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The Indian Lac Industry.

THE Indian Lac Industry is one of the few indigenous monopolies of India, which has been struggling to maintain its position under the competitive pressure of synthetic substitutes. Its continued preservation and prosperity are of paramount importance to India, since the industry supports a large population of poor and humble peasants who are enabled to supplement their meagre income by the cultivation of lac. The industry has passed through many vicissitudes; in 1878 its export value dwindled to 2 lakhs, and in 1883 the trade had practically ceased. When, however, the importance of the resinous ingredient of lac came to be recognised, there was a steady increase in the exports which reached a value of 32 lakhs in 1888, and in 1908 the value rose up to two crores and a half.

During the Great War, the heavy demand made upon this material was responsible for the unprecedented inflation of prices which touched 880 shilling per cwt. in January 1920, a price which exposed the trade to the imminent danger of stimulating the production of substitutes. The industry had suffered greatly in reputation on account of the violent fluctuations in price and uncertainty of supplies due to the frequent failures of crops and to the unrestricted and unscrupulous adulteration of the product. The Government of India, realising the seriousness of the situation, appointed a Committee to investigate the various technical and commercial aspects of the industry, which resulted in the publication of the Lindsay and Harlow Report in 1921. Acting upon the recommendations of the Committee, an Indian Lac Association for Research was formed, the Research Institute at Ranchi founded, and a lac cess levied, with the main object of promoting improvements "in the breeding of lac and its manufacture through scientific methods or by such means as shall be decided upon by the Association".

The control of the funds and the management of the Research Institute were vested in a Committee of the Association and not in any statutory authority. Three representatives of the Calcutta shippers, two of the Indian manufacturers, two of the Indian

brokers, one of the European manufacturers and one of the European brokers constituted the Committee which continued to guide the destinies of the industry and control and direct the Research Institute at Ranchi till 1930.

The progress achieved during this period was necessarily slow since the Committee was not fully alive to the immediate necessities of the industry. At a meeting of the Association held in May 1929, one of the important members complained that "no results of any importance to the trade had yet emanated from the Institute which had been in existence for about eight years". He characterised as wasteful the large expenditure incurred by the trade and by the cultivator in particular on the Institute's behalf, and he suggested that the Association should be wound up or handed over to Government. This was of course an extreme view, but it was clearly indicative of the fact, that the trade was not particularly interested in the work carried out at the Institute.

The valuable experience gained during this period of ten years, brought a new outlook on the industry. At the commencement the research activity was mainly directed to the investigation of the methods of propagation to secure steady and enhanced yields of lac, but it was soon discovered that work on the manufacture of lac with an appreciation of the consumers' point of view was of greater urgency and importance to the industry. The Committee, accordingly, appointed a physico-chemist and extended the scope of the Institute by establishing a separate department for investigating the manufacturing methods and for determining how the manufacturer may best meet the needs of the consuming trade abroad.

With a view to maintain a close *liaison* between the consuming industries in Europe and America and the Research Institute at Ranchi, Mr. Marshall, President of the Association, suggested the appointment of a Lac Marketing Expert in London, who would keep the Association advised in regard to the requirements of manufacture in England, and undertake on behalf of the Association, the testing out of the various standards of lac shipped from India. Mr. A. J. Gibson, who was accordingly appointed Special Officer, Lac Enquiry, in 1929 has rendered great service to the Indian Lac Industry, by establishing useful and intimate contacts with the consuming industries in Europe,

and securing their co-operation in organising applied research with the assistance of the London Shellac Research Bureau.

The Committee of the Indian Lac Association, in spite of its many failings and the slow progress, prepared the ground for the next phase in the organisation of the industry. In 1929, the Committee addressed a Communication to the Government of India, with regard to future of the Association, and felt in an ever-increasing measure that they were not in a position to control effectually and to the best advantage, the future conduct of research in the Lac Industry, having neither the necessary knowledge nor the necessary experience. In particular, the Committee recognised its inability to bring home to the cultivator the results of the research work at the Institute. The Association with the concurrence of the Government of Bihar and Orissa accordingly recommended that the Lac Cess Act should be replaced by a fresh measure providing for the continuance of the lac cess and constituting a statutory committee on the lines of the Central Cotton Committee, which should take over the control of the Research Institute and administer generally the lac cess funds.

The termination of the Indian Lac Cess Act of 1921 by the end of 1931, was taken advantage of not only for reorganising the administrative committee, but also for giving effect to the recommendations of the Royal Commission of Agriculture, who emphasised the importance of bringing together the various interests in the industry, somewhat on the lines of the Indian Central Cotton Committee and of including in the body entrusted with the control of the lac cess funds, nominees of the Government of India and of the Government of Bihar and Orissa, and an official to represent the interests of cultivators. They wrote "From our point of view the chief interests are that of the cultivator, and, in consideration of the value of the industry, its importance in providing subsidiary employment throughout such a large area and the pressing need for measures to save it from destruction by the synthetic article, we are of opinion that the Association should be reconstituted and strengthened by the addition of nominees of the Government of India and of the Government of Bihar and Orissa, and of an official to represent the interests of the cultivators. The Imperial Entomologist and

the Chief Conservator of Forests of Bihar and Orissa would be suitable nominees for the first two posts. It is doubtful if any satisfactory representative of the growers could be found, and we accordingly recommend that the Chairman of the Association should be the Commissioner of Chota Nagpur. The Institute is situated in his division and it would be his particular responsibility to bring to the notice of the Association the best methods of promoting the interests of the growers. He would also attempt to keep in view the wishes of other provinces where lac-growing is important and to protect the staff of the Institute from difficulties arising from the fact that most of the members of the Association reside some distance away in Calcutta."

"We also recommend that inquiry should be made, under the general supervision of the Chairman, into the economics of lac-growing."

The Government of India utilised this opportunity to enlarge the definition of the objects to which the proceeds of the lac cess might be applied, so as to include within its scope the investigation of marketing methods and the promotion of sales. The Indian Lac Cess Act of 1930, provided for the constitution of an "Indian Lac Cess Committee" which was more representative in character and which was empowered to undertake the improvement and development of methods of cultivation, manufacture and marketing of Indian lac. As Chairman of the Statutory Committee, the Government of India suggested the appointment of the Vice-Chairman of the Imperial Council of Agricultural Research, who as Chairman of the Indian Central Cotton Committee and of the Sugar Committee, would bring valuable experience to the work.

The inauguration of the Indian Lac Cess Committee under the energetic chairmanship of Sir T. Vijayaraghavacharya marks the beginning of the second phase in the development of Indian Lac Industry. This period has been eventful in many ways; research was extended to the manufacturing and technical aspects of the industry, with a view to produce natural lac in forms and modifications best adapted to meet the requirements of the consuming industries. This involved a more intimate touch and a closer co-operation with the manufacturing concerns, interested in the exploitation of this raw material, and led to

the policy of conducting research at the consumers' door. In pursuance of this policy, two Indian chemists and one Indian physicist have been stationed in England to conduct research in the laboratories of the great consuming research organisations.

The three principal lac-consuming industries are the electrical, the plastic and the paint and varnish trades, and the Indian Lac Cess Committee have been fortunate in securing the co-operation of some of the foremost research organisations in England. The High Commissioner for India is officially supervising the work of the Indian scientists, and is assisted by a strong Advisory Committee in London on which the experts and the trade and manufacturing interests are represented. This new and progressive policy sponsored by Sir T. Vijayaraghavacharya and his Committee, has already borne some fruit, and promises to yield a richer harvest. In the words of the High Commissioner for India "Given the necessary concentration of effort, close consultation and co-operation of producers, distributors, consumers and research workers, adequate co-ordination of results and the confidence of all concerned, the prospects of further success and the ultimate granting of a new lease of life to the old-established Indian Lac Industry are definitely bright."

The Indian Lac Cess (Amendment) Act of 1936, which has just been promulgated, may be said to place the Indian Lac Industry in its third phase of development. The Act provides for the constitution of the Indian Lac Cess Committee which consists of a Governing Body entrusted with the management of the affairs and the administration of the funds of the Committee, and an Advisory Board to whom all matters of a technical or scientific nature proposed for consideration by the Committee should be referred. There is a very generous representation of all interests on these two bodies, and, if the powers are properly exercised, there should be no room for complaint from any quarter. Provision has been made for the representation of lac-consuming industries and also for "two scientists to be nominated by the Governor-General in Council" and this constitutes a welcome and refreshing feature of the New Act. The scope of the Committee has been further extended so as to enable them to utilise the funds in "meeting

expenditure hereto and hereafter incurred in securing patents for the protection of inventions by employees of the Committee." The Act also provides "for the periodical inspection by persons appointed in this behalf by the Governor-General in Council of the Indian Lac Research Institute and other institutions maintained by the Committee".

The Act empowers the levy of an enhanced cess on lac and lac refuse; seven annas instead of four annas on lac and five annas instead of two annas on lac refuse. This would result in a substantial increase in the revenues of the Committee, which should take advantage of the increased prosperity of its finance in continuing and consolidating the progressive and fruitful policy laid down by the previous administration.

For sometime past there has been a just cause for complaint that the funds of the Indian Lac Cess Committee have not been made available for encouraging research and conducting propaganda in America, which is entitled to special consideration in view of the fact that she consumes more than fifty-five per cent. of the total production of lac. The phenomenal development of synthetic rivals in America during the last decade has been so great that, but for the simultaneous development of the lac-consuming industries, shellac would have lost much ground in that country. A lac marketing expert and a research organisation much on the same lines as the one stationed at Teddington, should be maintained in America to understand and investigate the special requirements of the American consuming industries. Such an arrangement which is long overdue would stimulate the consumption of lac in America and bring increased prosperity to the Indian Lac Industry.

Under the present circumstances the policy of conducting research at the "consumers' door" is the only course that can effectively advance the interests of the industry, but the time has arrived when the Committee should adopt a vigorous policy of encouraging the development of lac-consuming industries in this country. When Japan's Camphor Industry was threatened with severe competition from synthetic camphor from Germany, and when she could no longer maintain an economic price for her natural product, Japan founded the celluloid industry which consumes a considerable portion of this raw material. This would entail a well-planned programme of pure and applied research in collaboration with various research centres and industrial organisations in the country who are interested in the utilisation of lac. The Committee should take advantage of the facilities offered by the two great research centres in India, Bangalore and Calcutta, and harness their resources in the service of the industry. The Indian Institute of Science at Bangalore, where Dr. Gilbert J. Fowler originally organised researches on lac, has done considerable work; and the Departments of Physics and Electrical Technology which have an exceptionally up-to-date equipment could profitably be utilised in promoting further advancement in this connection. One way in which such a collaboration can effectively be secured is to nominate the two scientists, one from Bangalore and the other from Calcutta, to the Advisory Committee. If the New Act could lead the Indian Lac Industry to greater prosperity and increased stability, the enhancement of cess would have more than justified itself. The working of the New Act would be watched with the keenest interest by every one interested in the advancement of this time-honoured industry.