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## NATIONAL RESEARCH LABORATORIES

THE decision of the Governing Council of the Scientific and Industrial Research to urge upon the Government of India the imperative necessity for an immediate establishment of six National Research Laboratories with a view to speed up the industrial regeneration of the country, will be enthusiastically welcomed by every section of public opinion in India. The Council has recommended that a Central Fuel Research Station should be established at Dhanbad, which is expected to work in close collaboration with the Indian School of Mines. The subject of fuel is one of fundamental importance to Indian industry in general and to the metallurgical industries in particular. With their characteristic foresight and their reputed generosity, the Tatas have offered to finance the researches on the production of metallurgical coke to the extent of half the expenditure involved. Reserves of coal in India are limited; poor grades are extensive while the metallurgical quality does not occur in sufficient quantity to meet the needs of the comparatively colossal quantities of high quality iron ore.

The Council have also planned the organisation of a National Metallurgical Laboratory which is to be, in all appropriateness, located at Jamshedpur. The Research Laboratory will be associated with, and draw its inspiration from, the great Iron and Steel Works of the Tatas and make use of the facilities offered by the laboratories of the

Government Metallurgical Inspectorate. A central Glass Research Institute is the third which has been proposed; its location is not yet decided. The Institute will engage itself on problems connected with glass technology and conduct researches on the production of high grade laboratory, ampoule and optical glasses. The National Physical Laboratory, which, in the first instance, will house the Institute for Radio Research, and the National Chemical Laboratory, complete the six for which the plans are being drawn up. The Tatas, whose munificence has brought into existence the first post-graduate Research Institute of Bangalore, have offered to make a grant of eight lakhs and a half on condition that the National Chemical Research Laboratory is located in reasonably close proximity to the great industrial centre of Bombay. This princely offer has been gratefully accepted by the Council and the Laboratory is proposed to be located at Poona.

Considering the vastness of the natural resources with which this country is blessed, and the magnitude of the industrial problems which are awaiting solution, these six National Research Laboratories would appear absolutely inadequate; but they constitute an encouraging start. It is earnestly to be hoped that the Government of India, who have recently begun to appreciate the value and indispensability of Industrial Research in advancing the economic prosperity

of this country, will favourably consider these modest proposals and extend their financial support.

During the last World War, the Western nations became alive to the need of applied research, and directed their attention to the development and organisation of research in relation to the utilisation of their natural resources. England was among the first to establish a Department of Scientific and Industrial Research. She realised her folly of having neglected organised applied research and State aid to research. Germany's far-sighted policy in this direction was brought home to the British Government even under the stress of a war which was being actively prosecuted at the time. Canada and Australia followed the example of their mother-country. India got an Industrial Commission who published a comprehensive report, which recommended the establishment of a Metallurgical Research Institute at Sakchi (Jamshedpur), a central Chemical Research Institute and an Imperial Engineering College.

After carefully examining the industrial deficiencies of India, the Holland Commission drew attention to "the extraordinary extent to which the country is dependent upon sources of supply for the raw materials and manufactured articles necessary in the life of a modern civilized community". The Report stated that "the incompleteness of our existing system of industries, has been subsequently brought into prominent notice by the interference with industrial supplies from overseas due to war. This constitutes a serious national danger, the extent and gravity of which will be more clearly realised if we refer in detail to some of the more important manufactured *materials or articles* which are not at present made in India, although the basis of their production exists in the form of raw material." After discussing the availability of the raw materials—mineral, chemical, vegetable and animal—and after emphasising the necessity of establishing industries for the utilisation of these raw materials, the Commission concludes, "The list of industries, though their products are essential alike in peace or war, are lacking in this country, is

lengthy and almost ominous. Until they are brought into existence on an adequate scale, Indian capitalists will, in times of peace, be deprived of a number of profitable enterprises, whilst in the event of war which renders transport impossible, India's all-important existing industries will be exposed to the risk of stoppage, her consumers to great hardship and her armed forces to the gravest possible danger." The Report of the Holland Commission was shelved and after the lapse of twenty-five years, the country has realised with bitterness how prophetic these words have been!

During the same period of a quarter of a century, it is heartening to study and reflect how Russia under the ægis of its own free and National Government, evolved her destiny. In 1915, Tsarist Russia was an economically backward country. Her autocratic form of government acted as a brake on the development of her forces of production, which was responsible for her national poverty and economic dependence on the more advanced countries despite her vast natural resources. In other words, Russia found herself very much in the same position as India continues to find herself to-day. Yet, during the short span of twenty-five years, Russia's achievements in the field of science and technology, have astonished the world; she has organised her industries, developed her natural resources and built up an industrial might which has staggered the German armies on the battlefield. She is now reckoned as first-rate power among the nations of the earth. This supremacy, Russia has attained through the hard and patriotic work of thousands of her scientists and technologists who have solved problems of applied research in hundreds of well-equipped and lavishly endowed laboratories of the Soviet Government.

The National Research Laboratories have a great part to play in the future development of the natural resources of this country. We have every hope that the proposals of the Council of Scientific and Industrial Research to establish the six National Research Laboratories will be actively supported by the Government of India.