working plans, scientific training of forests probationers, etc.) helped them to differentiate between 'woods' and 'forests', the non-technical part (Forest Act, Regulations, Forestry Service, etc.) offered a permanent place to forestry in the hierarchy of civil administration. The Indian Forest Service was inaugurated in 1864 in the face of stiff opposition from the civil administration. The plan of forest establishment proposed by Brandis was founded on the principle of 'decentralisation', which was read by many of the civil officers as an infringement upon their authority. Sir John Lawrence, a member of the Council of India who had earlier earned public support as administrator of Punjab, was also opposed to the plan of a separate Forest Department on the same grounds. Upon his arrival in Calcutta in June 1864 as designated Governor-General of India, Lawrence assured visiting civil officials that he was determined 'to stop out this new fangled scheme'. Lawrence, as Brandis found him, 'was essentially a strong man, who would carry out what he had determined upon, regardless of personal considerations'. A proven successful administrator, Lawrence was, however, open for debate and when Richard Strachey, then Secretary in the PWD (Public Works Department), induced him to see that some organisation of forest business was absolutely necessary for the welfare of the country, he immediately sanctioned a separate organisation of forest department, mostly consisting of a Controlling Staff.[74]

Controlling the known forests was, however, not the only item on the agenda of the emerging forestry model. There was a further need to augment the work of the forest department. Accurate surveys and sufficiently good maps of forests, for example, were considered to be a *sine qua non* for successful administration and management. The Land Revenue Staff, though required to map every field with meticulous care, only seldom sketched in boundaries of any adjoining forest lands. The Survey of India, on the other hand, had hardly any interest in jungles. Therefore, in 1873 the Forest Survey Branch was added to the Survey of India but directly

[72] 'The Forest Policy of the Government of India', by a Veteran Forest Officer, *IF*, Vol. 21, 1895, pp. 142–49.

[73] Quoted in 'Our Forest Policy', *IF*, Vol. 21, 1895, pp. 283–84.

[74] D. Brandis, *Indian Forestry*, pp. 46–49.

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under the control of the Inspector-General of Forests.[75] In 1882, the government introduced wide-ranging changes in the structure of Indian Forestry Service. A total of 100 posts of forest officials were worked out in the superior grade of conservators, 56 as Deputy Conservators, and 34 as Assistant Conservators. In 1885, the number of Superior Staff 'in all parts of British India' was estimated at 150. Some of them were also filled by the promotion of Indian Forest Rangers.[76] In 1891 the Provincial Forest Service (PFS) was inaugurated, which occupied a position between the Indian Forestry Service and the Upper Subordinate Staff. The first PFS men were trained at Dehra Dun and took the place of the old Sub-Assistant Conservators. The Forest Department was further rescheduled in 1894 on the recommendations of the Public Service Commission. Retaining the two-tier model, it was, however, resolved to create 'two main and entirely distinct divisions known as the Upper Controlling Staff and the Lower Controlling Staff—popularly known as the Imperial and Provincial Services respectively. While the former was an exclusive club of the Europeans, the latter was recruited in India.[77]

Emerging debate on the subject took notice of some of the key questions which are as much important in the present context as they were some 100 years ago, i.e., the tussle between the civil and forest ranks for their respective place in the hierarchy of civil administration, service conditions and the place of Indians in the forest administration. At that time the debate helped in the recovery of some concessions from the government. Stories of forest officers serving 20 or more years without home leave were frequently narrated. Unable to save up their passage money, many British officials would have no option but to settle for spells of leave in one of the hill stations in India.[78] It was partly in response to the issue being raised in *IF* that in 1900 the Secretary of State allowed full pay during the first three months of an overseas furlough, thus enabling the visiting colonial officer to meet the cost of his passage.[79]

Beside day-to-day service matters, one most important question addressed by *IF* at that time was the training and employment of the Indians in the forest department. 'Racial discrimination' against the Indians remains a contested issue in colonial discourse. Such charges are not coming from modern social scientists only. Even contemporary press and politically conscious propagandists of the time had accused the colonial state of neglecting local youths. The Indian Forest Department was not an exception. In 1887 the *Indian Agriculturist,* another scientific periodical on the periphery, criticised the British policy of 'racial discrimination' in appointments. 'The simple truth is that', it was noted, 'in the midst of endless

[75] 'Reorganisation of the Superior Staff of the Forest Department under the Government of India', *IF*, Vol. 8, 1882, pp. 337–40.

[76] D. Brandis, 'Progress of Forestry in India', *IF*, Vol. 10, 1884, pp. 452–62, 454.

[77] 'Recruits of the Forest Department', *IF,* Vol. 20(1), January 1894, pp. 10–12; February 1894 (2), pp. 85–87.

[78] William Schlich is on record as having only taken home leave once during his 19 years in India.

[79] E.W. March, 'Coopers Hill', *Commonwealth Forestry Review* (hereafter *CFR*), Vol. 50, 1971, pp. 242–46.

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protestations of our desire to rule the country wisely, ... Indian youths are practically excluded from service'. With the need for European guidance in forestry having been exhausted, it was in India itself 'that we should now recruit the service'.[80] The charge of 'racial discrimination' was, however, denied, among others, by *IF*. In 1888 the editor pointed out that 'deserving men of all races in India are eligible for promotion to the grade of Sub-Assistant Conservator'. Drawing further information on the subject, the editor informed that out of the 54 appointments in that grade at least 23 were held by Indians.[81]

Further scrutiny of the archival records would reveal the gap between assumptions, declared intentions of the colonial government and actual/factual situation on the subject. There are references suggesting that at least under financial compulsions, the colonial state had desired to 'shunt Europeans, and substitute Indians in every subordinate position'.[82] This requirement of local hands was as much applicable to civil services as to the technical, including railways, electric-telegraphs, engineering, medical, scientific surveys and forestry. In 1824, Sir Thomas Munro, the then Governor of Madras, had suggested that 'all offices that can be held by Indians without danger to our power might be left to them'.[83] During the later years of the nineteenth century, there was further pressure on the colonial state to form a body of reliable and qualified subordinates, fit to discharge the duties of executive forest officers. Brandis, who was known for his love and affections for the downtrodden both in India and elsewhere,[84] wished to see 'young men from all parts of the Indian empire coming together to learn that profession' which, as he expected, could 'do wonders for the prosperity of India'.[85] In 1869, he sent a proposal to all the provincial governments drawing their attention to the issue of the training of Indians in the department. He explained that 'the large[r] the number of Indians employed in responsible positions in the forests, the more forestry will cease to have the character of an exotic plant, or a foreign, artificially fostered institution'.[86] Brandis was not alone in promoting Indian participation in forestry. In 1887, the *Indian Agriculturist* came up with a strategic plan of an independent 'Indian' service. What it desired was 'to have two or three highly qualified men of European training, at the head of every provincial branch of the service which would exhaust the need for European officers'. 'In a very few years time, even that need will disappear, India herself producing a school of Forest Officers, second

[80] The article on Indian Forest Service was reproduced in *IF*, 'The Indian Forest Service', *IF*, Vol. 12(3), March 1887, pp. 101–7.

[81] *IF*, Vol. 14, 1888, pp. 262–63.

[82] From Secretary of State to the Governor General of India, 18 March 1880, in *IF*, Vol. 6, pp. 46–47.

[83] Arbuthnot, ed., *Major-General Sir Thomas Munro*, p. 319.

[84] A sympathiser of the down-trodden, Brandis founded a working men's club in Bonn and spent one evening a week there. He once confided to Pinchot that had he not been a forester, he would have been a leader of the German Labour Party.

[85] 'The Brandis Testimonials', Letter from D. Brandis to the Editor of *IF*, 30 October 1884, *IF*, Vol. 10, 1884, pp. 564–66.

[86] D. Brandis, *Indian Forestry*, p. 88.

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to none in the world.'[87] Earlier some foresters had even questioned the appointment of 'uneducated whites' as Forest Rangers, a position which could have been served by Indians.[88]

On its part, the *IF* refused to compromise on the issue of 'excellence' in the forestry service with the editor rejecting the 'popular idea' that 'any one can manage forests successfully, and that waifs and strays of humanity, who have failed to obtain admissions to other departments, can readily find a field for their exertions in the Forest Service'. To become a good forester, 'a man must not merely study forestry theoretically, he must live in, and so to speak, breath an atmosphere of forests and become imbued with the instincts and proclivities of a Forester'.[89] Arguing that 'scientific education in India has not yet afforded anything like a sufficient supply of properly qualified candidates for Rangerships', a veteran forester observed that 'Indian forestry would be hopelessly thrown back' if the 'Controlling Staff is to be taken from the Indians'.[90] Next time, the *IF* asked Indian youths to go to England for scientific training: English fathers do not mind spending money on their sons, and Indian fathers can do the same, if they really wish their sons to enter our department, in the higher grades.[91] It was only when 'the Indians of India are ready to devote their youth and their own or their parents' money to acquiring a thorough knowledge of scientific forestry' and practise it on European principles, that 'may they' or their supporters 'claim for them a monopoly in the Forest administration of this great Empire'. But the creation of such a race, 'both as regards attainments and proclivities', it was argued, would 'take many years, probably at least one generation, to do it'.[92]

'Proclivities' and provisions apart, the debate also dealt with a wide range of questions ranging from psychological to civil constraints facing educated Indians in taking up jobs in the forests. Most of the European observers had found, in the process, that educated Indians, particulary the higher castes, 'shirk forest duties on account of their fear of fever and wild beasts'. 'Indians', some of them argued, 'make capital clerks', and would be, 'valueless' as Rangers.[93] In Madras, the Forest Department was unable to find the Indians or Eurasians to fill its ranks. The general unpopularity of the service in Madras was mainly 'due to the extremely hard and unhealthy life they lead, or ought to lead, combined with poor pay and prospects'.[94] Similar explanations came from other provinces of India. Denying that there was any discrimination against Indians in the forest service, a veteran of the department reiterated that the department 'has always been ready to accept, and anxious to secure, Indian agency to recruit its ranks'. But unfortunately, 'it has been found

[87] 'The Indian Forest Service', *IF*, Vol. 12(3), March 1887, pp. 101–7.
[88] Elliot, 'Subordinate Forest Establishment', *IF*, Vol. 2, January 1876, p. 267.
[89] Veteran, 'The Indian Forest Service', *IF*, Vol. 13, 1887, pp. 361–63.
[90] *Ibid.*
[91] 'The Indian Forest Service', *IF*, Vol. 13(5), May 1887, pp. 197–98.
[92] Veteran, 'The Indian Forest Service', *IF*, Vol. 13, 1887, pp. 361–63.
[93] E.H.B., 'Subordinate Establishment', *IF*, Vol. 2, 1876, pp. 419–21.
[94] 'A Cry from the Forest Department in Madras', *IF*, Vol. 17, 1891, 229–31.

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that, as a *rule*, Indians are not a success. The Hindus of southern India, who would never enter a forest of their own free will, still less make it a stepping stone to the Revenue or some more congenial line whilst seeing as little of the "jungle" as he possibly can'.[95] E.P. Dansey, Conservator of the Central Circle, NWP, noted that 'the most unprofitable of all subordinate forest officers is the town-bred school boy educated at government expense in the rudiments of his profession'.[96] Berthold Ribbentrop had similar experiences with his Indian staff. 'The ordinary native', this man from Germany noted, 'does not like the monotony, dangers and vicissitudes of a forest life. He is afraid of tigers, of fever, and misses life in the town'.[97] Besides, the average of Indians passing out successfully as Forest Rangers was below expectation. In 1886 in the Central Circle, for instance, six Indians were appointed as Ranger probationers. None of them was able to pass through a complete course at the Forest School, hence all but one resigned.[98] Others, like one Chajju Singh, who passed the exams, later abandoned the career of a Forester mainly because they found the forest life 'too hard and too hazardous'.[99] The only notable exception was Puran Singh who joined the Forest Research Institute at Dehra Dun in 1907 as Forest Chemist. Born in 1881 at Abbottabad, Puran Singh studied for three years (1900–1903) at the Imperial University of Tokyo. But he was more of a laboratory man than a field forester. Not that all the contemporaries of Puran Singh were as scared of the woods as Chajju Singh, but they found more respect in other professional jobs, especially education and law.

Educating the Forester: Institutional Framework

When the British first decided to have a separate staff for managing the forests, they had no choice but to reappropriate the manpower from existing services. Most of the early recruits were drawn from the ranks of the Indian Staff Corps mainly because they 'knew the country, its language and customs well'. Though extremely enthusiastic about their new role, the amateur foresters lacked the penetration of a professional trained in the scientific principles of forestry. It was with this foresight in mind that Lord Dalhousie invited Dr. Dietrich Brandis to give a new direction to the plans of forest conservancy in India. Working with a staff of untrained military men, Brandis soon realised that it was not going to lead him anywhere. He wanted a continuous connection between the Indian Forest

[95] Veteran, 'The Indian Forest Service', *IF*, Vol. 13, 1887, pp. 361–63.

[96] D. Brandis, *Indian Forestry*, p. 88.

[97] Berthold Ribbentrop, however, noticed a 'general improvement', 'partly, perhaps, because some of our better men have obtained well-paid appointments in Indian States, partly because of the considerable influence exercised by the Forest School as regards both training and recruiting'. Berthold Ribbentrop, 'Note on the Question of the Admission of Indians into the Indian Forest Service' (This note was submitted to the Sub-Committee of Public Service Commission), *IF*, Vol. 13, 1887, pp. 332–38.

[98] *IF*, Vol. 13, 1887, p. 27.

[99] Chajju Singh, 'A Wonderful Sight in the Forests', *IF*, Vol. 10, 1884, pp. 52–53.

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Service and those countries of Europe where scientific forestry was based upon the experience of centuries. 'Climate and the species of trees', Brandis argued, 'are different in India, but the principles upon which systematic forestry is based are the same in all countries, and the aim in future must be , . . . to build the system of forestry in India, not upon the ideas and theories of individual men, but upon the results which long experience has furnished in those countries of Europe where scientific forestry is oldest and best understood'.[100] All he wanted at that time were 'men as young as possible, who had successfully passed the prescribed course of professional training'. In 1866, he sought permission for selecting 'German Forest Officers' for India. It was then followed by a request to the Secretary of State to arrange for the training of Forest Probationers in one of the German or French forestry schools. A formal arrangement was finally made with the Forest School at Nancy to train Forest Officers to be appointed in India.[101]

At Nancy, Forest Probationers were required to complete a two years training which gave them 'an insight into the principles of forestry'. At the end of the in-school teaching the students would spent six to eight months in the forests of France or Germany to get practical exposure to the practices being used there.[102] 'In the state forests of Germany and France they became familiar with the three classes of forest property—state forests, communal forests and private forests and the relation of the government to these three classes. They learned that it was possible to protect and manage state forests efficiently. They became familiar with the natural regeneration of the forests—a matter of paramount importance for India. They learned to manage extensive forests according to a regular and detailed plan of operations. They became acquainted with the forest legislation, and with the means used to free public forests gradually of prescriptive rights of user which interfere with their good management'.[103]

Forest Probationers joining the Nancy Forestry School were later appointed in the Upper Controlling Staff of IFS.[104] But there was a continuous demand for a subordinate staff which could be drawn from among the Indians at a lesser cost to the treasury. Brandis and his German colleagues had desired to have some provisions for the training of Indians willing to serve the Forest Department. The idea of an Indian Forest School was formally started in 1873 when William Schlich suggested that forestry classes be added to the Roorkee Engineering College. In 1876, Sir Richard Temple, the Lieutenant Governor of Bengal sketched the plan of

[100] D. Brandis, 'Progress of Forestry in India', *IF*, Vol. 10, 1884, pp. 452–62, 454.

[101] In 1878, there were about 33 officers in Indian Forest Service who had received their professional training in either Germany or France. Uptil 1886 a total of 79 officers trained in France and Germany had served the Indian Forest Department; D. Brandis, 'Remarks on the Administration, Forest Staff of Prussia and the Training of its Officers', *IF*, Vol. 11, October 1885, pp. 449–63.

[102] 'Training of Forest Officers', *IF*, Vol. 3, 1877–78, p. 302.

[103] Government of India to the Secretary of State for India, 23 February 1877, in 'Training of Forest Officers', *IF*, Vol. 3, 1877–78, pp. 295–308.

[104] Between 1869 and 1885, a total of 110 appointments were made in the Indian Forest Service, out of which more than 60 were trained in Nancy.

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a Provincial Forest School in Bengal. Two years later, Brandis got his plan approved for the formation of a Central Forest School in the North-West Provinces, and thus came into existence the Dehra Dun Forest School in June 1879. The School was to be utilised for the training of a lower executive staff mostly consisting of Indian Forest Rangers.[105] Several students from the Roorkee College also joined the School and rose to higher posts in the Indian Forest Service. The motto of the School was 'to teach little, but to teach that thoroughly'. Major F. Bailey, the Director of the School, would remind the students that the instruction afforded was 'more with a view of enlarging the scope of their minds and filling them with useful ideas, than of attempting to instruct them completely in their profession'. North-West Provinces and Punjab supplied the bulk of students during the first few years. Gradually, the message went across that 'knowledge means power' and that the 'time of filling appointments in India with men untrained for the work is passing away fast'.[106] During 1881–82 the total number of students at the school was 34 and they came not only from Punjab and North-West Provinces but from Madras, Central Provinces, Bengal, British Burma, Assam and Berar. The princely states of Patiala and Kapurthala also sent students for training at the school.[107] In 1884, the total number of students at the School went up to 46.[108] During the first 17 years about 344 Rangers passed out from the Dehra Dun Forest School.

Gradual recovery of forestry education at Dehra Dun encouraged local authorities to demand further cut in the 'time of training in Europe in order to allow young officers on arrival in India to study the vernaculars, and to gain some acquaintance with Indian forestry and the history of Indian vegetation before being placed in executive charge of a division'. The move was, however, turned down by the Government of India, which explained that 'every officer sent out from home—whether a civilian, an engineer, or a forester—was required to pass through an apprenticeship course in India. During this time, he learnt the vernaculars and became acquainted with the country before he could be placed in a responsible position.[109]

Back in England, what actually bothered most Englishmen at this stage was their continuous dependence on their continental rivals, France and Germany, for the supply of trained hands to manage colonial forest resources. The issue found expression in the contemporary English press with the *Journal of Forestry* (stared in 1877–78) making a plea for the opening of a forestry school in England, 'a plea which', as one observer noted, deserved 'candid attention, without making any foolish remarks about India'![110] In 1882, the Society of Arts arranged a discussion on the issue. Speaking on this occasion, G.F. Pearson, himself an ex-colonial,

[105] 'The Forest School at Dehra Doon', *IF*, Vol. 4, 1878, pp. 53–59.

[106] SW, 'The Forest School at Dehra Dun', *IF*, Vol. 7, 1881, pp. 111–25.

[107] W. Schlich, 'Review of the Forest Administration in the Several Provinces under the Government of India, 1881–82', *IF*, Vol. 9, 1883, pp. 613–15.

[108] 'The Indian Forest School', *IF*, Vol. 11, 1885, pp 557–58.

[109] 'Training of Forest Officers', *IF*, Vol. 3, 1877–78, p. 302.

[110] *IF*, Vol. 6, 1880, pp. 52–55.

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advocated the establishment 'of some system of national instruction in scientific forestry'. 'Hitherto', he argued, 'we have been entirely dependent on continental schools for the training'. England, he further noted, needed 'some stir' to help itself in the matter. Pearson suggested establishment of courses of lectures on forestry at one of the public educational establishments.[111]

There was a mixed reaction to such demands from the periphery. Mr. Campbell, Conservator of Forests in Sind, suggested that professional training of forest officials selected for the Bombay Presidency should not be in the state of Germany or France, but in England and Scotland, where it should be limited to one year.[112] His proposal was rejected by others on the periphery arguing that Indian forest officials were trained in France and Germany 'not because we love foreign things and despise those at home, *but* just as we go to foreign markets, because they produce what we do not. We do not think it a reproach in the one case, why should we in the other?'[113] The *IF* also found the whole scheme 'absurd'. 'Why not at once create a good school for British foresters, to learn what will suffice in Britain, but leave Indian foresters to learn as the Indian authorities, who know what is wanted, desire?'[114] The ordinary British forester, it was further noted, 'is a man as different a class from the Indian Forest Officer as are the members of our sub-ordinate from those of our superior staff'. Instead of further dependence on England the *IF* would prefer developing the Dehra Dun School as an alternative 'if any change in the system of sending students to Nancy' was required.[115]

Back 'home', it was now being considered to be as serious a matter for England as for the colonies. In 1885, the issue was raised by Sir J. Lubbock in the Parliament, who spoke of the difficulties associated with the Nancy School and the increasing demand for trained foresters in the colonies. Asking state intervention in the matter, he drew the attention of members to the progress made by the Indian Forest. The government thought otherwise with Gladstone, the Prime Minister, stating in the Parliament that 'the Indian government have had most special reasons for giving attention to [forestry]. There are important facts connected with the climate and with the due supply of moisture in the atmosphere in India which are not present in this country'.[116] Nonetheless, the government agreed to the proposal for adding forestry classes to the Royal Engineering College at Coopers Hill.[117] When asked to give their opinion, both Brandis and Schlich disagreed with the plan. Brandis

[111] G.F. Pearson, 'The Teaching of Forestry' (Lecture Delivered at the Society of Arts, 1 March 1882), *IF*, Vol. 7, 1882, pp. 309–29.

[112] 'Training of Forest Officers', *IF*, Vol. 3, 1877–78, p. 302.

[113] J.K., 'Education of Foresters in Britain', *IF*, Vol. 2, 1876, pp. 116–19.

[114] *IF*, Vol. 8, 1882, p. 336.

[115] 'Training of Forest Officers for India', *IF*, Vol. 7, 1882, pp. 228–30.

[116] 'Report on the Debate in the House of Commons on the Establishment of a School of Forestry', *IF*, Vol. 11, 1885, pp. 332–39.

[117] Coopers Hill College of Engineering was started in 1871 at the request of India Office to provide qualified engineers and telegraphists for service in India. Its staff was mainly drawn from retired Sapper Officers. E.W. March, 'Coopers Hill', *CFR*, Vol. 50, 1971, pp. 243–46.

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wished the classes to be associated with one of the English universities where the forest probationers could associate themselves with those preparing for the Indian, colonial and home Civil Services as well as for the literary and scientific professions. It was here, Brandis observed, that 'a broader view of life would be obtained than at a purely technical college'. The Secretary of State was, however, determined to support the Royal Engineering College which had been on the wane over the years.[118] His decision prevailed and the first batch of five forestry probationers joined the Coopers Hill College in late 1885. In 1888, the School was formally attached to the Royal Engineering College.

In the emerging continental competition for the provisions of forestry education, Coopers Hill College was found to be a stop-gap arrangement. Though it lingered on for nearly two decades, it clearly failed to provide that academic status to forestry profession in England which its counterparts in Germany and France had earned over the years.[119] There was a feeling that forestry education was too important a subject to be taught as an appendix in an Engineering College. Even Kew was found to be a more appropriate place, 'there being splendid gardens, museums, and botany lectures could easily be arranged'.[120] Besides, its fate being associated with the Royal Indian Engineering College which was found to have exhausted its appeal for upcoming engineers, there began a 'series of rumours' on the future of the Coopers Hill forestry class. In 1903, the Secretary of State for India appointed a Committee to decide the future of the Royal Engineering College. The Committee, consisting of Sir Charles Crosthwaite, Dr Jhex Blake, Mr Hardie, Sir Alexander Rendel, a member of the Indian Council and Mr Leonard, unanimously recommended closing the College. As for the forestry School, the Committee recommended that probationers for the Indian Forest Service should be trained at Cambridge. While releasing the Prospectus of the College for the year 1904, the Secretary of State for India issued an announcement declaring 'that the college will be permanently closed at the end of the session of 1905–06'.[121]

This decision to close the Coopers Hill reopened the whole question of 'scientific forestry' and its place in the educational system. In the ensuing debate various options were suggested by people associated with forestry, both in England and India. G.F. Pearson, who had been associated with Nancy and Coopers Hill since late 1870s, proposed three alternatives: return to the continental system of training,

[118] Only 61 engineering students were registered in 1885.

[119] In the training programme, the budding forester was not taught much theory, but to 'cultivate, or at least tolerate, a spirit of criticism and enquiry'. With 'the book-worm not invariably successful in India, many who passed the college without greatly distinguishing themselves did most excellent work not only in India but in all parts of the world'. Cf. March, 'Coopers Hill'.

[120] 'Forestry School at Coopers Hill', *IF*, Vol. 9, 1883, p. 46.

[121] The reasons advanced for the closure, seen in restrospect, were unconvincing of the high cost per capita of educating such small numbers (the largest number of students entering the college in one year was in 1890 when 17 students were admitted), and the fact that by 1905 comparable education facilities were available elsewhere in England. 'Coopers Hill', *IF*, Vol. 30, 1904, pp. 485–86.

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affiliate it with one of the universities or strengthen the Dehra Dun School. If sent to Dehra Dun for training, the English students, he feared, might 'lose the broadening of mind and general development of character' otherwise 'indispensable to those who have to administer the Indian Empire'. Second, he found it 'unadvisable' to train the two classes together which had different functions to perform and required a totally different standard of education. Besides, it had serious financial implications as the educational staff for such a school would have been very expensive to maintain in India.[122] Though continental training had supplied the Forest Service with a body of able men, in the interest of national forestry Pearson favoured attaching forest pupils to one of the universities for two years, supplemented by one year of practical work in the forests of Germany and France.

W.R. Fisher, Associate Professor of Forestry at Coopers Hill, argued that the Forest School at Dehra Dun was 'too small for the training of the Provincial Staff as well as of the forest staff required by Indian states'. He found the continental training inexpedient mainly because continental forest students did not gain a sufficiently broad view of forestry for Indian work. Arguing that 'our Indian Forest students should be taught forestry in Britain, by experienced Indian Forest Officers', Fisher agreed with Pearson that forest students be attached to a British university for a two-year course, followed by practical training on the continent for one year.[123] Both Schlich and Brandis also wished the forestry students to be transferred to some university, preferably Oxford. Sir W. Thyselton Dyer, who had given evidence before the Enquiry Committee, also spoke in favour of such affiliation. His arguments were more crisp: 'we no longer wish our colonial forestry appointments to be held by foreigners, and the only way to avoid this in future, as well as to afford the best training for our Indian forest officials is to take the present opportunity of establishing an Imperial Forest School at one of our Universities'.[124]

At first sight the proposal appeared both 'alluring and advantageous', but when subjected to careful scrutiny, many drawbacks were detected. First, it was found incompatible for men who looked for a professional career in the colonies. The system of education at Oxford and Cambridge was 'too academic and theoretical' to be good training for a forest officer whose subsequent profession was of an 'essentially practical nature'.[125] A forester, it was pointed out, did not 'require to attend a large number of lectures on elementary principles'. Though useful, he required them to be given to him in the light of their bearing upon his future professional work. He did not require, e.g., 'botany lectures with a view to his becoming a specialist in that subject'. It was sufficient for him, for example, to be 'able to place his trees and plants into their families and genera'. For other necessary technicalities the botanist was always next door 'to do the rest for him'. As it was

[122] G.F. Pearson, 'The Training of Forest Officials', *IF*, Vol. 29, 1903, pp. 437–40.
[123] W.R. Fisher, 'The Training of Indian Forest Officers', *IF*, Vol. 30, 1904, pp. 11–13.
[124] *IF*, Vol. 30, 1904, pp. 429–33.
[125] C. Gilbert Rogers, 'Coopers Hill as a Training College for the Imperial Forest Service', *IF*, Vol. 29, 1903, pp. 509–13.

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with botany, so with entomology, geology and other scientific subjects.[126] It was also felt that any university system where the students 'would hardly know each other' could not help in promoting the *esprit de corps.*

When the offer was formally issued by the India Office selecting Cambridge for the placement of Forest Probationers, it revived the 'animated rivalry' between the two premier universities of England, Cambridge and Oxford, only this time the bone of contention being 'the possession of some ten men a year'. The matter was raised in the House of Lords by the Earl of Lytton on 7 March 1905. He desired the House to consider the plan that IFS should be open to all the universities of the United Kingdom.[127] Taking exception to such adhocism in so important a subject like forestry education, *IF* ridiculed the emerging forestry ethos in England. 'In a country in which forestry is so little understood as Britain', the editorial in July 1905 declared, 'changes were to be looked for is perhaps natural, but that they should have been as numerous as has actually been the case is scarcely a matter for congratulation, nor does it make for efficiency'. Besides, such changes at regular intervals would only discourage the *esprit de corps* taking root among Forest Probationers.[128]

In the whole debate the interest of India, it seemed, was taken for a ride. This was also pointed out by the Government of India which complained that the Committee could 'hardly be described as a strong one' from the forestry point of view as 'with the exception of Mr Hardie, none of its members had any practical acquaintance with the requirements of the Forest Service in India'. The Indian government demanded that the 'college be maintained at any rate'.[129] The Indian viewpoint was succinctly articulated, among others, by the *IF* and some of the foresters working there. Gilbert Rogers, Deputy Conservator of Forests in the Andamans, argued that the Forest Officer in India being 'his own engineer, surveyor and architect, a thorough practical knowledge of the elementary portions of the engineering course was second in importance only to the principal study of forestry in all its branches'. While in Europe knowledge of engineering and surveying was not so necessary as the service of professional men could be obtained, in India it was most necessary to the forest officer. He therefore pleaded that 'for efficiency's sake let it be constantly associated with a school of engineering'.[130] As for the demands of England and other colonies, it was suggested that a separate Imperial Forestry College may be opened in England. *IF* questioned the logic of placing 'all our money upon the one horse only to find that it gets "left" and remains behind in company with the starting machine and its operators'.[131] The public

[126] 'Coopers Hill as a Training College for the Imperial Forest Service', *IF*, Vol. 29(9), 1903, pp. 373–79.

[127] 'The Indian Forest Service in the House of Lords', *IF*, Vol. 31, June 1905, pp. 350–57.

[128] *Ibid.*, pp. 361–69.

[129] 'Coopers Hill College', *IF*, Vol. 30, 1904, pp. 317–18.

[130] C. Gilbert Rogers, 'Coopers Hill as a Training College for the Imperial Forest Service', *IF*, Vol. 29, 1903, pp. 509–13.

[131] *IF*, Vol. 29, 1903, pp. 495–98.

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debate and the subsequent discussion in Parliament forced the India Office to reconsider its proposal. Finally, an Imperial Forestry Institute was established in Oxford, much to the discomfort of forest probationers.[132]

The Forester: From Adventurous Chap to 'Issue Educator'

One of the most crucial questions which bothered the nineteenth century forester was his place, not only in administrative hierarchy but also in the emerging scientific community on the periphery. Different perceptions were employed by different commentators to describe the personal bearings and agenda of colonial foresters. The heterogeneity of opinion still persists with social scientists, environmental historians and historians of science describing both forestry and the forester from their respective standpoints. In the Marxian analytical framework the colonial forester and planters remain a 'new face of an alien power'.[133] Viewed from the Crosbian notion of 'biological imperialism', the imported foresters, much like an imported botanical species, sought to create a niche for themselves at the cost of traditional forest users.[134] The only difference was that in the final analysis while the forester acclimatised in the tropical environment, his botanical partner was weeded out. Viewed from the perspective of forestry as a discipline and foresters as its anchormen, the latter appears to be a greatly improvised lot, graduating from a jealous 'axe-man' to an expert who is able to communicate with the trees.

To begin with, the first recruits were hardly distinguishable from the common lot serving the colonial state in civil administration. William Schlich spoke less for himself and his successors when he noted that in popular narrative the forester appears as 'a man who goes about with a heavy axe over his shoulder and a couple of pruning instruments by his side, ready to cut and to prune as he got along, and who, at certain times of the year, plants young trees where old ones have been removed.[135] Then came the trained man from Nancy with renewed energy, a lot more instruments and a broader agenda to attend to. The new experts, according to Rudyark Kipling, wrestled

> with wandering sand torrents and shifting dunes, whittling them at the sides, damming them in front and pegging them down atop with coarse grass and unhappy pine after the rules of Nancy. They are responsible for all the timber in the state forest of the Himalayas, as well as for the denuded hillside that the

[132] One of the transferred forestry students noted that in general terms forestry only constituted in knowing how to cut down a tree and that therefore it was no good coming to Oxford where there were no few trees to cut down. E.W. March, 'Coopers Hill', p. 245.

[133] Mahesh Rangrajan, 'Imperial agenda and Indian forests: The early history of Indian forestry, 1800–1878', *II · 'IR*, Vol. 31(2), 1994, p. 147.

[134] R.P. Tucker, 'The Depletion of Indian Forests under British Imperialism: Planters, Foresters and Peasants in Assam and Kerala', in D. Worster, ed., *The Ends of the Earth: Perspectives on Modern Environmental History*, Cambridge, 1988, p. 120.

[135] Schlich, 'The Utility of Forests', pp. 212–34 and n. 49.

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> monsoons wash into dry gullies and aching ravines, each cut a mouth crying aloud what carelessness can do. They experiment with battalions of foreign trees and coax the blue gum to take root and perhaps dry up the canal fiver. In the plains, the chief part of their duty is to see that the belt fire-lines in the forest reserves are kept clean, so that when drought comes and the cattle starve, they may throw the reserve open to the villagers' herds and allow the man himself to gather sticks. They are the doctors and midwives of the huge teak forests of Upper Burmah, the rubber of eastern jungles.[136]

When required to assess their own profession, the working foresters sought to dismantle the romantic image. Forestry, according to William Schlich, was 'a superstructure erected on the basis of many other branches of learning'. A forest expert, he announced, 'must be acquainted with the elements of law and of political economy'. One of the principal requirements of a forest expert 'is to understand the effect of soil and climate upon forest vegetation and vice versa. For this purpose he must be acquainted with the chemical and physical qualities of the soil, with the factors of the climate, heat, light, the movement of moisture in nature, the laws of current, etc'. Botany was also found to be 'indispensable, because the forest expert must not only be capable of determining the various constituents of forest vegetation, but he must also understand the mode of growth of trees and plants and the diseases which plants, especially fungi, bring to trees. And last, but not least, he must understand entomology, which deals with the insects, enemies of forests'.[137]

But the pressing demands for immediate returns disallowed these budding scientists to concentrate on theories. Colonial foresters, much like colonial geologists, botanists or any other scientific expert for that matter, were required to play this dual role of serving the practical demands of the state and advancing their own fund of scientific knowledge.[138] On various occasions, the foresters would explain that though they 'require a sufficient and practical knowledge of the sciences to aid in their work', their first priority was 'to organise and administer the forests' handed over to their charge. Besides, 'the greater number' of them had 'no time to be scientists', though they could all 'take an intelligent interest in science'.

It was primarily on account of this split personality that they had to confront the whims of a hostile scientific elite. *IF* captured every criticism, stray and organised, of the future role of foresters in India. The first glimpse of this debate appeared in 1875 when reviewing Brandis's *Forest Flora of the North-West and Central India,* George King, the Director of the Calcutta Botanical Garden, observed that 'forestry is an art and forms no integral part of botanical science'. But like other arts forestry, 'even if empiric in origin and practice', was 'not only capable of being supplied

[136] 'Rudyard Kipling on Indian Foresters', *IF,* Vol. 23, 1897, pp. 33–34.

[137] W. Schlich, 'The Utility of Forests', pp. 212–34.

[138] See Satpal Sangwan, 'Reordering the earth: The emergence of geology as a scientific discipline in colonial India', *IESHR,* Vol. 31(3), 1994, pp. 291–310.

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with a scientific chasis', but was vastly strengthened by such a basis. Though 'a profound knowledge of Botany,' was, in King's opinion, 'not necessary to a forest officer', 'the possession of a certain amount of botanical knowledge, and above all of the habits of observation which the practical study of botany engenders' were of greater use to the forester.[139] But the provisions, first at Nancy and later at Coopers Hill, were far less than what was being demanded.

At the meeting of the British Association for the Cultivation of Science in 1900, King renewed his charge against the authorities of Coopers Hill for their lack of interest in the teaching of botany to the forestery probationers. King was supported, among others, by an anonymous botanist who noted that the College was turning out administrators, 'pure and simple'. He demanded that for the Indian Forest Service recruits should be drawn from 'among those who are botanically inclined'. To achieve this goal 'botany must not only be made compulsory but placed in the forefront of the subjects for the entrance and after examinations of the college'. 'It is true', he observed, 'that we do not require men to be only botanists, but those who enter the Forest Service should display a greater learning towards the study of trees, shrubs and small plants than the large majority especially from Coopers Hill now do'.[140]

Those who had 'lately been through the mill', i.e., Coopers Hill College had an altogether different opinion. Defending the training programme offered by the College, one of the ex-students observed that 'training was entirely devoted to making Foresters'. Though it was 'true that administration absorbs a large part of a divisional officer's attention, but Coopers Hill men were, 'in spirit[,] Foresters first and administrators afterwards'. As for the teaching of science subjects, 'botany, or rather systematic botany only', was, in fact, a subject which a forest officer had special facilities for studying. This gentleman further demanded that 'time given to scientific work must be a Forest Officer's spare time, and he might be at least allowed to select his own science, instead of having [a] particular subject forced on him at Coopers Hill and presumably afterwards, by the authorities in India'. Such a 'fictitious interest in botany', he argued, would be 'injurious both to botany and forestry'.[141]

A similar line of argument was adopted by D.E. Hutchins who had spent some time in Indian forests before going over to South Africa to head the Forest Department there. Differentiating between the priorities of professional botanists and foresters, he observed that Sir George King's error was 'a common one amongst botanists. No doubt, Botany is a most fascinating and engrossing pursuit, it has the common failing of an engrossing pursuit in magnifying itself in the eyes of the follower'. For Hutchins, King's contention was 'as logical as the zoologist who should claim to instruct the racing man on horse racing'. As for the 'artificial'

[139] George King, 'Review of D. Brandis's *Forest Flora of North-West and Central India*', *IF*, Vol. 1, 1875, pp. 180–86.

[140] D.C.O., 'Botany and the Indian Forest Department', *IF*, Vol. 26, 1900, pp. 56–57.

[141] F.F.R.C., 'Botany and the Indian Forest Department', *Ibid.*, pp. 134–35.

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divide between 'scientific' and practical forestry, Hutchins declared that Kew was 'nothing if not practical'.[142] Mente Manquve rejected 'any attempt to recruit scientists as against administrators, even if such were possible. 'Were it possible to recruit pure scientists', the life and work in India 'would be a large disappointment to them'. Coming back to the question of the place of botany in 'scientific' forestry, Manquve observed that it being one of the component parts of forestry, it might be laid down that 'as a minimum, Indian Forest officers should know enough systematic botany to be able to work out the names of trees and herbs, and should also have had some little practice among the botanical orders'.[143]

Working foresters had different priorities. William Schlich described forestry as a two-tier project, 'forest science' and 'practical forestry', both of them equally important for a grooming forester: 'Neither the one or the other by itself makes a forest expert'. Any proposal with an overemphasis on *Arboretum* was, therefore, received not only as a 'joke' but as yet another proof of how hopeless it is to expect any good results from experts trained in England who did not 'understand the difference between Arboriculture and Silviculture'.[144] On its part, *IF* sought to analyse the whole matter in perspective. Reacting to the demand for further emphasis on 'Systematic Botany', the editor noted that 'under the circumstances hitherto prevailing, the time given to it has been time wasted'. The major need on Indian forestry, according to *IF*, was to recruit a battery of 'efficient practical foresters and not learned botanists'. It was 'quite enough that they should be able to recognise *empirically* the few species which they will have to deal with during the course of service. Besides, with a forest subordinate spending his whole service in a single forest region, he was expected to be sufficiently familiar with its flora, perhaps 'more easily and more quickly than the most able systematic botanists'. The nineteenth century Forester was thus found to be least interested 'in cramming only the merest smattering of Systematic Botany' which 'breeds that very obnoxious spirit of pedantic conceit which makes the men discourse of sal as *shorea robusta*, of teak as *tectona grandis,* and so on'. Instead, *IF* demanded that the forestry students should be taught the processes of 'nutrition, growth, flowering and fructification, and the dependence of these processes on the environment of the plant (soil, air, humidity, temperature, light, presence of neighbouring plant, etc)'.[145]

Dietrich Brandis, who had left a career in botany to organise forestry in India only to return to his first love after retirement, had sympathised with the 'practical forester'.[146] Drawing attention to the increasing demands on his men, Brandis had

[142] D.E. Hutchins, 'Botany and the Forest Department', *Ibid.*, pp. 94–95.

[143] Mente Manuqve, 'Botany and the Forest Department', *Ibid.*, pp. 245–46.

[144] Baden-Powell, 'The New Journal of Forestry in England', *IF,* Vol. 3, 1877, pp. 47–50.

[145] 'The Teaching of Vegetable Morphology and Physiology at Forest School, Dehra Dun: An Explanation', *IF*, Vol. 15, 1889, pp. 178–81.

[146] After his retirement from active forestry, Brandis settled at Kew Gardens to complete his botanical assignments. Throughout his life, Brandis' interest in the botanical side of his work came often to the fore, and had a very important influence on his personality. G. Pinchot, 'Sir Dietrich Brandis', *IF*, Vol. 39(8), August 1909, p. 474.

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desired that 'a forester, more than almost anybody else, must use his eyes and must be able on the spot to draw conclusions from what he has observed'. Another 'veteran' observed in 1887 that 'to become a good forest-officer, . . . a man must . . . not merely study forestry theoretically, he must live in, and so to speak, breathe on atmosphere of forests, and become imbued with the instincts and proclivities of a forester'.[147] Many of the colonial foresters had been successful more on account of these characteristics than anything else. Harry Charles Hill did not claim to be a scientific man either in botany or in zoology. But he was familiar with the trees and animals of the forests, and approached the forestry questions 'from a scientific point of view'.[148] Brandis rejected the popular myth that 'a keen sportsman must necessarily be a good forester', calling it 'as absurd as the idea that a good botanist must necessarily be a good forester'. 'Both love of support and devotion to Botany or Entomology', he declared, 'are most useful helps, but they are not forestry. The forester's business is to solve the problem of silvículture, and of forest management in a practical manner'.[149]

At this time, Sir W.T. Thiselton–Dyer, the botanist having affiliation with the Hookers of Kew came forward to record his views on the subject. Assuring Brandis that English botanists in general did not cherish the opinion that 'a good botanist must necessarily be a good forester', Dyer noted that it was wrong to believe 'that mere administrative efficiency is sufficient for a good forest officer'. It was as wrong as to believe 'that mere mechanical drill without resource or initiative will make a good soldier'. Dyer had, however, strongly felt that a Forest Officer will never rise to the highest level of efficiency in his work unless he has a scientific grasp of the principles which underline it. 'He should be able to identify the trees which compose the forest vegetation under his charge, and for this purpose he should have an elementary acquaintance with botany. *He should further have some knowledge of the nature and conditions of vegetable life: he should grasp the ideas that a tree is a living organism whose growth and development are subject to adverse or favourable conditions* (emphasis added). He should further have some idea of the enemies and diseases by which trees are liable to be attacked and of how these attacks can be met. All this a man of ordinary intelligence can acquire if he possess a real taste for nature without rising to the level of the professional botanist, which it would be absurd to demand of him'.[150]

The debate was finally coming to its logical conclusion. In November 1900, the editors announced that the charges brought against the Indian Forest Department by Sir George King were 'pronounced to be groundless' by an enquiry commission. The editors further decided to close discussion on this subject but not before a final 'authoritative statement' from the Professor of Forestry at Coopers Hill.[151]

[147] Veteran, 'The Indian Forest Service', *IF*, Vol. 13, 1887, pp. 361–63.
[148] D. Brandis, 'Harry Charles Hill', *IF*, Vol. 29(8), 1903, pp. 309–12.
[149] *Ibid.*
[150] W.T. Thiselton–Dyer, 'Botany and the Forest Officer', *IF*, Vol. 26, 1900, pp. 453–54.
[151] O.C., 'Botany and the Indian Forest Department', *Ibid.*, pp. 458–59.

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The professor had a more pragmatic approach than anyone else. Drawing attention to the practical demands of a forester, he noted that being an 'agent of a great commercial undertaking and not merely the scientific protector of an important property, the business of a forester was to seek and develop markets for the produce'. It was only after he had completed his daily task as a commercial agent and a scientific protector that he could have the 'liberty to devote his leisure to those specialities which have for him an interest'. In all sciences, he noticed, 'there are general practitioners and specialists. The research of the latter increases the utility of the former, that is, the advance in knowledge'. Claiming that 'the stress of work has hitherto prevented the acquirement of an adequate knowledge of the life history even of the most important species', he stressed that 'until that knowledge is tabulated and beyond dispute, one might imagine that the commercial agent and scientific protector had not full scope for his operations'.[152]

The debate was, however, far from being over. Two years later, G.S. Gamble revisited 'certain important forest questions', especially the emerging stature of the Forest Officer as a scientific man. The twentieth century foresters, he professed, will be 'called upon to prepare working plans. He has to begin with a description of the locality and bring in his knowledge of meteorology, geology and the composition and value of different soils. He has to go on to describe the forest growth and the idiosyncracies of the different species composing the forest as regards light, heat, climate and soil. He has to study the field agriculture of the surrounding district and the mutual relations between them and the forest. He has to map the boundaries, outer and inner, and to apply to the subject his knowledge of surveying and geography. He has to study the legal position of the area. Can it be said that all this can be done by a practical man without regular training and without a proper knowledge of botany and allied sciences?'

'If he is to be really useful', a Forest Officer 'has not only to know the trees, to understand their value, but he has to be also more or less a zoologist, a geologist, etc. It would be a bad day for the department when he loses the prestige of being a scientific man and appears openly as only an official timber merchant with a dash of the policeman. Then there will be no need for Forest Officers, Burma-trained or otherwise. A few junior civilians will do as well; forest schools to teach useless subjects will be unnecessary, and the fabric of which most of us are proud will crumble away'. Gamble sought to remind Brandis and his colleagues that 'botanists' and 'entomologists' were not the one who think of and do nothing else; 'they were far more than the men with the collecting tin, only interested in the search for rare plants, or the men with the butterfly net and collecting tubs, or one with a hammer and chisel and a bag of rocks. An officer who cares only for new plants, a new insect, a rare mineral or a pretty photograph is not likely to be in the first rank, as a silviculturist, any more than the one who is only interested in *shikar* or in polo or lawn tennis or billards. Indian Forestry must be something more than the mere collection of revenue. It has to maintain the position it has in India and

[152] *Ibid.*, pp. 458–59.

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the prestige it enjoys outside Indian limits. No! I say it emphatically, if the Indian forest department is to preserve its prestige it must be a scientific department and its officers must be capable of advising on subjects connected with trees and forests and their treatment.'[153]

Gamble argued that 'except the Geological and Botanical surveys', the Forest Department was the 'only government agency in India which has to deal with natural history'. The Forest Department was therefore seen 'as the pioneer of scientific work'. But he wondered if any of Professor Ward's students 'ha[d] attempted to pursue the subject (fungoid diseases of trees) in India'. Gamble's views added fresh life to a debate which *IF* thought was coming to an end. While Mercer took the issue of revenue considerations, R.S. Hole and W. Schlich discussed the implications of botanical agenda for working foresters. Gamble returned to remind his critics that any forest officer 'who cannot use his gun on occasion, is sometimes liable to go without his dinner. But time spent by a Forest Officer on botanical observations is time spent in the work of his profession'. Reacting to the provisions for botanical lectures at Coopers Hill, Gamble observed that, 'You can take a horse to the water but may fail to persuade him to drink'. Likewise, 'if students are led to believe that one of their subjects is, though part of the curriculums, not one of much importance, they are likely to neglect it and only study it perfunctorily and just sufficiently to scrape through'. Whether the botany taught at Coopers Hill 'ha[d] always been quite the sort of botany, that is wanted for our purposes is another matter'.[154]

IF took exception to Gamble's contentions and wondered if he had 'consulted a list of Forest Officers and endeavoured to make himself acquainted with the extent of the charges held by the majority of Ward's students? What is, for example, the daily life during the camping season some seven months in a year? Between four to six hours of hard physical and mental strain in the jungle followed by several hours of office work on return to the rest-house or tent, and this day after day, week in and week out, with scarce the rememberance that there is such a thing as a seventh day, the day of rest in the week'. *IF* wished to go further and 'hope to see the service something more than a pioneer in scientific work', to see it 'in the foremost place amongst the well-established leaders of such work'. But this could 'not be brought under existing conditions nor by the ineffective dabblings of already overburdened executive officers. The days when the two could be successfully combined are gone never to return'.

IF called for the attachment of specialists to the forest department. 'If we glance through the continental service and schools of Forestry we find the specialist at work assisting the executive officer in all questions concerning botany, zoology, chemistry'. We are now standing upon the threshold of a new departure. *IF* further demanded that the great facilities for research which were within the reach of German, Russian and American forest students should be arranged for the recruits

[153] G.S. Gamble, 'On Certain Important Forest Questions', *IF,* Vol. 29(2), 1903, pp. 487–94.
[154] G.S. Gamble, 'On Certain Important Forest Questions', *IF,* Vol. 31(2), 1905, pp. 82–89.

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of the Controlling Staff of the Indian Service. Besides, promising students should be encouraged to spend an additional year or two on deputation at Home with a view to their going through extra courses in subjects which are known to be of the highest economic importance in India. Such facilities, it was hoped, would not only remove the 'stigma' which men like Gamble attached, to the service 'but our knowledge by the natural writing of India will soon be greatly augmented, and with this augmentation will follow, as a natural result, the application of this knowledge to economic ends'.[155]

The debate further encouraged a few 'inefficient' foresters to speak out their practical experiences. Writing from Burma, this one had noticed that 'men come out quite keen to go in for a little science, but receiving little or no encouragement and finding their surroundings so different from those at home, they become slack. The ability is always, and the will, often, present, but the incentive is at present only *amour-propre* or *esprit de corp.* Sounding radical, he demanded that 'the idea that "an average, hard-working, fairly cute sort of chap" can run a Forest Division should be destroyed. This is the sort of principle imbibed at schools and colleges owing to the modern worship of games, and is one result of the Indian Civil Service examination, by which men are picked up for their brains alone, local knowledge and experience being supposed to do the rest. This idea, possibly excellent in the case of the ICS, permeates the Indian Services and should be eradicated, at any rate from that highly specialised department, the Imperial Forest Service'.[156]

Making of the Debate: Internal Disputes

Colonial forest policy, much like other colonial projects, was built on extremely heterogeneous opinions. The disputes emerged out of different contextual spheres: explicit contradictions in the agenda of scientific forestry, seemingly opposite interests of foresters and the agriculturists followed by conflicting claims of the revenue and forest officials. There was a further provincial divide among the Scottish, French and the German Schools of Forestry on the one hand and the known Scottish contempt for English attitude to forests on the other.[157] The history of forest conservancy in India, according to William Schlich, 'ha[d] been a story of difficulties and opposition'.[158]

To begin with, British interference in local forestry rights met with as much opposition from their own ranks as from their Indian subjects. This opposition came from different interests at different stages of forestry. While their first attempts in Malabar were confronted by an 'agriculturists' lobby, in Rangoon it was private

[155] 'The Study of Indian Natural History', *IF*, Vol. 31(3), March 1905, pp. 119–23.

[156] Inefficient, 'On Some Important Forest Questions', *IF*, Vol. 31(9), September 1905, pp. 501–3.

[157] R. Grove, 'Conservation and Colonialism', mimeo, p. 29.

[158] William Schlich, 'Review of Forest Administration in British India', *IF*, Vol. 10, pp. 372–79.

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timber interests, and further later in Madras the revenue officials who sought to scuttle forest conservancy measures.[159] When Brandis launched his plans of forest conservancy in Burma, he was confronted by a strong lobby of timber merchants, the 'mercenary creatures' who 'thought of nothing but rupees'. Encouraged by the financial burden on the treasury which was caused by the mutiny of 1857, the merchants of Rangoon suggested to Brandis to 'take advantage of the high market rates for teak' and sell the standing crop. They appealed to Brandis' 'sense of duty towards the government', to his 'ambition', and to his 'common sense'. Further, cautioning Brandis of the dangers of a government monopoly, they warned him of the 'disastrous consequences of a refusal to back their proposals'. When Brandis did not oblige they built up political pressure in Calcutta and managed to get their licence renewed. It was only after the intervention of the Secretary of State for India that the orders could be withdrawn. In November 1862, Brandis took special leave and left Burma. The 'withdrawal of a strong hand' gave an opportunity to the permit holders to agitate for new concessions. They began to argue that 'forestry carried on under Mr. Brandis' rules, and on the principles laid down by him, would in practice be destructive of all hope of making the forests of the province source of revenue to government, or a source of supply for timber, and an element of wealth and prosperity to the country'. Their demand was supported by the officiating Conservator of Forests and 'a sympathetic local government' who even pleaded that the permit holders had lost 'heavily' under the lease system. But fortunately Brandis returned before their proposal could seal the 'warrant for the destruction of the Pegu forests'. It was, as *IF* noted, 'a worthy conclusion to a brilliant struggle'.[160]

The warfare against Brandis and his methods of work was carried into other parts of India. His whole administration was, as his admirer from America Gifford Pinchot noted, 'one of struggle and victory'. On many occasions he found himself left alone to fight the timber mafia.[161] Brandis himself had confessed in many public meetings he attended that 'the professional training of forest students in Europe, the system of fire protection, the scientific organisation of the superior and subordinate staff, the proper control of forest accounts, the formation of reserved forests in many provinces, the establishment of the Dehra Dun Forestry School, were the outcome of interminable struggle, and could only be accomplished slowly, one after the other, by watching favourable opportunities'. On many occasions he was 'driven from the straight course of progress by opposition on all sides'. He was 'not able to go straight ahead, and the leading thought was not to attain what was best, but to be satisfied with such progress as was possible'. There was a time when Brandis realised that 'the progress of forestry would either be throttled by its enemies, or that it would be led into a mistaken direction by friends

[159] R.C. Milward, 'The Indian Forest Service', *The Empire Forestry Review,* Vol. 26(2), 1947, pp. 186–94.

[160] 'Dietrich Brandis: The Founder of Forestry in India', *IF,* Vol. 10, 1884, pp. 343–57.

[161] Pinchot, 'Sir Dietrich Brandis', pp. 470–71.

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who had framed some fanciful schemes of their own'. It was only after Brandis had retired that he could notice 'signs of the old opposition against scientific forestry giving way'.[162]

In the plains, the opposition came from the agriculturists lobby. Extension of settled agriculture was considered a sign of human progress. Early forestry plans emerging on the western coast had been surrendered only under the mounting pressure of this lobby, then represented by Thomas Munro who had a deep faith in the ability of peasants and other landowners to act in their own long term interests.[163] The same interest group resurged when Brandis and his two other German colleagues formulated plans of 'scientific forestry' toward the end of the nineteenth century. This time around, the opposition had some academic, rather than earthy, roots. In 1888, Professor Robert Wallace, Professor of Agriculture and Rural Economy at the University of Edinburgh, published a book entitled *India in 1887*, in which he raised strong objections to the agenda of scientific forestry in India.[164] Not really related to the infamous William Wallace, founder of the Bombay Burma Trading Corporation who had confronted Brandis in Burma in the late 1850s, Robbert Wallace found the German model 'too elaborate for the requirements of India, and not altogether in the right direction'. He questioned the usefulness of 'great forests of large timber' which he thought was 'of little value to the masses of the population whose wants were supplied by saplings, poles and branches, and by the fruit and shade of trees'. Wallace also approved of annual forest fires saying that in India forest fires form 'a natural process of healthy retardation, clearing and thinning under which all the magnificent forests of India have been reared'. A disapprover of forest regulations, Wallace claimed 'having had exceptional opportunities of seeing how the forest regulations pressed unnecessarily upon the people'. Ten years later Wallace returned to caution that 'people must not jump to the conclusion that we have adopted the wisest course in connection with the whole forest area of India by following the German plan of management and thereby discarding the natural conditions of annual purification by fires'.[165]

First the book and then this essay led to an intense debate on the whole plan of 'scientific' forestry. A reviewer in the *IF* sought to dismiss Wallace's scant treatment of the subject (*India in 1887* discusses the whole problem of Indian forestry in a mere 13 out of 345 pages). He further wrote that 'either German Forestry is scientific, or it is false, and we who have studied it know how thoroughly general and truly scientific are its teachings, and that any system of practical national forestry must rest on such a basis, and cannot possibly ignore it'. This reviewer also disputed Wallace's wisdom on forest fires and reminded him that the only magnificent forests left in India in the 1860s were either in the moist climate of the Ghats, Bengal,

[162] 'The Brandis Testimonial', *IF*, Vol. 10. pp. 564–66.

[163] Munro to Board of Revenue, September 1823, in Rangarajan, *Fencing the Forest*, pp. 155–56, n. 33.

[164] R. Wallace, *India in 1887*, Edinburgh, 1888.

[165] R. Wallace, 'Indian Forestry', *IF*, Vol. 26. 1900, pp. 514–16.

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Assam and Burma 'where fires never touch the evergreen forests, or the deodar, oak and fir forests of the Himalayas which rarely burn'. At the same time, much of the *sal* and teak forests were 'mere scrub, entirely devoid of healthy advance growth, owning to the devastation of the annual fires'. As for the uselessness of large timber trees, the reviewer noticed a contradiction here: 'If people only required smaller timber, why does Wallace then advocate the destruction of undergrowth by annual fires and by the growsing of cattle, in order to give room for the larger trees? How are the poles to be obtained from the universally burned and browsed forests'? Grazing by people living in the proximity, on the other hand, caused much discomfort for the great masses of agriculturists living outside the proximity of forest areas. In the end, advising Wallace to consult some 'working foresters', the reviewer wished if Wallace could come out of his fancied world of agriculturists. On the issue of local rights, the reviewer suspected that the professor had most probably been misled by the Director of Agriculture in Bombay and North-West Provinces, Mr. Ozanne and Colonel Pitcher, rather than in-depth study of either forest science or empirical experience.[166]

Another critic, J.K.B., showed no sympathy for Wallace's limited knowledge of the principles of forestry. Writing in the next volume of *IF* he announced that 'nothing in this world is easier than to criticise, and criticism from a critic profoundly ignorant of his subject is more easily pumped out than from a man who is well versed in the subject'. J.K.B., criticising Wallace for 'stepping out of his agriculturist boots' and dwelling on a subject like forestry of which he had only 'hearsay knowledge', wondered how the Edinburgh professor who was in India 'for four whole months and three whole days', was qualified to 'teach our Brandises, and our Ribbentrops, or Gambles and our Shuttleworths, the whole system and theory of Indian forestry'.[167] A few others charged Wallace of 'clothing the nakedness of his ignorance with the clock of the initiated'. A furious forester declared that, 'the learned doctor had come to India as the protégé and special crony of the Revenue and Agriculture Department, run by civil servants, at a time when these two departments were engaged in a crusade against the forest department, a crusade which was looked upon as the cause and origin of a burning sense of injustice which nearly drove foresters to mutiny. At this critical period, out comes Dr. Wallace, stretches his arms majestically over the country and solemnly curses the Forest Department and all its works. If the department did not feel much heart, it was because Dr. Wallace was not considered an expert in forest matters'.[168]

The question of local rights figured prominently in the agenda of forestry debate. Part of this debate has been reproduced by R. Guha and M. Gadgil in their

[166] While Mr. Ozanne was known for his advocacy of sheep-grazing in forests, Col. Pitcher had spoken of the advantages of forest fires. 'Professor Wallace and Indian Forestry', *IF*, Vol. 14, 1888, pp. 423–28.

[167] J.K.B., 'Some Notes on the Connection Existing between Forestry and Agriculture in India', *IF*, Vol. 25, September 1889, pp. 329–40; *Ibid.*, October–December 1889, pp. 371–86.

[168] Y.P., 'Professor Wallace and Indian Forestry', *IF*, Vol. 26, 1900, pp. 514–16.

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discussion on the formulation of different Forest Acts in nineteenth century India. The issue figured prominently in the *IF* during the later half of the century when Baden-Powell sought to provide a legal status to state forests. He observed that though 'rights' and 'privileges' were 'household words in the common talk of forest officers in the country', yet the former was 'nowhere defined in the Acts', and the latter was 'nowhere mentioned'. He thus defined a forest right as 'a right existing in favour of one person over the property of another'.[169] It was contested by 'N'M–MA–LE' who invited Baden-Powell's attention to the case of the Karen community who had always been in the habit of using forest produce 'for home consumption'. These were 'customary uses which have been admitted, and should therefore be full legal rights'.[170] Baden-Powell sought to clarify that 'besides strict rights which have, on legal (or at least equitable) grounds, to be recognised as such, it may be very useful (and a good policy) to allow certain practices for the convenience of villagers and others who, under the circumstances, have no claim to a right'. Taking note of general opinion on forest officials 'not having sympathy with the customary rights of the people', he further argued that 'the liberal policy in discovering and admitting long-standing and really needful practices, to be recorded as rights, on equitable and general grounds, was due to these very officers, and notably to Sir D. Brandis himself'.[171]

Foresters from Madras, however, had formulated a different policy with regard to local rights, a policy in direct confrontation to the ideology of the Empire. J.C.W. challenged Baden-Powell's 'slashing style of criticism' and suggested him to be 'fully conversant with his subject and local circumstance'. Conceding that 'an anxiety to promote forest conservancy does justify them in overriding existing rights or privileges, rudely sacrificing other interests in contravention of the common law', he sought to correct Baden-Powell on the issue of property rights on waste lands. 'There is scarcely a hill range and forest in the Presidency', he clarified, 'in which extensive tracts are not owned or claimed by private proprietors, not on account of rights of use, but on the strength of old titles, subsequent settlements and immemorial and exclusive possession'.[172]

Baden-Powell found the remarks 'uniformly incorrect and unjust'. He was surprised to learn that 'the views of the local [Madras] government [including the Duke of Buckingham!] [were] favourable to forest legislation'. Though himself 'intimately acquainted with the whole course of the official correspondence of the last 10 or 12 years', his lips were 'necessarily closed as to what that correspondence would prove'. Under the Madras Act, he argued, the securing of a forest area for conservancy was 'a slow, costly and very difficult proceeding'. Besides, it rested 'entirely with the good feeling and determination of zealous officers to make the Act work at all'. There was thus the 'greatest reason to fear that alienation of

[169] 'Rights and Privileges', *IF*, Vol. 17, 1891, pp. 305–10.
[170] N'A–MA–LE', 'Privileges and Rights', *IF*, Vol. 21, 1895, p. 181.
[171] Baden-Powell, 'Privileges and Rights', *IF*, Vol. 21, 1895, pp. 331–32.
[172] J.C.W., 'The Madras Forest Act', *IF*, Vol. 9(3), March 1883, pp. 140–43.

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waste lands will go on unchecked'. As for the customary rights to waste lands, Baden-Powell observed that 'these rights have been persistently exaggerated for years past, not indeed with the purpose of obstructing forest conservancy, but in a spirit of prejudice against it'. Making light of their sense of history, Baden-Powell ridiculed his opponents that 'people who live in such a fragile tenement as is represented by the past history of Forest Conservancy in the Madras Presidency should be careful how they throw stones'.[173] J.C.W. returned to assure 'B.P' of a change in the attitude of the civilian staff in Madras: 'there is now in Madras no prejudice against forest and in favour of extending cultivation even of the most inferior kind. The advantages of forests are fully recognised by all except a very small and quite insignificant minority[;] most collectors are more anxious to reserve [forest] than the Forest officers, a civilian Forester is or was a hotter conservator than any of his conferrers!'[174]

The winds of criticism against Forest Acts soon moved to the plains where a few colonial officials still cherished the 'ancient' view that 'fuel tracts and forests have always [been] managed somehow or other'. Betraying an artificial sympathy for the forest users, they questioned the logic of 'reserving forests and keeping the poor people out of their grazing and punishing them for cutting sticks!' Much like the early phase of investment in educational projects the general feeling among the civilian staff was in favour of non-interference in forestry. A few more carefree disliked overstraining themselves, arguing that 'the supply will last our time, and what is the use of these forest officers coming and interfering?'[175] Their objection, though swiftly overruled, helped in building public opinion in favour of local rights. The result was the Forest Policy Resolution of 1894 which promised a people-friendly forest policy. Commenting on the Resolution, the *Englishman* observed that 'a noteworthy and most satisfactory feature of the resolution is that the Government of India has plainly declared that in forest administration considerations of revenue are to be kept in a subordinate position'. Also that the 'true function of the Forest Department is to safeguard for all time as much of the existing forest as is really and permanently needed in the interests of the public at large'.[176]

There was, then, a clear division of opinion between the civil (revenue) and forest officials. In Bombay, the Secretary of Forests observed that their class had all along been, and was still being, 'looked upon with zealousy as interlopers by Revenue Officials in general'. Such jealousy was not only painful for foresters, it was also found to be 'ruinous' for the forests. In Bombay, large areas of 'prospective forests' were allegedly swept away because the people enjoyed 'sympathies' of the Subordinate Magistrates, Revenue Officials, the Collector and his Assistants. The revenue officials in particular rued and 'inveterate tendency to gain popularity

[173] Baden-Powell, 'The Madras Forest Act', *IF*, Vol. 9(3), April 1883, pp. 204–8.
[174] J.C.W., 'The Madras Forest Act', *IF*, Vol. 9, 1883, pp. 350–52.
[175] J.K., *IF*, Vol. 3, 1877, pp. 249–53.
[176] 'Our Forest Policy', *IF*, Vol. 21, 1895, pp. 283–84.

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at the expense of forest officials',[177] causing a perpetual divide between the two services. Lieutenant McRae, the Conservator of Forests, Northern Circle, remarked that 'the Department that enjoys the privileges of making the free grants and gets credit for them in the goodwill of the people (Revenue Department) is not the custodian of the material given away'. In his response, E.P. Robertson, the Commissioner, argued that 'the Forest Department, who have their own duties to attend to, cannot properly judge who are the indigent people whose houses have been destroyed by fire or by floods, who should be relieved by grants of timber'. 'It is the Revenue Officers', he insisted, 'who can secure the necessary information . . .'.[178]

The *IF* sought to trace the roots of the absence of forest conservancy in Punjab in the fact that the 'local government ha[d] disturbed its Forest Officers, and relegated the most important duties to the Settlement Officers, who, however great their abilities, are ignorant of practical forest management'.[179] In Punjab (Montgomery Division), the Financial Commissioner employed his judgement to open the reserves for grazing, with the result that 'some 50,000 cattle overran the reserves and at the end of the month they were completely denuded of grass'. All this invited flak from foresters. 'It is well that the people should be helped in time of real scarcity', commented one, 'but to open reserves to free grazing in this way should not be rightly determined upon'. It not only stampled upon the investment of the Forest Department but also failed to help the livestock as well. Opening the reserves, as this reviewer rightly suggested, enabled 'a greater number of worthless animals to exist for a time'.[180]

The division of opinion between the revenue and forest officials did not originate from their conflicting perception of revenue estimates only. It was also rooted, to some extent, in their struggle for a superior place in the hierarchy of civil administration. The *IF* noted that the major problem associated with forest management in India was the 'obnoxious system which places every forest officer in subjection to the Collector, the relation being at once unsatisfactory and undefined'.[181] The Forest Conservator in Madras, for example, was 'little better than Head Clerk to some Civilian who gets all the credit'. The idea of placing the Forest Department in subordination to Civil and Revenue was initiated by Sir John Strachey during the debate on the Forest Bill of 1878. Brandis also accepted the proposal, ostensibly to save 'the infant department from being incontinently butchered by its zealous uncle'. Having secured a place for the department, professional foresters began questioning the authority of District Collectors. It was, as one of them noted, a farce to believe that a Forest Officer was an Assistant to the Collector for forest

[177] JoB, 'Future Organisation of the Forest Department', *IF*, Vol. 13, 1887, pp. 122-23.

[178] 'Forest Conservancy in Bombay', *IF*, Vol. 11(7), July 1885, pp. 299–308.

[179] Review of 'Progress Report of Forest Administration in the Punjab for 1884–85', *IF*, Vol. 11, 1885, pp. 563–69.

[180] *Ibid.*

[181] *IF*, Vol. 2, 1876, pp. 198–200.

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affairs. Such misperception needs to be removed, 'and the sooner the better'.[182] The *IF* had then sought to remind Sir John Strachey 'and to everybody else' that it was a fallacy to believe that 'by merely subordinating one set of men whose training has taught them to believe these things, to another set of men who practically disbelieves them, we can attain a satisfactory solution of the difficulties attendant on the conservation of forests'. Placement of forest officials wholly under the civil officers, it was argued, 'will not enable the smallest progress to be made towards the proper care of the still existing forest or the restoration of an ill-used one. Fires will continue to burn, and destruction will go on unchecked. The Forest Officer will ask the Collector whether something had not better be done, and finding that nothing is done, he will retire to his pipe and to the preparation of his tabular statements, or to that costly little plantation on the credit of which the forestry of his district lives'.[183]

In addition to the growing separation between the revenue and forest officials, there was some apparent discomfort within the forestry service itself—between the untrained lot and the professionals. Repeated claims made by the government that whatever progress has been made in forest conservancy in India was 'chiefly due to the appointment of officers who have received their professional education in the State Forests of France and Germany', caused 'bad feeling between the Forest Officers appointed at home and those appointed in India, thus destroying *esprit de corps* in the department'. The India-appointed officials demanded an opportunity to prove their worth *vis-à-vis* the experts from Nancy or Coopers Hill. Making a comparison of the strength of England and India-appointed forest officials between 1867–76, Bagshawe remarked that it was 'very discouraging for the latter to learn that the government of India ascribes the chief progress made in that time to the effects of a few and not to the work of the whole'.[184]

Cecil Bagshawe then touched upon some basic questions relating to the profession of forestry. 'Forestry', he argued, 'is no occult science, and that the study of the first principles of forestry cannot be called difficult; further, it must be allowed that practical forestry in India will for a long time consist in the application of forest principles under the guidance of common sense. An officer trained in Europe has had the great advantage of studying the theory of forestry under the best masters'. He further felt that 'any India-appointed Forest Officer, after some experience and observation combined with an intelligent study of the theory of forestry, has but himself to blame if . . . he is in any way inferior to an officer educated in the French or German forests'.[185]

Taking note of the 'feelings' of India-appointed officers, who were found to be 'thoroughly able, zealous, and efficient public servants', the Lieutenant-Governor

[182] JoB, 'Future Organisation', pp. 122–23.

[183] 'The New Forest Law', *IF*, Vol. 3, 1877, pp. 332–37.

[184] Cecil Bagshawe, Deputy Conservator of Forests, Jaunsar Division, to G. Greig, Conservator of Forests, N.W. Provinces, 20 August 1878, in 'Forest Officers Appointed in England and in India', *IF*, Vol. 4, 1878–79, pp. 154–61.

[185] *Ibid.*

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and Chief Commissioner 'strongly' deprecated 'any slur whatever being made on the [un]professional skills and abilities'.[186] Responding to the impression which had been created by the government 'documents', A.O. Hume, Secretary to the Government of India, explained that the government 'has never hesitated to acknowledge and to reward the excellent services rendered by many Forest Officers appointed in this country', and that the documents 'neither expressed nor intended any disparagement whatsoever of those officers'. However, he did not forget to mention the advantages of professional training for forest officers. 'It is not only by the good service of individual officers', Hume argued, 'that the value of the system of professional education in Europe must be measured. The system has exercised a highly beneficial influence in many respects upon the development of Forest Administration in India'. The most important influence of this system came through the stimulation of 'a spirit of study and enquiry among the officers selected in India', which has 'led them to recognise the character of Forestry as a profession'.[187]

On their part, professional foresters like Schlich and Brandis never failed to appreciate the excellent services rendered by 'many excellent officers who, though untrained in forestry at the outset', did really good work for the department. Their relevance for the department is further testified by the fact that out of the 15 conservators of forests controlling the forest administration in the several provinces of India in 1886, not less than 11 belonged to this class of self-trained officers.[188] Brandis was highly impressed by the commitment of those who did not have the advantage of 'theoretical training'. Speaking before the Royal Scottish Arboricultural Society in 1887, he acknowledged that 'there have been many instances in India which show that under the guidance of good officers, and otherwise under favourable circumstances, men can make up, by means of industrious study and steady hard work, for their deficient professional education at the outset'. The bulk of the work of the first organisation of Indian forest business, as he explained, was 'successfully accomplished by men who had not received any special professional training'.[189] There were many of them—Pearson, Doveton, Bailey and Peyton. Though having not gone through regular training, their love of sport made the forest their home, and this, according to Brandis, was 'the first condition of success in [the forestry] business'.

[186] From Major G.E. Erskine, Secretary to the Government of the North-Western Provinces and Oudh, to the Secretary to the Government of India, Department of Revenue, Agriculture and Commerce, 12 September 1878, in 'Forest Officers Appointed in England and in India', *IF*, Vol. 4, 1878–79, pp. 154–61.

[187] From A.O. Hume, Secretary to the Government of India, to the Secretary to the Government of North-Western Provinces and Oudh, Revenue Department, Forest Branch, 20 October 1878 in 'Forest Officers Appointed in England and in India', *IF*, Vol. 4, 1879, pp. 154–61, 160–61.

[188] W. Schlich, 'Review of the Forest Administration in British India', *IF*, Vol. 10, 1884, pp. 372–79.

[189] D. Brandis, 'The Proposed School of Forestry at Edinburgh', *IF*, Vol. 14(10), October 1888, pp. 435–47.

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Conclusion

The global forestry debate during the late nineteenth and early twentieth century was built around the basic question of 'getting the word out'. The great part of a forester's work, as the great American forester of the time announced, 'consisted in arousing a general interest in particular forestry . . . and in gradually changing public sentiment toward a more conservative treatment of forest lands'.[190] While in America Gifford Pinchot emerged as a 'press agent of forestry',[191] in India, with public press still in the making, working foresters had to look for other alternatives. Under the circumstances, *IF*, founded in an age of 'agitation and emerging public opinion', championed the cause of issue education. Its major investment was in the area of initiating and promoting 'public opinion on matters affecting forest management on the periphery'. The reasoning was articulated in a simple terminology: 'The more the subject is ventilated, the better it will be for the department and its officers of the future'. Such ventilation of individual preferences and institutional concerns further helped in the organisation, not only of the superstructure of forestry as the state of art but also as an alternative mode of resource utilisation.

In addition to an ever-increasing number of the officers of the Imperial Forest Service subscribing to the magazine,[192] *IF* was also read by the members of a lay constituency consisting of district, settlement, railway and engineer officers scattered throughout the continent. That the emerging debate was 'public' in nature is further testified by the two facts: (*a*) out of an average sale of 900 copies at that time, nearly half of the subscription came from individual readers, and (*b*) a large number of the participants writing to *IF* were not drawn from the ranks of the Indian Forest Service. These were the men, the 'Enquirers', 'Jagos', 'Jungli bulbuls', 'Bhugats', whose very interest in the 'woods' at one level and the related administrative strategy on the other was a living testimony of a revolutionary change in people's perception of the forests. Though small in number, they had already emerged as the forerunners of a conservation movement in India.

Being a 'popular' magazine with a mandate to 'popularise' the culture of forestry, *IF* had placed hardly any stake in either academic or financial returns.[193] Instead of 'elaborate' theoretical essays, *IF*, much like the first ever scientific journal in India, *The Asiatic Researches* (f. 1783), concentrated more on disseminating 'information' on 'every report and every paper' that dealt with anything of theoretical

[190] Gifford Pinchot to R.C. Melward, 20 May 1903, quoted in Stephen Ponder, 'Gifford Pinchot: Press Agent for Forestry', *Journal of Forest History*, Vol. 31(1), January 1987, p. 26.

[191] Stephen Ponder, 'Gifford Pinchot: Press Agent for Forestry', *Ibid.*

[192] While only 43 per cent of the officers of the Superior Staff and only a very few Forest Rangers subscribed for the journal in 1882 about 62 per cent of the officers of the Imperial Service began taking the magazine in 1895, 'in addition to a large and continually increasing number of those of the Provincial Service'.

[193] That the magazine never intended to earn profits is testified by its rate of subscription. Besides large subsidy to lower grade forest officers, an annual rate of Rs. 15 was barely sufficient to meet the production cost.

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or practical interest in forestry. But still, there was a paucity of original contributions with the result that the magazine lived 'a hand-to-mouth existence, eked out with extracts from other periodicals'. Though the extracts were no less valuable, most of the readers preferred to see the *IF* functioning as the 'mouthpiece for original contributions from Indian foresters rather than as a sort of second-hand gramaphone republishing the work of others'.[194] J.C. McDonald, who was called upon for the editorial job in the absence of W.R. Fisher, complained of the general apprehension not only on the part of common writers but his own 'scientific bretherns' from whom he expected some 'words of wisdom'. With a steady silence having been maintained by all but 5 per cent of the European foresters on the periphery, McDonald turned to a new constituency, e.g., the 'Indians'. Encouraging them 'to do what they can', McDonald noted that 'we shall all be pleased to see anything from them, and to help them, if need be, in the matter'. It was only when this renewed energy would take over the general lack of writing habits that there will be no need for the future editor to have to cry—'write, Foresters, write!'[195]

Paucity of original essays did not mar the merit of debate. Extracts drawn from contemporary newspapers and science magazines, not only from India but from other countries where forestry had already taken roots, provided a global reference to the champions of forestry in India. The forest literature which thus filtered through was written with a view to spell out not just the details of government forestry programmes and achievements, but larger contextual boundaries of scientific forestry. At the same time, the magazine also proved a mirror to judge the strength and weaknesses of the Indian forestry agenda and the personal capacities of men behind it.[196] By offering a 'free, full and unfettered discussion [of] every principle and practice' of forest science, *IF* maintained a freshness of outlook and expressed contemporary opinion which otherwise might not have been possible under a bureaucratic regime. As a moderator of public debate, *IF* made significant contribution in shaping the course of 'total' forestry: forestry education, forestry research, forestry service, principles of scientific and social forestry. Transcending contextual boundaries of colonialism, contributors to the debate freely expressed their views on various issues affecting the forestry agenda. Arguments employed by different participants, pledging for the cause of scientific forestry and the rights of traditional users respectively, have not lost their relevance even in the present context.

In addition to its contribution toward shaping the principles of scientific forestry, *IF* did more service to the cause of forest conservation, i.e., educating the layman and injecting 'the spirit of forestry' in the mind-set of millions of forest users. Such a policy was not out of place in a country where forest conservancy was opposed, not only by the men living on forest resources and their city-based

[194] R.M. Gorrie, 'Improving Our Magazine', *IF*, Vol. 58, 1932, p. 329.

[195] J.C. McDonald's Appeal to Foresters, *IF*, Vol. 11(5), May 1885, pp. 203–5.

[196] Pinchot used *IF* to let the whole world know about the personal virtues of his mentor Brandis. Extracts from G. Pinchot's letter to W.R. Fisher, *IF*, Vol. 39, December 1909, pp. 684–85.

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sympathisers but also by some of the colonial ranks. Under such demands, it was not an easy task 'to convince the whole people of the benefits of forestry practice'. 'Prudent judgement demands', *IF* reiterated as late as 1931, 'that we inject the virtue of forestry knowledge into the peoples' blood so that they may become forestry-minded and wake up to the moral and sacred obligation to reforest all idle lands, and perpetuate existing forests by wise use and close utilization'.[197]

The 'virtue' could not be injected without invoking a sense of pride among the men coming out to manage something which had traditionally been considered to be a waste. *IF* devised its own strategies and programmes to meet this challenge; by mobilising the emerging forces of scientific and organised forestry, by developing a consensus among their own ranks *vis-à-vis* the traditional resource management practices, and by evolving public opinion largely through persuasion, in favour of the principles of organised forestry. Though a semi-government magazine with its office and other establishment supported by the authorities of the Dehra Dun Forest School, *IF* took a critical view of government forest policy which was marked with inconsistent proclamations. At one time, surplus revenue was insisted on; at another, the closing of forests and a strictly conservative treatment was directed.[198] Besides, there were problems at the implementing level. At times forest officials found themselves in the position of people 'bound hand and foot and told to run'. *IF* indicted government inaction. But its indictment was more a part of 'a healthy, frank discussion which attacks the system, not the men', and was 'designed to help in correcting errors, not to hurt professional or official feelings'. Besides lambasting bureaucratic indifference to the practice of forestry, *IF* also offered a critique of the forest literature generated by the forest department.

The approach maintained by *IF* throughout this period was critical. 'A breezy criticism', it was argued, 'acts occasionally as a refreshing tonic'. Dissemination of knowledge, rather than generation of new knowledge being its main concern, *IF* targeted 'scientific temper', more than the technicalities of science. The interchange of opinions and expressions on all sorts of forest matters being its main agenda, criticism was directed 'to measures, not men, to the opinion and utterances of the impersonal office, not to the thoughts and deeds of individuals'.[199] Self-criticism was found to be the best way to secure a respectable place for forestry in society as whole. This was accepted and promoted even at the risk of 'going public'. Acting as 'gate-keepers' some over-zealous Forest Officers had advised against washing their linen in public. Their apprehension was self-explanatory: since the magazine was read by 'people who know nothing of our work', it would only diminish the image of the profession. Such fears were, however, allayed immediately. W.C. Walker, once charged with such 'idiosyncrasies', reminded that 'it is proverbially undesirable to wash one's dirty linen in public but the magazine is in

[197] 'Forestry Problems', *IF*, Vol. 57, April 1931, pp. 203–4.

[198] D. Brandis, 'Remarks on the Administration, Forest Staff of Prussia and the Training of its Officers', *IF*, Vol. 11(10), October, 1885, pp. 449–63.

[199] 'Prologue', *IF*, Vol. 1, 1875, pp. 1–3.

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a way our backyard, and those unconnected with the service who take in the magazine are in the position of outsiders who peep over the wall. It seems a more sensible plan to go through it from time to time and, where necessary, send some of it to wash even if one's backyard is not very private'. Here the very definition of 'scientific forestry' was re-articulated in terms of a spirit of enquiry and questioning.[200]

Providing a means for disseminating the aims and objects of forestry among a lay constituency of readership, *IF* also sought to remove and counteract mischievous and misleading ideas about the whole project. On other occasions, it came to defend the Indian model of forest conservancy against the over-zealous metropolitan critics. Thus, when the French forester M. Jules Clove ridiculed that the Indian forest collections displayed at the Paris Exhibition of 1878 were nothing but 'conservancy in disorder', with only a mixture of 'trees with shrubs loaded with parasites', *IF* protested strongly. Such criticism, *IF* observed, could be welcomed only 'if it meant to be a timely reminder of lack of professionalism in presentation at an international exhibition'; but if meant to sweep the whole agenda of forest conservation, it was to be opposed. Informing the French commentator of the plurality of forested areas in India, *IF* noted that such opinion could not be applicable to the 'gregarious forests of *sal, eng, sisu, khair, babul,* etc'. The forests of North-West and Central India, the French foresters were informed, were 'not exactly like conservatories run wild'.[201]

French criticism of Indian forestry was, however, rooted in a deeper intellectual context—the question of the European origins of the nineteenth century conservation agenda. The question has been addressed both by the American forestry historians and their Indian counterparts. While in America old guards like Char Miller have sought to localise the German influence on American forestry in general and Pinchot in particular,[202] in India the problem has been lately dealt at an analytical level.[203] Given the fact that the Indian model of forestry was largely conceived by a team consisting of German foresters employed by the British Indian government (Brandis, Ribbentrop and Schlich) the predominance of 'economic determinism' was not out of place. Although the rest of the forest officials were trained in the French school, studying a model was not the same thing as adopting it. A large number of Swiss foresters had also been trained at Nancy alongwith the recruits for British India. But when these Nancy men went to serve their respective govern-

[200] Rejecting any training which produced 'mere unthinking machines', *IF* contended that 'an open expression of doubt and enquiry is the first step towards the introduction of scientific forestry'. W.C. Walker, 'Scientific Forestry', *IF*, Vol. 38(7), July 1908, pp. 410–17.

[201] 'French Writers on Indian Forests', *IF*, Vol. 5, 1879, pp. 326–27.

[202] Char Miller, 'The Prussians Are Coming! The Prussians Are Coming! Bernard Fernow and the Roots of USDA Forest Service', *Journal of Forestry*, Vol. 89(3), 1991, pp. 23–42.

[203] S. Ravi Rajan, 'Imperial Environmentalism or Environmental Imperialism?: European Forestry, Colonial Foresters and the Agendas of Forest Management in British India, 1800-1900', in R.H. Grove, Vinita Damodaran and Satpal Sangwan, eds, *Nature and the Orient: The Environmental History of South and Southeast Asia,* Delhi, 1998, pp. 324–71.

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ments, they were required to follow the dictates of their respective political masters. Thus, the French influence was washed off by the impending demands of the colonial state. Whatever might be the limitations of the colonial forestry agenda, the issue was raised to prominence not by a single individual, as has been the case in America, but by the participation of individuals cutting across political and professional affiliations. It is in this context that *IF* stands as a 'role-model' for popular science magazines.

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