

grain ; co-operative granaries will spring up ; the wasteful use of cow-dung as fuel will be checked ; plantations for the supply of fuel will be started ; labour-saving appliances will come into use, and subsidiary occupations will multiply. The cultivator will rapidly become conscious of the progress that is being effected. He will provide himself with footwear, and with a more adequate protection from the tropical sun than the piece of cotton cloth in which his head is now wrapped. He will eat his food not from leaves or earthen vessels, but from plates of porcelain, brass, or copper. As the results of modern knowledge are gradually unfolded before him, he will realize that the bonds of necessity are breaking, and that he need no longer go on with his hopeless daily labour, content, like his ancestors, to scratch the surface of the earth merely to keep life in his body.

The Government should have programmes for increasing production and agricultural development generally prepared for every district and sub-district, and should maintain statistics of production,

review progress, and issue an annual report for the district, showing to what extent the cultivators have been helped by the institutions and organizations created for their benefit, and with what result.

While agriculture cannot bring wealth to India on a great scale, if the measures here sketched be taken up, the production of the country might, on a moderate estimate, be doubled within fifteen years or even less. The extension of cultivation, increased irrigation, rotation of crops, intensive cultivation with the fullest use of fertilizers, and improvement in stock-breeding are all urgently needed. The most speedy way of promoting these ends is to give leadership and financial support to the agriculturist, while all the while encouraging him to feel that he is the master of his own business, and that the officials connected with agricultural instruction and administration are there merely to counsel and assist him. When, in the years to come, the Indian people travel more freely, when both general and special education comes to be more

widely spread, the idea of conscious and systematic development will take firm root in the country.

On this subject one more observation remains. The suggestion of village unions or grouping of villages already recommended in the chapter on Local Self-Government, if immediately adopted, will introduce order and a spirit of development into rural areas, and will, we may confidently expect, be the speediest means of rehabilitating the communal life of the Indian countryside.

CHAPTER XI

DEVELOPMENT OF RESOURCES AND COMMUNICATIONS

IRRIGATION works are of vital importance in a tropical country like India, where there are tracts in which not a blade of grass can grow on unirrigated soil. The total irrigated area of British India is about 48,000,000 acres, or 21 per cent. of the total net cropped area of 230,000,000 acres, of which 26,000,000 are watered by canals built by the State, and the remaining 22,000,000 by tanks and wells constructed by private agency. About 6,000,000 acres of land in the Indian States are also irrigated.

The total outlay on the State irrigation works for which capital accounts are kept, amounts to Rs. 730,000,000, and the value of crops raised on such areas to Rs. 970,000,000. The larger works, classed

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as productive, gave a return of 8·1 per cent. in 1918-19. Thus, for every Rs. 100 spent on capital irrigation works, the country obtains, making allowance for temporary high prices, a gross produce of Rs. 100 or more annually, a fact which should commend this class of works to public favour.

The irrigation policy at present followed in India is based upon the recommendations of an Indian Irrigation Commission, which sat between 1901-03, during Lord Curzon's Viceroyalty. That Commission estimated that $12\frac{1}{2}$ per cent. of the total rainfall was utilized in artificial irrigation of all kinds in India. The annual surface flow of the river basins of India, excluding Burma, Assam and Eastern Bengal, amounted, according to the Commission, to 51,000,000 cubic feet, of which only 6,750,000 cubic feet were actually utilized in irrigation. The balance passed to waste in the sea. Reservoirs, tanks and canals must be constructed to utilize some of this waste water with profit to the people and to the State.

In future annual reports the permanent

policy and plans in respect of each province should be briefly stated, and forecasts of projected irrigation works published for the information of the public.

The rapid development of industries and transportation, and the supply of power and light for cities and towns, largely depends upon cheap fuel. Of the 120,000,000 horse-power used in the various countries of the world for all purposes—railways, factories, shipping, etc.—75,000,000 horse-power is used in factories and for municipal activities, 13,000,000 horse-power being thus used in the United Kingdom alone. Canada has already developed roughly 2,300,000 horse-power from her water-power resources, which potentially amount to nearly 20,000,000 horse-power.

Under the orders of the Government of India, the “white-coal” or water-power resources of the Indian continent were recently surveyed. The preliminary report which has been issued gives some details.

At a rough estimate, the total power supplied in India is put down at less than

1,200,000 horse-power. Of this, 285,000 is electric horse-power, of which only 36 per cent. is obtained from water-power. As all the rainfall is precipitated in four or five months of the year, storage reservoirs are necessary to obtain a continuous flow for power generation throughout the year.

The Cauvery Power Works in Mysore and the Tata scheme in Bombay are the pioneer hydro-electric works in India. Both are undergoing development. In future the Government and the people should actively interest themselves and co-operate in developing this branch of power supply, for which there is a growing demand.

Though the total forest area of British India is nearly 250,000 square miles, the total net revenue derived from forest products was only a little over £1,000,000 in 1918-19. The public has little information about the work of this department. It is, therefore, impossible to make a dogmatic statement in regard to India's potentialities in this respect. There can be no doubt, however, that better com-

mercial use can be made of the forests with a view to providing materials for industries and increasing the revenue.

The Indian forests are, at present, utilized to a small extent to supply timber for building purposes, fuel for domestic use, wood for paper-pulp, and minor produce of various kinds. It has yet to be officially recognized that a forest is a crop, and not a mine which can be left undeveloped indefinitely, and that wood will rot unless cut and removed at the proper intervals.

Land should be given, on favourable terms, for private plantations, with a view to encouraging the people to grow trees of economic value. Permanent plots should be established to experiment with pulp woods. Companies for the manufacture of paper, where necessary in co-operation with British manufacturers, should be started in the vicinity of large forests. As in Canada, Government should endeavour to build up forest industries and establish more forest schools.

Local provincial and district committees should be associated with the officials in

charge of the forests, so that the people may closely follow the work that is being done, and assist in building up this important State property. Such committees should also draw public attention to the possibilities of particular forest industries such as paper, matches, pencils, furniture, etc. Reliable estimates of the value of forest products in each area should be maintained from year to year, and published periodically for the information of the local population.

The old mining and mineral industries have died out in India, and the people of the soil are very inadequately associated with the modern mining industries started in the country. According to the *Indian Year Book* for 1919, the modern developments in Europe have "helped to stamp out in all but remote localities, the once flourishing manufactures of alum, the various alkaline compounds, blue vitriol, copperas, copper, lead, steel and iron, and seriously curtailed the export trade in nitre and borax."

The gross value of mineral production in

1917 was £13,500,000—exceedingly small for so large a country as India, and possessed of such vast resources. The corresponding production in Canada in the year 1917 was £40,000,000 ; in Japan, £44,000,000 ; and in the United States of America, £430,000,000.

The principal minerals produced in India in 1917 were coal to the value of £4,500,000 ; gold, £2,300,000 ; manganese ore, £1,500,000 ; petroleum, £1,100,000 ; and salt, £900,000. Most of these industries are in non-Indian hands.

Neither the Government nor the leaders have made any attempt to prepare the public to engage in mining work. The information relating to geological surveys is not published in a form that is intelligible to the lay public or calculated to stimulate indigenous enterprise in mining.

India's mines should be nationalized as regards ownership, though they may be worked by companies, or individuals. Each provincial Government should be free to deal with the local minerals in the interests of the people of that province.

It may be mentioned that the Japanese

Government at first undertook to work some of the principal mines in Japan as models, employing foreign mining engineers and geological experts for the purpose. The mines were, however, transferred to private ownership as soon as they began to be successful.

Colleges and Schools of Mining and Metallurgy are needed for training alike in the highest scientific branches and in practical work. At least two colleges giving the highest instruction obtainable should be started at once. Also a number of schools in the existing mining centres. There should be a recognized co-ordinated scheme of such instruction for all India.

An advisory committee should be associated with the bureau or department of mines in each province. As in Canada, under similar circumstances, the Central Government may confine its attention to scientific investigations and to the collection of information from foreign countries for dissemination among the people. Pamphlets embodying reliable information regarding local resources, together with advice and

instruction for exploitation, both in English and in the vernacular, should be issued by the provincial geological departments from time to time. The question should be considered whether the provincial Governments should not undertake the establishment of smelting furnaces, rather than let ores be exported in their crude state. Canada is doing this as regards copper, and Australia as regards spelter.

India's natural resources have never been thoroughly surveyed. It is, therefore, difficult to estimate her potentiality. A special commission should be appointed to undertake this task.

Among industrial possibilities to be surveyed may be mentioned the manufacture of salt, the development of fisheries, the preservation of game, etc. There is no reason why all the salt needed should not be manufactured in the country itself.

Fisheries at one time received some attention in Madras, but no large measures have been put into operation and no schools established with a view to increasing

from that source the food supply of the population.

On account of high mountain barriers on the north, north-west and north-east, India, so far as foreign communications are concerned, is practically an island. Civilized life cannot be maintained without more intimate association with foreign lands. The total tonnage of shipping entered and cleared in India amounted to 17,000,000 tons in 1913-14, and less than 11,000,000 tons in 1917-18. In Canada the total tonnage entered and cleared in 1917-18 was 29,000,000 tons. In the single port of Detroit, situated upon the shore of an inland lake in the United States which is ice-bound for four or five months in the year, the tonnage entered and cleared amounted to over 100,000,000 tons in 1916. Considering that India has a coast-line 4,500 miles long, her shipping facilities are utterly inadequate for the trade of the country. There are only six or seven developed harbours in the whole country. The shipping is, moreover, all foreign.

Even foreign-built ships "registered" in India form a paltry one or two per cent. of the total tonnage employed in the foreign and coastwise trade of the country. Indian construction is required as well as Indian registration.

In the middle of the last century there were 34,000 Indian-owned vessels with an aggregate tonnage of 1,250,000. Towards 1900, these had dwindled to a tonnage of a little over 100,000. During the War, a few small vessels were constructed, presumably for use in Mesopotamia, but it is safe to say that for all practical purposes there is to-day no Indian-owned shipping.

It is necessary in the interests of the country for the Government in India to start building ships on its own account. It should be able to build ships in its own yard for the Royal Indian Marine. Even if nothing more could be done than to assemble parts in India, the industry would give profitable employment to a large number of people.

Australia has purchased all private ships, started shipbuilding yards, and nationalized

the whole industry, including the working.

In Japan the State took the initiative in shipbuilding and iron and steel manufacture, although raw materials for these two industries were not so easily procurable in Japan as they are in India.

In Canada and the United States, as already stated, shipbuilding is going on at a rapid rate under Government auspices. At present, both America and Japan are trying to carry on all their trade with India in their own bottoms, as the Germans and Austrians tried hard to do in pre-war years.

The provincial Governments should, according to circumstances, be able to spend specific sums of money every year on the construction and development of ports. District and city Boards should also take part and be given an interest in the financial results of port development schemes.

The railway mileage open for traffic in India in 1917-18 amounted to 36,000 miles, of which one-half was broad gauge (5 ft. 6 in.). The average return on the capital expenditure (about £365,000,000) on

railways in that year amounted to about seven per cent.

The Railway Act, especially in its administration, is at present extremely unsatisfactory. The provisions for the protection of life and property need to be strengthened. The liability of railways to compensate the public for material and pecuniary injuries needs to be increased. There have been numerous protests against the owner's risk notes under which railways charge the full freight rate without assuming liabilities. No civilized country permits carriers to do this. The entire policy of fixing rates should be revised so that railways will not appear to exist primarily to assist the export trade, largely in non-Indian hands, rather than to increase the prosperity of the indigenous population.

The railways may be said to be already mostly nationalized so far as ownership is concerned. If, in future, the working of the railways were undertaken by Government agencies instead of being entrusted to private companies, public revenues would be greater, since profits would not

have to be shared with the companies as is the case at present.

The railway workshops should be utilized more largely and without racial distinction for the training of local foremen and mechanics. More than half of the railway Board should, in future, be composed of Indian business men. Food and other conveniences should be provided for the poorer classes of the travelling public under stipulated standard rules. All railway stores should either be manufactured in State factories or purchased in India.

The use of motor-cars and motor transport has developed only within the past twenty-five years. Development in this respect has, however, been exceedingly rapid in the United States of America, where motor-cars are manufactured by the million and where an abundant supply of cheap gasoline is available. In the Western States of America horse conveyances have practically disappeared. Most farmers use motor-cars. There is said to be an average of one car for every eight persons in that part of the country. At the beginning of 1920 there

were 7,600,000 motor-cars in use in the United States, whereas the total number in use in the whole of Europe did not exceed 500,000. The figures for India are not available, but they must be comparatively very small.

If the Government were to do no more than to give their goodwill, and if the import duty on petroleum were regulated with the consent of the leading Indian business men, a great motor-car industry could be established in India within a year. There are firms ready to start if only they could be assured of Government co-operation and support.

It is probable that within the next decade air transport will be the most powerful factor in the development of every country commercially, economically and socially. Schools should be immediately started to train Indians in civil aerial transport. India should not lag behind other countries either in the construction or navigation of aircraft.

Traffic and commerce cannot be extended without good roads and cheap means of transportation.

Roughly 200,000 miles of roads, of which 55,000 were metalled and 145,000 were unmetalled, were maintained by the public authorities in India in 1916-17. In 1917-18, Rs. 5,000,000 were spent upon military, Rs. 600,000 upon civil Imperial, and Rs. 5,200,000 on civil provincial roads, making a total expenditure upon roads of Rs. 10,800,000.

All roads other than Imperial or provincial should be maintained by local bodies, with the general advice and financial and technical help of the provincial Board. Before new roads are constructed, provision should be made for their upkeep. Cart tracks from village to village should be left to the villagers themselves. Field tracks for conveying produce, especially in irrigated areas, are insufficient in many parts of the country and should be immediately augmented. With a little advice and persuasion, the people will be quite willing to find both the money and labour for this purpose.

The time will soon come, if it has not already arrived, when the bullock cart will

be found altogether too slow. Good roads are, therefore, becoming increasingly important. Light four-wheeled carts should take the place of two-wheeled carts. Small handcarts or barrows would save the rural population the labour involved in carrying head loads. Such carts would only require narrow tracks, as in Japan.

Numerous streams are unbridged. A bridge construction programme should, therefore, be formulated for each district and some progress made from year to year, with the aid of contributions from the provincial Government.

There is not much scope for inland navigation in India except on the river and canal systems of Eastern Bengal, Burma and Sindh, and, in a small way, in Madras. The public require precise information as regards existing facilities and the scope for improvement.

Such inland navigation as is possible has been reduced by manipulation of railway rates so as to make it uneconomic. Coasting trade viâ Broach to Bombay was crushed in this way, as was also transport by water

between Allahabad and Calcutta. Methods of this sort are doubly damaging to industries, for they cause congestion on railways and destroy indigenous enterprise, which largely controls inland navigation.

On account of the large volume of business centred in cities, traffic becomes congested unless communications are improved from time to time. Hard surface roads with suitable footpaths, underground and overhead railways, surface tramways, motor and animal draught conveyances are needed in some of the larger cities. The cities of Bombay and Calcutta require underground railways. It is understood that a tube railway project for Calcutta is under consideration. Suburban railways are needed in many cities to enable the business population to reside in healthy localities near their work. These conveniences will, however, be too costly, and the actual construction will be too slow, unless the necessary iron and steel are manufactured locally.

More and better postal, telegraph and telephone facilities are needed in India.

Private individuals and companies should be allowed to construct and work telephones with a licence from the local authorities.

When all is said and considered, the greatest resource of the country and the one hitherto least utilized is the energy and intelligence of its people. A way must be found largely to associate Indians with the work of developing the country's resources.

For a generation or more to come, development may best be undertaken by bringing into existence, with legal sanction, local corporations in each region or area. The business men with organizing and directing ability should be brought together in each area and encouraged to form themselves into corporations for the development of local resources. In any particular district, for instance, there may be mining corporations, irrigation corporations, corporations for developing road and motor traffic where such traffic may be found to be profitable, corporations for developing forest resources, public utilities, and water-power and specific industries which

require Government co-operation. In all undertakings which are not carried on by purely private enterprise, the capital and the directing energy should, as far as possible, be derived from the area itself. Graduates from the local areas should be trained to take a leading part in the work. If such training is commenced at once, the supply of local talent will be found, within a period of from five to ten years, quite equal to all the development work in each province and district. The work of the corporations will itself be a good training ground. The country should not, in future, be allowed to suffer for lack of such preparation and training.

The work of development referred to in this chapter may be carried out in three ways: (1) By purely private corporations or agencies; (2) by Government and private agencies working in co-operation; and (3) entirely by Government agencies. The three chief requirements for this work are organizing and directing skill, capital and labour. Organizing and directing agency is nowadays quite as important as capital,

and Indians must be trained for such employment. Some of the development work under irrigation, forests, railways, etc., may be carried out by means of loans raised locally. Notwithstanding the criticisms levelled at Indian workers, there is no doubt that, if suitably trained and organized, the supply of both skilled and unskilled labour will be inexhaustible.

Government should appoint a commission of conservation for each province. Each bureau or branch of development work in the province should have a committee of non-officials, experts and officials, associated with its head.

A central commission should co-ordinate the work of these provincial bodies, prepare designs, and suggest new developments.

Only the largest works in each province should be carried out by Government or contractors working under Government supervision. All ordinary schemes, and even costly projects requiring only ordinary skill, should be entrusted to corporations of local contractors and business men.

In this manner, many works may be

built and assets created in the provinces with local capital, enterprise and labour. This will be the most natural and healthy form of development, both as regards equipping the people with skill, and creating public property in each region.

Social Reconstruction

CHAPTER XII

BETTERMENT OF SOCIAL CONDITIONS

EVERY care should be taken by the Government and people alike so to direct the work of reconstruction that, in industrializing India, the fullest possible advantage is taken of Western and Japanese experience to avoid creating labour complications, evil housing conditions and such other grave urban problems.

In the chapter on Local Self-Government, reference has already been made to certain needs of urban progress and of rural development. A few additional notes on the same subject may not be out of place in their relation to social betterment.

The smallness of the urban population in India has already been dwelt upon as one of her serious drawbacks. The agricultural character of the population has been

maintained, hitherto, by limiting the urban areas and omitting to encourage industries likely to attract people from the country to the cities and towns.

Some Indians may fear that the proposed increase of the urban population will only add to the existing slums and may point to the movement in Western countries which seeks to take the city dwellers "back to the land." These critics must be reminded, however, that many of the Indian villages are hardly better than slums; that if urban reconstruction be undertaken, the increase in urban population need not add blocks of slums to towns, and that many years must elapse before the urban population in India comes anywhere near that of countries where city overcrowding has created a need for people to return to the land. In many cases industries could be developed in or near the new group villages, and thus large urban districts might grow up under healthy and well-planned conditions, with broad streets, open spaces and such-like amenities.

Each city and large town in India, as

already suggested, should have a separate improvement Board under the municipal council to prepare schemes for expanding the areas under its jurisdiction and for the construction of houses on good models.

In cities such as Berlin, extensions are planned and drains are constructed before building operations are begun. Owing, however, to the primitive conditions prevailing and lack of forethought in India, houses are built first, and only when sanitation becomes a crying need are drains thought of ! Often streets are only opened after houses have been built.

Parks, playgrounds, theatres, museums, art galleries and other means of public recreation and instruction should exist in every urban area, together with readily accessible railway and tramway facilities, boulevards and other means of transit and communication.

It is of the first importance that sufficient space should be preserved for the natural growth of the locality. The local authority, too, should not fail to recover for itself a considerable portion of the increase in

land values arising from public improvements.

As all cities, towns and villages are to have true self-government, it should soon be possible to insist upon a high standard of sanitation and civic utilities. At present, urban areas are allowed to grow up without regulation or organization. Serious attention needs to be given to the question of housing not only the industrial workers, but the people in general. In villages there are few properly built brick or stone houses, and it is quite common to find cattle and human beings living under the same roof.

Houses in towns are more substantial, but even they, as a rule, leave much to be desired. Little attention is paid to the ensuring of sanitary conditions. In order to raise the standard of living, a desire for better housing must be aroused and the people taught to appreciate the advantage of substantial masonry houses with tiled or terraced roofs. Such dwellings promote the health and comfort and therefore the efficiency of the people, whilst overcrowding

reduces a nation's efficiency and working capacity, and leads to many other evils.

The local authorities might set a good example by building a decent class of houses for their own servants and for all labourers engaged on public works. At the same time, building societies and companies on co-operative lines should be encouraged. In England, since the War, voluntary societies, commercial firms and local authorities are all carrying on more or less extensive building operations, whilst the Government constantly urges the matter forward and is helping with grants of money.

Every house-owner should see that proper masonry drains and receptacles are constructed so that refuse water may not sink into the soil and form cesspools reeking with contagion. Separate receptacles with tight lids should be provided for dry refuse. It should be the duty of the municipal or other local authorities concerned to remove the contents of these receptacles. The sale of refuse to cultivators can, sometimes be

made a source of revenue to the local authority.

A great waste of human labour is involved in the management of households, particularly in old-fashioned methods of cleaning and cooking, based on tradition rather than on the scientific requirements of cleanliness, order and finish. In these days of labour-saving and time-saving appliances, domestic economy has become a fine art, and it should not be necessary for women to spend so large an amount of time in domestic work as they do now.

With suitable appliances and arrangements, even the ordinary non-domestic man can prepare, cook, serve and consume a meal, and wash up and put by the utensils, all in the space of little more than an hour; whereas in India the women of the household make several hours' work of cooking even for a small family. Instruction in domestic economy and art should be provided in schools and special institutions in every city or town ward and in at least every central village.

To promote the social and cultural life of the people, every local authority must bring into existence clubs, reading-rooms, libraries, associations, etc., upon the model of those in progressive countries. Meeting places for people to come together, think together, and work together are indispensable for that co-operative effort which should be the watchword of the future.

If business enterprise is to be developed there must be a sufficiency of accommodation for travellers. In large cities there are hotels and satisfactory food supplies for foreign travellers, but no corresponding organization exists for Indians themselves, who when travelling are therefore subjected to many privations. The accommodation available for them either takes the form of caravanserais which do not provide food, making it necessary for them to carry their household goods along with them and do their own cooking; or a poor class of eating-houses where only the roughest meals are served and no lodging arrangements nor ordinary sanitary conveniences exist.

If the local authorities, perhaps with the

assistance of voluntary societies, provide decent and comfortable hostels for travellers and others, they will be able to set a good standard for this class of enterprise which may eventually be taken up by local business men. If managed on modern lines they can be made to pay and also to promote the business interests, comfort and convenience of the people.

One of the first necessities of the country is the provision of abundant travelling facilities by rail and road for the middle and poorer classes of the indigenous population, including proper accommodation for eating and sleeping *en route*. Special care must be taken not to offend against caste rules or to wound susceptibilities. In time, however, it is to be hoped that common dining arrangements on a non-caste basis will become acceptable to the majority of the people, higher rates being charged for caste arrangements.

As a beginning, Government should insist on all railway administrations providing these facilities for the indigenous population, whilst the municipalities or other

local authorities should discharge this duty for their own areas. At the outset, some loss may be involved, but it is a public duty which should be fulfilled by the local authority until private enterprise takes it over.

It has already been seen that a low standard of living arises from the fact that agriculture is the one industry and consequently overcrowded. Arts and crafts having decayed and modern industry not having emerged to take their place, there is no organization or co-operation in the business life of the country. The average earning power amounts to about Rs. 180 for a family of five persons. Thirty years ago, the average income of a family in India or Japan was about the same. To-day it is safe to say that the average earning power in Japan is three times what it is in India.

One thing necessary towards raising the standard of life is the cultivation of the saving habit. The agricultural classes particularly are in the habit of contracting debts without any thought of repayment. It should be reckoned a condition of

respectability for every useful citizen at all times to have enough savings to carry him through two years of distress or lack of employment.

In advanced countries, people procure protection against unemployment, old age, sickness or accident by systems of insurance, partly through voluntary societies and partly by State or municipal schemes which in Germany, Great Britain and some other countries are compulsory. Under the National Insurance scheme of Great Britain, weekly payments for medical insurance for employes are levied—one proportion from the employee, one proportion from the employer and one proportion from the public funds.

✓A serious attempt should be made in India by every means possible to reduce poverty and to raise the standard of living. By education and organization it should be possible to abolish poverty altogether. Many people have regarded poverty as a social blessing. In the West, at all events, such ideas are now passing away and poverty is being rightly thought of as a

great barrier across the path of civilization—as a social disease which must be cured and prevented.

By the aid of large-scale production and a general system of co-operation, poverty should be made impossible. The model villages of Japan have set an example in this respect which might be profitably followed by their Indian prototypes.

Labour all the world over, it must be remembered, is in revolt against bad treatment, sweating, slum life, and the other unsatisfactory conditions to which modern industry has subjected it. In India, too, the ignorance of the people has been exploited by capitalists and employers, and it is, therefore, not surprising that there should be increasing tension between capital and labour.

It is extremely desirable that India, thus early in her industrial history, should face the problems which in Europe and America have caused so much misery in the past, and are at present the occasion of so much strife and dislocation of business.

Better treatment should be ensured in

future by giving the workers the opportunity of voicing their views in the Legislative Councils, through trade organizations, the Press, etc. ; also by providing economic education which will fit at least the abler among them to appreciate the complexity of the affairs with which they deal and to advance the interests of their class.

After the formation of the German Empire, some of the leading German economists urged upon the Government and the employers the necessity for raising wages and improving labour conditions so that the German working-man might, by increased energy and physique, produce as much as the British working-man, and help to wrest the trade from Great Britain. It was clearly believed in Germany that Great Britain's supremacy towards the end of the last century was due to the superior conditions under which the producers lived.

While employers should improve the wages and living conditions of their employees, the workers on their part might realize their own shortcomings. For in-

stance, they neither work regularly nor organize efficiently. Every possible stimulus should be given both by Government and private endeavour to improve the national working habits so that productive power and earnings may be increased.

Inefficiency may, to a certain extent, be eliminated by the prevention of sickness and degeneracy, as well as by suitable education for the individual. This would not in itself, however, entirely do away with poverty, for so long as a purely competitive and profit-making system continues a portion of the population will remain poor.

The real solution of the problem lies in co-operation. By working together, each for all and all for each, the workers would be able themselves to reap the profits of large-scale production which under any but the co-operative system will go too largely into the pockets of the capitalist. The modern expedients of piece-work payment, profit-sharing, etc., should therefore be discussed by employers and public men.

alike, with a view to stimulating production and raising wages.

It would be necessary to appoint a commission to examine the trend of the labour movement with a view to avoiding the mistakes which have been made by other nations and solving Indian problems in the light of reason. The commission should be formed chiefly of Indians, with experts and officials added, and must be ready to face two or three years' hard work and study.

From all that has been said it is clear that the country has a great deal to learn from outside experience. Indians will do well to arrange, through central organizations, to send deputations of selected men and women to foreign countries to study all that can be learned of improved methods of civic government and social practices, with a view to adopting the most suitable models.

Civics should form part of the social science courses of every university.

In every primary and secondary school, too, a spirit of citizenship should be aroused

among the pupils, and the elements, at least, of civic government imparted to them.

If the highest national ideals are to be fully realized in the future, they must first be created in the minds of youth.

CHAPTER XIII

SOCIAL REFORM

IN order to qualify themselves for the new type of citizenship made possible by the constitutional reforms, it will be necessary for Indians to reorganize the national life so as to bring it more into line with modern conditions.

They should make a careful study of the great social experiments that are being tried in various countries and introduce them wherever possible. The United States have "gone dry," and other lands are employing measures, of one kind or the other, to banish—or at any rate to regulate—drink, vice, the white-slave traffic, etc. Wholesome knowledge of sexual matters is spread broadcast by suitable literature, and confidential advice and treatment are supplied free in England. America is also

setting the world a great example in getting rid of mendicancy by organizing charity. Various countries have inaugurated pensions for old persons and mothers, insurance against unemployment, sickness, and the like. Although many of these changes in their entirety may be unsuited to Indian conditions, they may yet afford suggestive guidance for wholesome and valuable changes in the country's social and economic life. India must not obstinately cling to effete practices and permit herself to lag behind.

The general outlook upon life in India, as things are now, is too gloomy to permit sound individual or social development. Far too common is the belief that life is merely a transitory stage in the passage of the soul to another world. That notion chills enthusiasm, kills joy, and promotes fatalism. The enervating climate and lack of proper nourishment react upon the nerves and accentuate the pessimistic tendency.

In some cases, the joint-family system tends to produce drones; some Indians

actually take pride in the number of persons they maintain in idleness. If the person on whom the burden is placed dies, or is unable or unwilling to bear it, the dependants are left destitute, and often have to adopt mendicancy for a means of livelihood. Society should take immediate measures to put a stop to this degenerating state of affairs. Begging ought to be prohibited by law, as in Japan, and a suitable allowance made for indigent persons by the State and local authorities or civic organizations. Persons suffering from blindness, sickness, mental disease and other infirmities are better cared for in institutions specially maintained for them. In particular, institutions should be provided for defective or friendless children, facilities afforded for medical examination in schools, and, where necessary, separate hospital treatment for those little ones who require it.

While Indians feel that life is a burden, people in the West are full of hope and intensely active. They believe that the world is capable of indefinite improvement.

and have faith in individual and collective effort. In India, too, with education and the new possibilities of responsible Government, the inherited pessimism of the people will gradually be dispelled by the new forces of Hope and Faith for the future.

Indians not only have a morbid outlook upon life, but are divided into rigid groups known as castes and sub-castes. Social distinctions exist in every country—distinctions based upon wealth, birth, or occupation. No country outside India has, however, a social system which cuts at the very root of human brotherhood, condemns millions of persons to perpetual degradation, makes people hyper-exclusive, magnifies religious differences, and disorganizes society.

The Indian social system has been particularly harsh upon the pariahs and so-called lower classes or "untouchables," estimated to number over 30,000,000 persons or more. As the name indicates, their very shadow is considered contaminating. They are kept in a state of abject submission and helplessness. Their education is far more

neglected than that of the higher castes.

The fair Aryan hoped, by means of the caste system, to keep his stock untainted by intermixture with the dark Dravidians. The Sanskrit term for caste—*varna* (colour)—bears eloquent testimony to this origin.

Perhaps Nemesis led the Aryans in course of time to divide themselves first upon the basis of occupation, and later of birth. The desire to form separate groups for self-protection and religious worship became a potent agent in multiplying divisions.

Whatever its origin, caste enters into every detail of individual life, and everywhere plays havoc with it. Considerable time and energy is consumed in conforming to its requirements and progress above a certain standard rendered impossible.

Marriage is not permitted outside strictly prescribed limits, though during recent years more and more individuals are defying such regulations. The division into sub-castes has, indeed, proceeded so far that often it is difficult to find suitable brides. There have even been cases where men have had to wait for the birth of a daughter

in a family of the prescribed caste before they could get married. Such limitations, have often resulted in marriages between old men and young girls. Marriage, funeral and other ceremonies are made the occasions of extravagance, and families thereby cripple themselves and have to scrimp and scrape for years and even for life.

Boys and girls, especially among the higher castes, marry prematurely. They are physically too immature at that age to lead a married life, and they themselves and their offspring are thereby greatly handicapped in the struggle for existence.

The re-marriage of widows is regarded by high caste people as improper. Progressive persons are, however, more and more contravening conventionality in this respect.

Even though there are millions of widows, many of them of child-bearing age, and an inordinately high rate of mortality due to poor sanitary arrangements, low nourishment and famine, the population is increasing at a more rapid rate than material production.

In addition to all these marital evils

produced by the social structure peculiar to India, caste regulations interdict foreign travel. This seems strange when it is remembered that in ancient times Hindus were a great sea-faring people, trading with distant countries and even possessing colonies.

Unfortunately, many among those Indians who brave the wrath of their community and go across the "black water" (*kala pani*) are coolies who do not raise India in foreign estimation. Even many educated Indians who go abroad do not understand foreign habits, because society is so constituted that whatever changes are effected must be made stealthily. Yet, strange to say, the educated classes are copying the Western habit of drinking, and the consumption of alcoholic liquors is on the increase. With the growth of an urban population and the undermining of old beliefs, vice has shown a strong tendency to spread.

As shown by the census, literacy among women in all classes falls far below that among men. This is due to prejudices engendered by tradition, which condemns

women to be economically dependent upon men, makes it impossible for them to engage in any profession other than that of a housewife, and in some parts of the country even compels them to observe strict *purdah*, and lead a secluded life.

Since the time of Raja Ram Mohan Roy, progressive Indians have sought to free society from these evils. Their efforts, however, have not fructified as they should have done ; firstly, because of the appalling illiteracy prevailing in the country, especially among the women, and secondly, because Government, not being of the people, could not themselves seriously undertake social reform, and at times even felt constrained to discourage Indian reformers from doing so. Nor has the department of education sought to inculcate healthy and stimulating ideals in the rising generation. The Government has, indeed, tried to teach the people to be humble and contented with a state of subordination, with the result that India drifts as a rudderless boat on an uncharted ocean.

No extensive social reconstruction is possible unless a vigorous and systematic effort is made to banish illiteracy from the land, and the people, especially women, are given education which will broaden their outlook upon life, make them shake off lethargy, and rouse in them the ambition to better their condition.

While the right type of education will automatically do much, a special effort, a comprehensive social campaign, is indispensable for the speedy removal of the nation's handicaps.

Since caste is responsible for most of the social disorders from which India suffers, a special attempt should be made to render the system more elastic.

The caste regulations in regard to marriage, especially, need to be relaxed. While inter-racial marriages may be objected to by some persons, religion, or caste should not constitute a bar to marriage. This reform would be facilitated if the central legislature would, as soon as possible, pass a law removing all civil disabilities which at present stand in the way of such unions.

While good legislation can accomplish much, the reform of society cannot be brought about by the mere passage of laws. The leaders of the various communities will not only have to carry on a vigorous propaganda against prejudicial customs, but also set worthy examples for the people to follow.

So long as enlightened men continue to marry their children prematurely, it is hopeless to expect that early marriage, as an institution, will disappear from the country. Girls should not be married earlier than sixteen, nor men before they are twenty-two years of age. Men and women in Western countries marry somewhat later still in life, but at least for the present, there should be two or three years' difference in favour of India, to allow for existing prejudices (right or wrong) and climatic conditions.

There can be no objection to the existing practice of the betrothal of girls at any age after twelve, provided that consummation of marriage is legally deferred until the age of sixteen, and provided also that,

the death of either party' to the contract leaves the other party free to re-marry.

If early marriages were stopped, there would be fewer widows in India ; and the superstition which prevents the re-marriage of widows would be less keenly felt. Both common justice and prudence require that the evils of enforced widowhood and its attendant inhumanities and barbarous practices be removed.

An entirely new status should be accorded to women. The time has come when Indians must seriously consider whether the passive life, to which they condemn women with a view to preserving the so-called proprieties and decencies of life, is worth the appalling price the country is forced to pay in the shape of loss of work and intelligent effort from half the population of the country.

Indian women must be given the opportunity to acquire the highest forms of education. If they are trained to enter congenial professions, and given special facilities for obtaining profitable employ-

ment, their economic position and, with it, their status will be improved.

Similarly, the position of the "untouchables,"—i.e., persons whose very touch is deemed pollution by the caste people,—should be improved socially, educationally, and economically. Much will depend upon material prosperity, for nothing levels social position so effectively as economic success. If the lower classes are given the opportunity to amass wealth, members of higher castes will serve under them, their status will inevitably be improved and they will be able to associate in public and social functions with the upper classes.

The very idea of interfering with caste canons will doubtless be viewed with horror by every pious Hindu who has chosen to isolate himself from the rest of the world. He should, however, remember that the permanent interests of the country demand that all artificial barriers to progress should be removed.

As a matter of fact, in some respects the caste regulations are already being disre-

garded. Medicine, ice, and aerated waters, bread and biscuits, are used without question by high-caste people who nevertheless consider that water, if touched by a low-caste person, conveys pollution. If Indians were consistent, they would consider that clean water and clean food may be accepted from any clean person's hand. If this were done, a saner social system would be built up and the business of the country would be improved.

If the country is to move forward at a rapid pace, Indians must increasingly disregard caste restrictions, break bread with one another and cultivate habits of international intercourse. Before leaving India, however, they should be taught European habits and customs. In Japan, such training is provided by Government to emigrants.

Upon their return, Indians should be freely admitted into their caste and much should be made of them, so as to learn modern ways from them and to encourage others to travel and see the world for themselves.

Unless India is willing to adopt many of the institutions, practices and habits which promote business and benefit society in other lands, she cannot hope to advance. These include regular hours of work in all business places, appreciation of the value of time, punctuality in attendance, standard habits of association, a spirit of service and co-operation, and the proprieties to be observed in conversation, in business relations, at table, and at social functions.

Standards of social functions should be prepared. As far as possible, everything that is good and noble in Indian tradition and life should be preserved, and new practices grafted upon it. The basis of behaviour should be sincerity, honesty, and utility.

Religion, the root of all social practices in India, has become a mere matter of form or ritual rather than a way of life. Indians must learn to associate high principles, character, morality and discipline as essential parts of their creed.

Small prayer books should be prepared

by every religious denomination. These should include rules governing morality and conduct, formulated with a view to inculcating a spirit of service to fellow-beings, discipline, patriotism, 'clean life, and clean practices, tolerance and adherence to principle.

Morality should be taught in every school from the lowest to the highest, just as ethics forms one of the principal subjects in the Japanese curriculum. The more rigid practices should, of course, be left for each individual to decide for himself or herself, but moral teachings should certainly be introduced into daily prayers.

A question of the greatest importance at the present time is on what lines social discipline shall be developed among the Indian population.

The older class of Indians complain that Western education is undermining discipline and reverence to authority. But are not such phenomena always observable in societies which are undergoing fundamental changes ?

In all European countries, ever since the beginning of the modern era, precisely similar complaints have been rife.

When old systems begin to fail, when the priesthood loses its position of authority and social sanctions give way, it is inevitable that the elders and established guides should look on with apprehension lest society, without the props so long relied upon, should go to pieces and personal and domestic morality, in particular, be destroyed. Such lamentations have never been more frequent than since the close of the War.

In Western countries to-day, the central problem is to work out a system of co-operative discipline in school, college, office and factory. Some notable examples of such experiments are to be found in the schemes adopted in the Pestalozzian and Montessori schools, self-government in the higher schools, mutual aid and self-governing responsibility in the institutions for delinquent youth, and similar experiments in American prisons. Also in the joint Industrial Councils of employers and

employed, the scheme of 'complete self-government tried in the English building trade, and the rapid spread of the national guild idea.

Unquestioning respect for authority is plainly declining in Western countries. For one thing, the bureaucratic system, grown more powerful during the War, has not increased respect for government. Employers must meet their workpeople in council. Parents must give their children reasons. Women claim equality with men and have already secured equal opportunities of entry into most professions and occupations.

What of India? Her vast population and the peculiar character of her socio-religious system, now yielding—perhaps too fast—to modern forces, are said to make her problems infinitely more difficult than those of the Western world. Her climate, too, is no doubt a disadvantage and the education given to her children affords no practical preparation for life.

The Government has been apprehensive of any co-operative efforts by the people

and has actively discouraged all forms of autonomous organization or societies for mutual aid.

This has had fatal results in stifling vital interest in knowledge and work among the people, and has dangerously suppressed social emotions, which are, therefore, liable from time to time to take mischievous directions.

The Press is in chains; anti-sedition laws flourish; the young minds in college and school learn nothing of the real facts of national developments, and their thoughts dwell in a world too far from life's realities.

There is now no agency or institution with sufficient authority to utilize and develop fine Indian traditions such as the relation between teacher and pupil (*guru* and *chela*): or that wonderful conception of group loyalty which is the finer side of the caste system.

The lines on which effective organization in these and other respects can be fully developed will be discussed in a later chapter. Meanwhile, this may be said:

India must rely upon her educated young men and women to attack the great task.

Several original institutions and movements have already been initiated, such as the Anglo-Vedic College, the *Gurukula*, the Tagore school, volunteer work under Mr. Gokhale's Servants of India Society, the Calcutta volunteers, etc., although, as all these live only by sufferance, their scope is limited.

Social discipline can be easily enforced among college-educated young men, but even they will need authoritative guidance from the leading men of the country. Among the rural population, much can be done along the lines of agricultural and craft education already urged, but there is no doubt social discipline will come mainly from the development of the co-operative movement.

Among the industrial workers, it must as inevitably come through their own industrial associations.

The necessity of Indian trade unionism must be faced. The spirit of industrialism will mean the continual danger of anarchy

and violence unless the employing class goes out to meet the problem frankly by peaceful methods of negotiation and conciliation. The Indian industrial workers will inevitably be organized in one of two ways: either along the aggressive lines now being pursued by the unions in Madras, or on the lines already suggested in the preceding chapter.

CHAPTER XIV

EDUCATION

WHEN the late Prince Albert Victor, the grandson of Queen-Empress Victoria, visited the country in the 'eighties, a triumphal arch erected by the lively-witted people of the city of Poona, greeted him in these words :—

“Tell Grandma we are a happy nation,
But nineteen crores¹ are without education.”

India to this day continues to be the land of unlettered people.

It is only necessary to compare the amount spent upon education in India with similar expenditure in other countries to understand why she lags behind progressive nations. In 1916-17, the amount spent for each 100 of the population was :—

¹ i.e., 190 million people.

Country.	Rs.
India	45
Japan	260
Great Britain	630
Canada	1,670
United States	2,700

Whereas the population attending elementary schools in India was but 2·9 per cent., it was 14·3 per cent. in Japan, and 16·5 per cent. in Great Britain. If 100 is taken as an index number for India's proportion of elementary school attendance, the following significant figures emerge :—

CHILDREN AT SCHOOL.

Country.	Rs.
India	100
Japan	493
Canada	548
Great Britain	568
Australia	686
United States	803

The percentage of girl pupils at school to the total female population is much smaller than these figures would indicate. Social prejudice and lack of educational facilities are responsible for keeping

women's education appallingly backward. As already emphasized, India must recognize that it is impossible to make rapid progress so long as half of the population remains illiterate and inefficient.

Such primary education as is provided is of an unpractical character. The cultivator and the craftsmen view it with disfavour, as tending to estrange their boys from their surroundings and to make them dissatisfied with their hereditary calling without necessarily fitting them for anything better.

Secondary and university education, though producing many able recruits for subordinate positions in the Civil Service, does not provide the men needed to carry on the work of agriculture, engineering, commerce and technology. The provision for training in economics and history is inadequate, and the study of those subjects is even discouraged. An attempt is actually made to teach economics in such a way as to render India's emergence from a state of dependency difficult.

The fees charged for education in the

higher branches are exorbitant, and the scholarships are too few. In consequence, a mass of talent in humble circumstances is left undeveloped and even unsuspected. The policy of increasing fees in order to meet increasing expenditure will defeat its own ends.

Britain herself has had to pay a heavy price for her hand-to-mouth policy in regard to education. The educational chaos still existing there compares unfavourably with the great yet orderly progress made by Germany and Japan, both of which countries, after weighing and testing the educational systems of the world, absorbed the best of all.

Now that a beginning is about to be made in responsible government in India, it is necessary that the standard of education should be such as to fit the people to exercise the powers and responsibilities of citizenship, and to take full advantage of the social and economic opportunities which are opening before them.

India may advantageously follow in respect of education the example set by Japan. That country, though not so very long ago

as backward as India is to-day, has so raised her standard of education as to ensure a steady growth of progress and prosperity.

Another lesson in this respect has been provided by the enterprise shown by the Americans in educating the Filipinos, who in twenty years have advanced far ahead of Indians in percentage of literacy. The system of education introduced into the Philippines, moreover, lays great stress upon vocational teaching, and therefore conduces to rapid economic development.

Within the next ten years, India's education budget should approximate £25,000,000, allocated as follows :—

Branch of Education.	Scholars.	Proportion per 1,000 of the total population of B. India (266,000,000)	Cost in million £.
Elementary Schools	36,400,000	140	18
Secondary Schools . . .	3,640,000	14	3·5
Universities	390,000	1·5	3·0
Special Education . . .	130,000	·5	·5
	40,560,000	156	25

Deducting the present total expenditure of £7,500,000, and assuming that another £7,500,000 will be met by local governing bodies, there will remain a deficiency of £10,000,000, which will have to be met partly by increased taxation and partly by means of a loan. The unproductive debt of India is very small. Government should not hesitate to add to it such a profitable investment as an education loan.

Expenditure on education, like labour expended upon tilling and fertilizing the soil, will repay itself many fold. Since the nation will reap the first-fruits of this harvest, the increasing outlay upon education should, in the main, be a national charge. The fees should be merely nominal, and the scholarships sufficient in number really to encourage talent and endeavour.

Every provincial Government should develop its educational department and appoint a Minister of Education. That department should be in close touch with every city, town, and even village, which should also have education councils or

committees to carry on local work, and to become centres of thought and enlightenment in every branch of education and self-improvement, whether for young people or adults. Such committees should maintain some sort of institute, with a reading-room, lecture-room, and at least the nucleus of a reference library.

The education council of the city or town should be a very important body with far-reaching influences. It might consist of representatives of the provincial Government, the local authority, the nearest university, and any education or recreative associations, and should include professors, teachers and wage-earners, while some members might be co-opted from among distinguished men and women.

The educational institute, in addition to library, reading-rooms and lecture-hall, might include a museum, concert-hall and possibly even a theatre. Professors and teachers should be given the opportunity to visit other districts and provinces, and conferences should be held from time to time for the exchange of views.

Each large village should have at least one primary school. Smaller villages might be grouped for this purpose, after the fashion of the combinations of rural school-districts in some parts of the United States.

It is necessary to formulate a programme of national education along broad, well-conceived lines, and with something like deliberate choice of the means best adapted to the desired end.

Commencing with education broad-based on the nation's childhood, no doubt something like 90 per cent. of the school population would attend the primary schools. In that case, instead of the present elementary school attendance of 6,000,000, India should have 35,000,000 boys and girls attending primary schools, later to emerge with at least sufficient mental equipment to give them alertness, self-confidence, and eagerness to improve and progress.

The school-life should extend from five or six to twelve years of age. The elementary course should comprise the "three R's" and, in addition, such subjects as

drawing, nature-study and the elements of business, morals, especially the necessity of discipline in all realms of life, the value of time, and behaviour towards elders.

Linked with the elementary school system, there should be "vocational" schools, to provide training in the elements of agriculture, commerce, handicrafts, carpentry, engineering, woodwork, smithing, and other trades for the boys, and cookery, dressmaking, nursing and housewifery for girls. Probably 60 per cent. of the boys in rural areas would require agricultural training. Where a vocational school is not possible, arrangements might be made for the requisite subjects to be taught in continuation classes on special week-days or, perhaps, in the evenings.

Pupils going direct from elementary to secondary schools need not take the primary vocational or continuation course. Since probably not more than 10 per cent. of the children would pass to the secondary schools, the vocational course would follow in most cases, continuing for perhaps two