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PREFACE.

This review was undertaken as the result of a resolution adopted at the Fifth Industries Conference held in Simla in July 1933 that it was desirable to have an All-India review from time to time of industrial development and State action in respect of industries. The only review of this kind hitherto published by the Government of India is "The State and Industry" by Mr. A. G. Clow, which surveyed the relations between Government and Industry in India from the introduction of the Montagu-Chelmsford Reforms up to the autumn of 1928.

In the following pages, an endeavour has been made to give an account of the action taken by the State (including the Central and Provincial Legislatures) in regard to the various matters affecting industrial development in India during the ensuing seven years. The preparation of the review has been entrusted to Mr. N. Mahadeva Ayyar, I.C.S. It is issued with the general approval of the Government of India, but they should not be regarded as accepting responsibility for every particular statement of fact or expression of opinion in it.

The Government of India are indebted to the Provincial Governments and Administrations for their co-operation in supplying valuable official memoranda on which the narrative is largely based.

India officers should only stand in the relation of advisers to Local Governments, which may freely consult them ; and that the recommendations of the Indian Industrial Commission that an additional member for Industries should be appointed in the Governor General's Executive Council, that an Indian Industries Board should be constituted, and that Imperial Indian Chemical, Industrial and other services should be organized, should not be accepted."

Thus with the introduction of the Reforms, the provincial ministries assumed unfettered responsibility for the development of industries and for technical education ; the Central Government could enter on this field only by declaring, after consultation with the provinces, that the development of an industry was expedient in the public interest, and they could not spend money on such development without the sanction of the Secretary of State for India. A Department of Industries was created in the Central Government but, apart from its powers in respect of stores purchase, it had little scope for assisting industries. It attempted to secure some co-ordination with and among the provinces, but the provinces felt no great need for that co-ordination, and when severe retrenchment proved necessary in the Central Government in 1922-23, such activities were fairly obvious objects for the "axe". The Industries Conferences at which the Centre and Provinces took counsel ended, for many years, with the Fourth Conference in 1922 ; the two held after the introduction of the Reforms had shown clearly that the provinces did not desire to see the establishment of the Central Services which formed an important element in the Industrial Commission's Scheme. The Central Department of Industries was replaced by a Department of Industries and Labour which had an even smaller share in industrial policy than its predecessor ; and the provinces pursued their way more or less in isolation. They had their own Departments of Industries, going back in some cases to a period before the Industrial Commission, and these, although financial difficulties necessitated a curtailment of activities in many cases, continued to pursue a fairly active policy*.

But the Central Government, cut off though they were from industrial development in most directions, were brought into close touch with it in another as the result of the change in fiscal policy which took place in 1923 following the Report of the Indian Fiscal Commission. Prior to this the general policy of the Government of India had been to impose tariffs only for revenue purposes. A policy of discriminating protection was now adopted with the result

*This is reviewed in "The State and Industry."

that assistance on a substantial scale was extended to an increasing range of industries and the effect of this on industry was far greater than that of the combined efforts of the Provincial Governments which were concentrated on the small-scale and cottage industries.

Thus by the opening of the period with which this review deals, the position broadly speaking was that the Central Government, in their control of the tariff, had extensive powers for assisting the economic position of industries. But these powers had little correlation with any executive action which might be taken for the technical improvement of industries or for their assistance in other ways. The provinces, on the other hand, had, in theory, almost unlimited powers to assist industries, but their financial resources, their technical equipment and the difficulty of dealing with industries of All-India importance on a provincial scale contributed to confine their activities largely to the un-organized forms of industries. Within this sphere they worked not without success but with comparatively little contact with each other or with the Central Government.

The period now to be reviewed has been marked by a distinct and increasing re-action against the separatist tendencies of the preceding period. Several causes have contributed to this movement. The difficulties confronting Provincial Governments acting in isolation became apparent not long after the Reforms, and in the sphere of agriculture where the value of concerted action was less evident to the public than in industry, the Royal Commission on Agriculture (1926-28) and the action taken on its report demonstrated in a striking way the possibilities of co-operation for advance. The results of the policy of discriminating protection also brought out the importance of central action ; in 1919-22 when the tendency to provincial isolation was at its strongest, the Central Government had virtually a free trade policy. Again, in those years, the general feeling was that while the Provincial Governments, at least on the transferred side, would be responsive to Indian public opinion, that had much less prospect of making itself felt at the Centre. Few foresaw the large influence that would be exercised by the Central Legislature and the effect of other changes made at the Centre, and hardly any believed that within a very short period, proposals for responsibility at the Centre would find their way to an Act of Parliament. Lastly, the financial situation at the Centre, in spite of two periods of extreme difficulty, was normally easier than that in most provinces, and there was a tendency to look to the Centre for assistance in various directions. Thus, despite the growth of provincial self-consciousness and the lack of any such binding links as the Industrial Commission had sought to create, there was a steadily increasing desire for activity at the Centre and for co-

ordination among the provinces. Recently, indeed, public opinion has shown a tendency to criticize the Central Government for not exercising powers of which they have largely been deprived.

One symptom and effect of the increasing desire for co-operation was the resumption in 1933, at the request of Provincial Governments, of the Industries Conference. In opening this Conference, His Excellency Lord Willingdon, referring to the changed outlook, said :

“ Eleven years have passed since the last of these Conferences was held ; much has happened since then and much has changed. The Governments of India and of the Provinces, as I remember well, were then trying to adjust themselves to the altered conditions that what are known as the Montagu-Chelmsford constitutional reforms had brought in their train ; and the most important work of the earlier Conferences was related to the demarcation of the spheres of action of the Central and Provincial Governments. There was, if I remember rightly, a little fear on the part of the Provinces that the Government of India, in the name of co-ordination, wished to trench on the responsibility that had just been handed over to Ministers, and a natural tendency to mistrust proposals for unified effort. It is perhaps partly a result of this that so long a time has elapsed since the last Conference of this kind was held.

But with the passing of the years such fears have, I hope and believe, vanished, and it is a happy augury that this Conference has been convened at the instance of Provincial Governments. I think we all realize now that, whatever arrangements are made in the constitutional field, there will remain the need for those who are faced with similar problems in different parts of India to take counsel together, to share the experience of their successes and their failures, and to guide their policy with some recognition of the needs not merely of their own areas but of India as a whole.....

We have arranged for this Conference, then, not with any idea of attempting to direct the policy that you, in your several spheres, should pursue, but primarily with the object of enabling you to discuss all these matters among yourselves. Most of the items on your agenda relate solely to the transferred subjects and we felt, as I know you feel, that the difficulties you are facing might be

diminished if you had an opportunity of exploring them in discussion with each other."

Further Conferences were held in Simla in 1934 and in New Delhi in 1935 while other co-ordinating influences were provided by the establishment of the Industrial Research Council, the Imperial Sericultural Committee, and the grants given for the handloom industry : these are discussed in later chapters of this review. Alongside these developments, important links were being established in other spheres such as agriculture, transport and education.

A further characteristic of the period under review was the marked tendency on the part of industry to look to Government for assistance. This tendency was evident in the preceding period ; the Great War and the outburst of economic nationalism that followed it resulted in a change in the general economic outlook ; and, with the economic upheaval of 1931-35, in an increased sense of dependence on Government. In the period now under review, every industry of any importance and a great number of minor industries approached Government (and generally the Central Government) for legislative measures of one kind or another : and in many, perhaps most, cases such assistance was given. Thus, Government and the Legislatures were brought into much closer relations with industry than at any preceding period ; the probable implications of this movement are perhaps imperfectly realized as yet.

(ii) RETRENCHMENT.

The period under review has included the greatest economic depression in modern times, but although its effects in India were serious enough, India suffered on the whole much less than western countries. The following figures of employment in factories, mines and railways afford an indication of the curtailment of activity :

Year.	Factories.	Mines.	Railways.*	Total.
1927	1,553,382	269,290	555,777	2,478,449
1928	1,520,315	267,671	670,969	2,458,955
1929	1,553,169	269,701	682,169	2,505,039
1930	1,528,302	261,667	651,159	2,441,128
1931	1,431,487	230,782	612,892	2,275,161
1932	1,419,711	204,658	591,695	2,216,065
1933	1,405,402	206,507	595,584	2,207,493
1934	1,487,231	229,381	600,877	2,317,489

The depression severely affected profits and created difficulties for many industries, but, as the figures show, the contraction of actual

* Figures are for financial year and exclude the number of operatives in " Railway Workshops " which are included in the figures under " Factories ".

industrial activity was much smaller than in western countries. Several industries continued to advance, and in many others the numbers employed at the depth of the depression were comparable with those of the prosperous period of 7 or 8 years before. The depression was accompanied in the official sphere by another wave of retrenchment. The Central Department of Industries and Labour, as a result of the retrenchment campaign of 1922-23, had been compelled to abandon much of its industrial activity, and presented little scope for further contraction in this field. But on the Provincial Departments, the effects were, in many directions, scarcely less severe than those of the earlier retrenchments.

In Madras, financial stringency led to drastic retrenchments in 1931-32 and the annual cost of running the Department of Industries which was Rs. 17 lakhs in 1929-30 fell to Rs. 6,63,000 in 1932-33. Peripatetic weaving parties were abolished. The Government Industrial Institute (Ink Factory) had to be closed. Scholarships and grants to industrial schools had to be cut down and a number of posts, e.g., Leather Expert, Research Engineer and Ceramic Assistant, came under the axe.

In Bombay, the Retrenchment Committee of 1931-32 took the view that, even with the attenuated grants at his disposal, the Director of Industries had been able to give useful assistance to minor industries and added that it was desirable to retain the nucleus of a Department of Industries in being. But the Re-organization Committee appointed by Government recommended its abolition. The Government, however, did not accept the recommendation and retained the Department, to which the control of technical education was transferred from the Department of Public Instruction in 1931.

In Bengal, the post of Deputy Director of Industries which had been held in abeyance since 1924 was revived in 1934, while the post of Assistant Inspector of Weaving Schools which had practically remained vacant since its creation was abolished as a measure of retrenchment. Other retrenchments to the extent of Rs. 57,000 per annum were made in pursuance of the recommendations of the Bengal Retrenchment Committee, but the main branches of work remained unaffected. The Department of Sericulture was transferred from the Department of Agriculture to the Department of Industries on the recommendation of the Sixth Industries Conference.

In the United Provinces, the post of the Deputy Director of Industries in charge of stores purchase work was abolished in November 1931 and his duties entrusted to the Director of Industries. In July 1932, the post of Principal of the Harcourt Butler Technological Institute was abolished and the Director of Industries was

appointed *ex-officio* Principal. In December 1932, the posts of Director of Industries and Registrar, Co-operative Societies *cum* Registrar, Joint Stock Companies, were combined. The posts were separated again in August 1934. One post of Deputy Director of Industries was kept in abeyance from April 1931 and the duties were carried on by the Head of the Oil Section of the Technological Institute in addition to his other duties. The services of the incumbent of the other permanent post of Deputy Director of Industries were transferred to the Imperial Council of Agricultural Research. The Principalship of the Institute was held in abeyance; the posts of Assistant Principal at the Central Weaving Institute, Benares, Vice-Principal at the Technical School, Lucknow and Assistant Principal at the Government School of Arts and Crafts, Lucknow, were abolished. The post of Vice-Principal at the Carpentry School, Allahabad, was replaced by that of Cabinet Instructor on a lower pay. A post of Superintending Craftsman was created at the Government School of Arts and Crafts, Lucknow.

In the Punjab, there were drastic economies reducing the annual expenditure of the Department of Industries from Rs. 15 lakhs in 1929-30 to Rs. 9,80,000 in 1933-34. In 1931, the Legislative Council voted for the retention of the Department contrary to the recommendation of the Retrenchment Committee for its abolition. But, in spite of severe economic stringency, new posts of Industrial Chemist, Second Assistant to the Director of Industries, Tanning Expert and Oil Demonstrator were created to assist in the starting of small-scale industries.

In Bihar and Orissa, owing to financial stringency, the post of Industrial Engineer has been left unfilled since 1930, and 3 weaving demonstration parties and the sericultural staff, with the exception of those dealing with the supply of seed-eggs, were retrenched in 1932. The posts of Inspector of Fisheries and Fishery Assistant were also abolished that year.

In the Central Provinces, the expenditure on industries fell from Rs. 3,17,000 in 1928-29 to Rs. 2,17,000 in 1933-34 and all that the Department was able to do was to carry on its most essential activities. But the Public Accounts Committee in the year 1933-34 recorded its view that retrenchment in the shape of reduced allotments for industrial education was undesirable and recommended restoration of the items cut temporarily.

In Burma, retrenchment in the staff of the Saunders Weaving Institute, Amarapura, the Lacquer School at Pagan and the Government Technical Institute, Insein, had to be made. The staff in the Forest Department was also cut down and the saw-mill closed.

CHAPTER II

Technical Education.

(i) CHANGING CONDITIONS.

The importance of the advancement of technical and industrial education has long been appreciated both by the educated public and the Government, but progress in this direction was for some time slow. This was due partly to the hereditary aversion on the part of young men from the manual exertion which industrial or technical courses frequently demand and partly to the limited field of employment which industry offered.

But conditions have been slowly changing. The stress of unemployment among the middle-classes has brought home to parents and sons alike the increasingly small value from the pecuniary point of view of the purely literary type of education imparted in schools and colleges and the imperative necessity of seeking new fields of employment in industrial fields. The gradual development of industry has steadily widened the effective demand for the services of those who have received industrial training and has thus stimulated the expansion of schools and colleges to meet the need.

There are indications indeed that in some areas and spheres of employment the provision of technical education has outstripped the demand for trained men with the result that the unemployment which has for some time been marked among students who were trained for academic courses is now apparent among those who have received technical training. But where care has been taken to regulate admissions, institutions have proved able to offer their students good prospects of employment. Thus, for example, in the Indian School of Mines which was established by the Government of India at Dhanbad in 1926, up to the end of 1935, 114 students passed out after training in mining engineering. Of these over 100 are now known to be in paid employment and none of the students trained during 1932-35 is unemployed.

(ii) SCHOLARSHIPS ABROAD.

The question of providing Indians with a new career as Marine Engineers received the consideration of the Government of India. Practical training in the construction and erection of marine engines is an essential part of the training of a Marine Engineer and as

training of this nature of a high standard could not be obtained in India, it was decided to send some selected Indian scholars for training every year to the United Kingdom on State scholarships of £240 per annum. Three such scholarships were awarded every year in 1929, 1930 and 1931.

Four scholarships, tenable for three years each, were awarded by the Government of India during the four years from 1928 to 1931 to suitable apprentices for the study of printing and allied trades in England. All four completed their course satisfactorily and have since secured employment. Two scholarships were also awarded to employees of the Security Printing Press for special training in England and both have been re-employed by Government on completion of their training abroad. Another scholarship, tenable for three years, for the study of metallurgy was granted in 1928 : the scholar, on completion of his training, has secured employment with the Tata Iron and Steel Company, Limited.

Numerous technical scholarships abroad have also been granted by almost all Provincial Governments. These scholarships are ordinarily tenable for periods from two to five years and are usually of the value of about £210 per annum.

In the United Provinces, special short-term scholarships tenable for six months each are awarded to those already engaged in the industry or trade in which they are to receive special training. The branches of study cover a very wide range and include several new subjects such as cement manufacture, automobile engineering, water proofing of fabrics, oceanography and canning.

In the Punjab, a new departure was made, designed to ensure that those trained abroad would be in a position to make adequate use of that training on their return. Under this scheme scholarships were granted only to those who had put in four or five years in some established undertaking and who had the recommendation of the proprietor of the firm, who was expected to bear half the cost of the deputation abroad, Government bearing the other half. Four scholars were sent up under the new rules of whom two complied with these conditions. In the case of the other two, the condition requiring that candidates should be recommended by an industrialist had to be relaxed owing to the dearth of suitable candidates.

The following table gives the total number of scholarships awarded by each Provincial Government during the period under review and the number of such scholars, who on their return after completing their course of study, are known to have secured permanent employment :—

Province.	Scholars sent.	Scholars securing permanent employment.
Madras	12	5
Bombay	2	
Bengal	5	4
United Provinces	23	15
Punjab	4	2
Burma	6	1
Bihar and Orissa	20	12
Central Provinces	2	2
Assam	2	2

A few others are known to have secured temporary employment, two have remained in England and there are some whose subsequent career has not been traced. In Bihar and Orissa, in addition to the twelve who secured permanent employment, three set up in business independently ; one of these has been a Member of the Legislative Assembly.

(iii) COLLEGES.

No new Engineering College was established during the period under review, but changes have taken place in the existing colleges. In the MacLagan College of Engineering opened at Moghulpura near Lahore in 1923, a third course of training was introduced in 1935. This course which is of two years duration and is undertaken in the college workshops, which have been considerably extended, is designed to enable boys of better education to qualify themselves for employment as artisans in workshops or to start work on their own account. The course will be mainly practical workshop training but will be supplemented by a small amount of class work in elementary mathematics, drawing and instruction descriptive of workshop processes.

In the Bihar College of Engineering, the overseer course has been thoroughly overhauled. The old artisan course has been improved by introducing lectures in theory. The mechanical apprentices courses started in 1923 to train apprentices in

mechanical and electrical engineering were amalgamated in 1930 in the form of an industrial diploma course which provides training in technical subjects such as carpentry, smithy, leather making, moulding and foundry casting, machinework, motor repairs, furniture polishing, body painting, electro-plating, fitting and electricians' work. The medium of instruction is the vernacular. Training in industrial chemistry is also given by the Senior Professor of Chemistry at the Science College.

In the Sibpur College of Engineering, Bengal, a degree course in mechanical engineering was opened in 1932. It is also proposed to open a degree course in electrical engineering.

A Department of Chemical Technology has been opened in the University of Bombay.

In January 1932, the training scheme of the Jamshedpur Technical Institute was modified to suit the requirements of the Tata Iron and Steel Company Limited. Under the new scheme, the course has been reduced from three years to two, of which eighteen months are spent in general training in the various departments of the works and the remaining six months in a specialized course in one department. No lectures are given during the day, but the students attend evening lectures thrice a week on metallurgy, work maintenance, cost accounting, industrial economy, etc. The minimum qualification for admission is the B.Sc. degree.

The Harcourt Butler Technological Institute at Cawnpore was established in 1921 after the closing down of the technological department of the Thomason Civil Engineering College, Roorkee. It provides courses in general chemistry, oil and the technology of sugar. In 1929, the classes were transferred to new laboratories, which were built at a cost of about Rs. 9 lakhs. An up-to-date sugar factory plant was purchased in 1931 at a cost of Rs. 1,25,000 contributed by the Imperial Council of Agricultural Research; between 1927 and 1932 53 students have completed the three years' course of training.

In 1935, the Imperial Council of Agricultural Research suggested that this Institute should become the Imperial Institute of Sugar Research and should undertake research work in sugar manufacture and sugar engineering and render assistance to sugar factories. Under the new scheme, the Government of India propose to spend

about Rs. 1½ lakhs as non-recurring expenditure and Rs. 2½ lakhs per annum for 5 years as recurring expenditure. A proposal that the Institute should be administered directly by the Imperial Council of Agricultural Research with the Sugar Technologist to the Council as Director of the Institute, is under the consideration of the Government of the United Provinces. A grant of Rs. 30,000 per annum was also made by the Imperial Council of Agricultural Research towards the expenses of the Oil Section during the four years 1933-34 to 1936-37.

(iv) TECHNICAL AND INDUSTRIAL SCHOOLS.

Except in the Punjab, Madras and Bombay, there has been no increase in the number of Government Technical and Industrial Schools. Prior to 1928, in Madras, there was only one Government Industrial School at Madura which was taken over by Government from the District Board. In 1929, three new schools were established, two Industrial Schools at Calicut and Bellary and a Trades School at Mangalore. These schools provide regular courses of instruction in wood-work and engineering, the duration of each course being five years. A number of past students has been able to secure employment within the province.

In the Punjab, the number of such schools for boys has risen from 23 in 1928 to 34 in 1935 and the number of schools for girls from two to three. These schools provide instruction in two or more of the following crafts : wood-work, blacksmithy, lacquer-turning, weaving craft, weaving and sports gear making along with general education in Urdu, arithmetic, science, drawing and geometry. The schools were extremely popular, and 5024 pupils were in attendance in 1931. In that year, however, it was decided to close the primary classes in Government Industrial Schools. This decision was based on the view that it was premature to provide technical and industrial education to small children in the primary classes and that industrial education should be based on a reasonable measure of general education, which the ordinary schools were in a better position to impart. Accordingly, the minimum qualification for admission into industrial schools in important centres was raised to the sixth standard of general education and the schools are being re-organized with a view to impart specialized training in the manufacture of goods of daily consumption.

In Bombay, the number of Government Technical and Industrial Schools has increased by one as a result of the opening of a Government Hand Weaving Institute at Poona. Eight provinces now have institutes for instruction in handloom weaving.

In Bihar and Orissa and Bengal, the number of such schools has remained stationary, while there has been a decrease in the United Provinces, Assam and Burma doubtless due, in the main, to financial stringency though the reduction in the United Provinces has also been partly due to the adoption of a policy of consolidation rather than of expansion.

There has been a marked increase in the number of aided schools and schools owned by local bodies in Madras and Bengal. In Madras, the number rose from 63 in 1928 to 75 in 1935. Of these, 48 are for boys and 27 for girls. The number of pupils attending these schools rose from 3,415 in 1928 to 5,731 in 1935. Girls receive instruction in lace-work, embroidery, needle-work, mat and basket-making, weaving and dress-making.

In Bengal, the number of private aided technical and industrial schools rose from 63 in 1928 to 76 in 1935 in spite of the severe economic depression. No new school has been opened by any local body. Among the Government aided institutions, mention may be made of the Calcutta Technical School where there are laboratory facilities for imparting theoretical training in technical subjects to apprentices actually employed in trade and industries. The Bengal Nagpur Railway Apprentice Technical School at Kharagpur commenced work in 1929 with a Government grant and works on the lines laid down by the Board of Apprenticeship Training. A small tuition fee is charged. The successful students are retained in the service of the Railway on a starting salary of Rs. 100 per mensem as Improvers and may be promoted to the posts of Charge-heads, Assistant Foremen and Foremen. At the Burnpur Works of the Indian Iron and Steel Company, the nucleus of a technical school was started in 1929 in active co-operation with the management. It was intended primarily for the employees of certain steel and iron manufacturing companies but owing to staff reductions, few pupils have profited by the courses.

Province.	Engineering Colleges.	Other specialized institutions of collegiate rank.		Government Technical and Industrial Schools.		Technical and Industrial Schools owned by local bodies.		Private aided Technical and Industrial Schools.		Total number of Technical and Industrial Schools.	
	Existing on	Existing on		Existing on		Existing on		Existing on		Existing on	
	1-1-28 and 1-1-35.	1-1-28.	1-1-35.	1-1-28.	1-1-35.	1-1-28.	1-1-35.	1-1-28.	1-1-35.	1-1-28	1-1-35.
Madras	..	..	..	8*	10*	2	4	61	71	71	85
Bombay including Sind.	3	..	1	1	2	8	9	19	21	28	32
Bengal	2	2	2	49	49	5	5	63	76	117	130
United Provinces ..	..	1	1	31	24	36	14	42	33	109	71
Punjab	1	..	..	25	37	..	..	5	11	30	48
Barma	1	..	..	Separate figures for these columns are not available.						64	56
Bihar and Orissa ..	1	1	1							21	22
Central Provinces ..	1	..	..	4	3	..	..	5	9	9	12
Assam	..	..	..	6	4	..	..	7	7	13	11
Delhi	..	..	..	1	1	1	..	..	..	1	1

* Includes 3 Borstal Institutions.

Except in the United Provinces, where six Government aided Industrial Schools for girls were established during the period under review, the changes in other provinces in the number of schools of the character under consideration do not call for special mention. A new aided institution in the United Provinces which can be classed as first class is the Technical College at Dayalbagh, Agra, which imparts training in engineering (mechanical, electrical and automobile) and leather-working. The re-organized college started work in 1929. The course extends over four years and there is room for 90 students. It received a grant of Rs. 28,640 in 1933-34 and a non-recurring grant of Rs. 12,000 was sanctioned in 1935-36 for the purchase of equipment. The table on the opposite page shows the position as regards technical educational institutions in 1935 as compared with that in 1928.

(v) APPRENTICESHIP AND OTHER FORMS OF TRAINING.

The training ship "Dufferin" was established at Bombay in December 1927 as an experimental measure for a period of three years in the first instance. The Government of India have since decided to make it a permanent institution. The object with which the institution was established was to train Indian boys for careers at sea as deck officers. Marine engineering classes were added about two years ago.

Specialized training in mycology, animal husbandry, dairying, farm organization and the cultivation and curing of tobacco is being imparted in the Imperial Institute of Agriculture at Pusa and its branches at Wellington, Karnal and Coimbatore. At these institutions, instruction is given for the Indian Dairy Diploma Course which extends over a period of two years during which intensive practical training is given on up-to-date methods of production, handling and distribution of milk and the manufacture of butter and cheese. The tobacco course started in 1933 lasts for two months and is attracting students from all over India.

The elaborate scheme for the training of apprentices in Ordnance Factories, which has been in force for a number of years, is now under revision and in its revised form will constitute an essential step towards the gradual Indianization of the Ordnance Factories in India. An Ordnance Technical School at Ishapur in Bengal is imparting technical training in carpentry, machining, fitting, engineering, sketching and designing to boys between the ages of 12 and 15. The course is of three years' duration. The average number of students passing out annually is 15 and about 74 per cent. of the passed candidates have found employment in Ordnance Factories. Sixty-three Indians have also been selected for training in mechanical, electrical and wireless and administrative posts in the Indian Air

Force. A number of them have passed out and are now employed in the Force. The training is given at the Royal Air Force Depot at Karachi.

Facilities are also provided by State-managed Railways for the training of apprentice mechanics and trade apprentices in their workshops. Apprentices in mechanical engineering receive training for four years at the Jamalpur Workshops and for a further period of two years in the United Kingdom, while those who take up electrical engineering spend $3\frac{1}{2}$ years at Jamalpur and $2\frac{1}{2}$ years in the United Kingdom. These apprentices find employment in the Transportation and Mechanical Engineering Departments of State Railways on completion of their course of training. Private apprentices are also sometimes taken in Mechanical Workshops on payment of premia.

(vi) STIPENDS.

Stipends varying from Rs. 30 to Rs. 60 per mensem are granted by many Provincial Governments for technical or industrial training in well known institutions such as the Indian Institute of Science at Bangalore, the Victoria Jubilee Technical Institute at Bombay and the Harcourt Butler Technological Institute, Cawnpore, for training in various technical subjects. Scholarships and free studentships are also granted to encourage poor boys, and pupils belonging to the backward classes.

It has been found necessary in many instances to grant stipends to boys of the artisan class to attract them to Government schools. For example, in the year 1928, a *mochi* class was started at Jubbulpore and was transferred to Nagpur in 1931. Training was given in shoe and boot making but as the institution failed to attract *chamar* boys, Government had to sanction 15 stipends of the value of Rs. 7, 8 and 9 per mensem for the 1st, 2nd and 3rd year classes, respectively, with effect from June, 1934. As a result, all the classes have since been at full strength.

A new system of substituting wage stipends in place of stipends and scholarships is being tried by the Government of the United Provinces in the Carpentry School at Dehra Dun. At the Model Weaving School, Mau, in the Azamgarh District, stipends are given for eight months. For the remaining three months of the course, the scholars receive wages based on the quality and quantity of the cloth woven by them. This experiment has worked well and the question of extending it to other schools is being considered. A scheme of wages is also under trial at the Metal Working School, Aligarh, and at the tailoring classes which were opened at Jubbulpore and Akola in the Central Provinces during 1930.

In the Punjab, up till 1931, stipends were granted to all boys belonging to the artisan class in Government Industrial Schools and Institutions in order (a) to compensate their families at least partially for the loss of earnings due to the absence of the boy at school, and (b) to enable the artisan to complete his course of training. It was, however, felt in 1931 that scholarships and stipends were given on a very liberal scale and that the training which was extremely cheap to the students was costly to the general taxpayer. Apart from the consideration affecting the public resources, the Government were inclined to the view "that boys and their parents would appreciate more fully their technical education and will strive to obtain the utmost benefit from it if they were called upon to make some financial sacrifice in order to obtain it". The rules regarding the grant of stipends were accordingly made stricter. Under the present rules, the total number of stipends and scholarships does not exceed 25 per cent. of the number of students on the rolls. The average value of scholarships and stipends in an institution has also been fixed at Rs. 8 per mensem. This reduction in the number and value of the scholarships has not resulted in any appreciable hardship to the pupils except in the case of artisan classes in certain institutions, where the amount of the stipend is insufficient to support a boy in a large town.

In Burma, no special stipends for technical subjects are awarded to students in ordinary schools. Apprentice stipends of Rs. 15 per mensem (reduced to Rs. 10 from April 1934) are awarded to a certain number of boys who are deprived of Anglo-Vernacular or English education by the death, absence or physical infirmity of their parents. Only boys between the ages of 15 and 19 who are apprenticed or have been definitely promised apprenticeship in a workshop, mill, ship or other approved place are eligible.

Stipends in the shape of pay from Rs. 40 to Rs. 100 per mensem are granted by the Government of India to apprentices under training in the Ordnance Factories. A limited number of students admitted to the Sugar and Oil Sections of the Harcourt Butler Technological Institute on the nomination of the Imperial Council of Agricultural Research are exempted from the payment of tuition fees in return for the grants made by the Council to the Institute.

CHAPTER III.

Development of Cottage Industries.

(i) TEXTILES.

The extent and importance of the handloom industry in India are not generally appreciated. The following figures taken from the Report of the Cotton Textile Tariff Board published in 1932 and the Census tables of 1931, respectively, give approximate estimates :—

	No.
Handlooms	1,984,950
Workers engaged in cotton and silk weaving and spinning	2,575,000

The consumption of cotton yarns by handloom weavers in the Presidency of Madras from April to October 1933, was about 42.7 million pounds while the value of the annual production of the Benares weavers alone is estimated at Rs. 1½ crores. Even in a smaller and less developed province like Assam, handlooms consume about 12 million pounds of yarn every year which is woven into cloth valued at about Rs. 2 crores and aggregating in length about 27,000 miles.

In view of the importance of the handloom industry, facilities for training in weaving have been provided in fixed weaving schools which are to be found in almost every part of India. But to overcome the conservatism of the weaving community and to carry instruction to those who were unwilling to attend such schools, it has been found necessary to organize demonstrations from door to door by means of peripatetic parties. In Madras, such demonstration parties were organized as far back as 1913 and four district weaving parties worked all over the Presidency from district to district until they were retrenched in 1932-33 owing to financial stringency. In Bombay during the period under review, seven peripatetic weaving schools for weavers, two for agriculturists and eleven cotton weaving demonstration parties were at work, moving from centre to centre in all the important weaving areas of the Presidency. The province of Bihar and Orissa was divided into ten circles, each of which was placed in charge of a supervisor assisted by seven weaving *mistris*. The number of these parties had to be reduced to seven in 1932 as a measure of retrenchment. In the Punjab, there was no organized system of touring demonstrations, but valuable results were achieved by means of demonstrations at local fairs and exhibitions.

An important function of these peripatetic organizations was to popularize the up-to-date appliances used in handloom weaving. As a result of the work of such parties, about 35,000 fly-shuttle looms and 1,250 dobbies were brought into use in Bihar and Orissa alone

and about 4,000 improved types of weaving appliances were sold to the weavers in Bengal at cost price. The number of improved appliances introduced by the Industries Department in the Central Provinces was about 17,700 sleys and 2,800 dobbies. In addition, some 14,000 sleys of this pattern have been made and sold by local carpenters. 200 improved weaving machines of the Madras pattern have been introduced since 1932. In 1929-30, the Department of Industries, Punjab, arranged for practical demonstrations of fly-shuttle looms fitted with jacquard machines at Ludhiana, as a result of which several weavers residing in that locality decided to set up jacquard machines of their own.

Practical instruction in the subsidiary processes of winding, warping and sizing and the allied arts of dyeing and printing was also undertaken in many provinces. Special dyeing demonstration parties were at work in Madras and Bombay. In the Central Provinces, a special dyeing and printing demonstrator was appointed in 1928, who arranged to visit 123 out of 150 centres among which the 3,000 dyers of the province are scattered, with particularly satisfactory results. A new feature introduced by this demonstrator was aerograph printing and 500 children's bags so printed were sold during the Mysore Dusehra Exhibition of 1933.

The handloom industry is not confined to the class of hereditary weavers. It provides a subsidiary occupation to the agriculturist at the season when agricultural work is slack and thereby enables him to use time profitably, which would otherwise be wasted. Institutes for the encouragement of weaving are now established in all the major provinces. The number of such institutes has increased during the period under review. In Bombay, a Central Weaving Institute was established at Poona in 1930. It provides two courses, one an advanced course extending for a period of two years and the other an artisan course of one year's duration. In Bihar and Orissa, a half time weaving school was started at Bihar Sharif as an experimental measure in January 1926. Boys were admitted to it after completion of the lower primary school course. They are given training in hand-weaving, both theoretical and practical, side by side with general education for four years until they attain the middle school standard, when those who have shown aptitude in weaving are drafted to an advanced course in technical subjects, while those who are better with their brains than with their hands are asked to continue their general education in high schools.

The state of the handloom industry was examined by the Indian Tariff Board in 1932, in connection with their enquiry into the question of granting protection to the cotton textile industry. They came to the conclusion that the position of the handloom weaver had considerably deteriorated on account of the removal of the cotton excise duty and the imposition of a protective duty on yarn and

that judging from the wages earned by him his position must be regarded with some concern. The question of developing the handloom industry therefore received the serious attention of the Government of India, who announced in 1934 their decision to spend about Rs. 5 lakhs every year for five years for that purpose. Schemes were formulated by the various Local Governments, which were considered and discussed at the Sixth Industries Conference held at Simla in July 1934. The progress, made in each province, since, was reviewed at the Seventh Industries Conference held in October 1935. The provincial schemes, besides aiming at improvements in the marketing of the finished products to which reference will be made later on, provided for facilities in the matter of the supply of yarn, dyeing materials and accessories to the weavers at cheap rates. They also contemplated the appointment of experts in weaving, designing, dyeing and printing, whose services would be readily available for the purpose of suggesting improvements in the methods adopted by the weavers, for cheapening the cost of production in general and for giving advice and instruction in the production of new patterns and qualities of cloth likely to command easy sales. The schemes also include facilities for the proper finishing of the cottage products.

The progress achieved in these schemes during the short period since their inception is encouraging. The necessary staff has been appointed in most of the provinces. The organizations through which it is proposed to carry on work have also been set up. In the United Provinces, 15 special investigators have been appointed, each in charge of two to four districts in order to carry out a preliminary survey of the whole industry in the province. In Madras, the necessary preliminary arrangements for the supply of raw materials have been concluded. In Bihar and Orissa, separate sections of a new organization dealing with manufacturing, finishing and marketing have been set up, each in charge of a qualified technical assistant.

As regards the silk industry, the Bhagalpur Silk Institute, which started work in 1922, has given training to 143 students and 244 artisan boys in silk weaving during the period under review. It also reared 85,500 layings of cellular eggs for distribution to silk rearers. The value of the silk goods produced in the Institute during the period under review exceeded Rs. 1½ lakhs. New designs in *eri*-silk weaving were evolved. The Government Silk Weaving and Dyeing Institute at Berhampur in Bengal offers two courses, an advanced course of two years' duration to matriculates and an artisan course of one year to pupils belonging to the silk weaving or rearing class. Many of the ex-students have been successful in obtaining employment.

The Department of Industries in Madras maintains five sericultural demonstration centres in addition to the *eri*-cultural demonstra-

tion farm at Kuppam. There is also a peripatetic party which consists of one silk superintendent, five moth testers, one rearer and one silk reeling demonstrator. The party has been doing useful work in testing seed and giving advice to silk-worm rearers on various matters connected with silk-worm rearing and silk reeling.

In 1934, the Government of India decided with the approval of the Legislature, to spend a sum of Rs. 1 lakh a year for five years from 1st April 1935 to 31st March 1940 on the development of the silk industry in India. Local Governments were asked to submit schemes which were discussed at the Sixth Industries Conference held in Simla in July 1934. It was decided that the best means of spending the money for the present was on the development of the supply of disease-free seed. A portion of the grant was ear-marked for research work in this connection. An Imperial Sericultural Committee was formed to allocate grants.

At the first meeting of the Committee held at New Delhi in February 1935, the schemes submitted by the Local Governments were scrutinized. The Assam scheme provides for additional model seed rearing-houses and the opening of seed farms at three new centres, while the Bengal scheme involves the doubling of the supply of Government disease-free seed so as to meet the total provincial requirements. The Madras scheme provided for (a) increasing the seed production at Hosur, Palmaner and Thadguni farms, (b) a peripatetic rearing party, (c) aided grainages, and (d) aided silk farms. The Government of Bihar and Orissa proposed to start a sericultural centre at Ranchi. Funds were provided for all these schemes, as well as for certain schemes of research mentioned in Chapter VIII.

The Committee again met at New Delhi in October 1935 and allotted funds for 1936-37 to the above schemes on the basis of the progress already made. Additional schemes submitted by the Governments of Bihar and Orissa and Assam were considered and approved. The Bihar and Orissa scheme was to supply healthy seed eggs and approved species of *tasar* worm, while the Assam scheme was for the extension of the Shillong sericultural centre. All the approved schemes are now in operation. The following table shows the allotment made during 1935-37 to the provinces by the Government of India :—

				Rs.
Madras	..	..	..	24,778
Bengal	..	..	..	69,286
Bihar and Orissa	..	..	..	16,748
Assam	..	..	..	43,240
Burma	..	..	..	9,310
				1,63,362

The wool-weaving industry has also received the attention of Provincial Governments. An Institute for teaching wool-weaving has been started at Gaya in Bihar and Orissa. It trains about 12 students every year in the use of improved looms for weaving blankets. It also demonstrates the use of fast dyes and the possibilities of the manufacture of *lohis*, rugs, coatings and *ashis* of different designs for local markets. During the period under review, 57 students have passed out from this Institute on the completion of one year's intensive training and woollen goods worth about Rs. 25,000 have been manufactured and sold. Demonstrations in blanket weaving were given at various centres resulting in the introduction of about 100 improved looms among cottage workers and wool-weaving as a cottage craft has begun to show signs of revival in the province. Demonstrations in wool-weaving were also given by the Governments of Bengal and the Punjab.

In January 1936, the Government of India announced their decision to make a grant, subject to the vote of the Legislature, of Rs. 5 lakhs spread over five years for the benefit of the cottage and small-scale woollen industries. The approval of the Legislature was subsequently obtained. A Woollen Industries Committee was subsequently constituted to advise on the distribution of the grant.

(ii) OTHER INDUSTRIES.

The Cottage Industries Institute at Gulzarbagh, Patna, deals with a number of minor industries such as *durrie* and carpet making, weaving of *nawar* and the manufacture of toys, in addition to weaving, knitting and dyeing. The popularity achieved by this Institute can be gauged from the fact that during the period under review there were 2,500 applicants for admission of whom only 500 could be admitted. 179 out of the 300 students who completed their course have succeeded in obtaining employment. The products of the Institute, during the period under review, including *sarees*, towels and other textile materials have been valued at Rs. 2,30,000, and the sale proceeds of the finished products during that period amounted to Rs. 3 lakhs.

In Madras, the Government Textile Institute and the School of Arts and Crafts served the needs of the province adequately in the matter of training students in the various cottage industries. In the Punjab and the United Provinces, brass-ware, carpentry, gold and silver smithy, shoe making, tanning, dyeing and printing and metal casting, etc., were taught by industrial schools specially devoted to one or more of such industries.

The Lacquer School at Fagan in Burma, trains students in the manufacture of lacquer ware. Improved lathes and spraying machines have been introduced to simplify the processes of smooth-

ing and lacquering. The Pottery School at Insein had unfortunately to be closed down in 1931 as a result of financial stringency.

Practical demonstrations in cottage industries, other than cotton, silk and wool weaving, were also given in many provinces. In Bengal, an unemployment relief scheme was sanctioned in the year 1932-33. The object of the scheme was to give unemployed young men an opportunity of training in the new and improved processes of the more important cottage industries likely to afford occupation to a large number of workers. In accordance with this scheme, 24 demonstration parties were established, 4 parties (in addition to 4 parties for wool and jute weaving) for each of the following six industries, namely, soap making, umbrella making, brass and bell-metal ware, leather goods, cutlery and pottery. Work has been carried on in 12 districts and 665 young men have availed themselves of the opportunity of receiving instruction. Of these, 150 have started small factories of their own, giving employment to three or four workers in each and about 90 young men succeeded in securing employment. Over 200 students are still undergoing training.

In the Punjab, an exhibition train was run over the North Western Railway, which visited 83 stations within the province. Practical demonstrations in hosiery, basket making, dyeing and curing of hides and skins were given in it. A demonstration of arts and handicrafts suitable for women was arranged in 1929-30 at Lahore at which practical exhibitions were given of needle work, tailoring, fancy embroidery, machine embroidery, lace making, raffia basket making and clay modelling. In Delhi, periodical demonstrations have been arranged with a view to show the practicability and advisability of employing improved appliances and methods of manufacturing in various small industries, such as hosiery, knitting, dye making, soap making and the manufacture of boot and shoe laces.

Substantial assistance was rendered by the Indian Stores Department to cottage industries dealing with such materials as the Department is in a position to purchase. For example, the cutlery industry of Wazirabad and Sialkot received some stimulus from the orders placed by the Department and advice from its inspecting officers, whose duty it is to pass the work of such firms before any supplies are accepted. Valuable assistance has also been rendered to the small metal workers in the Aligarh area in respect of lock-making and brass founding. The cottage workers in that area have also been encouraged by orders for postal articles such as post boxes, scales and weights. Such orders have also paved the way for considerable business, as a result of the advertisement which the

suppliers secure from the use of their scales and weights in the numerous Posts and Telegraphs Offices throughout the country.

The Government of Madras carried out an exhaustive survey of the possibilities of finding suitable subsidiary industrial occupations for agriculturists during the slack season. Although on account of financial difficulties, the Local Government could not make much headway in this direction, they have been able, in one way or another, to assist the development of several industries such as button making, bee keeping, etc.

The Government of Bombay have assisted the real gold thread, bangle making, soap making, peppermint oil and ceramic industries by conducting laboratory experiments in certain cases and, in others, by practical demonstration of the working of improved types of machinery designed by the Department of Industries.

In Bengal, the soap industry claimed the attention of the Chemical Section of the Industrial Research Laboratory as an industry possessing great possibilities for successful development. Research was undertaken to widen the field of choice of raw materials and to stimulate production. The properties of oils hitherto untried were examined and research was conducted with a view to reduce the cost of production. As a result of such research, several small soap factories have come into existence in different parts of the province and there has been a general improvement in the methods of manufacture.

The Government of the United Provinces have helped in solving certain technical difficulties which arose in particular cottage industries, and in some cases experiments have been conducted at Government expense and technical experts have been deputed to visit the workers and to give them necessary technical advice. In order to help the woollen blanket industry, a small plant for wool spinning was made over to a co-operative society for the manufacture and supply of better spun woollen yarn. Experiments were also conducted in fulling and dyeing and financial assistance by way of grants was given to enable the workers to tide over the experimental stage of producing superior blankets from mill spun yarn. The problem of fast dyeing and the use of better yarn in *durrie* weaving was tackled at Agra successfully with the help of Government demonstrators and a subsidy. A candidate was given Government help to set up a demonstration factory for hosiery manufacture, as a result of which several other small factories sprang up in the neighbourhood.

Grants were made for setting up improved furnaces and for conducting experiments in the manufacture of glassware and pottery. An improved furnace and grinding machine were set up at Khurja in order to help the local pottery industry. Suitable glazes and

mixtures of clay were discovered under the direct control of an expert who is training the potters.

In the Punjab, financial and technical assistance was given to manufacturers of tennis gut, sports goods, drawing materials, cutlery, pottery, *durries*, harmoniums, ivory work, combs, toilet goods, regimental swords, lances, sticks, etc.

In Bihar and Orissa, the Department of Industries was able to effect a marked improvement in the character and quality of the toys manufactured in the Cottage Industries Institute, Gulzarbagh. The Shelter Industrial School at Cuttack was given a grant-in-aid and was induced to start classes in basketry with remarkable success. Cheap picnic baskets made of palm leaf and work baskets of "kancha" grass are now being exported to England along with cane and raffia baskets.

In view of the importance of the leather tanning and leather working industries, which constitute the hereditary occupation of the *harijans* who number more than half a *lakh* in the Delhi Province, the Department of Industries undertook to develop these industries and as an initial step in this direction organized an industrial co-operative society among the workers. The results have been satisfactory. Losses have been substantially reduced by the substitution of modern methods of manufacture in places where the old crude system used to prevail. A marked improvement in the quality and variety of the products has resulted in an increased demand for them.

The crux of the problem of developing cottage industries in India is to find a suitable market for them. A great deal of organization is necessary, if the demand for such articles is to be stimulated and markets established in the face of the severe competition of cheap foreign products manufactured by machinery. The problem of proper marketing has received special attention and is dealt with in the following chapter.

CHAPTER IV.

Marketing and Exhibitions.

(i) HANDLOOM MARKETING SCHEMES.

The question of the marketing of handloom products was considered at the Sixth Industries Conference and promising schemes which are based on co-operative effort have since been adopted by many Local Governments.

In Madras, the essence of the scheme is the establishment of a central co-operative organization with several primary societies linked to it, one of the principal duties of which would be to develop marketing with the assistance of a special Marketing Officer and 5 Marketing Agents at suitable centres. In pursuance of this scheme a Provincial Co-operative Society has been registered and the Secretary and the Marketing Officer entered on their duties in September 1935. Suitable centres for the 5 marketing agencies have also been selected. The Marketing Officer has visited a number of firms and organizations engaged in the silk and handwoven cloth in order to ascertain their requirements. He also paid visits to several handloom weaving centres in order to study the class of goods produced and to collect samples thereof.

In Bombay, 5 Co-operative Industrial District Associations were formed at important centres. Each Association is to have a shop of its own which will accept on consignment account against partial advances, and sell, on a commission basis, products of handloom weavers. A Marketing Officer has also been appointed.

In Bengal, where the handloom industry is already organized on a co-operative basis, the scheme involves the re-organization and strengthening of the provincial organization at the top, the seven industrial unions in the middle and the 350 weavers' societies with 5,850 members at the bottom. The Provincial Society at Calcutta is to be responsible for developing the market in Calcutta and a special Marketing Officer is to help the Provincial Society and the Industrial Unions to push on sales of the finished products of the primary societies.

The Government of the Central Provinces formulated a scheme for the establishment of a central weavers' co-operative society operating for the whole province with its headquarters at Nagpur, which would run a Central Depot for the supply of raw material and for the sale of finished cloth. Members would be divided into groups of five and each group would be asked to undertake the manufacture of specially specified patterns of cloth with rates of sale fixed in advance. The sale of the finished cloth would be undertaken by the Depot to wholesale dealers at rates $6\frac{1}{2}$ per cent. above

the cost of production. In accordance with this scheme the Central Provinces and Berar Co-operative Credit Society, with 79 members, began to function in February 1935 and its record in the matter of sales is promising.

The remaining provinces have adopted different systems. In the United Provinces, it was proposed to collect samples as soon as possible after the preliminary investigation into the handloom industry, to which reference has already been made, was finished. When samples were ready, commercial travellers would be appointed to take them round and find a market for them. As the work developed, a store would be started at the weaving centre concerned. A central marketing organization would also be brought into being at the same time to guide and help the work at different centres and supplement the activities of the commercial travellers.

The Punjab scheme includes a central marketing organization with branches in other weaving centres. The function of the Central Depot, which has been established at Amritsar, is to work out designs, to execute and distribute them locally or to outlying districts, and to arrange for marketing, printing and the introduction of improved looms. The local depots which are being established in other centres are to supervise the work of the weavers and give them assistance. A Marketing Officer was appointed under this scheme in 1935.

In Bihar and Orissa, a new organization on the lines of the Purdah Section of the Cottage Industries Institute, Gulzarbagh, has been established and the Purdah Section has been absorbed in it. A marketing organization has also been set up for handwoven fabrics with three departments, including a marketing section, and special technical assistants have been placed in charge of these.

In Burma, a Central Sale Depot was opened in Rangoon which has been carrying on work in the direction of securing and supplying orders for handloom weavers from Government Departments and business firms and making purchases of dyes and yarns for distribution to weavers.

(ii) OTHER MARKETING ACTIVITIES.

In the year 1933-34, the Government of Madras accepted the offer of the Council of the Victoria Technical Institute, which had for some time been attending to the disposal of the artistic goods manufactured by artisans and the products of cottage industries, to arrange for the sale of Madras industrial products in the European markets through an agent in London and sanctioned a grant of Rs. 3,000 per annum to the Institute, for the purpose, for a period of three years from 1934-35.

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In the United Provinces, the Local Government considered that the Arts and Crafts Emporium at Lucknow, which had not been prospering, could not be run as a self-supporting institution. The Local Government therefore decided in 1929 to subsidize it to the extent of Rs. 20,000 per annum for a period of five years. The main object of the Emporium is to develop the export trade of the province. With a view to give prominence and publicity to the United Provinces artware, a branch of the Emporium was opened at Mussoorie in 1931. This branch became so popular within a short time that it was possible in the following summer to hand over the agency to a private firm. Attempts were also made to establish similar agencies in prominent places in other provinces according to a scheme under which the agents undertake to purchase all their requirements for a period of three years from the Emporium on a commission basis.

In the Punjab, the Arts and Crafts Depot at Lahore participated in the British Industries Fair in 1928 with a view to finding foreign markets for the artware of the province, but this participation did not yield satisfactory results owing to the general trade depression in foreign markets. For the same reason, the sale agencies in South Africa and London were abolished in 1930-31. As a result of the participation of the Depot in the British Industries Fair in 1932-33, some improvement in the foreign markets became noticeable and proposals for the establishment of a sale agency in London are under the consideration of the Local Government. In October 1932, a reciprocal arrangement was established with the Lucknow Emporium by which the Emporium sold goods for the Punjab Depot and *vice versa*.

Wherever possible, efforts were made by the Department of Industries, Punjab, to get producers into touch with outside markets by recommending their products to the Directors of Industries of other provinces and to Government Departments and private bodies within the province. The Department also started a system of co-operative industrial societies with a view to help small producers such as weavers, carpenters, metal workers, etc. The number of these societies on 31st July 1934 was 291 with a working capital of over Rs. 5 lakhs. The trade depression prevailing since 1928 and the competition of cheap mill-made Japanese goods told heavily on the transactions of these societies; and the value of the members' goods sold fell from Rs. 2.89,000 in 1928 to Rs. 48,000 in 1933. As a result of the efforts of the Department in suggesting suitable new lines of business and in finding markets for the manufactures of these societies the value of the goods sold in 1934 again rose to Rs. 71,000.

In Bihar and Orissa, the sale depot established in conjunction with the Cottage Industries Institute, Gulzarbagh, remained in existence for three years and conducted business to the extent of

Rs. 50,000 only. It was therefore abolished in 1931. The most noteworthy effort of the Provincial Department of Industries for the improvement of the hand-weaving industry of the province was the establishment of a separate Purdah Manufacturing Section in 1929. Two agents were appointed—one in London and the other in New Zealand—for the sale of Bihar textiles in foreign countries. About a dozen selling agents were also appointed in important centres within India. The Purdah Manufacturing Section has also been of great educative value as it serves as a model trade organization for students of industrial institutes and for others who are interested in industrial development. The Purdah Section has recently been absorbed in the new marketing organization to which reference has already been made.

In the Central Provinces, the Emporium at the Central Museum, Nagpur, continued to stock, display and sell the products of the cottage and village industries, viz., textile articles, gold and silver articles, brass and bell-metal articles, etc.

In Assam, the small Emporium at Gauhati, though rendering some assistance to cottage industrialists by advertising their finished products, did not purchase finished products except against advance orders. It has since been re-organized and improved.

In Bengal, there is no Government Emporium, but the Local Government assisted the Bengal Co-operative Silk Union, Limited, and certain other similar associations with loans and other facilities. The object of the Union is to organize societies of mulberry cultivators, cocoon rearers and reelers and silk weavers, to finance such societies and to provide them with facilities for marketing their finished products. A marketing investigator was appointed in 1933 and the Local Government hope that this appointment will be the nucleus of a regular marketing organization as soon as circumstances allow expansion.

Prior to 1934, for financial reasons, no extensive steps could be undertaken by the Government of Burma for the marketing of the artisans' products. The Saunders Weaving Institute, however, endeavoured to sell cloth woven by local weavers to Government Departments and private firms.

(iii). EXHIBITIONS.

Exhibitions, organized and assisted by Government Departments, have also played an important part in the development of cottage industries. In Bihar and Orissa, a small exhibition of art textiles was organized in March 1930 at the Patna Museum. In the Punjab, exhibitions were arranged by the Department of Industries in 1929-30 and 1930-31, in which practical demonstrations

of handicrafts and cottage industries work of women were exhibited. In the United Provinces, exhibits from the various schools were displayed in motor vans run by the Publicity Department in connection with rural uplift work. In Delhi, the Department of Industries organized a provincial rural exhibition at Nangloi towards the end of 1934. The exhibition proved an unqualified success. In Burma, annual Provincial Arts and Crafts Exhibitions were held by the Government, during the period under review, in Rangoon in February each year till 1931. Practical demonstrations were given therein of improved methods in the three important industries— weaving, lacquer-work and pottery. These exhibitions have been discontinued since the year 1932 on account of financial difficulties.

Provincial Departments of Industries also participated in many exhibitions organized in the districts by local and district bodies. During the period under review, there were 128 such exhibitions in the United Provinces, 67 in the Punjab and 35 in Bengal.

The Provincial Governments also co-operated in several All-India exhibitions, in the British Industries Fair and the exhibitions held at Leipzig, Budapest and Lyons. Exhibits from the provinces were displayed in the Indian Empire Exhibition held at Lahore in 1933-34 and 1934-35. The Government of the Punjab helped the organizers of this exhibition by giving them a guarantee to recoup any loss incurred by them up to Rs. 5,000. No loss was actually incurred. Exhibits were also sent by the Departments of Industries of the various provinces to the All-India Industrial Exhibitions held at Delhi in 1933 and in the following years and to the Mysore Dusehra Exhibition held in 1933. The Government of India assisted the organizers of the All-India Industrial Exhibition at Delhi by giving them a guarantee to meet one quarter of the actual net annual loss subject to a maximum of Rs. 2,500 during the years 1934 to 1936. No loss was incurred. In 1935-36, the Government of India also gave a grant of Rs. 7,500 for the handloom weaving section of this exhibition.

One of the recommendations of the Sixth Industries Conference was that Local Governments should be consulted on the proposal that a small portion of the Government of India grant should be kept in reserve to be spent on All-India exhibitions or on All-India competitions in connection with the handloom industry. On the recommendation of the Seventh Industries Conference a grant of Rs. 10,000 was made by the Government of India to the All-India Hand-weaving Exhibition and Competition which was held along with the very successful Bihar and Orissa Provincial Exhibition at Patna in February 1936. The Government of Bihar and Orissa contributed Rs. 13,000 in all towards this exhibition.

CHAPTER V.**Intelligence and Technical Assistance.****(i) INTELLIGENCE.**

The bulk of the work of the dissemination of intelligence relating to industry and trade naturally fell on the Central Government whose Department of Commercial Intelligence and Statistics continued to answer trade enquiries, to collect and publish statistics and to assist Indian firms in establishing trade connections abroad. The Director-General is now stationed at the headquarters of the Government of India, while the office at Calcutta, where he was stationed formerly, is now in charge of a Deputy Director of Commercial Intelligence and a Deputy Director of Statistics. In 1930-31, as a result of the emphasis laid by the Royal Commission on Agriculture on the necessity for an improvement in certain directions of the statistical record, it was decided that the statistics collected under certain heads should be further elaborated and that there should be an analysis of existing statistics bearing on the economic position and tendencies in India. The collection and publication of statistics relating to the inland (rail and river-borne) trade of India had been discontinued in 1923 as a measure of retrenchment. In 1933, it was decided to collect and publish statistics of the inter-provincial movements of certain important articles by rail and river and by sea from the chief ports. The publication of a weekly table, showing the arrivals into and despatches from the main trade centres in India and Burma, in the Indian Trade Journal was also undertaken. The statistical branch of this office was strengthened in 1934 by the creation of a Statistical Research Branch under a Deputy Director of Statistical Research as it was felt that if any programme of economic advance for India was to be undertaken, it was essential to have a trained organization for the proper analysis and interpretation of the economic data collected.

In Great Britain, the Indian Trade Commissioner, assisted by a Deputy, has been giving valuable assistance to Indian firms desirous of finding markets in Great Britain or the Continent and also to European firms who either import or are desirous of importing Indian produce. His office is now located in the new India House in London. A scheme for the appointment of Indian Trade Commissioners in Europe, America, in the near East and Africa was sanctioned in March 1930 and Trade Commissioners were appointed at Hamburg in 1931 and at Milan in 1935. The former deals with commercial enquiries and other matters concerning Indian trade over an area including most of the countries of Northern, Central and Eastern Europe, while the latter deals with the countries of

Western and Southern Europe. Further progress with the scheme for appointing Trade Commissioners abroad has been retarded by financial stringency.

The Imperial Economic Conference held at Ottawa in 1932 recommended the formation of an Imperial Committee on Economic Consultation and Co-operation whose object would be to consider the means of facilitating economic consultation and co-operation between the several Governments of the British Commonwealth including a survey of the agencies already in existence and an examination of the modifications which might be desirable to ensure greater efficiency of the existing machinery for such co-operation. India has agreed to contribute a sum of Rs. 38,400 annually for three years from October 1st, 1933 towards this Committee, the Imperial Shipping Committee and the Executive Council of the Imperial Agricultural Bureau. The High Commissioner for India represents India in the Executive Council of the Imperial Agricultural Bureau and the Imperial Shipping Committee, while India was represented by Sir Atul C. Chatterjee, Sir Padamji Ginwalla and Mr. (now Sir) H. A. F. Lindsay in the Imperial Committee on Economic Consultation and Co-operation.

The Industries Departments of Provincial Governments have had to answer a large number of enquiries from the various industries and trades. In the absence of any special staff for the purpose in most provinces, the task of answering all these queries has thrown a heavy burden on the Departments concerned. But from the fact that during the period under review 1,120, 22,400, 1,300 and 984 enquiries were actually answered in Bombay, the Punjab, Bihar and Orissa and the Central Provinces, respectively, it will be evident that the facilities were appreciated by the public. In Madras, there is a Bureau of Industrial and Commercial Information attached to the Industries Department, while in the Central Provinces a Commercial Agent is employed on this work.

Publications for the dissemination of commercial intelligence have been numerous. The Indian Trade Journal is published weekly and contains a section dealing with trade enquiries and tender notices which are of great use in providing openings for Indian trade and industries. A monthly publication entitled "Monthly statistics of production of certain selected industries of India" appeared first in April, 1932. It deals mainly with variations in industrial activity in India in regard to certain selected industries, viz., jute, paper, iron and steel, sulphuric acid, sulphate of ammonia, petrol, kerosene oil, cement, sugar, matches and wheat flour. Statistics relating to the export of Indian artware and sports goods which, prior to 1928, appeared as a Supplement to the Indian Trade Journal are

now published as a monthly in an enlarged and expanded form. A "Monthly Survey of Business Conditions in India" was started by the Statistical Research Branch of the Commercial Intelligence and Statistics Department in two parts in December, 1933. The first part consists of statistical data, while the second deals with the various economic activities of the country and the economic conditions of the month. The Department also publishes "Monthly Statistics of Cotton Spinning and Weaving in Indian Mills" compiled from returns of cotton yarn and cotton goods manufactured, furnished in accordance with the requirements of the Cotton Industry (Statistics) Act XX, 1926.

(ii) SURVEYS.

Provincial Governments have undertaken surveys mostly of minor and cottage industries, but in several cases the recommendations based on such surveys could not be carried out on account of financial stringency. In the Punjab, as many as 33 surveys were held during the period under review. The list includes almost all the minor and cottage industries in the province. In Madras and Delhi, surveys were made of the ceramic industry. In Madras, the survey was undertaken to investigate the possibilities of instituting an experimental ceramic factory, while in Delhi the object of the survey was to see how far the industry could be introduced as a cottage craft in the province. In Bombay, the village tanning industry, the arts and crafts of the Presidency and the handloom weaving industry were surveyed and the results published in the form of reports. A large number of small industries, *e.g.*, manufacture of soap, matches, slates, biscuits, cigarettes, shoe laces, envelopes, were also investigated and estimates prepared of the cost of establishing factories.

In Bihar and Orissa, surveys were undertaken relating to the introduction and improvement of particular industries. These included investigations into (a) the suitability of raw materials available in the Rajmahal Hills for the manufacture of straw-boards, (b) the prospects of manufacturing electric insulators, (c) the hosiery industry, (d) possibilities of manufacturing fertilisers and manures from oil-cake, bone and fish refuse, and (e) the extension of the oil-crushing industry.

(iii) OTHER PUBLICATIONS.

The Central and the Provincial Governments have also published numerous reports, bulletins and miscellaneous publications. These deal with a variety of technical subjects of interest to the various industries, written by experts in each field. A complete list of such publications, issued up-to-date since 1921, is contained in the Biblio-

graphy of Industrial Publications issued by the Industrial Research Bureau in 1936 as Bulletin No. 1 of the Bulletins of Indian Industrial Research. The Forest Research Institute at Dehra Dun has published 19 bulletins and 8 progress reports on forest research. The Government of Madras have published 23 bulletins on various industries and new processes. The Government of Bombay have published 3 bulletins on technical research and surveys of the village tanning industry, the arts and crafts of the Presidency and the handloom industry in the province. The Government of the Punjab have issued a series of pamphlets on industries such as soap, and pottery, and on vegetable oils, starch, etc., and on the activities of the Department of Industries and 33 reports on surveys of particular industries and industrial concerns. The Government of Bihar and Orissa have issued a series of publications under the following headings :—

- (a) Industrial research.
- (b) Modern industries.
- (c) Handicrafts industries.

A bulletin dealing with the facilities available for technical education and three pamphlets on pisciculture were also published. The Government of the Central Provinces have published seven monographs on tanning, dyeing, etc., while the Government of Bengal were responsible for 62, mainly on small industries such as leather, soap, umbrella-making, etc. The Government of Burma have dealt with forestry research in a series of 18 notes and reports. The Government of the United Provinces published seven bulletins on important technical researches besides notes and memoranda required by specific industrialists.

Material for the production of Provincial Directories was collected by the Departments of Industries in the United Provinces and the Punjab ; the work was subsequently made over to private enterprise. A Directory of the Punjab and Delhi for 1929-30 is now available. The two Directories published by the Government of the Central Provinces, *viz.*, the Commercial Directory of the Province and the Directory of Cottage Industries, are under revision. In Bengal, a start in the same direction has recently been made, and the Government hope to be able to bring out a Directory shortly.

(iv) TECHNICAL ASSISTANCE.

In addition to answering queries and supplying statistical information, Provincial Departments have given technical guidance and assistance in various forms to industrialists. In engineering, such assistance has taken the shape of expert advice and help in

choosing suitable sites for the erection of machinery, and in selecting and erecting the machinery suited to particular industries. Several visits to particular factories for the solution of special practical difficulties brought to notice, have also been undertaken on payment of nominal fees. In Bihar and Orissa, a special staff consisting of an Industrial Engineer, three Circle Officers, two Mechanical Supervisors and a Draughtsman Supervisor was maintained from 1924 for giving technical assistance and engineering service to small industrialists as recommended by the Indian Industrial Commission. The post of Industrial Engineer had to be kept unfilled from 1930 and the two posts of Mechanical Supervisors had also to be retrenched in 1932 owing to financial stringency. Nevertheless, during the period under review, 44 installations were set up with the assistance of the special staff while the fees, which in each individual case were nominal, realised for the inspection services of the Department, amounted to Rs. 17,500.

The Indian Stores Department contributed substantially to the great advance made by the bridge building industry in India. Some years ago, a great deal of hesitation used to be felt in entrusting firms in India with orders of this kind except for comparatively unimportant work. This was due to the fact that in many cases their workshops were imperfectly equipped for dealing with major works, while their methods of manufacture were old fashioned and their standard of workmanship fell short of the requisite standard. As the result of advice and suggestions constantly given to firms by the inspecting officers of the Department, sufficient progress was made in 1927 to justify the challenging by the Chief Controller of Stores of all foreign indents for bridge spans up to 200 feet. Progress has been maintained with the result that the two largest bridges, of their kind in India, the Willingdon Bridge on the East Indian Railway and the Sagaing Bridge, Burma, have been constructed mainly with materials manufactured by Indian firms. This Department is also responsible for many improvements in the methods of manufacture of different kinds of hardware as a result of the advice and suggestions given by its inspecting officers from time to time. For example, the percentage of rejected pipes in a South Indian Mannufactory fell from 45 to 8 as a result of the good offices of the Department.

The Indian Stores Department was also able to assist manufacturers in various other ways. For example, it was noticed that Indian manufacturers were unable to supply cloth of a particular colour known as "Turkey Red" as they found technical difficulties in the use of that dye. Experiments carried out with various dyes in use in India revealed the fact that "Naphthol Red A. S. T. R." produced exactly the same results as "Turkey Red". This dye was then used

by Indian manufacturers with the result that orders for this particular kind of cloth have been diverted from abroad to Indian firms.

Government Departments have been successful in inventing machinery or devices which have proved useful to industries. The Government of Madras have popularised an oil mill which can be driven by a 3 H. P. plant and repairs to which can be executed by village blacksmiths. It can be easily installed as a subsidiary plant in any power driven oil mill or pumping set situated in places where there is a demand for edible oil. In Bengal, a number of rice mills have adopted with profit an invention of the local Industries Department for purifying foul water discharged from soaking vats. Several soap factories and rice mills have also benefited from the drying chambers devised by the Department.

(v) HYDRO-ELECTRIC DEVELOPMENT.

The period under review is remarkable for the successful efforts made by the Governments of Madras, the Punjab and the United Provinces to develop the hydro-electric resources of the country. In Madras, the Pykara Scheme, sanctioned by the Secretary of State for India in 1929, commenced supplying energy on 1st April, 1933. The unit consists of a 33,000 H. P. plant driven by a head of 3,000 feet. 100 miles of 66,000 volt and 130 miles of 22,000 volt transmission lines and several miles of 11,000 volt transmission lines distribute energy to the Nilgiris and Coimbatore Districts. A cement factory utilizing local materials, which has been started in Coimbatore, obtains its power from this project. 66,000 volt lines are under construction from Erode to Trichinopoly, a distance of 80 miles, and from Trichinopoly to Negapatam, a distance of 81 miles. A proposal for another hydro-electric scheme at Mettur with two units of 13,000 H. P. each driven by a head of 60-160 feet which would supply power to six districts in this province has been sanctioned by the Secretary of State for India.

In the Punjab, the Uhl River Hydro-Electric Scheme intended mainly for the benefit of industry started work in 1933. In 1934, 218 consumers were utilizing a load of 4,016 kilowatts. The Amritsar Municipality buys energy in bulk from the scheme and arranges to retail it at cheap rates to industrial consumers.

In the United Provinces, the Irrigation Department has succeeded in developing electrical energy from four out of the ten Ganges Canal falls. Seven districts or an area of 11,000 square miles approximately are served by this scheme and power is sold in bulk to licensees who distribute it to seasonal ginning factories, flour mills and small sugar factories of open pan type.

CHAPTER VI**Financial Assistance.****(i) LEGISLATIVE MEASURES.**

Acts authorizing and regulating the grant of financial assistance to industries have been in force in Madras, the Punjab and Bihar and Orissa since 1923. Similar Acts passed in Bengal and the Central Provinces became law in 1931 and 1933, respectively. These Acts were modelled on the lines of the Bihar and Orissa Act which in its turn followed fairly closely the original form of the Madras Act. The Central Provinces Act, like the Madras Act, lays down that Government should not grant aid to any industrial business or enterprise except in accordance with the provisions laid down in it, while the Bengal Act follows the Punjab Act in not containing any such restriction. In Assam, a State Aid to Industries Bill, modelled closely on the Bengal Act, was introduced in the Legislative Council in May 1935. It has not yet become law. The Punjab Industrial Loans Act of 1923 has been superseded by a new State Aid to Industries Act passed in 1935. The new Act, like the old, does not contain any provision restricting the powers of the Local Government to grant aid otherwise than under its provisions. In addition to the classes of industry referred to in other Acts, it permits aid to be given to industries which need revival or development by modern methods. It authorizes the Director of Industries to take action in the event of certain contingencies affecting the security of the loan. There is provision for an appeal to the Local Government against such action by the Director of Industries.

In Madras, the Act as originally passed in 1923 was found to be unduly rigid in its application to small enterprises and cottage industries, and in 1928, the Act and Rules were amended to secure greater elasticity in this respect. Under the present rules, the maintenance of detailed and audited accounts of these industries is not obligatory and the provisions regarding security for cash credits, overdrafts or fixed advances have also been made easier. In 1930, the Act was again amended so as to authorize the grant of loans to individual concerns up to the limit of Rs. 40,000, even if that sum exceeds 50 per cent. of its net assets. The rule requiring compulsory insurance against loss or damage by fire was also relaxed in the case of businesses whose capital outlay did not exceed Rs. 500, and concessions were made in respect of stamps and fees for the benefit of smaller enterprises.

(ii) LOANS AND GRANTS.

Up to the close of 1934, loans aggregating to Rs. 8,27,000 were disbursed to 14 concerns under the Madras Act. Of these, the

seven loans granted before 1928 account for Rs. 7,62,000, while the seven disbursed after 1928 amount to only Rs. 65,000. The results of the loans granted prior to 1928 are discouraging. In the case of the Carnatic Paper Mills, which received loans and advances amounting in all to Rs. 6,49,000, Government found it necessary to foreclose the mortgage in order to protect their interests. The company was subsequently wound up under the orders of the High Court and an official liquidator was appointed to dispose of the company's assets. Government recovered the sum of Rs. 4,00,000, but an amount of Rs. 3,86,000, inclusive of interest, had to be written off. The proprietors of a silk factory which had been granted a loan of Rs. 50,000, were unwilling to maintain their accounts in accordance with the provisions of the Act and preferred to refund the entire loan earlier than stipulated. The Saw Mills at Coondapur, which received a loan of Rs. 9,600 defaulted in payment of the second, third and fourth instalments and the outstanding amount had to be recovered in one lump sum. A sum of Rs. 5,000 had been advanced to a cotton ginnery for the purpose of installing two gins with a view to encouraging the expansion of cotton cultivation in its locality. This expectation was not realized and the gins never worked. The proprietor had, therefore, to default in the payment of subsequent instalments and it was found necessary to take steps to realize the balance of the loan. It is feared that the amount due will not be recovered in full. Steps to recover the entire loans outstanding have had to be taken in the case of a match factory which received a loan of Rs. 20,000 and a dye factory to which a loan of Rs. 10,000 had been granted. The only hopeful loan transaction among these seven is that with the Industrial Co-operative Society at Kallakurichchi. The Society owns several factories for husking rice and the decortication of ground-nuts in a large agricultural area. It has also set up machinery for crushing sugarcane and the manufacture of jaggery. It has been regularly re-paying its instalments of the loan of Rs. 18,600 granted to it.

Turning to the seven cases in which loans were granted during the period under review, the proprietors of a Pyro-technic Match Factory who took a loan of Rs. 11,000 re-paid the entire balance of the loan, as they found that the business was not a paying proposition. A firm which started a tile factory on the east-coast with a loan of Rs. 4,250 subsequently found that it was not profitable to manufacture tiles and therefore refunded the entire balance of the loan. Small loans of Rs. 500 each to a match factory and a toy manufactory and of Rs. 750 to a silk reeling concern were also granted during the period under review. In the case of the match factory, the proprietor failed to carry out some of the conditions of the loan and also made default in re-payment. The loan had to be recovered by sale of the machinery and by proceeding against

the collateral security. The silk reeling concern has also proved a failure and the plant had to be bought in auction by the Government and the balance due written off. The small loan to the toy manufactory and a loan of Rs. 8,000 to a metal enterprise were also recently made and it is too early to judge their results.

There is thus no indication that industrial development in the province has been stimulated to any appreciable extent by the grant of State aid, either under the Act as it stood before amendment or after the introduction of the new concessions by amending Acts. The principal difficulty in the way is said to be the restrictive character of section 5 of the Act, under which aid can be given only to industries which either have an important bearing on the economic development of the country and should be (a) new or nascent industries or (b) industries to be newly introduced into areas where such industries are undeveloped or (c) cottage industries. Although there was plenty of scope for aiding the formation of co-operative societies all over the province for the manufacture of finished products from local raw material, only one such co-operative society could actually be granted aid because the industries contemplated in other cases could not be classed either as "new" or "nascent" or were not being newly introduced in areas where such industries were undeveloped. The development of new sugar factories for which there is scope in the province was not possible under this Act, because financial assistance to enterprises which have no assets at the time of their inception is not permissible under the law as it stood.

A scheme for the supply of textile appliances to capitalists on the hire-purchase system was sanctioned in 1932. But the results were disappointing as only one jacquard machine and a hand-driven sizing machine could be disposed of. Improved silk reeling machines, costing Rs. 50 each, were offered for 10 monthly payments of Rs. 5 each without any response from the public. A system of hire-purchase is also in vogue in connection with the Pykara Hydro-Electric Scheme under which industrialists in the Coimbatore District possessing power plant not driven by electricity could change over to electricity. The system was subsequently extended to new ventures and there has consequently been a rapid expansion in electrically driven mills in the Coimbatore District.

In the Punjab, loans aggregating to about Rs. 6,46,000 were made during the period under review in 190 cases. About one-third of the total amount has so far been recovered by way of principal and about Rs. 76,000 by way of interest. No large loans have been given and nearly all the loans have been for Rs. 5,000 or less. The Punjab Banking Enquiry Committee of 1929-30 in reviewing the

loan policy of Government under the Punjab Industrial Loans Act stated "The minimum loan is Rs. 500 which appears to us to be too high, considering how modest are many of the enterprises involved in cottage industries".

In Bihar and Orissa, where the Act has been in force since 1923, loans to the extent of Rs. 1,87,000 were granted in 14 cases during the period under review. Prior to 1928, a sum of Rs. 6,50,000 had been advanced, of which about Rs. 3,63,000 was lost. This loss is practically all accounted for by two loans. A loss of Rs. 2,74,000 was incurred in connection with a loan of Rs. 5 *lakhs* to Indian Steel Wire Products, Limited, while the bulk of a loan of Rs. 75,000 granted to the Vishwakarma Oil and Flour Mills, Limited, which was combined with an iron foundry, was also lost. The conclusion drawn by the Government of Bihar and Orissa is that the financing of large enterprises by Government is definitely risky as Government have not the means of determining correctly the soundness or otherwise of the enterprise and are also not in a position either to supervise its working or to take charge of it in case of mismanagement. They consider that the working of the hire-purchase system under the Act was satisfactory, as it was found that even in cases of failure, the machinery remained, and was generally taken over by some other person. There were 7 cases of failure out of 14 under this system.

In Bengal, a State Aid to Industries Fund, for which there is statutory provision, has been created with a nucleus of contributions received from the public and its assets now stand at Rs. 54,000. The Act has not proved very successful, mainly because of the inability of applicants to satisfy the Board administering the Act about their financial stability and their qualifications for carrying on the industries for which the loans are required. The total amount advanced under the Act was only Rs. 1,400 on the 31st December 1934. Loans have also been granted every year to ex-students of weaving schools (except the Silk Weaving and Dyeing Institute at Berhampur) on proper security at 6½ per cent. The loans being re-payable in easy instalments, have been in considerable demand and re-payments are reported to be satisfactory. The annual allotment for such loans does not appear to have exceeded Rs. 5,000.

In the Central Provinces, the State Aid to Industries Act was brought into force on the 1st September 1934 and in Berar from the 1st January 1935. A firm in this province which proposed to manufacture chemicals was helped by the sale to it of a disused Government distillery at a quarter of its book value.

No Act is in force in Bombay, but in 1928 the Local Government gave a loan of Rs. 6 *lakhs* at 6½ per cent. re-payable at the end of five years to a sugar factory which has re-paid its dues in full. Since 1933, the Government, with the concurrence of the Legislative

Council, have accepted the recommendation of the Fifth Industries Conference that Provincial Governments might advance loans in aid of small industries up to a maximum of Rs. 10,000 in each case.

In the United Provinces, no loans were given comparable to the larger, and generally unsuccessful loans given between 1922 and 1927. A sum of about Rs. 1½ lakhs has been advanced since 1928. This has been given to manufacturers of china, glass, brass-ware, matches, jams and disinfectants, for tanning and to co-operative societies working in glass, blankets and other cottage industries. Grants, which are not re-payable, amounting to Rs. 1,60,000 have been distributed to new industrial ventures involving risk or necessitating experiments in their earlier stages, e.g., manufacture of hosiery by power, composition pots, tops for corks, fountain pens, electric fans, fancy borders and laces, pencils and shoe laces.

These loans and grants were given under the system introduced in 1922-23. Under this system a sum of Rs. 20,000 a year was placed at the disposal of a Board of Industries consisting of various commercial and banking interests and a number of officials and members of the Legislative Council, for the purpose of giving grants for any genuine industrial purpose, except technical or industrial education, but primarily to pioneer industries and usually on a half and half basis for the purchase of machinery only. Only a few small industries could be encouraged in this way and the system was not suitable for the development of bigger pioneer industries. The grant of loans to such industries was, therefore, entrusted to a Board of Loan Commissioners consisting of 6 officials and 7 non-officials. Applications received were examined by the Director of Industries, who was Secretary to the Board, and placed before the Board which made recommendations to Government. The system was not a success, because the Board, which was a large and heterogeneous body, could not examine applications for loans thoroughly. The result was that the Board either recommended no loans or had to back up speculative ventures. The Board of Industries was re-constituted in July 1934. The personnel of the Industrial Loan Commissioners underwent some changes and its term has been extended.

An Industries Re-organization Committee, under the Chairmanship of the Minister for Education and Industries, United Provinces, was appointed in 1932 to consider and suggest the lines along which the work of the Industries Department should be re-organized. The Committee recommended that the future policy of the Department should be to concentrate on

- (a) the intensive development of a few selected industries such as sugar, oil and glass,

- (b) assistance to selected minor or cottage industries in marketing their products, and
- (c) assisting educated middle-class young men to set up industrial business.

It also suggested the abolition of the Board of Loan Commissioners and the appointment of an expert committee to examine the question of financial aid to industries and to consider *inter alia* the suggestions of the Industries Re-organization Committee on the subject. A committee, known as the Industrial Finance Committee, was accordingly appointed in 1934 under the Chairmanship of Sir S. N. Pochkhanawala. This Committee has recommended that direct State aid to industries is not desirable. It has also recommended the establishment of a joint bank called "The United Provinces Industrial Credit Bank, Limited", with a capital of Rs. 25 lakhs, with a Government guarantee for a maximum period of 20 years of a 4 per cent. dividend on the shares free of tax, in order to provide long and short term credit to major and minor industries. It has also suggested the starting of a new marketing organization to be called "The United Provinces Financing and Marketing Company, Limited", run on joint stock lines, with a capital of Rs. 5 lakhs, to be underwritten by the Industrial Bank. Government have not passed final orders on these recommendations.

In Assam, a total sum of Rs. 1,08,000 was advanced between 1921 to 1934. These loans were granted to help the establishment of small weaving factories, rice mills, saw mills, oil mills, carpentry workshops, shoe factories, etc. About a third of the amount advanced has still to be realized and Rs. 1,731 had to be written off. Coercive measures had to be undertaken in many cases as voluntary repayments were found to be unsatisfactory. The Government Emporium at Gauhati issues looms and accessories to co-operative societies under the hire-purchase system. The payment of instalments is reported to be satisfactory.

In Burma, a sum of Rs. 13,500 was advanced to Artisan Societies in 1928-29. No further loans are being granted and all the Artisan Societies, with one exception, have gone into liquidation.

Under the reformed constitution introduced in 1920, the powers of the Central Government regarding the grant of financial assistance to industries were severely curtailed, and the only substantial sums given directly to industrialists were the bounties to the steel industry, in accordance with the scheme of fiscal protection. These are no longer in operation; but on the strength of the proposals made by the Tariff Board in 1926 to the effect that the Railway Administrations should, as far as possible, arrange to purchase their requirements of rails in India, Government entered

into a contract with the Tata Iron and Steel Company, Limited, subject to certain conditions, to purchase rails below 115 lb. section from them at the rate of Rs. 110 per ton for a period of 7 years from April 1927. In September 1930, the Tata Iron and Steel Company, Limited, represented to the Government of India that the orders for steel rails placed with them fell considerably short of the estimate upon which the protection to the iron and steel industry under the Steel Industry (Protection) Act of 1927 was based. The Government of India accordingly, agreed, subject to certain conditions, to an extra payment of Rs. 20 per ton on rails ordered from the firm in question in 1930-31. They also agreed to an additional payment of Rs. 10 per ton in respect of the heavier 115 lb. section rails ordered during the year 1930-31 for which the original rate was Rs. 120 bringing the total price in each case to Rs. 130 per ton. These rates were also paid in 1931-32.

(iii) REVIEW BY INDUSTRIES CONFERENCE.

The question of State Aid to Industries was discussed at the Fifth Industries Conference held at Simla in July 1933. The Conference came to the following conclusions :—

- (1) Experience showed that, except in some Indian States, larger loans had nearly always been unsuccessful. Smaller loans had been successful in probably the majority of the cases. The Conference did not wish to express any opinion against the grant of large loans. This matter should be left over for decision as occasions arose, but in the case of large loans a more strict inquiry into the prospects of the concern and the nature of the security offered was essential, as also a closer scrutiny of the working of the concern.
- (2) The loan procedure should be as expeditious as possible and there should be less rigidity in its working.
- (3) The loans should be advanced for a reasonably long time.
- (4) The hire-purchase system is useful, but collateral security is essential on account of rapid depreciation.

CHAPTER VII.

Government Factories.

(i) PIONEER FACTORIES.

With the steady growth in private industrial enterprise, the scope for Government pioneer factories, intended to establish new industries by working on commercial lines, has greatly contracted. The only remaining example of a strictly pioneer factory operated by the State is the Kerala Soap Factory which was started by the Government of Madras in 1921-22. It has more than fulfilled the purpose for which it was started, for several soap factories have sprung into existence in various parts of the Presidency as a result of its establishment and successful working. During the period 1928-34, 76 students were trained in the factory in soap manufacture and laboratory practice and two processes of refining and deodorizing coconut oil and ground-nut oil have been standardized. The institution worked at a profit during the years 1931-32, 1932-33 and 1933-34. The assets of the another pioneer factory, the Ink Factory, which had successfully manufactured fluid inks, ink powders and ink tablets were taken over by a private firm during the period under review. Certain experiments in connection with the manufacture of printing ink were undertaken but could not be completed as the staff had to be disbanded as a measure of retrenchment in 1932.

(ii) DEMONSTRATION FACTORIES.

The object of establishing demonstration factories is not to demonstrate to the public that similar private ventures would be successful but to train workers and persons engaged in small industries in up-to-date methods at the expense of the State. In the United Provinces, there are two demonstration factories attached to the Harcourt Butler Technological Institute, one for sugar and the other for oil. A centrifugal machine, a double heated kettle and other improvements to the oil mill have been carried out at an expense of Rs. 6,688. A soap plant and a paint plant were also added to the equipment at a cost of Rs. 5,500 and Rs. 8,500, respectively, in 1928-29. The oil mill plant has been supplemented at a cost of Rs. 6,500, increasing the crushing capacity of the plant to 100,000 maunds of seed in 24 hours. A sugar plant was purchased and erected in 1932-33 in the Institute with a sum of Rs. 1,25,000 sanctioned by the Imperial Council of Agricultural Research.

In the Punjab, the Government Tannery at Shahdara was leased to a private firm in 1930-31 on the understanding that Punjab hides and Punjabi labour would be used as far as possible and that the lessees would train a number of apprentices nominated by the

Director of Industries. The lease was terminated in the following year, as the lessees defaulted in the payment of their dues to Government. A Government Demonstration Weaving Factory was started at Shahdara in October 1928. The number of looms in the factory is now 110. After losses in the initial years, it has shown a profit since 1931. Three training classes for apprentices are attached to the institution. The first class is meant for graduates, the second for matriculates and holders of certificates of weaving institutions and the third for handloom weavers. The apprentices are limited to 47 and the majority of the students passing out of the Factory have secured employment in mills and factories.

In Bengal, a ten ton open pan system sugar factory was established at Rajshahi in 1934 but it has been handicapped in its working by competition for sugarcane. The demonstration tannery attached to the Bengal Tanning Institute has continued to give assistance to small local tanners by giving machine "finish" to their products. Hides and skins are accepted for tanning from private individuals. Receipts from the sale of the products of the Institute average Rs. 18,000 per year. The workshop attached to the Ashanulla School of Engineering, Dacca, is also useful for demonstration purposes in various subjects, e.g., electro, copper and nickel plating, manufacture of cutlery, boat building, boring tube-wells, manufacture and repairs of lift pumps. In Burma, the Government Saw Mill at the Timber Depot, Alhone, had to be closed down on account of financial stringency.

(iii) OTHER STATE FACTORIES.

Among the factories which the State maintains to meet its own needs may be mentioned the seven Ordnance Factories and the Clothing Factory, the Security Printing Press owned by the Government of India at Nasik, the Government Printing Presses maintained by the Central and the Local Governments, the Telegraph Workshops at Alipore, the numerous Railway Workshops maintained by the different State Railways in India and Government Dockyards for the construction of and repairs to Government vessels.

In addition to these, Local Governments also maintain factories attached to important Central Jails where a variety of marketable articles are produced by convict labour. For example, the Dacca Central Jail in Bengal is equipped with machinery for the manufacture of heavy woollen goods such as blankets. The factory commenced working in 1914 and was extended in 1928. It now has two sets of condensers and 576 spindles which supply 16 looms with different kinds of yarn. It consumes 2,000 to 2,400 maunds of wool per year, all of which is grown in India, chiefly in the northern provinces. In the Bengal Presidency Jail, a leather factory has

been started for the manufacture of leather belts and sandals. Brass moulding and the manufacture of brass and aluminium badges, buttons and letters for uniforms are also undertaken. Cooking ranges, cage latrines, parts of oil mills, ejector trucks, etc., are also manufactured in the workshops. In Burma, the Insein Jail woollen industry and the Rangoon Jail Workshops have developed during the period under review.

An example of a Government venture in another industrial field is the Bengal Government Quinine Factory at Mungpoo. This is in its 73rd year of existence and yielded a total profit to Government from between 1929 and 1935 of Rs. 17,87,000. There is a similar factory at Naduvattam near Ootacamund in the Nilgiris. The area under cinchona plantation at Naduvattam is about two-thirds of that at Mungpoo while the amount of quinine manufactured is about half.

A Band Saw Mill at Siliguri in Bengal started work in 1926. Several improvements were made and labour saving devices introduced so that it is now able to produce an annual outturn of sawn timber of 48,000 cubic feet against 21,000 cubic feet in 1926-27. At the end of 1933-34, a circular saw-mill was incorporated with the band-mill as a second unit. As a result of the increased outturn and the improved methods introduced, the cost of sawing has been reduced from about 8 annas per cubic foot in 1926-27 to 4 annas in 1933-34. The net profit up to 1934 amounted to Rs. 28,509 or an average return of 4.32 per cent. on the capital for 8 years. Sales of sawn timber showed a serious fall in the years 1930 and 1931 : but since then they have again been steadily increasing.

CHAPTER VIII.

Research and Investigation.

(i) CENTRAL RESEARCH ORGANIZATION.

In accordance with a recommendation of the Indian Industrial Commission, a Chemical Services Committee was appointed in 1919 to formulate proposals for the organization of a chemical service and the location and equipment of research laboratories. The Committee recommended the formation of an Imperial Chemical Service and the establishment of a chain of Provincial Research Institutions with a Central Research Institute at Dehra Dun "to assist in the co-ordination of the work in progress in the provinces both by means of personal discussion between the officers of the Central and Provincial Institutes and by means of periodical Conferences of Provincial and Imperial officers". On account of the general opposition which the scheme for an Imperial Chemical Service evoked, it had to be dropped. The proposal for the establishment of Research Institutes which was closely linked to the scheme also necessarily fell through and the land acquired at Dehra Dun for a Central Institute had to be given up for other purposes.

As a result of the Imperial Conference in 1926, Local Governments were asked in 1928 to give their views on the question of the establishment of central agencies and institutions for industrial research. The views received expressed unanimity on the desirability of some co-ordination of research work in India and there was also a suggestion for the establishment of an Imperial Council of Industrial and Scientific Research on the lines of the Imperial Council of Agricultural Research. But the question was not further pursued at the time on account of financial stringency.

At the Fifth Industries Conference held at Simla in July 1933 it was agreed unanimously that some central co-ordinating authority should be set up for the co-ordination of research and in May 1934, the Government of India decided to establish an Advisory Council and a Central Bureau for Industrial Intelligence and Research. The Bureau, now called the Industrial Research Bureau, was established in April 1935 with a research branch at Alipore. The Bureau is attached to the Indian Stores Department and has been given a grant of Rs. 5 lakhs spread over a period of three years.

The Advisory Council, now designated the Industrial Research Council, is composed of representatives of the Central and Provincial Governments, with some non-official members, and held its first session in July, 1935. It has appointed a committee to examine the research work now being done in fatty oils, soaps and essential oils.

The Council has also recommended research work in paints, cement, vegetable oils and advised that a series of analyses should be undertaken of Indian sands and felspars with a view to find out how far they can be utilized in the manufacture of glass. It has also drawn up a scheme of prize awards for papers relating to industrial research.

The absence of any central co-ordinating agency during practically all the period under review, has not prevented the completion of much valuable work in various Government Institutes. In the field of forest produce, the Forest Research Institute at Dehra Dun carried out tests of 148 species of ordinary Indian woods and 87 species specially suitable for constructional work. The publication of scientific data on practically all the kinds of commercial timber available has been extremely useful to the timber industry as the absence of such data was mainly responsible for the preference shown by indentors to imported timber. A new technique for the kiln seasoning of wood was developed which reduced the period and cost of the process to half and one-third, respectively, while the finished product comes out in better condition than in former processes. The results of the work done in "Air Seasoning" have also been incorporated in a Manual in 1934 which specifically deals with the "Air Seasoning" of 120 different kinds of woods. Useful work on timber seasoning was also done by the Timber Research Division in Burma.

In wood preservation, a new process known as the Ascu process has been discovered at the Dehra Dun Forest Research Institute whereby wood can be protected for prolonged periods from the ravages of termites, fungi and wood borers by the fixation of copper and arsenic in it. A new technique for treating heartwood and sapwood of railway sleepers together has been developed by Mr. S. Kamesam ; for this he was awarded the Viceroy's Prize in 1933. It has enabled Railways to include sapwood in sleeper specifications and has lessened the cost of the process of preservation. A cheap and efficient method of re-conditioning abraded spike holes in railway sleepers has been discovered which will lengthen the period of service of railway sleepers and effect a saving of several lakhs of rupees a year in sleeper renewals. A good deal of work has also been done in connection with the study of Indian woods for veneers and plywood and in glue manufacturing. The paper pulp section has completed its work on the utilization of bamboos for pulp and has been working on a process for the extraction of cellulose from bamboos, suitable for the manufacture of artificial silk. The chemical section of the Forest Research Institute, Dehra Dun, has succeeded in extracting Indian santonin from *artemisia* growing in Kashmir and a drug called ephedrin used in cases of asthma and hay-fever from Indian *ephedras*. Thus, the

monopoly of Russia in santonin and of China in ephedrin has been broken and the prices of the drugs have been considerably lowered.

The Metallurgical Inspectorate at Tatanagar carried out several investigations at the special request of particular industries. An investigation lasting 3½ years was undertaken to ascertain the effect of temperature and weathering on the life and properties of cables and the results have been of considerable value to the manufacturer. Other work includes experiments on the effect of loads on fishplates of various designs and on welds for fractured component parts of aeroplane engines. Numerous tests of various materials like oils, mineral and vegetable, painting materials, chemicals, coal, cement, etc., which have been of value to the industries concerned have been carried out by the Indian Stores Department in the Government Test House at Alipore, Calcutta.

The Geological Survey completed a re-survey of the coalfields in India. Investigations were also carried out by that Department into the iron-ore resources of Bihar and Orissa, the asbestos and barytes deposits of Madras and upon the aluminous refractory materials of India. A memoir is in the course of preparation upon the copper deposits of Singhbhum. In Burma, systematic geological mapping has been continued in the tertiary tracts, especially in the Upper and Lower Chindwin and the Shwebo Districts. A large scale geological survey of the Mogok Stone Tract has been completed. Systematic geological surveys are also in progress in the Northern and Southern Shan States and in the Jade Mines region in the Myitkyina District.

Certain items of research relating to the sericultural industry have been conducted under the auspices of the Imperial Sericultural Committee, which was set up in 1934. The following schemes put forward by the Governments of Madras, Bengal and Mysore, respectively, were approved :—

- (a) Research into certain factors related to Pebrine disease.
- (b) Determination of the comparative efficiency of disinfectants used for the prevention of disease.
- (c) The effect of refrigeration in connection with the supply of disease-free layings.

In 1928, the Royal Commission on Agriculture recommended the formation of a Central Jute Committee to watch over the interests of all branches of the trade from the field to the factory. This recommendation was accepted by the Government of India in principle but could not be given effect to on account of financial stringency till May 1936, when the constitution of the Committee was announced. Its functions will be to undertake agricultural, technological and economic research, the improvement of crop

forecasting and statistics, the production, testing and distribution of improved seed, enquiries and recommendations relating to banking and transport facilities and transport routes and the improvement of marketing in the interests of the jute industry in India. The Government of India have decided to finance the Committee by annual grants not exceeding Rs. 5 lakhs, and a sum of Rs. 2½ lakhs has been sanctioned for expenditure during 1936-37.

In addition to the actual carrying out of researches and investigations, assistance has been rendered to non-official research. The Indian Institute of Science, Bangalore, which carries out research on a variety of chemical and industrial subjects receives an annual subvention of Rs. 1,50,000 from the Government of India and of Rs. 5,000 from the Government of Madras.

(ii) PROVINCIAL INSTITUTIONS AND LABORATORIES.

At the Harcourt Butler Technological Institute at Cawnpore which is a Government institution, research has been carried on in oils, sugar and a variety of other subjects. In the Oil Section, a process was discovered for the extraction of fibre from linseed straw, a waste product in the linseed oil extraction industry. Economic methods of crushing *nim, til* and other seeds in expellers have been discovered and a process developed for getting the desired mustard odour in mustard oil pressed in expellers. In the Sugar Section, researches have been carried out into sugar losses that take place in the process of open-pan boiling and several re-agents were tried to find out which gave the best results in the clarification of cane-juice during that process. A new combination of vegetable charcoals for refining brown sugar has been worked out and processes have been patented for the dehydration of spirit by means of molasses and the manufacture of a rain-proof road composition consisting of molasses-lime-asphalt. Indian sugars have also been classified under 22 Indian sugar standards against the 26 Dutch standards. Among other miscellaneous researches may be mentioned the discovery of special formulæ for the silvering of glasses, the manufacture of jams, disinfectants, carbon papers and "strike anywhere matches", the preparation of synthetic casein from glue and the waterproofing of cloth by chemical means. Technical improvements in pottery have been effected and various Indian glass making sands have been analysed and graded. Researches in connection with timber were also carried out. In the Government Central Weaving Institute, Benares, several new labour saving appliances in connection with the textile industry have been devised and perfected.

In Bengal, the laboratory attached to the Government Tanning Institute has been carrying out researches connected with the chemistry of leather manufacture and tanning. It has been

ascertained, for instance, that a considerable percentage of cow hides is highly suitable for chrome tanning and that hides not good enough for this purpose could be turned into half-tanned kips by vegetable tanning for export. Suitable chemical solutions for the proper preservation of hides and lizard skins have been discovered. Investigations have led to a definite improvement in the quality of Indian Box-sides (shoe upper leather), thereby assisting their export. Useful work has also been done in other branches of the leather trade, *e.g.*, the manufacture of shoe creams and polishes, pigment finishes and chrome tanning extracts in solid form. Experiments in connection with dyeing, spinning and weaving of sisal hemp and of bleaching and otherwise chemically treating jute fibre have been carried out at the Government Weaving Institute at Serampur.

At the Industrial Research Laboratory, maintained by the Bengal Department of Industries, research work was undertaken and finished in 21 cases during the period 1928-34. Of these, nine related to improved methods of soap manufacture and six to the industrial utilization of the less known vegetable oils specially in the soap industry. The others were concerned with the improvement of the country process of making sugar from *gur*, the refining of *ghee* and coconut oil, the silvering of glass globes, the bleaching of hosiery and the recovery of tannin from coconut husk. A chemical constant has been discovered with the help of which the hardness of the body of a charge of soap can be fixed or varied with greater accuracy than by any other method known to soap manufacturers.

Several minor investigations designed to assist the smaller industries were undertaken in this province. Experiments in the brass and bell-metal industry made with a view to provide less complicated building and sanitary fittings have proved successful. Among inventions to the credit of the Industries Department may be mentioned a new blowing arrangement giving rise to higher temperatures in furnaces for the melting of alloys, a machine for rolling out slate pencils, an improved type of potter's wheel and an improved kiln for glazed pottery. Efforts were also made to find suitable wood in Bengal for the manufacture of the bobbins used in jute and cotton mills.

In Burma, research work was carried on at the Agricultural College and Research Institute, Mandalay, opened in 1924, the Saunders Weaving Institute at Amarapura and the Lacquer School at Pagan. At the last named institution a process has been invented for the adulteration of lac with chemicals so as to produce a variety of pleasing tones of colour.

Reference has been made in a previous chapter to the research work done in the Kerala Soap Institute, Calicut, on oils, soap

and other allied subjects and in the Madras Industrial Institute on inks. The Madras Department of Industries has carried out investigations in the retting of coconut and hemp fibres and in regard to the pickling and preserving of whole peels of fruit and the treatment of fruit pulp for the manufacture of pectin and fruit juices. Work has also been done in the extraction of oil from cashew nut shells, which is in considerable demand abroad and the bleaching and curing of ginger.

In the Punjab, the Department of Industries has maintained an Industrial Research Laboratory since November 1931. A staff of one Industrial Chemist, one Assistant Chemist and three research scholars is maintained. Useful work has been done in connection with pottery, oilseed and oils and cereals. Research is proceeding on local raw materials for essential oils and glue, resins for the manufacture of synthetic camphor and limestone for the manufacture of precipitated chalk. The Textile Master of the Government Central Weaving Institute, Amritsar, has patented a double lift dobby called "Piano dobby" for producing fancy or figured designs on handlooms and a simple and economical method of melting pig iron has been invented and brought into use by the Headmaster, Government Metal Works Institute, Sialkot.

Research with a view to the elimination of technical difficulties experienced by small industrialists were carried out at the Industrial Laboratory attached to the office of the Superintendent of Industries, Delhi.

In the Central Provinces, the possibility of producing power alcohol from *mahua* flowers was investigated, but was found not to be a paying proposition.

In Bombay, an Industrial Chemist in the Department of Industries has carried out experiments in the extraction of tallow substitutes from vegetable oils and starch from *juwar*. The preparation of suitable pulp for the manufacture of paper from rice straw, saponin from soap pods and the extraction of alumina and aluminium sulphates from local bauxites and of lemon oil from discarded lemon peel, etc., have also received his attention. Research work relating to (a) joints in glass bangles, (b) impregnation of salts in gas mantles, (c) rectification of defects in the case-hardening furnace of a mortar mill, (d) difficulties in the confectionery industries, (e) fusing of platinum wire for the manufacture of electrolytic chlorine, (f) tests for dry cell batteries, etc., has also been carried out.

CHAPTER IX.

Development and Restriction.

(i) CESSES FOR THE DEVELOPMENT OF PARTICULAR INDUSTRIES.

In certain industries, Acts are in existence with the object of securing funds for research or for assisting the industry in other ways. The Indian Cotton Cess Act and the Indian Lac Cess Act were placed on the Statute Book before the period under review. A Bill designed to replace the Indian Lac Cess Act, 1921, and which included a new provision for the establishment of a statutory committee on the lines of the Indian Central Cotton Committee to control the proceeds of the lac cess levied was introduced in the Legislative Assembly during the Spring Session of 1930. The Bill, as amended by the Select Committee, was passed by the Legislature and brought into force on the 25th July 1930. An amending Act was passed on the 26th April 1936. The rate of cess has been increased from annas four to annas seven per maund in the case of lac and from annas two to annas five per maund in the case of refuse lac. The constitution of the Indian Lac Cess Committee has also been altered and provision has been made for expenditure from the lac cess fund for the purpose of securing patents for the protection of inventions by the employees of the Indian Lac Cess Committee.

The Indian Soft Coke Cess Act was passed in 1929 and was originally to remain in force until the 31st December 1934 ; its operation was extended for a further period of 5 years in 1934. It provides for the levy of a cess of two annas per ton on all soft coke sent by rail from collieries in Bengal and Bihar and Orissa. The object of the tax is to create a fund to finance measures for promoting the sale and improving the methods of manufacture of soft coke. A Committee to administer the funds was constituted in 1929 and experiments are being financed ; the work is carried on with the help of a passed student of the Indian School of Mines, Dhanbad. The efforts made have met with a large measure of success. The despatches of soft coke, in spite of the serious intervening depression, rose from 754,115 tons in 1929, when the Act was passed, to 860,478 tons in 1934.

The Indian Finance Bill of 1927 contained a provision for the abolition of the export duty of 5 per cent. *ad valorem* on raw hides : this was rejected by the casting vote of the President. In the endeavour to secure a settlement acceptable both to tanners and to the producers of India, Government thereafter explored, with the aid of a special committee known as the Hides Cess Enquiry Committee, the possibility of converting part or the whole of the export duty into a cess to be applied for the benefit of the industry. The

Committee's report was published in September 1930 : it recommended an export cess of 1 per cent. on raw hides and skins. The views of Provincial Governments on the Committee's recommendations were called for. But in the interval, the export trade in hides fell so seriously that the proposed rate would have been quite inadequate for the purpose and, with a view to assisting the trade, the duties on hides and skins were abolished in 1934 and 1935, respectively.

In the tea industry the Indian Tea Cess Act, 1903, provided for a small export duty on every pound of tea exported. The maximum rate of cess was raised to eight annas per 100 pounds of tea exported by Act I of 1921 and later on to twelve annas by Act III of 1935. The proceeds are being spent on propaganda for increasing the consumption and sale of tea in India, the United Kingdom and other countries abroad.

A Bill further to amend the Indian Tea Cess Act was introduced in the Legislative Assembly in April 1936, which proposes to raise the maximum rate of cess leviable from twelve annas to Rs. 1-8-0 per 100 pounds and also to authorize expenditure from the cess fund on joint propaganda with Ceylon and the Netherlands East Indies.

In 1935, an Act was passed by the Indian Legislature authorizing the levy of an export cess at a maximum rate of Re. 1 per cwt. of Indian coffee exported. The rate of cess at present levied is eight annas per cwt. The funds so raised will be administered by a special committee and spent for the purpose of promoting the cultivation, manufacture and sale of Indian coffee in India and abroad.

(ii) SCHEMES OF RESTRICTION.

Owing to general trade depression, an abnormal situation was created in certain industries which led to an approach to Government for special measures to deal with the difficulties which had arisen. In 1932, at the special request of the Indian tea industry, the Government of India indicated their willingness to consider any practicable scheme put forward to save the industry from serious collapse. An international scheme devised in London and agreed to by producers in India, Ceylon and the Dutch East Indies was submitted to the Government of India. It had the support of 92 per cent. of the Indian industry reckoned in terms of production. The main feature of the scheme was that exports of tea would be restricted to a percentage of the maximum exports from each producing country in any of the three years 1929, 1930 and 1931. It was also found necessary, mainly to satisfy the other participating countries, to place severe restrictions on the extension of the area under plantation. The necessary legislation

was adopted by all the countries concerned including India where the Indian Tea Control Act was passed by the Legislature in September 1933. The scheme was accepted in the hope that it would help to secure an early return to normal conditions ; and the original quotas were fixed at 85 per cent. of the standard exports laid down for each participating country. In the following year, the figure was raised to 87½ per cent. But thereafter, it was found necessary to revert to 82½ per cent. in 1935-36, which is also the figure for 1936-37.

A somewhat similar scheme was also adopted in the case of the rubber industry which was faced by a crisis due to over-production. The scheme, which received general support in India and Burma, was approved by the principal rubber producing countries, namely, the Dutch East Indies, French Indo-China, Sarawak and Siam. It is to remain in force until 31st December 1938 when its continuance will be considered by the Governments concerned. The Government of India gave effect to the scheme from the 1st January 1934 by issuing the necessary notifications under the Sea Customs Act, 1878, and certain executive instructions. These were *interim* measures and an Indian Rubber Control Act was passed in 1934 ; owing to technical difficulties the Act has not yet been put in force, but it is proposed to bring it into operation, after necessary amendments, with effect from the 1st January 1937.

The question of compulsorily restricting the output of coal in India by legislation came up before the Government of India in 1933. The opinions on the scheme received from Local Governments, Indian coal consuming interests and even the coal industry itself did not disclose any unanimity. The figures of output suggested that there was little, if any, over-production ; but there was evidence that the low price of coal was encouraging resort to wasteful methods of mining. It was decided that the best method of attacking the problem was not by compulsory restriction which would restrict the activities of efficient and inefficient mines alike. Instead, the Government of India proposed to proceed with a scheme for conservation designed to prevent the waste of the country's coal assets by controlling the methods of coal production. Some assistance to the industry was, however, granted by

(a) altering the basic percentage of the surcharge on railway freights for coal from 15 per cent. to 12½ per cent. ; and

(b) subjecting it to a maximum of Re. 1 per ton irrespective of distance with effect from the 1st April 1935.

The jute industry in Bengal was also confronted with difficulties. Here, for a number of years, voluntary agreements within the Indian

Jute Mills Association had placed close restrictions on production by limiting the hours of work. The growth of mills outside the Association and of dissensions within it, gave increasing difficulty, but, with the assistance of His Excellency the Governor of Bengal, agreements were made in 1932 under which most of the Association Mills worked 40 hours a week with 15 per cent. of their looms sealed, while other mills worked longer but limited hours. Government lent the assistance of the factory inspection staff in order to ensure the complete observance of the agreements. In the following years, looms were unsealed by degrees, but the level of profits secured by the agreement tended to encourage the growth of fresh enterprises, and objections to agreements which were incomplete and uneven in their operation increased. The majority of the industry therefore sought to secure the restriction of output by legislation in one form or another. The Government of India indicated their willingness to consider legislation of a temporary character provided that the industry was prepared to formulate and accept a scheme for rationalization which would ensure a stable position, and provided that the interests of the community in general and the jute cultivators in particular were safeguarded. Discussions with representatives of the industry followed but there was at no time much prospect of agreement and the Government of India declined to proceed with a scheme which, in their view, would do nothing to remove the weaknesses in the position of the industry and was not in the interests of the community or, in the long run, of the industry itself.

An international scheme for the restriction of the production and export of tin agreed to by some of the important tin producing countries of the world, *viz.*, Bolivia, Malaya, the Netherlands East Indies, Nigeria and Siam was in existence in 1931. It was due to expire early in 1934 but negotiations were set afoot to extend its term for a further period of three years. The question of the inclusion of Burma in the scheme was considered by the Government of India between 1931 and 1935. The proposal was not supported in Burma and it was finally decided that no useful purpose would be served by adherence to the scheme. It was decided that the measure of support of India to the tin restriction scheme would be limited to the refusal of prospecting licenses for new mines in Tavoy and Mergui.

(iii) MISCELLANEOUS MEASURES.

The Coal Grading Board Act, 1925, set up a statutory board for the grading of the produce of Indian collieries on applications made by them and for the grant of certificates for coal intended for export which would enable them to obtain certain rebates in railway

freights and Port Commissioners' charges. The East Indian and Bengal Nagpur Railways grant rebates of 37½ per cent. of the freight, excluding all terminals and extra charges, on coal exported from the Port of Calcutta to any port in or outside India under a shipment certificate granted by the Coal Grading Board. The Port Commissioners of Calcutta also grant a rebate of 50 per cent. of the river dues, i.e., four annas per ton on such coal. The Board's certificates, although originally intended to assist exports of coal, have also been of service in internal transactions in coal.

In 1926, a Railway Rates Advisory Committee was appointed by Government to investigate and make recommendations to Government on the following subjects :—

- (1) Complaints of undue preference.
- (2) Complaints that rates are unreasonable in themselves.
- (3) Complaints or disputes in respect of terminals.
- (4) The unreasonableness or otherwise of any conditions as to the packing of articles specially liable to damage in transit or liable to cause damage to other mechanism.
- (5) Complaints in respect of conditions as to packing attached to a rate.
- (6) Complaints that Railways do not fulfil their obligations to provide reasonable facilities for receiving and forwarding goods traffic without unreasonable delay and without partiality.

The Committee investigated about 25 such cases during the years 1926-27 to 1934-35 and made recommendations to Government which have been accepted in all cases except one.

The mica mining industry in Bihar was handicapped by systematic thefts on an extensive scale. In 1921-26, the export of mica from India was practically double the recorded output of the mines. To meet this difficulty, a Bill was introduced in 1927 which provided for a system of licensing of all persons engaged in the industry, for the maintenance of accounts of dealings in mica and for the regulation of the storage and transport of mica. A motion to refer the Bill to a Select Committee was rejected by the Bihar and Orissa Legislative Council without discussion in February 1928.

The abuses in the mica industry continued to be grave and in 1929 the Government of Bihar and Orissa redrafted the previous Bill of 1927 in the light of criticisms that had been levelled against it. The original Bill would have prevented the issue of mica to workers for splitting in their homes, an industry which gave employment

to hundreds of persons. It would also have penalized sales by miners and dealers to brokers, shippers or foreign buyers outside the mica area, unless the latter also possessed licenses. The provisions relating to the grant, revision and cancellation of licenses were modified so as to provide for the issue of licenses in all cases where the required fees were tendered and the power to cancel licenses was severely restricted, while the penalties were reduced. The new Bill, as amended by the Select Committee in matters of detail, was passed by the Council and brought into force in 1930.

CHAPTER X.

Protection.

After the introduction of the Reforms in 1920, there was a radical change in the fiscal policy of the Government of India. Until then, duties had been regulated principally according to revenue needs. The recommendation of the Indian Fiscal Commission, appointed in 1921 to consider the future tariff policy of India, was accepted by the Legislature in 1923 and a policy of protection, to be applied with discrimination along lines indicated by the Commission was inaugurated. A Tariff Board was constituted, and continued from time to time, to enquire in accordance with terms of reference formulated by Government on each occasion, into the conditions in industries presenting a *prima facie* case for protection and to make recommendations.

Thus, the Central Government, though curtailed of most of their powers of giving direct financial assistance to industrial development under the new constitution, found themselves in a position to aid the growth of Indian industries on a scale beyond the capacity of any Local Government.

(4) IRON AND STEEL.

The Fiscal Commission had recommended that the first industry to receive the attention of the new Tariff Board should be the iron and steel industry in India. The results of various enquiries by the Tariff Board and Acts passed between the years 1924-27 may be summarized as follows. Substantial duties were imposed on imported iron and steel manufactures of various kinds. Bounties amounting in all to about Rs. 242 *lakhs* were given for the benefit of the industry.

In 1926-27, the Tariff Board, after a further enquiry recommended that protection should be continued but not on the scale in force hitherto and that the further grant of bounties should be stopped. The Steel Industry (Protection) Act of 1927 was accordingly passed, giving effect to these recommendations. The Act was to be in force till March 1934, and before its expiry there was to be an enquiry as to the continuance of protection beyond that date. The grant of protection to steel wires and nails was withdrawn.

In 1930-31, the Tariff Board considered the anomaly arising out of the fact that the duties on the raw materials required by the iron and steel industry for the manufacture of certain articles were higher than those on the finished products and recommended that a specific duty of Rs. 2-4-0 per cwt. should be imposed on fishbolts
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and nuts, ordinary bolts and nuts and dogspikes, and of Rs. 2 per cwt. on rivets, gibs, cotters and keys. It also recommended that chrome steel switches and crossings should be brought under the protective tariff and that stretcher bars which formed part of switches and crossings should be liable to the same duty as switches and crossings, whether imported with the latter or separately. These recommendations were given effect to in the Steel Industry (Protection) Act, 1931.

In 1931, the Government of India, after a Tariff Board enquiry and with the concurrence of the Legislature, increased the protective duties on pipes and galvanized sheets both fabricated and non-fabricated. These increased duties were to be in force till the 31st March 1932, before which date the question whether a system of bounties might not be substituted wholly or in part for increased duties was to be considered. In 1932, it was decided that the revenue position of the Government of India did not permit the payment of any bounty; but the increased duties except in the case of galvanized sheets not fabricated were extended from time to time until October, 1934. Meanwhile, in 1932 the Indian Tariff (Ottawa Trade Agreement) Amendment Act was passed to give effect to the trade agreement which had been reached at the Ottawa Conference. The principal feature of this Act was the modification of the protective duties on non-fabricated galvanized sheets, then standing at Rs. 67 per ton, which were fixed at Rs. 30 per ton if of British manufacture and made from Indian sheet-bar, Rs. 53 per ton if made from sheet-bar other than Indian sheet-bar and Rs. 83 per ton on sheets not of British manufacture. Protective duties on these items, which will remain in force till the 31st March 1941, have been retained in a modified form in the Iron and Steel Duties Act, 1934 and the amending Act now in force, *viz.*, the Indian Tariff Act, 1934.

The question of restoring protection, which had been removed in 1927, to the wire and wire nail industry was considered by the Tariff Board, and in 1932 the Wire and Wire Nail Industry (Protection) Act, 1932, was passed giving effect to the Board's recommendations by imposing a duty of Rs. 45 per ton on imported wire and wire nails.

The protection afforded to the industry under the Act of 1927 and the other Acts referred to above was due to expire on the 31st October 1934. In August 1933, the Tariff Board was requested to hold the enquiry contemplated in the Steel Industry (Protection) Act of 1927 and also to re-examine the question of protection to the wire and wire nail industry, as well as the provisions relating to steel and iron in the Indian Tariff (Ottawa Trade Agreement) Amendment Act, 1932. The Board presented its report in April 1934. The enquiry showed that the scheme of protection had been

effective and that in spite of the great falling off in the demand for steel products, the industry had made substantial progress, maintaining its output and greatly reducing its cost of production. The Board considered that the Ottawa Trade Agreement had been successful and beneficial as regards pig iron and suggested that the continued free entry of this product into the United Kingdom should be secured in return for a preferential protective duty on British galvanized sheets imported into India. The Iron and Steel Duties Act, 1934 gave effect to these recommendations. It also imposed as a revenue measure an excise duty on the production of steel ingots in British India and a countervailing customs duty equivalent to the excise duty on steel ingots and certain articles manufactured therefrom imported into India from foreign countries. These duties with slight modifications have been incorporated in the Indian Tariff Act of 1934 and will remain in force till the 31st March, 1941.

It can be claimed with some confidence that the policy of protection for the steel industry has gone far to secure the desired results. At the time when protection started, the industry was in such a position that it could not have survived on any scale without assistance. Behind the protective tariff, it has greatly increased its production and has so reduced its costs as to warrant the hope that further assistance need not be of long duration. The output of steel at Jamshedpur which was about 163,000 tons in 1923-24, increased to about 630,000 tons in 1934-35, while the following figures for important items of manufacture show the general trend of the duties :—

Duty in Rs. per ton.

—	1924.	1927.		1931.	1932.		1934.	
		British	Non-British		British	Non-British	British	Non-British
<i>Not fabricated.</i>								
Galvanized sheets	45	30	30	67	30 (a) 53 (b)	83	15½ (c)	45½
Tin plate ..	60	48	48	48	60	60	44	65
Steel bars ..	40	26	37	No change	32½	46½	15½ (c)	44½ (d)
Black sheets ..	30	35	59	Do.	43½	73½	16½ (c)	37½

(a) if made from Indian sheet-bar.

(b) if made from sheet-bar other than Indian sheet-bar.

(c) or 10 per cent. *ad valorem* whichever is higher.

(d) or 20 per cent *ad valorem* whichever is higher.

(ii) COTTON AND OTHER TEXTILES.

The next important industry which has received substantial protection is the Indian textile industry including cotton and silk. The first survey of the cotton textile industry was conducted by the Tariff Board in 1926 when it became evident that the industry was not in a satisfactory condition, particularly in Bombay. The Board reported that the deterioration of the industry was mainly due to its unhealthy internal conditions, to the unfair and uneconomic competition from Japan and to the general trade depression. A number of detailed recommendations were made including the raising of the duty from 11 per cent. to 15 per cent. and the exemption from import duty of cotton textile machinery and mill stores. The Government of India proposed to accept only the latter recommendation. Strong protests were made against this decision, and, as a result, protective duties were imposed on cotton yarn to the extent of 5 per cent. *ad valorem* or $1\frac{1}{2}$ annas per pound, whichever was higher, by the Indian Tariff (Cotton Yarn Amendment) Act, 1927 for a period extending up to the 31st March 1930.

During the next two years the condition of the industry showed further deterioration and, in 1929, Mr. G. S. Hardy, Collector of Customs, Calcutta, was appointed to investigate the extent and severity of external competition. With a view to give an opportunity to the industry to re-organize itself, the general rate of duty was raised from 11 per cent. to 15 per cent. in 1930 and in addition an extra 5 per cent. was imposed on goods not of British manufacture. A minimum specific duty of $3\frac{1}{4}$ annas per pound was also prescribed at the same time for plain grey goods and the minimum specific duty of one and a half annas per pound on cotton twist and yarn imposed in 1927 was continued. These duties were to remain in force up to the 31st March 1933. In 1931, the rate of import duty was raised from 15 to 20 per cent. in the case of goods of British manufacture and from 20 to 25 per cent. in other cases on purely revenue grounds. In the autumn of the same year, it was found necessary to put an emergency surcharge of 25 per cent. on most articles including cotton piecegoods. The adventitious advantage thereby accruing to the cotton textile trade was to some extent reduced by the restoration of the duties on machinery and mill stores and the introduction of a new duty of half an anna per pound on imports of raw cotton.

In 1932, the Indian Tariff (Ottawa Trade Agreement) Amendment Act was passed. The effect of this Act was to differentiate between imports from different countries in that preference was granted on terms of reciprocity to certain classes of goods not subject to protection in India produced or manufactured in the United Kingdom, the Colonies which are not self-governing and the Pro-

tectorates. A 10 per cent. preference was extended to yarns and textile fabrics made of cotton, silk or artificial silk. In the same year, the Indian cotton textile industry was severely affected by Japanese competition, which was aided by the depreciation of the Japanese currency. Following another enquiry by the Tariff Board, the duty on all piecegoods not of British manufacture was raised to 50 per cent. *ad valorem*, the minimum specific duty on plain grey goods being enhanced to 5½ annas a pound. In June 1933, these duties were further raised to 75 per cent. *ad valorem* and 6½ annas a pound, respectively.

Meanwhile, the Tariff Board had been conducting an enquiry in order to determine how far the Indian cotton textile industry needed substantive protection. Its report was made available in November, 1932. In order to cover the period till final orders of Government could be passed on the Tariff Board's recommendations, the duties imposed in 1930 were temporarily extended first till the 31st October, 1933, and again up to the 30th April, 1934.

In the interval, an agreement had been reached between the representatives of the Bombay Millowners' Association and the British cotton textile industry. The necessity for reasonable protection to the Indian industry and preference to British goods imported into India, as against goods of foreign origin, was admitted by the British and Indian sides, respectively. Agreement was reached on the rates of duty to be levied on British yarn and artificial silk goods imported into India and the British side promised to take all steps to stimulate imports into the United Kingdom of Indian raw cotton, with the result that the quantity of raw cotton exported from India to the United Kingdom increased from about 30,000 tons in 1932-33 to about 62,000 tons in 1934-35. Government accepted the scale of duties which had been agreed upon by an important and representative section of the industry in India and with a slight modification of the agreement in respect of yarn of counts above 40s, gave effect to it under the Indian Tariff (Textile Protection) Act, 1934. During the debate on the Bill, the then Commerce Member stated that the duties on goods imported from the United Kingdom would come under review before the expiry of the agreement.

The textile industry, however, continued to be severely affected by the import of Japanese cotton piecegoods which had increased from about 217 millions of yards in 1925-26 to 580 millions of yards in 1932-33. In the face of the Anglo-Japanese Convention of 1904, the Government of India were not in a position to impose safeguarding duties on Japanese goods. Accordingly formal notice of denunciation of the Convention was given to Japan in April 1933 followed by an invitation to the Japanese Government to enter on

fresh negotiations. After lengthy negotiations between the Japanese and Indian delegations, a Draft Convention and Protocol were initialled in New Delhi on the 19th April 1934 and finally signed in London on the 12th July 1934. The Convention expressly recognizes the right of both Governments to impose additional customs duties on any goods imported with the proviso that such duties should not exceed those imposed on like articles imported from any other foreign country. It provides for settlement of trade difficulties which may arise as a consequence of such duties by friendly negotiations between the two countries. The Protocol lays down the maximum duties on Japanese cotton goods imported into India and fixes detailed quotas of such imports based on the quantity of raw cotton imported into Japan in each year. It also prescribes the maximum yardage of Japanese cotton goods to be imported into India in every year, with provisos for adjusting any excesses in the subsequent year, and that the Indian import duties on cotton piecegoods manufactured in Japan should not exceed 50 per cent. *ad valorem* or 5½ annas per pound whichever is higher, on plain greys, and 50 per cent. *ad valorem* on others.

In April 1934, the Indian Tariff (Textile Protection) Amendment Act was passed which embodied the changes in the import duties on textile goods pursuant to the Indo-Japanese Agreement, the agreement between the Indian and the British cotton industries and the considered decisions of the Government on the Reports of the Tariff Board on the cotton and silk industries.

In pursuance of the undertaking given on behalf of Government in the course of the debate on the Textile Industry (Protection) Bill in the Legislative Assembly, a Special Tariff Board was appointed in September, 1935, to investigate the adequacy of the protective duties applicable to cotton and artificial silk fabrics and cotton yarns of British manufacture. The Board recommended that the duty on plain grey cotton piecegoods should be reduced from 25 per cent. *ad valorem* or 4½ annas per pound to 20 per cent. *ad valorem* or 3½ annas per pound, whichever is higher, the duty on bordered grey, bleached and coloured piecegoods (excluding prints) should be reduced to 20 per cent. *ad valorem* and that the duty on cotton yarns should remain unchanged. In the absence of evidence as to the nature and extent of competition between imports from the United Kingdom of printed cotton goods and artificial silk manufactures and the products of the Indian cotton mills, no finding as to the adequacy of the existing duties on such imports was found possible by the Board. It recommended therefore that the existing duties thereon should not be disturbed. Government accepted the recommendations of the Board and revised the duties accordingly by an executive order in June, 1936.

The following table indicates that during the period of protection the cotton mill production in India has greatly increased at the expense of imports from abroad. The handloom industry has not secured a corresponding benefit, but it is satisfactory to note that the total consumption of handloom products per head of population has increased from 3.41 yards in 1925-26 to 3.95 yards in 1934-35.

COTTON PIECEGOODS.

(In crores of yards.)

Year.				*Total imports.	Mill production in India.	Handloom production in India.
1925-26	..	..	..	154	195	116
1926-27	..	..	..	177	226	133
1927-28	..	..	..	193	236	131
1928-29	..	..	..	190	189	108
1929-30	..	..	..	188	242	140
1930-31	..	.	..	88	256	139
1931-32	..	..	..	75	299	150
1932-33	..	..	..	119	317	170
1933-34	..	..	..	76	294	144
1934-35	..	..	..	94	340	146

*The figures include re-exports but exclude fents.

As regards other textiles, protective duties on raw silk and manufactured artificial silk and mixed fabrics were imposed by the Indian Tariff (Textile Protection) Amendment Act, 1934, which will expire at the same time as the protective duties on cotton goods. These duties were imposed after an enquiry by the Tariff Board into the requirements of the sericultural industry in India. The main features of the scheme are the prescription of a specific duty on a weight basis, as an alternative to the 50 per cent, *ad valorem* rate, in the case of silk fabrics and on a square yard basis on fabrics of artificial silk and mixtures as an alternative to the *ad valorem* rate of 30 per cent. in the case of British manufactures and 50 per cent. in the case of non-British manufactures. As has been mentioned in a previous chapter, the Government of India, with the approval of the Legislative Assembly, sanctioned a grant of a *lakh* of rupees a year for five years to assist the sericultural industry.

In June 1935, the Tariff Board reported on the claims of the woollen industry to protection. The Board dealt separately with the worsted and woollen branches. In regard to the worsted manufacturing industry the Board held that it failed to comply with the first requisite of protection as laid down by the Indian Fiscal Commission because of its dependence upon foreign supplies of raw material. The Government of India accepted this view. As to the woollen branch of the industry, the Government of India did not find it possible to take any action as a very important section of the industry failed to tender any evidence before the Tariff Board about cost of manufacture or the nature and degree of the competition experienced by it from imports. In the course of its enquiry the Tariff Board found that the small-scale woollen industry was in need of technical advice and assistance as regards marketing arrangements. The Government of India therefore with the approval of the Legislative Assembly sanctioned a grant of rupees five *lakhs* spread over five years for this purpose.

CHAPTER XI.

Protection—*contd.*

(i) SUGAR.

In 1930, the question of granting protection to the sugar industry in India was referred to the Tariff Board. Its report was received in February, 1931, and the examination of its recommendations took some time. Meanwhile, as a revenue measure, the duty on all grades of sugar was raised by Rs. 1-4-0 per cwt. by the Indian Finance Act of 1931. In the same year, a surcharge of 25 per cent. on the existing rates of duty was imposed with effect from the 30th September, 1931, by the Finance (Supplementary and Extending) Act, 1931. The rates of duty on sugar as they stood in May 1930, on the 29th September, 1931, and after the passing of the Finance (Supplementary and Extending) Act were as follows:—

Article.	Rates of duty in May 1930.	Rates of duty on the 29th September 1931.	Rates of duty as they stand under the Finance (Supplementary and Extending) Act.
Sugar, 23 D. S. and above.	Rs. 6 per cwt. ..	Rs. 7-4-0 per cwt.	} Rs. 9-1-0 per cwt.
Sugar, 22 D. S. to 8 D.S.	Rs. 5-8-0 per cwt.	Rs. 6-12-0 per cwt.	
Sugar, below 8 D. S. ..	25 per cent. <i>ad valorem</i> plus Rs. 1-8-0 per cwt.	25 per cent. <i>ad valorem</i> plus Rs. 2-12-0 per cwt.	} 31½ per cent. <i>ad valorem</i> plus Rs. 3-7-0 per cwt.
Sugar Candy ..	25 per cent. <i>ad valorem</i> plus Rs. 1-8-0 per cwt.	25 per cent. <i>ad valorem</i> plus Rs. 2-12-0 per cwt.	

In February, 1932, a Bill incorporating the decisions of Government on the Tariff Board's recommendations was introduced in the Legislative Assembly. During the Select Committee stage, the Bill was amended so as to provide for a declaration in the preamble that the sugar industry would be protected up to the 31st March 1946.

LEEDIL

The scope of the statutory enquiry to be held in 1938 was restricted to ascertaining the degree of protection required after that date. Power was also given to the Governor General in Council to increase the duty on sugar after due enquiry in order to off-set any fall in price. A uniform duty of Rs. 7-4-0 per cwt. was imposed on all kinds of sugar, which, together with the surcharge of 25 per cent., worked out to Rs. 9-1-0 per cwt.

While introducing the Bill in the Legislative Assembly Sir George Rainy observed as follows :—

“ I do not myself feel that we should be justified in saying that it is reasonably certain that in India generally sugar will some day be produced as cheaply as it is produced in Java and in Cuba. That, I think, is very doubtful. The reason which induced the Government nevertheless, in spite of this fact, to bring forward this measure lies in this, that they feel that it is of such national importance to agriculturists in many parts of India that sugar cultivation should be developed and should attain much greater magnitude than it has yet attained that other considerations have to give way. I believe from all I have read, both from what has appeared in the press and what I have heard from others, that this is the general opinion in the country, and that the public generally regard the development of sugar production as of real national importance. It is on that ground that the Government of India have put forward this measure and ask the House to give it its approval and support ”.

The Tariff Board had recommended that a grant of not less than Rs. 10 lakhs should be made annually from central revenues for sugar research. In the Government Resolution on the Tariff Board's proposals, it was stated that, although an undertaking to this effect could not in the then financial circumstances of the Government be given, the recommendation would receive the careful consideration of the Government of India. In accordance with that promise, the Government of India have made or undertaken to make grants totalling to Rs. 20 lakhs for sugar research schemes through the Imperial Council of Agricultural Research. Several provincial schemes for the improvement of sugarcane have been financed out of these funds by the Council which has also sanctioned grants for a chain of eight research stations in Northern India and three in the Deccan, viz., one for Bombay, one for Madras and another for Mysore. The Government of India have undertaken, in addition, to finance the Central Sugar Research Institute at Cawnpore from 1936-37 to the extent of Rs. 14 lakhs spread over five years. Some results of the

policy of fostering the sugarcane industry are indicated by the figures given below :—

Year.	Area under cane. (Acres). 000	Area under improved varieties of cane. (Acres). 000	Production of sugar direct from cane. (Tons). 000	Number of fac- tories employ- ed in produc- tion of sugar direct from cane.
1926-27	30,76	2,08	63	25
1927-28	31,05	2,69	68	26
1928-29	26,50	3,01	68	24
1929-30	26,77	5,49	90	27
1930-31	20,02	8,17	1,20	29
1931-32	30,76	11,70	1,59	32
1932-33	34,35	18,46	2,90	57
1933-34	34,19	22,95	4,54	112
1934-35	34,71	24,46	5,78	130

As a result of the imposition of a protective duty and the adoption of other measures for fostering the development of the sugar industry in India, the revenues from the import duty on sugar which in 1930-31 amounted to over Rs. 10 *crores*, had dwindled by 1934-35 to a little over Rs. 2 *crores*. The estimates of sugar production by new factories made by the Sugar Technologist showed the possibility of still further loss of revenue under this head. In order to recoup the loss partially, the Sugar (Excise Duty) Act was passed in 1934 and excise duties at the following rates were imposed on sugar produced in any factory in British India :

(a) Khandasari sugar Ten annas per cwt.

(b) All other sugar except palmyra sugar .. One rupee and five annas per cwt.

(c) Palmyra sugar At such rate, if any, as may be fixed by the Governor General in Council after such enquiry as he may think fit.

The margin of protection to the Indian sugar industry recommended by the Tariff Board in 1931 was Rs. 7-4-0 a cwt. which was to be increased to Rs. 7-12-0 a cwt. if sugar prices fell below a certain level. The rate of duty actually imposed by the Sugar Industry (Protection) Act, 1932 was Rs. 7-4-0 a cwt. ; but on account of the surcharge of 25 per cent. imposed in 1931, the duty rose to Rs. 9-1-0 a cwt., i.e., Rs. 1-5-0 per cwt. in excess of the maximum rate of Rs. 7-12-0 recommended by the Tariff Board. The effect of the new excise duties which did not exceed Rs. 1-5-0 a cwt. was, therefore, not more (and in fact somewhat less) than the discounting of the adventitious effect of the surcharge and the margin of protection afforded to the industry has remained at the maximum level suggested by the Tariff Board.

By the definition of ' factory ' in the Sugar (Excise Duty) Act, 1934, the excise duty is leviable on sugar produced in any premises wherein twenty or more workers are employed and in which any manufacturing process connected with the production of sugar is carried on with the aid of power. No excise duty is therefore paid by a portion of the agricultural section of the industry (i.e., the Khandsari industry) which manufactures sugar by the open pan process. Further, the excise duty on sugar produced by this section of the industry in concerns which satisfy the definition of a factory has been fixed at 10 annas per cwt. in consideration of the lower margin of profit earned by the industry.

No excise duty has yet been levied on palmyra sugar as an enquiry made showed that the imposition of excise duty would prove detrimental to the industry and was likely to throw a large number of the agricultural population out of employment. The position of the industry is, however, being watched.

The Sugarcane Act, 1934, was passed by the Central Legislature with the object of securing to the grower a fair price for his cane, relative to the price of sugar. It empowers Local Governments to frame rules for the regulation of the purchase of sugarcane by purchasing agents acting on behalf of sugar factories and to fix the minimum prices for sugarcane in areas to be specially declared by notification as controlled areas. Effect has been given to this Act in the United Provinces and North Bihar. The Government of Madras considered the question of applying this Act to certain areas in that province, but decided to take no action.

(H) PAPER.

Protective duties on paper were first levied in 1925. The first report of the Tariff Board recognized that the claim to protection rested entirely on the possibility of manufacturing paper from bamboo. It accordingly recommended the grant of State assistance

in the shape of a protective duty of Rs. 140 per ton for 5 years on printing and writing paper in order that the possibility of manufacturing paper from bamboo may be fully explored. It also recommended financial assistance to firms properly equipped to carry out the work which had to be done. Government accepted the tariff proposal, but not that relating to the grant of direct financial assistance. In lieu of the latter, the protective period was extended from five to seven years. The second report of the Tariff Board was presented in 1931. The Board found that the industry had not developed as rapidly as was anticipated in the first report but thought that "firm and solid foundations had been laid for the industry". The continuance of the protective duty was, therefore, recommended for a period of seven years. The grant of protection to the wood pulp industry was also a necessary concomitant of the protective scheme in respect of the paper industry. Accordingly, the Bamboo Paper Industry (Protection) Act was passed in 1932 imposing a duty of Rs. 45 per ton on wood pulp. With the surcharge the duty works out to Rs. 56-4-0 per ton and the duty will remain in force till the 31st March, 1939.

(iii) SALT.

In 1926, the Taxation Enquiry Committee recommended that the question of protection to salt, with a view to make India self-supporting in the matter of her salt supplies, should be referred to the Tariff Board. The Central Board of Revenue reported that there was no *prima facie* case for reference to the Tariff Board for two reasons. First, because in their view it was neither necessary nor desirable on general economic grounds or from the point of view of ensuring the country against shortage in time of war to dispense with sea-borne salt and, secondly, because there was insufficient evidence to show that enough white crushed salt could be produced in India to supply the needs of Bengal where most of the imported salt was consumed. The matter was debated in the Legislative Assembly in March, 1929, and the debates revealed that there was considerable dissatisfaction with the above conclusions. Government accordingly re-considered the position and referred the matter to the Tariff Board for enquiry. An Act was subsequently passed in 1931 imposing an additional duty of 4½ annas per maund on all salt imported into any port in British India except Aden and Perim, the duty being entirely remitted, subject to certain conditions, in the case of salt imported from any place in India (including Aden). The duty was subsequently reduced to 2½ annas in 1933 and its duration was extended from time to time till the 30th April, 1936. A Bill to extend its duration till the 30th April, 1938, and to reduce the duty to 1½ annas was introduced in the Legislative Assembly on the 8th April, 1936, and is now on the Statute Book as Act II of 1936.

(10) MISCELLANEOUS INDUSTRIES.

In the year 1926, the Tariff Board was asked to consider and to report whether the existing import duty of Rs. 1-8-0 per gross on matches should be maintained and to consider whether the consequent loss of revenue could be made up by suitable taxation on the Indian industry. The Board found that the match industry satisfied the necessary conditions for the grant of protection and recommended that the existing rate of duty should be retained as a protective duty. The Government of India accepted the recommendation and the Match Industry (Protection) Act, 1928, was passed in September. On the question of making up the loss of revenue by taxation the Board merely observed that in certain circumstances an excise duty might be properly imposed. In 1934, an excise duty was imposed under the Matches (Excise Duty) Act at rates ordinarily ranging with the size of the box from one to two rupees per gross of boxes.

The customs duties on matches were revised so as to maintain the existing measure of protection for the Indian industry over and above the equivalent of the new excise duty. To obviate the competition of matches manufactured in Indian States an arrangement was arrived at under which most of the match manufacturing States agreed to levy an excise duty at the British Indian rate. Imports of matches into British India from those States that did not abide by the arrangement were prohibited.

In view of the fall in world prices for wheat, wheat produced in India was found to be unable to compete with imported wheat at the ports and in adjacent areas. With a view to assist the sale of indigenous wheat in competition with the imported wheat, an Act imposing a duty at the rate of Rs. 2 per cwt., temporarily, on wheat and wheat flour imported into India was passed in 1931. The duty was extended from time to time. In 1935 and 1936 the duty was lowered and the duty as fixed for one year by Act No. X of 1936 is one rupee per cwt.

On the recommendation of the Tariff Board, an Act was passed in 1931 imposing for a period of ten years, i.e., up to the 31st March, 1941, a protective duty of 50 per cent. *ad valorem* on silver thread and wire (including the so-called gold thread and wire mainly made of silver), silver leaf, and articles of a like nature and restoring the original duty of 30 per cent. *ad valorem* on silver plate and silver manufactures of all sorts not otherwise specified.

The question of affording protection to the heavy chemical industry in India was referred to the Tariff Board in 1928. The Board submitted two reports—one dealing with the magnesium chloride industry and the other dealing with chemicals required in the manufacture of sulphuric acid. In accordance with its recommendations, an Act was passed in 1931 imposing a protective duty

of annas 7 per cwt. on magnesium chloride until the 31st March, 1939, and protective duties at varying rates from annas 6 per cwt. to Rs. 5-3-0 per cwt. on acids and chlorides and sulphates of certain metals with effect up to the 31st March 1933. The protective duties imposed under the Act on chemicals, other than magnesium chloride, then lapsed. These were afterwards liable to the ordinary revenue duties imposed under the Indian Tariff Act, 1894, and subsequently by the amending Tariff Act of 1934. The protective duty on magnesium chloride was increased to Rs. 1-5-0 per cwt. or 25 per cent. *ad valorem*, whichever is higher, by the Indian Tariff Act, 1934 and will remain in force till the 31st March 1939.

The claims of the Indian kerosene oil industry to protection against the injury inflicted on it by a kerosene price war in progress in India between the Standard Oil Company of New York and the Royal Dutch Shell Group were considered by the Tariff Board which reported in 1929-30 that no case had been made out for safeguarding it. This view was accepted by the Government of India.

The question of granting protection to the manufacture of electric wires and cables was referred to the Tariff Board for enquiry in 1931. The Tariff Board reported in 1932 that the industry did not satisfy the conditions laid down by the Indian Fiscal Commission and did not recommend the grant of protection to it. The Government of India accepted this recommendation.

In the same year, the question of protection to the glass industry was also considered by the Tariff Board. The Government of India were unable to accept the view taken by the Board that the absence of satisfactory sources of soda ash in the country did not invalidate the claim for protection. They were of opinion that the high cost of indigenous raw materials in the United Provinces, which was the biggest glass producing province, as compared with the cost of imported raw materials at the ports of importation was a fatal obstacle to the development of the industry in spite of any protection that might be given. The claim to protection was not accepted, but concessions valid for 3 years in the shape of refunds of the entire import duty paid on soda ash of British or Colonial origin and the excess over 10 per cent. *ad valorem* in the case of non-British ash used by Indian glass manufacturers, were sanctioned.

(v) SAFEGUARDING DUTIES.

In 1932-33, the Government of India received representations from numerous minor industries for the adoption of legislative measures to combat the menace arising from the importation of foreign and particularly Japanese goods at phenomenally low prices. These representations were strongly supported by commercial bodies, Indian as well as European, throughout India and the Government of India introduced a Safeguarding of Industries Bill in the Legis-

lative Assembly during its winter session. The Bill became law in April, 1933. Applications for assistance under the Act were received from a number of small industries and a questionnaire asking for detailed information on certain points was issued in July 1933.

After receipt of the replies to the questionnaire, the claims of the various industries concerned were carefully considered. Mainly as a result of the Indo-Japanese Convention which contained a clause to the effect that articles imported from Japan should not be subjected to duties or charges other or higher than those imposed on like articles produced or manufactured in any other foreign country, the Safeguarding of Industries Act, 1933, was not invoked and it expired on the 31st March, 1935. Instead, Government introduced a Bill in the Legislative Assembly in December, 1933, in which assistance was proposed to be afforded to certain industries by the imposition of minimum specific duties applicable against all countries. The Bill was passed into law as the Indian Tariff (Amendment) Act, 1934, and came into force in February that year.

(vi) REMOVAL OF TARIFF ANOMALIES.

In addition to the grant of substantive protection to the various industries as detailed above, assistance was given on the recommendation of the Tariff Board to particular industries by the removal of tariff anomalies. In these cases, the duty on the raw materials required by the Indian industry was alleged to be higher than that on the finished product.

In 1925, representations were made by the electric wires and cables and the printing industries that their development had been hampered by the fact that the duty on the finished articles was lower than that on the materials which had to be imported for their manufacture. On the recommendation of the Tariff Board, the Indian Tariff (Amendment) Act, 1929 was passed, which imposed an *ad valorem* duty of 5 per cent. (raised to 6½ per cent. in 1934) on certain classes of rubber insulated copper wires and cables, while an *ad valorem* duty of 2½ per cent. on printing type was changed to a specific duty of 1 anna per pound (raised to one anna three pies per pound in 1934). In another case the Board recommended the removal of the duty of 15 per cent. *ad valorem* on electrolytic copper rod, which is used for the manufacture of bare hard drawn copper conductors. In view of the difficulties in distinguishing electrolytic copper rod from other copper rod, Government considered that the removal of the duty on the former would lead to an increased consumption of electrolytic copper rod in place of other copper rod for other purposes. Necessary relief was, therefore, given to the Indian Cable Company by permitting it to import its requirements of such rod free of duty under executive orders.

In 1929, the Tariff Board on similar grounds recommended the removal of the import duty of 15 per cent. levied on manila hemp, an ingredient in the manufacture of manila rope in India. The Government of India accepted the recommendation in principle, but have not been able to give effect to it on account of financial considerations. Similarly, the Government of India on the advice of the Tariff Board reduced the rate of duty on carbon blocks used in the manufacture of carbon brushes for electrical motors and generators from 25 per cent. to 15 per cent. *ad valorem* by notification under section 23 of the Sea Customs Act, 1878, with the approval of the Legislature in the autumn of 1935, and the duties imposed thereunder, though modified, have retained their protective character in the Indian Tariff Act, 1934.

CHAPTER XII.**Government Purchases.****(i) GENERAL POLICY.**

The policy followed by Government of affording all possible help to the development of Indian industries, by showing a definite preference for articles of indigenous manufacture in making purchases to meet the requirements of the public service, is no new one. The preamble to the Stores Purchase Rules framed in 1924 laid down this policy in unmistakable terms. The only feature of these rules which gave rise to some criticism was the arrangement whereby the purchase of foreign articles through the official agency set up in London was based on a system of sterling tenders. In pursuance of a resolution passed in the Legislative Assembly, the Government of India published in 1928 a draft of certain new rules, commonly known as the Rupee Tender Rules, which after the canvassing of public opinion were issued in their final form in December 1929. The rules came into force on the 1st January, 1931. The preamble to the rules which is reproduced below sets out the present policy of the Government in the matter of the purchase of Government stores.

“ The policy of the Government of India is to make their purchases of stores for the public service in such a way as to encourage the development of the industries of the country to the utmost possible extent consistent with economy and efficiency, and the following rules which are applicable to the purchase of stores (other than printing and stationery stores) for the Government of India and for provinces other than Governors' provinces are prescribed in accordance with this policy. These rules supersede all previous orders on the subject.

“ In order to give effect to the above policy, preference in making purchases will be given in the following order :—

First, to articles which are produced in India in the form of raw materials or are manufactured in India, from raw materials produced in India, provided that the quality is sufficiently good for the purpose ;

Secondly, to articles wholly or partially manufactured in India from imported materials, provided that the quality is sufficiently good for the purpose ;

Thirdly, to articles of foreign manufacture held in stock in India, provided that they are of suitable type and requisite quality ;

Fourthly, to articles manufactured abroad which need to be specially imported.

"Departments of the Government of India, or officers specially authorized in this behalf, may, when they are satisfied that such a measure is justified, allow a limited degree of preference in respect of price to articles produced or manufactured in India either wholly, or in part."

With the exception of a few special classes of stores, all articles required to be purchased for the public service have, under these rules, to be purchased on the condition that delivery is to be made in India for payment in Rupees in India.

(4) THE INDIAN STORES DEPARTMENT.

In pursuance of this policy, articles wholly or partially manufactured in India worth Rs. 15,56,56,000 were purchased for Government use during the eight years 1928-29 to 1935-36 by the Indian Stores Department. An idea of the unceasing vigilance of the Department to prevent indenting from abroad of articles available in India can be formed from the following table which gives the value of the items challenged in foreign indents by the Department during the years 1929-30 to 1935-36 :—

Year.					Total value of indents examined.	Total value of items challenged.
					Rs.	Rs.
1929-30	..	..	..	..	3,16,06,941	14,95,803
1930-31	..	..	..	..	2,83,80,217	14,82,188
1931-32	..	..	..	..	93,84,301	3,94,293
1932-33	..	..	..	..	74,36,880	63,573
1933-34	..	..	..	..	60,01,840	80,333
1934-35	..	..	..	..	93,32,272	74,640
1935-36	..	..	..	..	77,42,267	33,293

The marked reduction in the total value of indents examined and items challenged since 1931-32 is in a great measure due to the introduction of the Rupee Tender Rules in 1931.

The Department has also assisted Indian industries by persuading indentors to have recourse to indigenous sources of supply whenever it was found that products were obtainable of suitable quality at a competitive price in India. In 1929, a sample of indigenous cylinder oil offered by a firm was tested at the Government Test

House, Alipore, and reported to be unacceptable owing to its specific gravity being high and the flash point low. An imported brand was therefore purchased on this occasion. But the Department persuaded the Chief Mechanical Engineer of a Railway to give the oil a practical trial under working conditions although it did not fully comply with the specification. The oil was accordingly tried and found suitable for the cylinders of engines using superheated steam with the result that in the following year the firm was able to secure an order for Rs. 12,800 from the Railway for the oil in question. Thus, the indigenous oil industry was assisted at a saving of Rs. 8,000 to the Railway. In another case, an indenter asked for 400 gallons of black paint of an imported brand. The previous purchase price was Rs. 3-9-0 per gallon. The Department supplied an Indian made product at Rs. 2 per gallon which was superior in quality to the product previously used. In place of heat resisting black paint and enamel which used to be imported at Rs. 17 and Rs. 24-4-0 per gallon, respectively, Indian brands of precisely the same quality were supplied at Rs. 2-10-0 and Rs. 7 per gallon, respectively. Owing to the good offices of the Department, orders for white lead amounting to Rs. 4,40,000 were placed with the Bangalore White Lead Syndicate, orders amounting in all to Rs. 21 lakhs for electrical cables and conductors and Rs. 1,20,000 for electric fans were placed with Indian firms at Tatanagar and Calcutta, respectively. These are only a few out of the numerous instances in which the Department was able to help an indigenous industry and at the same time to effect economy in Government expenditure.

An exhibition of Indian manufactures has been organized by the Indian Stores Department in the Imperial Secretariat Buildings, New Delhi, for bringing prominently to the notice of indenting authorities and the public generally the standard of quality attained in certain industries. Manufacturers are showing an increasing interest in the exhibition which includes a wide range of textile, engineering and miscellaneous stores, and is fairly representative of the various classes of indigenous articles purchased by the Department.

The facilities offered by the Department for the purchase of stores in India were brought to the notice of the Governments of Ceylon, Malaya and the Union of South Africa, with the result that the following orders among many others were obtained by Indian firms :—

- (1) Grain bags to the value of Rs. 6 lakhs supplied to the South African Government.
- (2) Tents and components worth over Rs. 50,000 from Cawnpore for the Palestine Government.
- (3) Cast iron pipes weighing approximately 5,000 tons for the Singapore Municipality.

Several enquiries for Indian products by foreign Governments have also been received.

Standardization of specifications by the Department in a large number of cases has reduced the types and sizes in respect of a variety of articles required by Government Departments to the absolute minimum. This has enabled the manufacturers to improve their methods of production by concentrating on the specified types and sizes of articles and to lower their costs of production by increasing their output. Such standardization has been possible in respect of a large number of articles such as ammunition boots, postman's bags, enamelled sign boards, iron cash and railway travelling safes, galvanized steel buckets, *putties*, drills, *pugree* cloths, cardigan jackets, towels, blankets, threads and twines, bunting, tents, etc.

(iii) RAILWAY MATERIAL.

The Railway Board has followed a similar policy in the purchase of stores by and on behalf of railways. Price preferences have been allowed in favour of the indigenous material and tenders for stores required by State-managed Railways are invited under the Rupee Tender System. State-managed Railways have instructions to obtain the orders of the Railway Board before accepting tenders for locomotive, carriage and wagon component parts from abroad, in cases where Indian manufacturers have also submitted quotations. In the case of other classes of stores manufactured in India, State-managed Railways submit quarterly returns giving details of all cases in which orders were placed for articles of foreign manufacture when quotations from Indian manufacturers were received, together with reasons for such action.

The purchase of a substantial part of the stores required by State-managed Railways has been entrusted to the Indian Stores Department which now deals with about 250 items. The value of these stores has increased from Rs. 74 lakhs in 1927-28 to Rs. 278 lakhs in 1935-36.

Indian manufacturers have been encouraged in a variety of other ways. All orders for major bridge work and for the renewal of large bridges such as the Ava (Burma), Willingdon (East Indian Railway), Broach (Bombay, Baroda and Central India Railway), Chambal and Sindh (Great Indian Peninsula Railway) were placed for construction in India. The Indian Iron and Steel Company obtained a long term contract in 1931 for the production of pig iron for subsequent conversion into cast iron sleepers. The coal industry has been assisted by reducing the raisings from Railway collieries from 50 per cent. in 1926-27 to 33.3 per cent. in 1936-37 of the requirements of State-managed Railways, the balance being purchased from

the market. The manufacture of points, crossings and signal material in several Railway Workshops has been discontinued or work restricted to repairs, orders for all new works being placed with firms in India.

After the expiry of the Steel Industry (Protection) Act, 1924, the Government of India decided that if in any financial year up to and including 1934-35 the requirements of railway wagons and underframes should fall below 5,000 expressed in terms of C2 wagons, tenders in that year would be called from Indian firms and the lowest tender would be accepted, provided the price was reasonable and a substantial portion of the component parts of the wagons and underframes was manufactured in India. From 1928-29 to 1934-35, all orders for wagon and underframe requirements were placed in India for manufacture in India. For the years 1933-34, 1934-35 and 1935-36 orders for the construction of approximately 3,000, 3,000 and 3,750 new wagons, respectively, were placed for construction in India.

Progress in the standardization of the designs of railway rolling stocks, bridges, track components and signal and interlocking material, etc., together with the preparation and publication of I. R. S. Specifications for railway material, has done much to assist the expansion of existing industries in India and to encourage the establishment of fresh indigenous manufactories.

As examples of the success attained from this policy, attention is drawn to the fact that—

- (a) Vacuum brake material used on coaching and goods stock is now wholly manufactured in India.
- (b) The manufacture in India of permanent-way fittings, track, tools, etc., and the development of the re-rolling industry have increased enormously.
- (c) A factory has been started in Calcutta to manufacture railway rubber fittings.

(iv) STATIONERY.

Revised rules regulating the purchase of stationery and printing stores by Departments under the Government of India were issued in May 1935. The preamble to these rules is closely modelled on the lines of the preamble to the Stores Purchase Rules to which reference has already been made.

The Department of Printing and Stationery under the Government of India, in addition to supplying the requirements of stationery of the Central Departments, caters for the needs of the following Provincial Governments—Bengal, the Punjab, the Central Provinces, Assam and the North-West Frontier Province. It has

consistently followed the policy of giving preference to articles of Indian manufacture in making purchases. Thus, Indian mills are supplying over 95 per cent. of the paper required by Government and can compete with foreign firms in the quality of the paper supplied both as regards the "protected" and "unprotected" varieties. Indian concerns have also, in consequence of Government encouragement, been able to supply over 75 per cent. of rag paper for permanent records, ivory finish paper, antique cream laid paper and envelopes which used to be obtained wholly from abroad some years ago. Thus, the average values of purchases of Indian paper and of paper purchased through the Director General, India Store Department, London, during the six years 1928-29 to 1933-34 were Rs. 42 lakhs and Rs. 1 lakh, respectively, per annum, and the value of paper purchased through the London agency fell from Rs. 1,72,000 in 1928-29 to Rs. 14,000 in 1935-36.

After the adoption of new specifications developed in the laboratory attached to this Department in 1932, Indian manufactured inks are rapidly replacing the more expensive high class foreign inks which are now stocked in small quantities only to meet special requirements. Thus, the value of local fountain pen ink purchased during 1935-36 was Rs. 4,700 against Rs. 1,400 for imported ink. Superior fluid ink produced in India to the value of Rs. 24,200 was purchased in 1934-35 against Rs. 18,500 in 1929-30, while the value of imported ink under this category fell from Rs. 4,200 in 1929-30 to Rs. 1,800 in 1935-36.

In respect of sealing wax, sensitised ferro-paper, desk knives, scissors, glass articles, chinaware, etc., the entire needs of the Department are met by Indian concerns. Encouragement is also given to Indian cottage industries by local purchases of jaconet cloth, cotton twine, hemp twine, cotton thread, tags of various kinds, brushes, rubber rollers, stamp pads, wooden inkstands, stationery cabinets, pin cushions, thumb impression pocket cases, wax cloth, etc. These are chiefly made by hand from indigenous raw materials.

Even in cases, where the articles supplied are not quite up to the standard and the prices to be paid are higher, preference is given to Indian concerns. Thus, a straw-board mill, the only one in India then, was practically kept alive by Government ordering from it the major portion of their requirements at prices 55 per cent. above those of imported varieties, from 1926 to 1931. The mill now supplies straw-boards at a rate more in keeping with the price of imported boards and another mill has recently been started.

Even as regards articles which are not usually produced in India, encouragement is given to firms which have established factories in India. In orders for typewriters, preference is given to

the Remington Rand Inc., which, as a step towards partial manufacture in India, established a factory in Calcutta for assembling typewriters providing employment to 246 Indians. Messrs. Gestetner, Ltd., who have established a factory in Calcutta for the manufacture of high class duplicating ink, have also received preferential treatment.

(v) PROVINCIAL GOVERNMENTS.

Provincial Governments have followed a policy similar to that of the Central Government. In Bengal, new rules for the purchase of stores were issued in August 1926. Local Departments and officers were instructed to utilize to the fullest extent the services of the Indian Stores Department. The existing arrangements for the supply of articles for the public service were also replaced by a system of rupee tenders for delivery in India at the suggestion of the Government of India in 1933. Another feature of the new rules issued in 1933 is the removal of financial restrictions on local purchase and the allowance of a limited degree of preference in respect of price to articles produced or manufactured in Bengal. As a result of these changes, the value of stores purchased abroad fell from £20,506 in 1928-29 to £11,013 in 1932-33, while the average annual value of imported articles and articles produced in India purchased during the five years 1928-33 was about Rs. 15 and Rs. 21 lakhs, respectively.

The Central Provinces Stores Purchase Rules, issued in 1931, provide for definite preference to articles produced or manufactured in the province and then to articles produced or manufactured in other parts of India.

The Burma rules framed in 1933 lay down that tenders for all articles required in large quantities, which cannot be supplied by a local department, should be called in rupees for supply in Burma and that when it is desirable to purchase an article in Europe tenders should be called for through the Director General of Stores, India Store Department, London.

In Madras, in the seven years between 1927-28 to 1933-34, the total value of stores indented for from England was only Rs. 9,70,000 against Indian stores to the value of Rs. 20,34,000 purchased in India. In Bombay, stationery articles are supplied by the Superintendent, Government Printing and Stationery, Bombay, while the requirements of various Departments above Rs. 500 are met by the Indian Stores Department. Both these Local Governments adopted the Rupee Tender Rules in 1931. The Punjab Government obtains its requirements of stationery through the Stationery Office, Calcutta and utilizes the agency of the Indian Stores Department for the purchase of its requirements of stores, especially plant and machinery, to a considerable extent.

In the United Provinces, a Stores Department was set up in 1921 as an experimental measure and made permanent in 1926. The purchase of stationery was also entrusted to it from 1931-32. An idea of the success of the policy of giving preference to articles of indigenous manufacture can be gathered from the fact that the percentage of the total value of Indian made articles to the value of the total purchases made in a year has gradually increased from 62 in 1929 to 81 in 1934. The Rupee Tender Rules were adopted by the Local Government in the year 1935.

The Government of Assam revised their Stores Rules, on the lines of the new Rules issued by the Government of India, in the year 1930 and the Government of Bihar and Orissa in 1931. The Government of the North-West Frontier Province adopted the rules of the Central Government in 1933.

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