

trade agents, to foster export business. The Bureau of Foreign and Domestic Commerce disseminates the information received from its Trade Commissioners and foreign commercial Attachés, by means of reports, by a daily newspaper, and by the publication every month of statistical information, of which a summary is published annually.

A new plan adopted to stimulate foreign trade includes (1) moving pictures, to acquaint the people of other countries with American goods and manufactures; (2) the exhibition of foreign samples of machinery and manufactured products; and (3) a carefully classified collection of the documents used in foreign trade.

Since all industrial progress in Japan has been achieved in comparatively recent years, she offers to India the most direct and valuable lessons obtainable in material advancement and reconstruction.

In Japan direct relations exist between the Government and industry. There pioneer industries were, indeed, set going

and, for years, maintained at the public cost.

Down to thirty years ago, for instance, the Government, as owner of shipyards, was able to give direct assistance and guaranteed dividends to chartered companies. A law passed at the close of the century was designed to encourage shipbuilding by means of Government subsidies of from 11 to 22 yen per ton. Great trade expansion resulted from this policy, and the shipbuilding industry became so firmly planted and prosperous that about ten years ago the Government was able to withdraw from active participation in it. Subsidies in the shape of fixed annual sums, however, are still granted to enable shipping lines to send vessels to fresh destinations. It is impossible to dispute the results of this policy. Before the War, Japan stood seventh among the maritime nations. To-day, she occupies the third place.

Among Japanese statesmen, the view prevails that the unifying effect of the wars with China and Russia was felt strongly

and permanently in the field of collective and industrial effort. It is certainly true that the industries of Japan received an impetus from both conflicts.

Apart from such stimulus, the Japanese Government has set an example of consistent and continuous thought and action with a constructive social purpose. Research work is carried on at the Universities, chambers of commerce, societies and guilds in every large city, and, as far as possible, in the smaller towns, many of the associations having their duties fixed by law.

Two large experimental stations at Tokyo and Osaka work in close touch with manufacturers and are constantly engaged in experiments calculated to improve old industries and to advance new ones. Institutes of Science started by private companies are aided by Government and by the Imperial Household. The institutes of technology and the Universities give thorough instruction in mechanical and chemical engineering, and in economics.

In Japan, of course, industries are carried

on under protective tariffs ranging from twenty to sixty per cent.

The formation of voluntary industrial associations is encouraged by law. The erection of steelworks is encouraged by concessions of land and by special tax exemptions.

So also in the departments of banking and commerce. The authorities in Japan consider that the banking system of the country, which has been developed and perfected after a careful study of conditions in all foreign countries, is quite satisfactory. They maintain a central bank, viz., the Bank of Japan, as the apex of the system. This is the only note-issuing bank. Each prefecture has a private bank of its own, which does corresponding duty for the Government of the prefecture. The industries of the country are helped by a Central Industrial Bank, which is authorized by Government to issue bonds to the extent of ten times its paid-up capital. Agricultural banks give agricultural loans. The Yokohama Specie Bank, which is also helped by Government and

which has numerous branch banks in foreign countries, is most useful to Japanese merchants doing business abroad.⁶

The Japanese Government keeps in close touch with merchants and with the foreign markets, watching the supplies of raw materials and the openings for manufactured articles. There are from sixty to seventy chambers of commerce and thirty-seven commercial museums established by prefectures, districts and cities. At Harbin and at Singapore, similar institutions display, side by side, the products of Japan and those of competing nations. In the matter of trade agents and syndicates for the exploitation of markets outside their own country, the Japanese are certainly as alert and enterprising as any people in the West. Not only do they endeavour to keep in touch with the world's activities, but they work upon the principle that it is a good thing for Japan to take part, as far as may be, in every department of those activities.

Japanese embassies and consulates are notably energetic in collecting material and

making reports. These are speedily placed at the disposal of the public—as often, indeed, as twice a week. Japanese merchants are encouraged to travel abroad. In 1916 the Japanese Government dispatched a commission of ten members to the United States. When such commissions are chosen by the Government of India, there is usually not an Indian on them.

Commercial students to the number of about eighty every year are sent out to foreign countries after being given such local equipment as may be possible. The system was started about twenty years ago and already nearly 600 experts and business men have been trained in this way.

The first lesson to be drawn from this survey by the Government and the people of India is that industries and trade do not grow of themselves, but have to be willed, planned and systematically developed. In none of the countries that have been named—certainly not in England, not even in *laissez-faire* America—has Government

kept aloof from the industrial activities of the people. On the contrary, in the earlier stages and in the present developed condition alike, Government has entered energetically into the service of commerce and industry. This especially is the case in Japan, whose industrial policies India needs to adopt as far as possible, if she desires rapid progress.

In India, Government has shown some enterprise in developing railways and irrigation ; but the expansion of trade and industry has been a matter of British domination and has left the people of the country disinherited, with no share in the control of policy or its operation.

The times are rapidly and decisively changing. (It is no more possible, to-day, for the industrial exploitation of India to continue without the participation of the Indian people themselves, than it is for the working people of Britain or the United States to return to their pre-war status.)

CHAPTER VIII

TRADE AND COMMERCE

To understand the present position of India's foreign trade, it is necessary to compare the figures for the four years ending 1914 and 1918 respectively. During the four years ending 1914, the average annual exports amounted to £155,000,000 and imports to £106,000,000, representing an average total trade of £261,000,000. The corresponding figures for the four years ending 1918 were £146,000,000, £101,000,000 and £247,000,000 respectively.

If due allowance is made for the rise in prices between 1913-14 and 1917-18, which amounted to 111 per cent. for imports and 25 per cent. for exports, it will be seen that the volume of trade in the latter year was considerably less than may be inferred from the mere value.

The following table shows at a glance the effect of the War on India's foreign trade as compared with that of some of the principal countries of the world :—

Country.	Trade per head in 1913-14.	Trade per head in 1918-19.
	£	£
United Kingdom . .	30	40
Canada	2·9	7
United States . .	8·8	18·4
India	·8	·8

In considering these figures it must be remembered that the price levels have altered in all the countries. The total value of Indian foreign trade in 1918-19 amounted to £282,000,000. The corresponding figures for Belgium in 1913 before the War, and for Canada in 1918 towards the end of the War, were £326,000,000 and £509,000,000, respectively. The population of Belgium in 1911 was 7,500,000 and of Canada 7,200,000, while India represented no less than 315,000,000.

During the War, while Canada increased her exports by 231 per cent. and Japan by 232 per cent., India's export trade

showed no advance. The official report makes the complacent remark that in the matter of foreign trade in 1918, India yielded pride of place to Canada. Two nations, both within the British Empire, one with a population of 315,000,000 including the Indian States, and the other with less than 8,000,000, have about the same amount of foreign trade. While actively engaged in the War, Canada increased her industrial activities and output, whereas India made little or no progress.

Civilized nations the world over attach great importance to trade as an index to national prosperity. The War is over, and the international trade competition termed "war after the War" has begun. It would be extremely suicidal if Indians failed to make a special effort, at this juncture, to take part in the industrial and trade activities of the world. India's competition in the world market is not the only question involved. If Indian industries are not rapidly developed, the Indian market itself is in danger of being permanently captured by foreign nations. Increased production

in India is necessary both in agriculture and in manufactures, particularly the latter, so that home as well as foreign trade may be increased.

The so-called foreign trade of India outside Bombay is in the hands of British and foreign merchants. Very little of it is in the hands of the Indians themselves.

The principal exports from India are food products and raw materials fit for manufactures, whereas in economically advanced countries they chiefly consist of manufactured articles. Imports into India consist principally of manufactured articles, more than half of which come from Great Britain. The trade is largely directed towards the United Kingdom, 54 per cent. of the imports and 26 per cent. of the total trade in 1917-18 being with that country. Even assuming the continuance of the present system, there is always danger in depending too exclusively on a single market.

Shipping is practically all British. The indigenous shipping has entirely disap-

peared. During the War, Indian trade suffered enormous losses for lack of indigenous shipping.

The exchange banks in India are all foreign. There is a great unsatisfied demand for branch banks and associated banks in the interior. The middlemen derive greater benefits than the producer from the export of local products, because the trade organization of the country is not adapted to the producer's needs. The Government has no organization such as exists in Canada, to enable the producer to obtain the best value in foreign markets for his produce. Official reports exaggerate the value to the country of its foreign trade, since they make no distinction between the trade carried on by the indigenous population, the profits of which are retained in India, and that by the British and foreign agencies.

The people have long been convinced that without political power and Government support, adequate progress is impossible. Substantial transfer of the control over the economic policy of the country

into Indian hands is inevitable if conditions are to be improved.

The present gold exchange system under which both the British sovereign and the "token" rupee in India are unlimited tender is by no means satisfactory since it is not "automatic," but has to be "managed." What is required is an effective gold standard. The Indian public should be protected against the losses which result from sharp fluctuations in exchange causing disturbances in the business of the country. The present system has not shown itself satisfactory in this respect during the War, and it further entails—

- (1) Coinage of an unnecessarily expensive and yet a "token" coin, viz. the rupee, and
- (2) the maintenance of a sterling reserve in London which may be required once in ten or twenty years, and then but partially.

A gold standard would remedy both these evils. If a full-weight and full-value standard gold coin is minted, the exchange may be left to take care of itself. If the

currency is placed on a gold basis, as it normally is in Great Britain and every other economically advanced country, the exchange may be safely left to adjust itself as between any two countries.

An effective gold standard does not necessarily imply the excessive circulation of gold coins. In Canada and the United States the currency is gold, but gold dollars are seldom seen, gold notes and gold certificates being commonly used. In a country with a favourable trade balance in normal years, and with very large gold accumulations which an enlightened Government would seek to utilize, there is no question that the technical conditions are present for a successful gold currency. A central State bank or a federal reserve banking system, if established, should maintain the necessary reserve against the issue of currency notes.

These measures would result in the gradual transfer of the paper currency and gold standard reserves amounting to over £90,000,000 (on March 31, 1919) from England to India. This amount, if held

in India, would mean so much increase of credit, which would automatically help Indian trade.

The large silver purchases made from time to time may hereafter be negotiated in India instead of in England. With the adoption of an effective gold standard, there will be no need to keep the "token" rupee, 11-12ths fine any more than the four-anna piece.

A proposal for establishing an Imperial Bank for India by amalgamating the existing presidency banks is at present being considered by the Government of India. Amalgamation on the lines proposed would, however, be very undesirable. The present presidency banks may be left to do the banking work of the provinces in which they are situated; and other provinces at present without such banks may be assisted to start new provincial private banks under special arrangements with their Governments.

It would probably be safer for a large country like India to adopt the federal reserve banking system of the United

States rather than the State bank system of France, Germany or Japan. In case the Imperial bank proposal is adopted, the Commonwealth Bank of Australia might serve as a satisfactory model.

The idea of the federal reserve system is to avoid over-centralization of the money power of the country. With all the advantages of a central bank, it possesses also that of decentralized operation, which is helpful to the normal development of the banking facilities of all parts of the country. The local banks are liable to become merely agents of the central bank, and like some of the large deposit banks in France, they may not find it to their interest to promote local industries and commerce.

The foreign-controlled presidency banks in India are patronized by Government, and apathy on the part of Government has very often led to the breakdown of indigenous banking concerns. Under a federal reserve system, this danger would be minimized.

In future, the presidency banks, old and

new, should not be prevented from taking part in foreign exchange work.

For the foreign trade of the country, there should be established a separate exchange bank similar to the Yokohama Specie Bank of Japan. The present exchange banks do not do for the Indian trader what an Indian exchange bank or banks should do, owing to the foreign ownership and European preferences shown by the existing banks. Branches of Indian banks should be established in London, Japan, New York and half a dozen other centres. Canada has several such branch banks in London itself, at present.

There is room for a dozen large private credit banks in India, each with a paid-up capital of fifty lakhs or more. Capital for the purpose should be readily forthcoming.

There should be cross connections between the State bank or banks, the industrial banks mentioned below, and the several credit banks, the latter acting as Government agents in all cases where no federal or provincial bank exists. It is

necessary to encourage the formation of banks with large capital by granting for a short period at the commencement such Government help in the way of free audit, guarantee of dividends, etc., as may be required.

An industrial bank should be established in each province, specially adapted to help industries, with power to issue bonds up to ten times the capital subscribed, as in Japan. The Tata Industrial Bank of Bombay, though not exactly of this character, is a beginning in this direction.

The establishment of branch banks should be specially stimulated.

The question of starting an agricultural bank in each province chiefly to finance the co-operative credit societies is also an urgent matter. If cross connections are maintained between all classes of these banks, the securing of which is naturally a function of a State bank or banking system, and if proper checks are maintained, a sound, comprehensive banking system suited to the needs of the country will be permanently established.

Indian trade is further handicapped by the country's abject dependence upon foreign shipping. This subject is separately discussed under the head of Communications in Chapter XI.

In India the movement of goods is completely dependent upon the currents of foreign trade, the internal trade merely registering the movement of raw materials one way and of manufactures the other. But the character of this trade will be different when local industries develop and also when all the usual local businesses like banks or branch banks, hotels, dairies, laundries and transport agencies have been established.

In future, as in the case of Japan, the development of industries and trade, as of production in the districts and sub-districts, should be promoted by the revenue officers of the district with the aid of the necessary technical assistants and staff. To help them there should be semi-official advisory committees for each district and also for each sub-district.

For inter-provincial trade, each province

should maintain trade consuls at the more important cities and ports of other provinces, under the control of the provincial Boards, to be presently referred to. These provincial Boards should have a voice in the regulation of railway tariffs, in order to promote internal trade.

Once the Government is favourable—and no Government which has the interests of the people at heart can be otherwise—it will be easy to bring into existence all the necessary organizations in the way of Government staff and agencies, and other public commercial and industrial institutions and associations. It has already been suggested that a commission with an Indian majority be appointed for a period of five years, to introduce fiscal autonomy and to transform the finances of India from their present form, suited to a dependency, to a form suitable for a self-governing dominion. This will have to be done after careful inquiry into and study of practices gradually introduced into a self-governing dominion like Canada. A central advisory council for commerce and

industry and an executive board of commerce and industry, appointed with the consent of the advisory council, should be created to aid the member of council in charge of the department at the Central Government as well as the Minister in each province. Both these bodies should have an Indian majority.

The Board may consist of business men and economic experts, not more than three in number, appointed at the commencement for one year only, but later on for two or three years, at least one fresh nomination being made every year. The officials on the advisory councils should not be allowed to vote. The council should be permitted to advise in matters connected with tariffs. Indian trade commissioners should be appointed in five or six principal foreign countries with which India has large trade relations, in addition to the officer appointed in London. The officer working in London is naturally concerned in finding a market in Britain for Indian food-stuffs and raw materials, but his duties should have a wider scope, and be

helpful to Indian merchants and manufacturers. The 'information collected' by the trade commissioners and others should be issued to the public by the Board. Extensive propaganda should be undertaken by Government officers and also by private organizations under the direction of the national and provincial advisory councils referred to.

A journal should be maintained by the Board of Commerce and Industry of each province to publish the information collected by the trade commissioners abroad, provincial trade consuls, travelling deputations and other individuals and bodies, for the information and benefit of the people of the province

The Board should codify trade practices in civilized countries in a form easily intelligible to local business men. Steps should be taken to introduce a uniform system of weights and measures.

A Chamber of Commerce representing indigenous trade and industry should be established in every province where none exists at present, in addition to an Associ-

ated Chamber for all India. Every large city should have a Chamber of Commerce of its own. Every town should have a branch Chamber or a separate commercial association, an information bureau and a museum of agricultural and industrial products. The museum should exhibit corresponding products from advanced countries beside those of local manufacture, so as to stimulate improvement. Many of these associations, though voluntary, may, as in Japan, be incorporated under the law.

The Board should arrange to send, with the aid of Government subsidies, at least half a dozen business men every six months to foreign countries to study trade and industry, and to transact business on their own account.

The promotion of large joint stock companies and the establishment of small concerns for industry and trade, as explained, should form one of the principal duties of the Board. Local men of proved organizing and directing ability should be given every facility and encouragement to start large local enterprises on the joint

stock principle. The number of such companies started should be a test of the Board's own efficiency and success.

The principal difficulty in trade, as in every important national activity in which there is international competition, and in which success is dependent on internal co-operation on a large scale, is to get a proper start. In order that this may be done, conditions favourable to the growth of indigenous trade should be created and maintained for fifteen or twenty years, until the people are able to get along without Government aid. It would then be time to think of free trade and open competition. To ask them to develop trade without protective tariffs or political support, while the trade itself is subjected to the fierce competition of the world, is to deny the people the opportunity of making a beginning at all. Government should declare it as their policy that trade by the people of the country shall be fostered by every means in their power, and that none of the expedients adopted for such purposes in advanced countries, or which have

proved useful in the past in other parts of the world, shall be in future neglected. All orders and regulations providing trade facilities for the people should take the form of legal enactments or ordinances, so that they may have the force of law, and there may be no going back on them through change of officials.

The provincial University should make abundant provision for giving instruction in the highest branches of technology and commerce. Some large cities may have independent colleges of their own for the purpose. Every district should have high schools giving instruction in technology and in commerce, to form nurseries for training future merchants and business men.

CHAPTER IX

INDUSTRIES

THE industries of a country reflect the productive capacity and executive ability of its inhabitants, and form one of the chief tests of a nation's efficiency. If a pump or an engine were manufactured in India, the people of the country would get exactly the machine they need, and would retain the money which would otherwise go out of the country.

A purely agricultural country which maintains itself by producing only raw material or grain will always remain poor. Under present conditions in India, agriculture gives a bare living, sometimes less than a living, to those who pursue that calling. Without industry and trade in addition, however, it is impossible for India or any country to keep money in

circulation or credit easy, and to maintain even an average level of prosperity. Industrial activity is everywhere regarded as a higher species of employment, and is decidedly more remunerative than agriculture.

Some idea may be formed of the position of the larger industries and business concerns in India from the paid-up capital of its joint stock companies, as compared with that of similar companies in more advanced countries.

The capital invested in industrial and commercial concerns in the United Kingdom in 1914 was £2,737,000,000 ; in Canada, £390,000,000 ; in the United States of America, £4,558,000,000 ; and in Japan, £243,000,000. The capital of all the joint stock companies registered in India and held mainly by Indians did not exceed £60,000,000. The total capital of all joint stock companies operating in India was £471,000,000, the greater portion of it, namely, £411,000,000, being of companies registered in England, and presumably held by the people of the British Isles.

When it is remembered that Japan has about one-fifth and Canada less than one-thirtieth of the population of British India, the figures here given are a striking illustration of the low position which India occupies in the industrial world.

While in all the four countries named, much importance is attached to industries, Indians are often told that they must depend chiefly upon the soil for their livelihood. This statement is belied by the practices of the civilized world and the disastrous experience of India herself. Indian manufactures were at one time greatly prized in European and other foreign markets. The old methods of manufacture and credit have, however, become out of date and have gradually fallen into disuse, and, for lack of a policy of development, have not been replaced by new methods, except in a few centres in contact with the foreign population.

At present, raw materials are exported to more enterprising foreign countries and returned to India, or exported elsewhere, in the shape of manufactured articles.

For example, Japan partly uses Indian cotton and exports cotton goods to India and China; Italy does likewise, and exports cotton goods to Turkey in Asia. The people thus suffer a double injury by the export of raw materials fit for local manufacture.

Indians have lost their old industries which, though crude, gave employment to tens of millions of persons. They have to pay for foreign products from their scant earnings from agriculture and other primitive occupations to which a great majority of them are driven by necessity.

This drain from the country is preventable. With a little special effort and co-operation between the Government and the people, it should be easy to supply nearly all the clothing and all the hardware and footwear and other articles needed locally, from India's own factories and looms.

Broadly speaking, the industries of the country may be divided into three classes, namely, (1) large-scale; (2) medium-scale, and (3) minor.

Industries which produce large quantities of products by the employment of considerable capital and labour fall into the first category. They usually require co-operation on a large scale, and a high order of technical skill and organizing ability.

The principal large-scale industries which may be started, or, where they are already started, extended with great advantage to the economic interests of India, are :—

Textiles—cotton, woollen and silk ;

Smelting of ores—manganese, lead, copper, etc. ;

Iron and steel ;

Manufacture of machinery and other articles of iron and steel ;

Shipbuilding ;

Chemical industries—dyes, sulphuric acid, soda ash, artificial manures, etc. ;

Porcelain, glass, cement ;

Paper-pulp and paper ;

Leather industries ; and

Sugar.

In countries like Canada, Japan, or Germany, such industries were established either by Government initiative or by

active Government encouragement and support. In India, on account of keen foreign competition, such active Government encouragement will, in the beginning, be indispensable. The Government, for one thing, might attempt to manufacture its own stores, if they are not available in India, instead of importing from abroad.

The large-scale industries are best carried on by joint-stock companies, employing a capital of, say, Rs. 15 lakhs or more each.

The minor industries comprise home and cottage industries in cities and towns, and rural or subsidiary agricultural and other industries in towns and villages. They are carried on by individuals or groups of families in a variety of ways as regards provision of raw materials, capital and labour. It may be assumed that the capital employed may be anything up to Rs. 50,000 in each case. The products comprise almost every description of article needed in the country for which raw materials are available. They are manufactured by various methods, in some cases the type of organization being indus-

trial, in other cases, the work being carried on as a domestic employment.

Between the large-scale industries employing a capital of Rs. 15 lakhs or more, and the minor industries working on sums not usually exceeding Rs. 50,000, come a large variety of what may be termed medium-scale industries. These may be owned by individual proprietors, by partnership or by joint stock companies. Some of the products usually manufactured in "large-scale industries" may also be produced by establishments of medium-scale size. The cost of production in such a case will, however, generally be greater.

The Government of India appointed a Commission in 1916 to examine and report upon the possibilities of industrial development in India. The Report has been before the public for some time. It contains many valuable suggestions, but they deal mostly with cottage and small-scale industries, almost ignoring the large-scale ones.

The Commission's most important recom-

recommendation is that the Government should start imperial and provincial departments of industries, which should be staffed with experts, at the commencement brought from outside India. The Report provides for imperial and provincial scientific and technical services and a permanent controlling staff.

The entire scheme, it is to be feared, is conceived on wrong lines. The people require help and backing, not control and direction. In the expansion of industries, there are numerous ways in which Government can help or hinder, and not until an atmosphere of sympathy, a spirit of helpfulness and Indian control are established, will industries make any real headway.

The complaint has been made that the policy of railway management has not been helpful to indigenous industries ; that sometimes factory inspectors insist on costly buildings and equipment at the start, which make industries unprofitable ; and that students trained in foreign countries receive scant encouragement. These

and other handicaps to industrial development should be publicly investigated and the causes of complaint removed. Even isolated incidents of this sort are likely to be magnified and to cause mischief. They lead to loss of confidence and dishearten the people.

The following are some of the several ways in which Government in India can render direct help :—

Protection of any newly started industry for a term of six years, or till the industry is firmly established, by imposing tariffs on imported goods.

Inducing Indian, British and foreign firms to start industries, particularly machinery and chemical industries, by levying tariffs on imports, as was done in Japan.

Pioneering large and difficult industries, including the manufacture of railway materials and shipbuilding, and also pioneering key industries.

Granting premiums, subsidies and subventions, or guaranteeing dividends to individuals or indigenous companies

who show enterprise in starting a new industry.

Providing the services of experts free, or at special low rates, or granting subsidies for the purpose.

Affording special railway facilities.

Taking an industrial census periodically, as required, and publishing statistics.

In most successful countries, the scientific use of tariffs has been a most powerful factor in building up modern industries.

The Provincial Governments may make a start by pioneering some of the larger industries like shipbuilding, machinery, engines, motor transport, chemicals, paper, etc., and also some of the many key industries needed, with the object of making them a success and subsequently transferring them to the people. There are few technical secrets that are not readily available, or that cannot be secured by the expenditure of money.

For the rapid growth of industries, it is first necessary to create an atmosphere of business confidence and a continuity of policy and operations. The development

work should be under the advice and control of the leaders of the people closely interested in the work, and represented by the suggested Advisory Council and Board. Government should definitely announce its policy of support and encouragement of industries, which should be ensured by law, as in Japan.

The principal requirements are organizing ability, labour, expert skill, capital, machinery, raw materials and efficient works management. The raw material is available in abundance. For lack of local use it is being exported to foreign countries. The supply of labour is abundant and although in the past there has been a lack of policy for training it, the necessary training could be given in five to ten years. Machinery can be purchased from the best makers if capital is available. Capital will be readily forthcoming if its utilization for the benefit of local industries and enterprise is assured. There will be no necessity to borrow foreign capital at the beginning, although there should be no hesitation in doing so if the rapid growth of

industries warrants such a step. Experts should be obtained from wherever they can be secured, and given fees and bonuses, usually in the shape of a moderate monthly salary and payment by results. Some industries may also be advantageously started in co-operation with English and foreign firms.

There will be no dearth of suitable organizers and directors if expert assistance and reasonable financial accommodation are assured. Although college trained men are in charge of the various departments of industries in Japan, the control of the organizations themselves is in the hands of the older class of business men who have shown themselves competent to manage these concerns. If it becomes the settled policy of Government to encourage industrial development, there are many capable merchants and business men of this type among the Indian population who will come forward to take advantage of the opportunities thus afforded. As in Japan, a supply of technical and business graduates should be

ensured by starting colleges and institutes without delay. If the industrial development is to succeed the experts and officials employed should be on a temporary tenure and paid by results. The temporary expenditure will be heavy, but rigid official control and resulting stagnation will be avoided.

Reference has been made to the industrial banks needed in the country for financing factory and other large industries. The cash-credit system should be introduced for the benefit of the small industrialist, while co-operative credit is necessary everywhere.

If industrial development is carried on by agreement in spirit and principle between the Government and the people, savings which now are hoarded may be mobilized for financing industries by opening branch banks all over the country. Also by special propaganda, people could be induced to invest, in productive undertakings, much of the unproductive wealth, now retained in the shape of jewellery and ornaments in numerous small hoards.

The formation of joint-stock companies for promoting industries requires special encouragement. The law should be examined in the light of the latest developments in foreign countries, particularly in Japan, with a view to adapting it more closely to the local requirements of each province. People will require advice in company flotation. This duty should not be left to company promoters or underwriters. The provincial advisory council of commerce and industry should have the work under its special care for some time, semi-official committees with an expert staff being formed over suitable areas, to advise intending investors and company promoters. The German system under which the banker advises his customer, might also be tried in places. Provincial statistics of the progress of company flotation should be published at least once a month, so that every one interested might watch progress and assist in removing obstacles and providing the necessary help.

Research institutes should be established on the model of the one at Teddington in

England, or the Bureau of Standards at Washington. One such institute will be needed for each province to work in close association with the University and higher technical schools.

Industrial experimental stations like those in Japan, intended for carrying out experiments in manufactures, should be established in every important city and smaller ones in each district, to work in conjunction with the research institutes. These should be maintained at the expense of the State, but should be kept under the administrative control of committees of local business men and experts. Their primary object will be to stimulate experiments and improvements in methods of manufacture, including the testing of processes followed in the various countries. There can be no doubt that such industrial experimental stations are destined to play a great part in India's regeneration.

Industrial museums should be located in every important city, and business inquiry offices in every city and town, to keep in close touch with the experimental

stations, research institutes, etc., and obtain up-to-date information and advice for local business men engaged in industries and manufactures.

There should be at least one technical college in each province to teach experimental sciences and industrial chemistry up to the highest standards. Higher technical schools should be established at the head-quarters of each district. Experimental workshops and school laboratories should be associated with them. Short industrial courses should be available for the population of the smaller towns and villages whenever they have leisure to profit by them, particularly in the more extended use of mechanical appliances and machinery.

Had such experimental stations and educational institutions been started in India thirty years ago, she would have made as great an industrial advance as Japan, or perhaps even greater, in view of the enormous resources of both men and raw materials at her disposal.

Correct statistics of industries in every

district and province should be collected and published for the use of the people of the area. They should give all the information and data supplied by industrially advanced countries and they should show clearly the precise share of the indigenous population in every class of enterprise. The coming census should be fully utilized for this purpose. Both Government and public organizations should collect and make available to the people information from foreign countries likely to be of value for developing local industries. The industrial progress of each district, province, city, town and village should be reviewed by the local authorities concerned at least once every year.

There is no doubt that India's productive power can be enormously increased by industries. With money, determination and popular control in a centralized form, and Government help of the character given in Japan, practically any large industry for which raw materials are available can be successfully started in India at the present time.

The present opportunity is extremely favourable for starting industries. As time goes on, competition will grow keener and conditions will become less favourable. To make a satisfactory start, a special effort will be necessary. Large beginnings are not made by routine methods. Government has to raise a loan to establish the necessary research and educational institutions, and also to advance loans, on special terms, to industrial and other banks, to finance industries. The money allotted to each province should be utilized under the direction of the advisory council referred to. The provincial share of the loan may be raised locally in the province concerned, and, if administered in the manner suggested, it will certainly be readily forthcoming.

The work for each province should proceed according to a well-considered programme, approved by the local Legislative Council. The necessary staff should be maintained from the current revenues of the province. It may confidently be expected that the programme will begin

to yield definite results in five to ten years from the time work is started. In advanced countries, where every avenue of development is already exploited, returns from new enterprises may be slow, but in a new field like India, and with abundance of cheap labour, industrial activity, when a favourable atmosphere is created, is bound to grow at a rapid pace. The money spent in inaugurating a policy of development will come back to the people and the Government, multiplied a hundred-fold.

It is necessary once again to emphasize the statement that this outstanding problem of industry is a matter which concerns the Indian population. If bureaucracy prevails in this department of the country's activity, industries will not prosper. There is no necessity for an Imperial department of industries. A provincial department of industries under Indian control should be maintained. One indispensable duty expected of the Imperial Government is to see that the provincial departments are supplied with funds, that

adequate encouragement is given, and that no federal or international restrictions exist to handicap or disable local enterprise. The self-interest of the people and the public spirit of the province will do the rest. 'As was remarked by a leading London Conservative daily in May, 1920, in referring to the post-war policy of Government in relation to industries in the United Kingdom, "You may have either flourishing industries, or a flourishing bureaucracy, but never both."

CHAPTER X

AGRICULTURE

If all the Indian States are included, as in an economic survey they should be, with British India, the total acreage under cultivation in India is larger than that of any single region of the world, with the possible exception of China and the United States. The estimated value at pre-war rates of the annual production from both dry and irrigated crops may be put down, at a little under £400,000,000. This gives an average income of Rs. 33 (£2 4s.) per head for the agricultural population, and of about Rs. 24 (£1 12s.) per head for the entire population of British India.

Compare the Indian conditions with those of Japan, where agriculture is extremely careful and thorough.

It may be of interest to mention in this

connection that agriculture is carried on in that country very intensively, almost like gardening. Rice seedlings are sown at exact distances apart, measured by a wooden scale. In some of the 'model villages, the Young Men's Associations carry on experiments themselves, under general advice from the officials.

Japan, although not entirely self-sufficing in the matter of food, maintains normally a population of 56,000,000 on a cultivated area of 17,000,000 acres; that is to say, one-third of an acre per head as against India's five-sixths of an acre. On the normal, pre-war basis, the average production of British India, including irrigated crops, cannot be more than Rs. 25 per acre; in Japan it cannot be less than Rs. 150.

The smallness of the Indian yield is due to a variety of causes, some natural, others avoidable. First comes the rainfall, which, except in Bengal and Burma, is often uncertain. Apart from the relatively small area covered by modern canals, irrigation is restricted to the ancient and arduous

method of depending upon tanks and wells. A second cause is the persistence of conservative habits of tillage. Scientific agriculture is almost unheard of, and little practised where known. The *ryot* is extremely simple-minded, and lives in an atmosphere of superstition and tradition. And yet, as many authorities have recognized, he is not altogether disinclined to adopt new ways, provided their value is clearly demonstrated.

The Indian peasant is not essentially different from his fellow in other lands. A little experience would show that he is not lacking in readiness of response—response which would be proportionate to the accessibility and practicable character of the opportunities provided, and to the sincerity and humanity of the people directing the work of instruction and experiment. As agricultural schools and scientific farms are established, continuous effort will have to be made to create a real relationship between the institutions and the agriculturist.

Hitherto, the Indian peasant has been

practically untouched by the feeble and academic attempts at agricultural education, which are all that have been made by the authorities. A few central experimental farms and a number of district farms have been working for several years past ; but it cannot be said that they have influenced the general situation in any material degree. They are controlled by Government officials, between whom and the cultivator there is and can be no sympathetic understanding. The policy of agricultural development is controlled, not by experts, but by members of the bureaucracy, who obviously cannot, in the midst of their multitudinous executive duties, keep abreast of the achievements of scientific agriculture in the West. Knowledge, therefore, is lacking, and the technique of modern cultivation is undeveloped. It is no wonder, in these circumstances, that farm operations are conducted for the most part by primitive methods, and that the results, judged by the volume of production, should be distressingly low.

All development being traditionally

associated with bureaucratic initiative and control, capital is shy, and does not flow into agricultural industry; and it is perfectly plain that until both policy and spirit are radically altered, it will not do so. Local conditions everywhere, coupled with the prevailing ignorance and apathy, make it impossible for bodies of cultivators to combine, as in Russia, Japan, or Western Europe, to promote better farming and better business. The absence of market organization in conjunction with other causes prevents the cultivator from reaping a full reward from his labour. The middleman is also the money-lender, and it is he who profits most. The *ryot*, in consequence, has very little incentive to activity or improvement.

The moral, surely, is obvious. The vast rural problems affecting the welfare of 325,000,000 cannot be handled, cannot even be approached, without special aptitude or training, by a small body of officials encumbered by heavy routine duties, and subject to the rigid habits and prejudices of a hierarchy, embodying, in its clearest

form, the principle of imperial ascendancy. The remedy lies in a great and combined progressive movement, including the reform of the official system and the remodelling of Government departments of agriculture. The natural leaders of the people, including prominent agriculturists, should be placed in a position to improve agricultural conditions with the aid of expert assistance, by their own forethought, preparation, and combined effort.

Manifestly, the central aim of all practical measures must be the increase of the yield per acre and the systematic improvement of the product. The most urgent measures needed to lift agriculture from its low level fall under three main heads :—

- (1) Provision for the farmer's immediate needs.
- (2) Large measures of permanent improvement.
- (3) Development of the dynamic forces of rural life.

Under the first head would come such essential necessities as : temporary loans ; facilities for procuring draught cattle, good

seed, fertilizers and implements; and instruction in the technique of cultivation and the principles and methods of co-operative effort.

It is desirable at once to establish a large number of seed depots in connection with experimental farms. The supply of chemical manures, especially where irrigation facilities exist, may easily be made highly profitable. Such fertilizers should, as in Canada, be used as far as possible to supplement farm manures, rather than as substitutes for them.

The existing Indian breeds of cattle need improvement, especially for draught purposes. Attention should be given to scientific questions relating to stock breeding and fodder supply.

As to modern implements, while it is true that the Indian farmer needs to be educated in regard to their use, the chief obstacle to progress is the economic inability of the peasant to purchase them. The rapid industrial expansion of India in future, however, will make it easily possible immediately to establish local manufacture

on a large scale, so that, given reasonable loan facilities, every cultivator of moderate means might possess or have the use of up-to-date ploughs, pumps and larger agricultural implements, while much might be done to encourage the use of hand-carts and simple labour-saving devices.

Among the larger measures of a permanent character, the first and foremost needed is the establishment of agricultural societies. The success of the individual cultivator now-a-days depends not on himself alone, but on the help and co-operation he may receive from fellow-farmers and leaders, or in other words, on the co-operative effort of the whole locality. Agricultural societies should be established by law, as in Japan, so that the provisions and their execution would not be dependent on the arbitrary will of the officials, but would be binding both on the officials and the rural population.

In Japan, every district, indeed almost every village, has its agricultural society, the scheme, in its national aspect, being a remarkable example of co-ordination. At

the head is the Imperial Agricultural Society; below that the prefectural or district society; next the county or city society; and at the base the small town or village society. All are subsidized by Government or local funds. The town and village societies consist wholly of persons actually engaged in agriculture. Altogether, there are some 11,000 such societies in the country.

Associated with the agricultural societies are guilds and other public bodies established by law for the purpose of increasing the quantity and quality of staple products—tea, silk, live stock, etc.—while in various parts of the country private organizations for similar objects are maintained by groups of enthusiastic people. They all share in the common stimulus of a great movement, and at intervals meet in conferences to discuss methods, to compare results, and for the mutual sharpening of minds and purposes. A few well-managed experimental agricultural farms and schools exist in some of the provinces in India. To bring them

into touch with the peasants, they should be under the control of committees composed of experts and the leading representatives of the people engaged or interested in agriculture in the rural areas concerned.

An agricultural farm, assisted by Government funds, should be established in every sub-district and every important village where people desire to have such an institution. These farms, and the laboratories attached to the agricultural colleges, should provide facilities for carrying on specific research work to obtain estimates of yield as a result of the various special methods and appliances utilized. Short courses in economy should be conducted in the experimental farms during the seasons of the year when farming operations are not brisk.

Clearly the main necessity is to gather into the agricultural schools as many people as possible for instruction in the rudiments of scientific agriculture, while the more enterprising farmers should be encouraged to go through the general farmers' course, at the institutes and

experimental farms. The curriculum of the schools should comprise such objects as soils, seeds, live stock, home economics, elementary business principles and accountancy, while provision should be made, for the reasons dealt with above, for training in subsidiary occupations. The best way, indeed the only way, by which science can be made to appeal to the rural mind is through the medium of common experience and practical results. Hence, the farmer should be encouraged not only constantly to seek to improve his own knowledge, but to take advantage of opportunities for having his womenfolk instructed in the household crafts.

The cultivator should receive training in husbandry by observing the work on well-managed farms. Instruction in scientific agriculture should be imparted both on the farms and in agricultural schools. The highest form of agricultural education should be imparted in the university, where the specialists, research workers, expert farm managers and leaders capable of formulating an agricultural policy and

introducing new and profitable methods of cultivation will be trained. A secondary grade education will be required to equip a class of intermediaries to carry out the plans of the leaders and interpret them to the peasants. A class of agricultural engineers or *maistries* is urgently required to work as lecturers and instructors, to form a link between the experimental stations and the agricultural societies or the actual farmers themselves.

Special institutions, where needed, should also be provided for carrying on experiments in sericulture, in cattle, sheep and horse breeding, and other agricultural pursuits. A staff of inspectors and lecturers should be employed in each district associated with the district farms, to help the agricultural societies and through them, the cultivators, by demonstrations, discourses and propaganda work generally.

During the past half-century, agricultural indebtedness in India has grown markedly through various causes. Among them are the pressure of the people on the land; partitioning and re-partitioning into un-

economic holdings ; the Contract Act of 1872, which transformed the old human relations between the money-lender (*sowear*, *baniya* or *mahajan*) and the *ryot* into the legal relation of debtor and creditor ; the date of the land revenue collection which compels the *ryot* to borrow before he can realize his harvest at the best market rates ; the use made of the money-lender as dealer by agents of the great foreign firms ; absence of a communal market system ; the decay of village arts and crafts.

Beyond question, the initial steps towards dealing with the vast problem of rural indebtedness should be the wide extension of co-operative credit, and the gradual transformation of the existing system by the adaptation of methods proved valuable in countries like Russia, Denmark and Ireland. In Government reports of the past decade, the growth of co-operative credit has made a brave show year by year, but all that has so far been done amounts only to a scratching of the surface. The societies now existing fall into four

classes : (1) credit, (2) purchase, (3) sale and (4) production. The great majority, however, are credit societies, and these need to be remodelled and greatly expanded before we can hope to see in India anything corresponding with the movement that forms so hopeful a feature of agricultural life in Japan—the effective co-ordination of the various kinds of agricultural societies for the constant vitalizing of the rural community.

A central agricultural bank like the Hypothec Bank of Japan is needed to subsidize co-operative societies and supply the capital required for developing agriculture. The district banks started with local money and enterprise may receive help from the central bank similar to the help afforded by the Japanese Hypothec Bank. A properly co-ordinated network of such banks will help to mobilize all available capital and largely diminish the tendency towards hoarding.

The farmer has much need of subsidiary occupations in India. As the agricultural holdings are small, and the rainfall is

limited to four or five months in the year, he is fully employed only for about six months out of twelve. After an unsatisfactory monsoon, large numbers suffer from unemployment, and in times of famine, the entire body of agriculturists go without work. It is a question of life and death to the people that there should be a diversity of occupations in rural areas.

The occupations usually practised are fruit and dairy farming, sericulture, weaving, rearing cattle, pigs and poultry, preparing ghee, vegetables, etc., for the market. Multitudes of artisans employed as carpenters, masons, smiths, barbers, washermen, etc., follow agriculture as a subsidiary profession. There are numerous small and home industries practised in Japan which may be introduced into rural areas in India. In the neighbourhood of forests, forest industries should be encouraged, and near the sea-board and lakes, fishing.

Provision should be made for instructing children in these and other suitable rural industries; capital should be provided by co-operative effort, and by Government

loans where necessary. The question of market organization should receive special attention.

The new department of industries might organize a plan of operations, by which the subsidiary industries of an area may be assured of all reasonable co-operation with financial help and encouragement from the local authorities and public associations.

The subject of irrigation will be separately dealt with, in the next chapter, under the head of development of natural resources and communications.

Hitherto, the science of statistics has been, for the cultivator, either a matter altogether outside his range, or another means of vexation devised by Government officials. This ought not to be the case. Agricultural progress is not possible in the modern world without statistics, and it is clear that increasing importance will be attached to the collection and use of facts and figures relating to production, including those of subsidiary occupations. The village group should be taken as a unit, and statistics of the entire province should be

so compiled as to be easily intelligible to the ordinary literate cultivator. The results should be made accessible in all localities for study and reference, and comparisons instituted with reference to other provinces and foreign countries. Rightly treated, the collection of facts may itself be a means of communal effort and education.

The statistics should reflect the general condition of the cultivator, the area of his holding, the number of draught and milch cattle in his possession, the amount of capital (tools, implements and other property) possessed by him, the area of his indebtedness, the total production of the farm, his income from subsidiary occupations, the number of working members of the family, etc. A frequent census should be taken of production, so as to include all these particulars.

The usual criticism levelled against the Indian is that he is a creature of the day, or the season; that he lives from hand to mouth. The plain fact is that harsh circumstance forces him to do so. Merely to keep alive is a problem for him. He

cannot give thought to the necessity of preparing in advance for probable bad seasons. Long ago, no doubt, under the ancient village constitution, a year's sustenance could be stored against famine; but the growth of the modern system of administration has made such expedients impossible. To-day, agricultural India suffers from overpowering inertia. Before a new order can be introduced into the villages, the spirit of hope and enterprise must replace the prevalent apathy and despair.

The first practical step is to enable Indians in increasing numbers to see for themselves what science is doing to improve agriculture throughout the world. Parties of representative men, from every province, should be encouraged to travel abroad, especially to Japan. These parties should include not only men of wealth and high position, but also, as a matter of course, teachers, farmers, members of the provincial services, and graduates of agricultural colleges. The information and specimens brought back by them should be made use

of for local exhibitions, and they should be required to disseminate knowledge acquired by them while travelling abroad, through every available channel.

It must, however, be emphasized that nothing can be done until the local administration becomes thoroughly imbued with a new spirit. Every opportunity must be given to people of village, *taluk*, or district, to co-operate with one another to carry out works of public improvement, such as making and repairing roads and bridges, constructing irrigation tanks and channels, improving sanitation and the like. The present conditions of local administration make it impossible for the cultivators to co-operate in the performance of such needful services. The people, cut off as they are from responsibility and self-help, are, to all intents and purposes, dead. The only thing that can save the Indian body politic from dissolution is the transfusion of new life into the system of governance by the gradual devolution of authority. India has abundant resources in the shape of capital, labour and natural directive,

talent, but at present they are locked up.

District farm bureaux have been started and turned to admirable use in various Western countries during recent years. In the United States, for example, over a million farmers are organized through such bureaux, and are thereby enabled to grapple co-operatively with local problems. In some States, wherever one-fifth of the farmers in a county wish for a farm bureau, the administration provides an adviser and staff, and makes an annual grant. A close connection exists between the farm bureaux and the agricultural colleges, now flourishing in every State. By such means constant intercourse and stimulus are provided for the whole agricultural community.

In India, the first necessity is to create an atmosphere of confidence and co-operation. That done, there can be no doubt of the growth of a movement of multiple improvement, which, we may assume, would express itself in common effort for insurance against famine. Each family will be able to lay by a little store of