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ECONOMIC PROBLEMS OF MODERN INDIA

ECONOMIC PROBLEMS
OF
MODERN INDIA

EDITED BY
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VOLUME I

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INTRODUCTION

Economic problems, old and new.—As India enters a new phase in her self-government, her economic problems, though set in the old social and geographical background, tend to become more complex and variegated. Provincial autonomy brings to the fore the need of co-ordinated economic planning, while the unification of British and State India will extend the scope of economic problems and policies of the future. Yet nothing is truer in India's economic life of to-day than the persistence of poverty and indebtedness of her masses, studied with such earnestness by the pioneers of Indian economic thought, Ranade, Naoroji, Dutt, Digby and Nicholson. Though many new features indicating wealth and progress have been imported into the economic scene, the dependence of India's population on her agriculture which Ranade lamented about three decades ago, has increased since his time, with its inevitable consequences of unemployment and under-employment on a scale unparalleled in any modern civilised community. Famines, which swept off about 26·5 million persons between 1800 and 1900, have now lost their rigours, but the considerable masses of the population now live on a sub-nutritional level. And a sadder commentary on our economic situation cannot be found than the close, direct correspondence between harvests and birth-rates and inverse correspondence between harvests and mortality.

Effects of agricultural predominance.—More than half a century ago (1880) the Famine Commission laid bare the danger spot in Indian economic structure, in the more or less complete dependence on agriculture, and made out a strong plea for the diversification of employment. In the half-century while Japan made phenomenal strides in industrial

development and has now become a serious rival to the western industrial nations, India's progress was exceedingly tardy. In 1931 out of 154 million workers in India only 5 millions were engaged in industrial establishments and $1\frac{1}{2}$ millions or barely 0·9 per cent in factories. Between 1911 and 1931 the percentage of industrial workers to the working population actually declined from 11·0 to 9·1, the country's increasing numbers crowding on the tiny holdings. Village and cottage industries are declining in most provinces. Artisan castes, such as weavers, potters, metal workers and oil-pressers, ousted from their traditional occupations, are falling back on agriculture. The main industry, agriculture, which engages 66 per cent of India's actual workers, produces a relatively heavy yield per acre, but an exceedingly small income *per capita*, due to the cumulative effects of social and economic circumstances which have now caught the Indian peasant in a vicious circle. It begins with a phenomenal increase of population—of about 230 millions since 1850—which is responsible for fragmentation of holdings under an obsolete law of inheritance, which has become an agricultural misfit; this aggravates poverty and indebtedness. These, again, make it impossible to obtain the full advantages that scientific experiments assure as regards the improvement of crops, manures and implements. Social custom and prejudice enter into the picture when it encourages polygamy among a large section of the population and compels the maintenance of as many as 67 cattle per hundred acres of sown area as compared with China's 15 and Japan's 6, indicating that at least 125 millions of Indian cattle are uneconomical and superfluous, while the country has only 60 million working cattle for about 300 million crop acres (1 pair of bullocks to 10 acres), a number wholly inadequate for intensive farming. History has also come into the picture. The rights and privileges of feudal landlords and revenue-farmers which were especially strengthened by the political unsettlement in the later Moghul days, and by the promises and pledges given by the British in 1793 and again at the time of the Mutiny in 1857, coupled with the age-long respect for aristocratic traditions,

have been the bulwarks of an effete, irresponsible landlordism.

Mal-distribution of wealth.—To-day the landlord in India has transformed himself from a wealth-producer into a rent receiver and plays a small part in the agricultural partnership. The disorganisation of the village community, the loss of common rights in meadows, pastures and irrigation channels and the disuse of the collective employment of village artisans and functionaries, due to the misunderstanding of village tenures and collective rights by the English officers, have now become serious obstacles to the progress of small farming. Meanwhile the land laws have favoured the development of a class of intermediaries whose type and name are legion and who, whether in the landlord or in the ryotwari Provinces, lower the status of the actual tillers of the soil and intercept, sometimes clandestinely, through the levy of imposts, a portion of the profits of agriculture which might have gone back to the land.

The large proportion of agricultural labourers to the cultivators, and its increase in recent years, are the symptoms of social unsettlement in the village which rises to the fury of fire-raising and *bazar* looting as money-lenders and landlords become too importunate in their demands and as communal antagonisms feed the fire of agrarian discontent. The landless class, newly risen to importance in India, floats about in the countryside, lowers agricultural efficiency and prevents the introduction of machinery in agriculture, and, in the absence of subsidiary occupation and of regular employment in the fields, is pushed to the cities where it lowers urban wages, and impedes the development of organised unionism, housing improvement and civic amelioration.

The agricultural labourer occupies the lowest rung of the Indian economic ladder, that toiling, long-suffering serf, who is the first to suffer from famine, plague, malaria and influenza. He numbers to-day 25 millions, and a single meal, thin gruel and loin cloth are all he can hope for in a year of plenty in India. His average wages in these years of

depression vary from two to three annas per diem in Northern India. Above him come the small tenants and cultivating owners who number 61 millions. Next come the non-cultivating owners, rent-receivers and landlords, in whose hands land has been concentrating during the last few decades.

Low purchasing power.—In India the wealth *per capita* has increased during the last 50 years, but the mal-distribution of wealth has grown worse, jeopardising efficient land utilisation and sharpening the contrast between the landlords and the rack-rented peasants, between the increasing class of rent receivers and the inferior tenants-cum-labourers and the toiling agricultural serfs. The average *per capita* income in India is estimated at Rs. 67·5 per annum. The United Kingdom *per capita* income is put at £76 (as compared with India's £5 only) and the average *per capita* taxation is Rs. 5·7 in India as against Rs. 260 in the United Kingdom. With such a narrow, insecure, economic base it is no wonder that India's mass education and hygiene have been sadly neglected. India's expenditure *per capita* on education is only one-tenth, and for medical care and public health one-eighth to one-half, of a rupee in the different Provinces, and her percentage of literacy among persons aged 5 years and over is only 9·5. India's death-rate is 22·4 per 1,000, as compared with Japan's 17·8 and the United Kingdom's 12·3; her infantile mortality is about 171 per 1,000 as compared with Japan's 118, and the United Kingdom's 64. Her average expectation of life is only 26 years, a figure which is less than half of that in the United Kingdom and is much lower than in most civilised countries of the world. With an unhealthy, illiterate and inefficient working population and with such low purchasing power of the agriculturists, industrial development is retarded and the course of foreign trade determined mainly by the vicissitudes of agriculture. It is only thriving agriculture which, by increasing the purchasing power of 70 per cent of India's population, can serve as the secure basis of the development of industries by affording a large and expansive

internal market for their wares; with agriculture on a steep incline, pushed down by constant population increase and recurrent droughts (which visit Northern India at intervals of six years), India's industry and trade cannot contribute usefully to the solution of her poverty and economic backwardness.

Economic planning : (1) restriction of numbers.—The predominance of agriculture, conservatism, indebtedness, a limited home-market for industrial products and industrial backwardness are all interlaced together in a chain which binds the country to inescapable poverty and inefficiency. The economist, if he is to succeed in his fight against this enslavement, must co-ordinate his plans in a concerted offensive. These, in our judgment, are chiefly four: (1) the population drive, (2) the industrialisation drive, (3) the rural reconstruction drive and (4) the social reform drive.

Poverty is largely a matter of the man-land ratio in India. In 1891 India's population stood at 287 millions. In 1931 the population was 353 millions. This increase of numbers, coupled with the fact that the percentage of population supported by land increased from 61 in 1891 to 73 in 1931 denotes a very serious situation. It is estimated that by the next census year the population will reach 400 millions. The increasing population is not being absorbed in industries at all, the percentage of industrial workers to the total population diminishing from 5·5 to 4·3 between 1911 and 1931. A state of chronic food shortage, aggravated by drought and now by the depression, affects particularly the very young and very old, and also women, especially those in the child-bearing age, when the ancient practices of infanticide, abortion and abstinence from intercourse have been largely discarded and the results are high infantile and maternal mortality in this country. The reduction of the number of women at the reproductive period, worn out by a long struggle with food deficiency and by frequent child-bearing, is one of the demological causes of the recent slackening of the birth-rate in the more heavily congested

regions. Malnutrition affects also the death-rate, people with reduced power to resist infections falling easier victims to epidemics. Between 1901 and 1931 the mortality from the main epidemic diseases was about 67·25 millions. Birth-control for a country like India principally aims at the reduction of excessive mortality. Various customs contribute to increase the number of births in the average family, which leads to agricultural inefficiency and unemployment through sub-division of holdings, and thwarts schemes of mass education and improvement of rural sanitation. Birth-control propaganda must now be carried into village homes and cheap and fool-proof contraceptive devices, which are now available in the country, popularised. For this is India's basal economic issue, which left untackled will not permit a fair trial to any forward social and political programmes. Large and systematic plans of land reclamation and colonisation within India in such provinces as Assam, the Central Provinces and the Punjab and in Burma, and of Government-assisted emigration and settlement in appropriate overseas lands within the British Empire or outside, which may relieve population pressure, will also have to be considered and the Central Government should initiate and effectively carry out such programmes by entering into imperial pacts or bilateral agreements.

(2) **Use of tariff, currency and banking management for industrial development.**—The industrialisation drive began with the adoption of the policy of "discriminating protection" and has had a chequered career. The protection given to industries has sometimes been inadequate and spasmodic, while the industries themselves have failed to profit most from it due to inefficiency of management and tardy rationalisation. The lack of co-ordination between the monetary and fiscal policies has been also one of the chief obstacles to an all-round industrial advance. Further, however rapid the development of large-scale industries may be, without the re-organisation of India's handicrafts and cottage industries by co-operative methods, and by the adoption of improved implements and of fuel and electric power, we cannot quickly correct the unbalance of the

economic system. Rural industrialisation will sooner lead to a rise in rural purchasing power, and prevent unemployment, which has become normal in the Indian village.

India is now passing through an era of severe depression. The decline of value of her total agricultural production to the extent of 47·5 per cent since 1929 has contributed towards a diminution of her total volume of foreign trade and an increase of agricultural indebtedness the real burden of which is now estimated at the colossal figure of Rs. 2,200 crores. Central and provincial budgets have also shown grave deficits; nation-building services have been starved; unemployment has increased; wages, especially agricultural wages, have been lowered and the plane of living shows a decline. The co-operative movement, upon which hopes were concentrated for rural and agricultural progress, has also suffered a disastrous set-back. The urgent problem now in India is to secure recovery of prices and this calls for a new monetary and banking policy. The co-ordination of tariff, currency and banking management is, in fact, the first essential step towards economic recovery, in the first instance, and towards economic planning which must necessarily be built upon the former. To the extent India does not enjoy complete freedom to use the weapons of tariff, and financial and monetary management for a forward industrial policy, her industrial revival is in that measure delayed. But the acquisition of full economic autonomy is not enough. The management of fiscal and financial policy for a country like India, with such diversity of agricultural and industrial resources and grades of development, demands a sagacious and wide-minded economic nationalism. Strong opposition may easily develop between the agricultural Provinces and States which would want a tariff for revenue only, and the manufacturing Provinces which would clamour for higher and higher protection. It is the foresight of financiers and statesmen at the Centre which can avoid political conflicts, like those of the United States when the first experiments towards a Confederation were launched, and which may endanger federalism in India.

(3) Rural uplift and primary education.—In the rural reconstruction drive, the effort should, in our opinion, first be concentrated on the removal of illiteracy, although improvement of agriculture and of cattle, co-operative organisation, rural industrial employment, improvement of village roads, housing and sanitation must also form parts of a concentrated programme of rural recovery. Illiteracy now ranges from 70 to 90 per cent of the population in the major Provinces and States of India. The problem here also is mainly economic; for poverty compels large premature withdrawals from schools when the pupils can take up, in however small a measure, the economic burden of the family. The flight from schools and lapse into ignorance lead to a vast wastage and ineffectiveness and raise the cost of achieving literacy, the United Provinces, for instance, showing such a high figure as Rs. 120 for each student. Further, the limitation of provincial resources has recently led to considerable retrenchment in educational expenditure and consequent decline in enrolment in schools and colleges, as for instance in Bengal, Bihar and Orissa, and recently the Punjab. Universal primary education should be our aim, and the Central Government will have to accept its share of burden and responsibility in furtherance of this, since the Provinces lack adequate resources. India also requires a new system of education in the villages, which will fit the people for rural services and ways of living and assist towards modernisation of the villages, towards rural reconstruction in the extended sense. Education of right type, including guidance and instruction for cultivators and workers and industrial and technological research, which are indispensable for economic progress, is only just beginning tentatively. After primary education the urgent needs are the re-organisation and linking of credit and marketing. We have to evolve a State-controlled system by which the co-operative societies will help towards the liquidation of irrecoverable debts, grant credit almost exclusively for productive purposes and arrange repayment through the collective marketing of all produce. As long as the village *banya* and the peripatetic grain-dealer dominate agricultural credit and marketing, we cannot much improve the peasants'

income. With co-operation gradually spreading from credit and agriculture to business and caste and labour organisation, large developmental schemes, launched on public loans, as in the United States and Italy, will help materially to create employment and lead to wider diffusion of purchasing power and social benefits.

Social reform and economic progress.—A rural recovery scheme must not only be a planned and co-ordinated programme, but broad-based on peasant habits, traditions and institutions. Rural planning is a delicate and difficult art, and vast sums may be wasted if there be no proper co-ordination of reconstruction activities of Government in the fields of agriculture, co-operation, education, sanitation and social welfare, nor re-orientation of *panchayats* and other intermediary bodies which develop local initiative and progress-mindedness among the rural masses. The peasant cannot be progress-minded in one direction and conservative and superstitious in another. No progress can be achieved if social custom, family and marriage habit encourage the peasants to multiply without restraints and out-reach not merely the out-put of their fields but also the facilities of education and sanitation that may be provided. The advantages of co-operative credit are nullified if the peasant continues to waste money lavishly on social ceremonies in the sequence of births, deaths and marriages in the family or falls a victim along with his cattle to diseases, seasonally and recurrently, through disregard or ignorance of the elementary rules of hygiene. Neither intensive farming nor dairying can flourish as long as religious sentiment prevents the Indian peasant from taking a practical view of animal keeping. No benefits from the distribution of good breeding bulls can accrue if the Brahmini bulls, now selected for their worthlessness, roam about in the entire countryside and the peasants, instead of getting rid of the useless, worn-out beasts, which eat up the fodder sadly required for the cattle, increase their numbers to offset the deterioration of breed and efficiency. Even for the poorest cultivator how much manure is burnt, and how much would the land improve if he could

use night-soil as manure like the Chinese peasant; how much food is wasted and how much would it be improved if only the prejudice against all animal foods could be overcome! How often are the fruits of toil of the depressed castes, who form the backbone of Indian agricultural labour and a considerable section also of industrial labour in India, dissipated in drink and vice because of the social barriers to acquiring land, following less servile and degrading occupations and otherwise improving their economic status and standard of living! A rural recovery programme must therefore include social reform, an offensive against all out-worn religious creeds, social beliefs and caste habits, which prevent the men and women of India from taking a common-sense attitude for conserving and wisely using the present limited resources. The more the economists of the country look at the sociological whole situation, the more will their ideas and programmes be of practical benefit to the nation.

Recent progress in Indian economics.—Economic realism has been the inevitable outcome of the progress of economic research in India in recent years. The Indian Universities have been quite alive to the needs of economic survey and investigation, and their output of publications is not small. For all the major Provinces of India we have now meticulous rural studies, including intensive surveys of agricultural costs and profits, rent and agricultural labour, credit and indebtedness; while monographs on special industries or problems such as those of transport, housing, business management, wages and organisation of labour have also been published or are under way. Several research bodies like the Indian Economic Association, the Indian Statistical Institute, Calcutta, the Indian Institute of Population Research, Lucknow, and the Boards of Economic Enquiry in the Punjab and the United Provinces, Gokhale Institute of Politics and Economics, Poona, are contributing materially towards economic investigations in different fields; while the annual conferences of the Indian Economic Association have pro-

vided an excellent clearing-house for exchange of economic opinion, both academic and official. Nor should we omit to mention the excellent materials on economics scattered about in such official reports as the Settlement and Survey Operations Reports, Census Reports, Review of the Trade of India, to select only a few from a growing and voluminous literature, not to speak of the various Reports submitted by Commissions and *ad hoc* Committees, appointed from time to time by the Central and Provincial Governments. A great deal more of thorough and painstaking research in the different sub-divisions of economics, however, has yet to be carried on in the country in order that we may achieve the standard set by Great Britain, the U.S.A. and Japan, and none recognise this more than the authorities in the different fields who have contributed to these volumes.

This work is a product of many minds and of specialised investigations in different fields. But there is an underlying unity of purpose, towards an adequate understanding and treatment of India's vast and increasingly complex economic problems, both domestic and international. The scientific value of such a composite work gains not merely by the authoritative expositions of experts but also by assuring to each complete freedom of opinion and theory, uninfluenced by any narrow considerations of politics and social expediency. Thus the symposium has been planned as a strictly scientific undertaking towards an adequate comprehension of the various factors and constituents making up the Indian economic situation as a whole. It is hoped that besides being useful to all teachers and students of economics it will also be an aid to administration in appreciating and solving the difficult economic issues and problems facing India.

EDITOR.

Part One

THE BACKGROUND

CHAPTER I

THE AGRICULTURAL REGIONS OF INDIA

By Birendranath Ganguli, M.A., Ph.D.
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The major natural regions.—In a predominantly agricultural country like India the adjustment of population to economic resources and possibilities depends upon the suitability of the land for direct or indirect production of the means of subsistence. But the productivity of land varies from one region to another according to changes in the character of the natural environment. Hence, as Professor Bowley says, if we compare the number of people supported by the consumption or sale of pastoral or agricultural products in one region with that in a widely different region we obviously confuse the variability of the natural environment in respect of soil and rainfall with what he calls the "Adequacy of cultivation." In fact such a comparison would be vitiated by the regions representing two "Heterogeneous totals."[1] Thus if we try to understand the fundamental economic problem of the "Adequacy of cultivation" in this country it is necessary for us to study the nature of economic adjustment in a regional and geographical setting. In this chapter an attempt will be made to sketch out the agricultural regions of India against the background provided by the varying natural environment of a vast subcontinent.

From the point of view of relief or elevation India may conveniently be divided into two main regions, *viz.*, (I) *The Region of Plains*, and (II) *The Region of Table-lands. The Region of Plains* includes (1) the great *Plain of Northern India*, lying at the foot of the Himalayas and their eastern

[1] Bowley, *Measurement of Social Phenomena.*

and western off-shoots; and (2) the *Coastal Plains of the Peninsular India*, consisting of two narrow strips of low-lying country between the hills and the seashore—one extending from the head of the Gulf of Cambay down the west coast to Cape Comorin, and the other, a much broader strip, extending from the delta of the Ganges down the east coast to Cape Comorin. The *Region of Table-lands* includes (1) the *Deccan Plateau* bounded on the east by the Eastern Ghats, on the west by the Western Ghats and on the north by the double line of the Vindhya and Satpura hills; and (2) the *Deccan Foreland*, which forms the connecting link between the Deccan Plateau and the valleys of the Ganges and the Jumna, and exhibits, to a certain extent, an interesting transition from the natural environment of the alluvial plains to that of the rocky plateau.

I. The Region of the Plains.—It is one of the basic facts of human geography that the fullest and best development of humanity is confined to regions lying between the extremes of rainfall.[1] As Vidal De La Blache says, the distribution of the ancient centres of dense population "seems to be confined approximately to a zone bounded by the Tropic of Cancer and the fortieth parallel of latitude."[2] The Region of the Plains, which maintains some of the world's highest densities of population, is one of these ancient centres of dense population. Generally speaking it is a monsoon region characterised by the comparatively dry winters and wet summers. But the succession and combination of crops, the system of farming and the productivity and security of agriculture vary from one part of this vast region to another, according to the variations in the amount and distribution of rainfall. Hence it is necessary to distinguish between a number of rainfall tracts, or natural regions, included in the vast Region of the Plains. The summer monsoon during its passage westward gives more rain in the northern submontane tract of the Ganges Valley than in the south and becomes weaker and weaker as it moves up from east to west. Hence, generally

[1] Brunhes, *Human Geography*, p. 67.
[2] P. Vidal De La Blache, *Principles of Human Geography*, p. 75.

speaking, the monsoon rainfall decreases from east to west and from north to south of the vast plains of northern India. Thus the natural regions arranged in order of diminishing rainfall are the valley of the Brahmaputra and the Surma, the valley of the Ganges and its tributaries (including the Ganges Delta, the Middle Ganges Valley and the Upper Ganges Valley) and the valley of the Indus and its tributaries (including the Punjab plain and the Sind plain). The coastal plains of Peninsular India represent a distinct monsoon region, dependent for its agricultural economy on somewhat different conditions of relief, climate and rainfall.

The rainfall tracts mentioned above may be generally classified into two main groups, *viz.*, those which enjoy the advantage of heavy rainfall and spill irrigation and those which do not. In the former the main crop is rice, while in the latter the main crop is wheat. Now it is essential to remember that the distribution of these two staple food-crops of India has a great economic significance. The predominance of rice cultivation co-exists with a high density of population, while the predominance of wheat cultivation co-exists with a comparatively low density of population. There are several reasons which explain this important fact of economic geography. In the first place, "Wheat grows in many climates in almost any soil, with varying rainfall, and with but little cultivation after the seed is once sown. It is, therefore, eminently suited to extensive agriculture, particularly in regions of moderate rainfall."[1] Hence, as Professor Carver says, "while wheat is an important crop in the world's commerce, it is a poor one from the point of view of intensive farming."[2] Now extensive agriculture always implies a low density of population, whereas agriculture in the rice regions is based on intensive subsistence farming and supports a higher density of population. In fact rice requires far more careful and laborious cultivation than wheat. In the fertile tracts of the Gangetic plain and the Gangetic delta, rice cultivation

[1] Cf. *Indian Journal of Economics*, Vol. IV, Part I, p. 6; an article on Economic Geography by H. W. Lyons.

[2] Carver, *Principles of Rural Economics*, p. 157.

requires a large labour force for the preparation of seed-beds, transplantation and other agricultural operations. Hence with the predominance of transplanted rice there co-exists a high density of population. In the second place, the yield of rice per acre is very high relatively to the yield of any other food crop. "Under good conditions 50 pounds of rice will furnish seed for an acre of transplanted rice, and the yield will be 2,500 pounds or fifty-fold. This amount, when combined with some beans or meat to furnish protein, is ample food for five adults a year. Thus a population of 2,000 per square mile is possible. On that basis all the people in the United States could be supported on an area equal to New York State."[1] In fact it is the abundant return yielded by the rice crop which accounts for the high density of population in the rice regions of Asia. In the third place, wheat with its one crop cannot support as many people as rice can with its possible three crops a year. It may be argued that although the rice crop is an exceptionally heavy-yielding food crop yet the low food value of a rice diet reduces the utility of rice as a means of subsistence as compared to wheat. "The great value of wheat lies in the fact that its carbohydrates and proteids are very well-balanced, so that even if people have no other food they can live on it a long time."[2] In this respect wheat is much superior to rice, its nearest rival in importance, which has an excess of starch and a deficiency of protein and nitrogen. Moreover, the well-balanced diet of the wheat regions of Europe, America or Australia contains not only cereals and vegetables but also meat, which supplies the necessary amount of proteids. Hence land is devoted partly to stock-raising and not exclusively to arable farming. But, in the densely populated river valleys of Asia, land has to be devoted exclusively to arable farming, because more food can be obtained from land by concentrating on the cultivation of heavy-yielding food crops like rice and millets, so that land may support a high density of population. As Professor

[1] Ellsworth Huntington and S. W. Cushing, *Principles of Human Geography* (Third edition), p. 284.
[2] *Ibid*, p. 334.

Carver says, "The nutriment in the grain required to fatten a beef animal under present conditions is usually much larger than that of the beef produced, to say nothing of the other things consumed by the animal. Again the land required to pasture a beef animal for a year would, if put into grain or vegetables, yield a great deal more food than that of the beef which the animal will add to his carcass."[1] Thus in the monsoon region, excepting the under-sized cattle of stunted growth, domestic animals have been, to a great extent, crowded out by human beings. But after all, how, in the absence of stock-farming, has it been possible to solve the problem of the excess of starch and the deficiency of nitrogen and protein in the rice diet? It is interesting to find that a fairly well-balanced diet has been evolved in two ways. In the first place, people in the rice-growing regions have depended upon plants for proteins. As legumes contain more proteins than any other vegetable foods, beans and peas have become favourite articles of consumption in addition to other cereals and vegetables rich in nitrogen and protein. Secondly, the deficiency of protein is also supplied by fish which are found in abundance in the numerous rivers, water-courses and tanks in the plains and the deltas of the monsoon regions. Thus, in these regions, the high yield of rice, supplemented by the proteins contained in legumes and fish, is capable of supporting a high density of population. Hence no people in the world take more pains than the Chinese to catch fish in the sea and rivers and raise them in ponds. Similarly, the importance of the fishing industry in the rural economy of the Gangetic delta can scarcely be exaggerated. As an extractive industry it is an important subsidiary source of employment, while at the same time it supplies the deficiency of the rice diet in protein.

(a) **The Brahmaputra and the Surma Valleys.**—The Brahmaputra and the Surma valleys constitute one of the wettest and most fertile agricultural regions of India.

[1] Carver, *Principles of Rural Economics*, p. 163. *See also Buck*: *Chinese Farm Economy*, Chapter VII.

Here very heavy rainfall combined with the seasonal river-floods favours the cultivation of the heavy-yielding varieties of rice. But the productivity and security of agriculture and the density of population in this region depend essentially on the elevation of the land in relation to the level of the floods. Thus lying between the marshy riverain, which is liable to heavy floods and covered with grass jungle, and the sub-montane tract, which is out of the reach of seasonal floods and dependent on artificial irrigation, there is the broad belt of land rising gradually above the reach of ordinary floods, which receives heavy rainfall as well as moderate spill irrigation. This is the belt of *Aus* and *Aman* paddy, where the cultivators reap bumper crops with little effort. In most parts of these valleys this belt supports a fairly dense population and contains most of the permanently cultivated area and the majority of the agricultural population.

Of the two valleys the Surma valley supports a much higher density of population. The natural environment is undoubtedly more favourable to agriculture in the Surma valley. It receives an annual rainfall of 128·30 inches as compared with the annual rainfall of 98·09 inches in the Brahmaputra valley. Moreover in the Surma valley, where there is little fall, the rivers are sluggish, and when they rise in flood they enrich the land with silt. But in the Brahmaputra valley the swift current of the Brahmaputra and other rivers, during the rainy season, deposits only the heavier portion of the matter held in suspension, *i.e.*, sand. It is only in slack water away from the main current that silt is deposited and the soil consists of a mixture of sand and clay. Hence in this region the crops depend more upon the agricultural water-supply than upon the intrinsic fertility of the soil. Again, the banks of the rivers in the Surma valley do not consist of marshy land unfit for cultivation but form the highest and most fertile tract of the valley dotted with villages. It must, however, be emphasised here that the somewhat low density of rural population in the Brahmaputra valley is not justified by the character of the natural environment. This region is under-populated,

and has been attracting immigrant settlers from the over-populated parts of the Surma valley and the Bengal delta.[1]

(b) **The Ganges Delta.**—In the delta of the Ganges we come across a natural region which supports a phenomenally high density of population. What distinguishes the Ganges delta from the Gangetic plain situated further west is the unique significance of the changes in the courses of the Ganges and its distributaries in the delta region. The most important feature of the hydrography of the deltaic rivers is that the heavy load of fertile silt which they carry during the flood season is deposited not only on the banks and the river-beds, due to the slight slope of the country, but also on the adjoining low lands. Now this is a process by which the lower lands that receive a top dressing of silt are raised gradually to the same flat level. But as this process is completed the river-borne silt is increasingly deposited on the banks and the river-beds; the main channel is silted up and the river wanders away to seek a new course. Practically the whole of western and central Bengal, with the exception of the littoral tracts, lies on a moribund delta in which land formation is all but complete. Here there has been wide-spread deterioration of the soil, due to the slow death of the rivers, and defective drainage caused by the silting up of the rivers has rendered vast tracts of the country extremely unhealthy and unfit for human habitation. Thus both agricultural productivity and economic enterprise have declined, the death rate has increased, and there has been a steady migration of people to the healthier and more fertile regions. As contrasted with the old delta there is the new delta covering the greater portion of east Bengal. Here the great rivers are still building up land and throwing up new alluvial formations rich in agricultural possibilities. It is in this region that the healthiest and most fertile tracts of the Ganges delta are situated at the present time and the increase in the number of the teeming population knows no bounds. The contrast between the old and the new delta is seen to best advantage when we study the nature

[1] *Census Report, Assam*, 1931, p. 14.

and sources of agricultural water-supply in relation to agricultural security. In the old delta not only is the total annual rainfall comparatively small but the total irrigated area also forms only a small percentage of the net cropped area. Nor is there much scope for the development of artificial irrigation. In the laterite portion of this region, where artificial irrigation is the mainstay of agriculture, the surface of the country is broken up by low ridges, valleys and hills which make any system of canal irrigation impracticable. In the alluvial tracts of this region it is extremely difficult to work a system of canals and distributaries owing to the flat nature of the country. Moreover, a canal system can hardly be commercially successful in such a region where the farmers can raise excellent crops by relying simply on rainfall in normal years. Thus, on the whole, a considerable proportion of the cultivated area in the old delta has no protection against the failure or maldistribution of rainfall. In the new delta, on the other hand, the entire system of farming and agricultural security depend upon what may be called river economy. This region no doubt receives heavier rainfall, but the main work of supplying moisture to the soil is done by the river-floods, the function of local rains being simply to swell the floods and moisten the higher lands which are more or less beyond the reach of floods.

Let us now try to ascertain the relative position of the old and the new delta in the scale of agricultural productivity. In the old delta the soil, which is no longer fertilised by the annual deposition of silt, suffers from a deficiency of organic matter and nitrogen and such essential ingredients as lime and phosphoric acid. Hence it is fit for bearing only a limited number of crops. In the new delta, on the other hand, the soil, which is subject to annual inundation, is rich in organic matter and nitrogen. But its fertility depends upon the character of the silt carried by the main rivers and the nature of the river action. The silt deposited by the Padma has a large proportion of silica, mica and argillaceous earth and a small proportion of organic matter. Moreover, the fast current of this river has always a tendency

to deposit the lighter particles of sand held in suspension before the heavier clayey matter held in solution is deposited. Now, in so far as clayey matter forms a more fertile deposit, new formations further down stream are more fertile than formations situated upstream. On the other hand, the river Meghna carries a large amount of vegetable matter, rich in nitrogen from the swamps of Sylhet, and its current also is straight and slow. The result is that the land is heavily laden with silt, and is more fertile from a chemical point of view. Thus the regions which are situated near the lower reaches of the Padma and are subject to inundation from the Meghna have a more fertile soil than new formations in the upper and western portion of the new delta. On the whole, therefore, the fertility of the soil (as well as the density of population) increases from west to east throughout the Ganges delta. Again, the choice and combination of crops in the new delta are such as to make farming more productive. In the new delta the agricultural season starts earlier, preparatory tillage is finished earlier, and the *Bhadoi* crops can also be sown earlier. Moreover, rainfall is sufficiently heavy to enable the cultivators to harvest the *Bhadoi* crop and transplant the *Aghani* rice crop earlier. Hence it is possible for them to get a heavy-yielding crop of Aman rice from the same land which has already borne a crop of Aus rice. This kind of double-cropping is the secret of the economic prosperity of the new delta which maintains a phenomenally high density of population. In the old delta, where the season begins later, the farmers have to choose between the *Bhadoi* and the *Aghani* crops, and a summer crop cannot be followed by a second winter crop. Where the *Bhadoi* is the main harvest it cannot be followed by a second winter crop because the rainfall in September and October is insufficient and there are no river-floods which leave the soil moist after the rainy season. Where the *Aghani* is the main harvest the cultivator cannot possibly allow experiments with summer crops to interfere with its chances. Consequently, the second crops are usually cheap catch-crops of the spring harvest grown after either the summer or the winter harvest. Again, in the old delta the

most important crop of the *Bhadoi* harvest is Aus rice, a coarse grain consumed by the poorer classes, which is usually grown on high lands and requires much less water than winter rice. Jute, the other crop of the *Bhadoi* harvest, is a far less important crop and its cultivation is confined to highly manured land near the village sites. In the new delta, on the other hand, jute is the most important crop of the *Bhadoi* harvest. As a crop which exhausts the soil to a great extent it can be grown without manure in the water-logged land of this region which is fertilised by the silt of the rivers. Considering the harvests as a whole, we may say that in the old delta the crops have very little variety. There are extensive tracts which depend exclusively on winter rice, and if there is a premature break of the monsoon with failure of rainfall in September and October, there is always a danger of the total failure of this crop. When this crop fails the poor farmer has to subsist on maize or inferior millets until the harvesting of *Rabi* crops in spring. But his helpless condition is easily realised when it is remembered that the area under the *Rabi* crops is small and its yield is also likely to be reduced when there is failure of rainfall.

(c) **The Middle Ganges Valley.**—The Middle Ganges Valley, one of the ancient centres of dense population in India, constitutes a region of moderate rainfall. The annual rainfall is here less than in the very wet delta region but more than in the dry Upper Ganges Valley, and this region maintains its intermediate character also in regard to the density of population. But within this region the climatic conditions are different in the tracts north and south of the Ganges, South Bihar being subject to a more extreme climate characterised by a smaller amount of rainfall than North Bihar. In the Middle Ganges Valley the succession of crops and the timing of agricultural operations peculiar to each harvest are so nicely adjusted to seasonable rainfall that although the natural environment favours three harvests being completed within the entire agricultural year, and thus normally keeps agricultural productivity at a high level, yet

the rural economy is very much exposed to the dangers of ill-distributed rainfall. Hence productive irrigation works are nowhere so necessary as in this region. In North Bihar, rainfall is less capricious, while the greater portion of it situated in the sub-montane region enjoys the benefit of spill irrigation which is supplemented by irrigation from numerous tanks and swamps. But artificial irrigation in North Bihar is mostly uneconomical because it is not required in normal years. Again, the streams being mostly non-perennial, the supply of water is too unreliable to feed any canal system. Except in the uplands of the south well irrigation is also out of the question, as the wells cannot stand owing to inundations, and the winter rice crop cannot be irrigated from wells when the rains fail. Thus agriculture in North Bihar is insecure, to a great extent, in years of drought except in tracts served by wells and canals. In South Bihar the rainfall is scanty and the soil is unretentive of moisture owing to the rapid drainage of the country. At the same time the system of storage tanks and water channels (Ahars and Pynes) has failed to ensure agricultural security, because under such a system the supply of water depends on local rainfall and fails completely when it is needed most; and also because there is no rational control of the flow and distribution of water. Moreover, canal irrigation, which is confined to a small area in the west, has little scope for development, because, excepting the Sone, the rivers are non-perennial and too small to feed any canal system.

Let us consider the choice and combination of crops in the Middle Ganges Valley in relation to agricultural productivity and agricultural security. The most striking fact revealed by the statistics of cultivation is the predominance of both winter and autumn rice in this region. Such predominance of rice cultivation has no doubt increased its agricultural productivity from the point of view of subsistence farming, and enabled it to maintain a higher density of population than the regions beyond the rainfall line of 40 inches, in which wheat is the principal crop and the area under transplanted rice is small. But we must

remember that the predominance of winter rice co-exists with a high degree of agricultural insecurity in this region. If there is failure of rainfall during the critical period of the *Hathiya* asterism, towards the end of September or the beginning of October, the winter rice crop cannot mature, because in this region it is not possible to irrigate the rice-fields by artificial means to any considerable extent in the event of a failure of *Hathiya* rainfall. The crop statistics show that winter rice is a more important crop in South than in North Bihar and thus is a source of greater agricultural insecurity. Again, the high yield of winter rice must not be considered by itself; we must consider also the nature of the other *Rabi* crops which are grown after winter rice as second crops. In the Middle Ganges Valley, the chief *Aghani* crops are sown before the *Bhadoi* crops are harvested, and similarly the chief *Rabi* crops are sown before the *Aghani* crops are reaped. Hence an *Aghani* crop cannot usually be sown as a second crop after the *Bhadoi* harvest as in eastern Bengal. The second crops must necessarily consist of *Rabi* crops grown after either the *Bhadoi* or the *Aghani* harvest. Where *Aghani* is the principal harvest, the succeeding second crops consist of cheap catch-crops, because the more valuable *Rabi* crops, like wheat and barley, will be sown before the *Aghani* crops are harvested. In abnormal years such catch-crops cannot mitigate economic distress caused by the failure of the winter rice crop. On the other hand, when we consider the importance of autumn rice and other *Bhadoi* crops in relation to agricultural security and agricultural productivity we reach different conclusions. As the *Bhadoi* rice crop is reaped in September, it is possible for the farmers to get a bumper crop even when the *Aghani* crop has failed due to the failure of the *Hathiya* rainfall. Moreover, the valuable *Rabi* crops coming after the *Bhadoi* harvest are of special value to the farmers, particularly when the failure of the winter rice crop elsewhere increases the money-value of the early *Rabi* crops. Hence it appears that the predominance of the *Bhadoi* harvest co-exists with much greater agricultural security. Again, agricultural productivity is also

higher in the tracts in which the farmers depend more on the *Bhadoi* harvest. Here with favourable winter showers a good *Rabi* crop can be raised on land which was sown with *Bhadoi* rice. Similarly, other *Bhadoi* food-crops, like maize and *Marua*, can also be followed by valuable *Rabi* crops such as wheat, barley and mustard. An examination of crop statistics shows that the importance of *Bhadoi* crops and of the valuable *Rabi* crops, which are mostly raised as second crops, is greater in North than in South Bihar[1]; while winter rice, together with the inferior *Rabi* crops raised by means of double-cropping, predominates in South Bihar. This means that the contribution of double-cropping to agricultural productivity is greater in North Bihar owing to the predominance of *Bhadoi* crops. In fact, agricultural prosperity in the Middle Ganges Valley is evidenced by a statistical correspondence between the twice-cropped and the *Bhadoi* areas. Hence, as Mr. Stevenson-Moore suggests, "By adding the *Bhadoi* and *Rabi* areas and deducting the *Aghani* area we get a fairly correct measure of agricultural prosperity."[2]

(d) **The Upper Ganges Valley.**—In the Upper Ganges Valley the natural environment becomes more and more unfavourable to agriculture from east to west, and there is a tendency for the density of population also to decrease from east to west. In the eastern portion of this region the climate is generally more moist, the temperature more equable and the rainfall also heavier than in the western portion. What is of vital importance to the agricultural security of the eastern portion is, however, the seasonable distribution of rainfall rather than its total amount, which is rarely, if ever, deficient. Here there is a large area under rice, and famines are caused by an early cessation of the monsoon which damages all the *Kharif* crops and generally creates a fodder famine. In the western portion of the Upper Ganges Valley, while the annual rainfall is scanty agriculture is also more liable to suffer from unseasonable distribution of rainfall.

[1] Stevenson-Moore, *Survey and Settlement Report*, Muzaffarpur, 1892–99.

[2] *Ibid;* also Mukerjee: 'The Relation between Crops and Population Density in Bihar' in *Indian Journal of Economics*, October 1931.

The climatic peculiarities of the eastern and the western portions of the Upper Ganges Valley clearly show that artificial irrigation is a factor of considerable importance in the rural economy of this region. In the eastern and the central portions agriculture is liable to suffer from an early cessation of the monsoon or unseasonable distribution of rainfall or failure of winter rains. But wells provide here an effective protection against an early cessation of the monsoon and prevent a shrinkage of the area under the *Rabi* crops. Secondly, they also counteract the effects of unseasonable rainfall by supplying the natural deficiency of moisture at the proper time during the different stages of the growth and maturity of crops. Thirdly, well irrigation also protects the rice crop (late rice) and the *Rabi* crops in general, in the event of a failure of winter rainfall. Lastly, wells not only provide greater resistance against drought but also constitute an elastic source of irrigation which is of very great economic advantage in a region in which artificial irrigation has not the same importance in normal agricultural seasons as it has in years of drought. Moreover, the soil and the water-level in these regions are particularly suitable for the development of an efficient system of well irrigation. For these reasons, there has been such a remarkable development of well irrigation that it has superseded irrigation from the unreliable and inelastic sources like tanks and streams, so that at the present time, except in Cawnpore and Fatehpur, the area irrigated from wells varies from 65 per cent to 84 per cent in years of drought. In the western portion of the Upper Ganges Valley the sinking of wells is difficult and costly because the soil is not so good and the water-level is not so easily accessible as in the central and the eastern portions. Hence the development of canal irrigation must be regarded as an important factor of economic prosperity in this region. But a striking effect of the development of canal irrigation has been that it has superseded well-irrigation to a very large extent. The percolation of water from the canals and the distributaries and the consequent rise of the spring-level have rendered the construction and maintenance of

wells more difficult, and have, at the same time, created difficult problems of over-saturation and drainage. But as experience has shown that it is the irrigation from wells rather than that from canals which shows elasticity in years of drought, there is a tendency to rely more on well-irrigation than before.[1]

Let us consider next the varying agricultural productivity of the three sub-regions of the Upper Ganges Valley in relation to the choice and combination of crops. In the following table we give the indices of the contributions of the principal crops to agricultural productivity in the three regions which are arranged in order of the density of population.[2]

Crop	*Upper Ganges Valley, East*	*Upper Ganges Valley, Central*	*Upper Ganges Valley, West*
Rice	30·65	23·66	2·50
Barley . . .	24·86	14·20	11·64
Wheat . . .	8·39	17·74	21·95
Juar	3·57	10·73	10·70
Cane	7·19	2·07	3·47
Cotton . . .	—	1·30	6·60
Maize . . .	5·89	3·60	8·48
Gram	13·73	20·00	17·88
Bajra	3·38	7·61	16·15

The most significant fact revealed by this table is that the density of population varies as the importance of rice. The reasons why this should be so have been explained above and need not be repeated here. Indeed, it appears that the combination of crops in the rice-growing regions is such that it promotes higher agricultural productivity. To illustrate this point let us compare the eastern portion of the Upper Ganges Valley with the western portion. The latter, no doubt, is a wheat region, but it will be noticed that wheat is scarcely as important a crop in this region as rice is in the eastern and the central portions, while the contribution of wheat to agricultural productivity in the

[1] It is obvious that irrigation from electric tube wells, due to hydro-electric development in this region in recent years, is a factor of economic prosperity the significance of which can hardly be exaggerated.

[2] The indices are based on both area and yield of crops. The method of working them out has been discussed in an article by the writer published in the *Indian Journal of Economics* in January, 1930.

Upper Ganges Valley, Central, is not insignificant. Again, barley, an important food-grain of the masses which supplements rice, is a far more important crop in the eastern portion of the Upper Ganges Valley than in the western portion. Now the predominance of both rice and barley, the two heavy-yielding food crops, has a considerable economic significance from the point of view of intensive subsistence farming. In respect of commercial crops, *viz.*, sugar-cane and cotton, the Upper Ganges Valley, West, may be in a more advantageous position, but this does not outweigh the advantage enjoyed by the eastern portion of the Upper Ganges Valley in regard to the cultivation of cheap cereals on which the system of intensive subsistence farming in a densely populated region, is entirely based. The predominance of maize and gram in the Upper Ganges Valley, West, merely implies that the land devoted to such crops cannot be otherwise devoted to more valuable food-crops like *juar* and barley, while the predominance of *bajra* is merely an indication of the comparatively large extent of inferior soil. As a cheap food-grain, *bajra* is much inferior to maize, barley or *juar*, and its importance should be regarded as a sign of agricultural distress.

Apart from the choice and combination of crops double-cropping is also an important factor in agricultural productivity. Extensive double-cropping in the densely populated regions signifies the widespread tendency to resort to more intensive subsistence farming which has been forced upon the cultivators by the growth of population. In the Upper Ganges Valley the cheaper varieties of *kharif* and *rabi* food-grains, which are essential for the subsistence of the cultivator and his family, are commonly raised by means of double-cropping. Thus there is a statistical correspondence between the high density of population and extensive double-cropping in this region.[1]

(e) **The Punjab Plains.**—The Punjab plains may be subdivided into three natural regions or rainfall tracts, *viz.*:

[1] Mukerjee: 'The Agricultural Regions of the Ganges Plain' in *Indian Journal of Economics*, January 1928.

(1) The northern submontane zone, the most fertile region of the Punjab, (2) the south-eastern plain, which is a continuation of the Upper Ganges Valley, West, and extends as far eastward as Lahore, and (3) the arid south-western plain. The submontane zone has an annual rainfall varying from 30 to 40 inches owing to its proximity to the Himalayas which bend the monsoon along their southern face. The south-eastern plain, which lies on the edge of the sphere of influence of the south-eastern monsoon, but at a distance from the mountains, has an average rainfall of about 20 inches. To the west and the south-west lies the dry area of the Punjab plains, characterised by an extremely light and variable rainfall. The south-west monsoon winds from the Sind and Kathiawar coasts encircle this region but do not blow into it, so that it gets little rain from this source. The order of these three regions according to rainfall is the same as their order according to the density of population, as the following table would show:—

	Annual Rainfall (Inches)	*Density*
Submontane zone	30·88	341
South-eastern plain	20·48	330
South-western plain	9·31	130

In a region of low rainfall, like the Punjab plains, both agricultural security and agricultural productivity may be regarded as a function of perennial irrigation, the necessity for which varies with the amount of rainfall. The submontane region enjoys a fair degree of agricultural security owing to sufficient summer and winter rainfall. Thus in Rawalpindi, Attock, Ambala and Jhelum the percentage of gross cultivated area which is irrigated does not exceed 7 per cent. In other districts, in which crops require artificial irrigation to a greater extent, the copious supply of sub-soil water and the low cost of construction of wells have favoured a phenomenal development of well irrigation. Moreover, apart from the protection afforded by the numerous wells the soil is sufficiently charged with moisture to resist any-

thing but absolute drought.[1] On the other hand, in the south-eastern plain famines have been frequent and severe owing to the unfavourable natural environment. This region lies on the edge of the sphere of influence of the south-eastern monsoon and any deflection of the monsoon current leaves it almost rainless. Well irrigation here is too expensive to be productive and is mostly of a protective character. But it affords no protection to the *kharif*, which is the important harvest, because generally the water-level is too low for irrigation on a large scale. Hence although the development of canal irrigation has protected both the *kharif* and the *rabi* crops to a certain extent, yet the sowing and maturity of the principal crops in this region depend generally on rainfall. In the south-western plain the rural economy does not depend on the insignificant amount of rainfall. Here the density and the movements of population have been entirely limited by the gradual evolution of a well-co-ordinated system of artificial irrigation. In this region canal irrigation has revolutionised agriculture and protects both the *kharif* and the *rabi* harvests. The farmers prefer flow to lift irrigation because they get more water by flow irrigation, while lift irrigation demands a considerable amount of both animal power and man power. For the same reason flow irrigation has superseded well irrigation to a considerable extent. Indeed, irrigation from perennial canals has always been preferred wherever the spring-level is not less than twenty feet below the surface. But where it is higher wells have been constructed as protective irrigation works. They are not used during the summer months, the areas which they serve being in these months as far as possible irrigated by canal water or submerged by river floods, and the cattle used for well irrigation are thus available for ploughing during this period. The land which is cultivated for the *rabi* harvest is, during the latter part of summer, soaked as much as possible with water from canals or floods. As a rule, however, the winter

[1] In these tracts what is really to be dreaded is a fodder famine. As long as there is food for the cattle the grain crops will not fail entirely. But a total failure of rainfall, which is very rare, means a fodder famine, and is disastrous in its effect upon crops.

crops require further irrigation especially when, owing to short supplies in the rivers, the canals cannot carry sufficient water to ripen the *rabi* crops unaided. Hence it becomes the principal function of wells to supply to the valuable winter crops, like unmixed wheat, the further irrigation which they need. Thus both well irrigation and canal irrigation have often been ingeniously combined into a co-ordinated system of irrigation which has increased the security as well as the productivity of agriculture.[1]

Let us consider next the relative agricultural productivity of the three regions. In the submontane region the composition of cropping is of a superior standard. Although considerable areas of well-irrigated land have to be devoted to fodder crops owing to the scarcity of pasture land, yet the crops consist of such staples as rice, sugar-cane, cotton, maize and wheat. It is artificial irrigation which admits of such superior staples being grown and makes it possible for the farmer to put a larger area under wheat than would be the case if he had to depend on rainfall alone. Again, as the cultivation of well-irrigated land is always more intensive and careful than that of canal-irrigated land, the predominance of well irrigation in this region signifies a higher standard of farming. In fact, as the density of population has increased there has been an extension of well irrigation and a pronounced tendency to grow more valuable crops. Thus the area under the valuable *rabi* crops has increased at the expense of the *kharif* area. The area under rice has been less and that under wheat and commercial crops like oil-seeds has been more. Moreover, in the *kharif* harvest itself more valuable crops have taken the place of inferior cereals. In the south-eastern plain agriculture is much less productive than in the submontane region. Here extensive areas grow only less valuable, unirrigated *kharif* crops. In recent times, however, owing to the development of canal irrigation, the

[1] Such a system of canals and wells supplementing one another is seen to best advantage in the Jhelum Valley in the district of Shahpur which is one of the richest and most densely populated tracts in this region. In the Upper Ganges Valley canal irrigation, however, has superseded well irrigation.

rabi harvest has been occupying a more important place, and the areas under valuable crops like sugar-cane, mixed wheat and oil-seeds have been gradually increasing. In the south-western plain the predominance of canal irrigation, which is often supplemented by well irrigation, has created a distinctive type of farming. As already said, cultivation on well-irrigated land is intensive and careful, as in the submontane region. But in the south-western plain only a sensitive crop like maize is the chief crop cultivated on well-irrigated land, first, because it is the staple on which the people depend for their food, and, secondly, because it requires more careful cultivation than any other crop. Hence well irrigation is here confined mainly to the *rabi* harvest and has mostly a protective function. On the other hand, canal cultivation, which is the principal type of cultivation in this region, is much less intensive and careful. There is less adherence to rotation, more double-cropping, less manuring, and, on the whole, less careful and more varied cultivation. Such an extensive type of cultivation is on a broad and lavish scale. Rice, maize and cotton are grown on the basis of extensive farming and are followed by second crops of gram, fodder and fodder grasses. The most important crop grown extensively is unmixed wheat, which is more sensitive to drought than mixed wheat. The canals provide for enormous areas under this crop water which wells alone could not supply. Thus, owing to the development of canal irrigation in this region, valuable crops like cotton, oil-seeds and gram have increased in importance at the cost of the cheap millets and pulses, while the cultivation of wheat has increased on a scale scarcely imagined before. In this way, increased agricultural productivity has stimulated a phenomenal growth of population in this region in recent times.

(f) **The Sind Plain.**—The Sind plain is a region of deficient rainfall in which agriculture depends entirely on artificial irrigation as in the Nile delta. "On the verge of two monsoons Sind does not get the benefit of either."[1] Thus the entire

[1] *Gazetteer, Sind.*

valley of the Indus from Attock to the sea lies in a region of deficient rainfall, the annual average being nowhere more than 10 inches. Hence the crops in this region generally depend upon artificial irrigation from the Indus during the period of seasonal floods. As in the Ganges delta so also in this deltaic region there is not only spill irrigation but also deposition of silt on the river-beds which gradually rise to a higher level and cause a shifting of the main channel. Now, although the rise of the river-bed above the level of the surrounding country has afforded an easy means of irrigation by side channels taking off from the main river, yet the shifting of the course of the river has been also a serious hindrance to the development of a reliable system of irrigation. Moreover, the floods of the Indus are not so certain as those of the Padma and the Meghna in the Ganges delta. Again, the alluvial soil of the Sind plain is not so rich as that of the Ganges delta. The plastic clay soil of Sind develops into a rich mould with water; without water it degenerates into a desert.

As already said, agricultural security in this region has been adversely affected by the shifting of the course of the Indus. At only three places where the river-banks are permanent can the agricultural water-supply be regulated by the head-waters of canals. But the main canals in Sind are the water-channels branching off from the main river. The principal defect of such a system of spill channels has been that the supply of water cannot be regulated. Moreover, the mouths of these channels are likely to be silted up or covered by sandbanks, and much expense is involved in keeping them in efficient working order. Thus the problem of artificial irrigation in this region has been as difficult as in the Middle Ganges Valley, where agriculture has suffered for want of a rational control of the sources of irrigation. In view of the serious difficulties in the way of flood irrigation the construction of the Lloyd Barrage must be regarded as a momentous economic experiment. There can be no doubt that over the extensive area commanded by this barrage the safety of crops has been assured to the same extent as in the canal irrigated

tracts of the Punjab plains. For example, during the *kharif* season of 1934–35 while the inundation was unfavourable to agriculture and the deficiency of water-supply was felt acutely in areas outside the command of the barrage, the *kharif* cultivation over the whole barrage area amounted to 98 per cent of the average forecasted for the year.

The unfavourable natural environment has not allowed the farmers of the Sind plain to grow valuable or heavy-yielding crops to any great extent. The principal crops are rice, *jowar* and *bajra*, the area under these food crops being until recently 60 per cent of the net cultivated area. It is remarkable that rice and *bajra* were until recently equally important crops, while *jowar* occupied a somewhat intermediate position. The cultivation of rice naturally goes with a comparatively high density of population, while the equal predominance of *bajra* is merely an indication of the large extent of poor and dry land which is sparsely populated. But as regards agricultural productivity, the economic situation is also being radically changed through the gradual development of the Lloyd Barrage scheme. There has been already an enormous increase in the area under heavy-yielding food crops and a valuable commercial crop like cotton. To take only one example, during the *kharif* season of 1934–35 (the third season after the opening of the Lloyd Barrage) the total area under cotton cultivation amounted to 676,000 acres, compared with 576,000 acres forecasted for the year. Of this no less than 670,000 acres were served by the Rohri Canal and Eastern Nara systems. On the other hand, the normal total pre-Barrage area under cotton cultivation for the whole of Sind amounted to 280,000 acres only.

(g) **The Coastal Plains of South India.**—The coastal plains are a region of heavy rainfall in which we find striking agricultural contrasts due to the diversity of the natural environment. The western plain, as a whole, receives a heavy rainfall, because the rain-bearing south-west winds strike the Western Ghats, lying very near the coast, almost at right angles. In the extreme north of the western plain, the rainfall is scanty

owing to the absence of the Ghat barrier. Further south the main agricultural season, which is dependent on the south-west monsoon, extends only from June to October. But on the Malabar coast, although the major portion of the annual rainfall is brought by the south-west monsoon, yet there are also spring rains as well as further rains from the north-east monsoon due to the lower height of the Western Ghats. Thus the annual rainfall spread over a longer season greatly extends the length of the agricultural year. Hence "There is no slack season in the agricultural year of the south as in the north. The southern peasants have a year-long job with their rice fields and spice gardens. As a result, they show very negligible figures of emigration."[1] This is a great economic blessing, in so far as periodic migration often implies improvident husbandry and wasteful cultivation. The eastern plain receives a lighter rainfall than the western plain, as it lies on the leeward side of the chief monsoon winds. Rainfall is heaviest in the north, which gets rain from both monsoons, but there are no spring rains in this tract. In the south, although the longer rainy season extends the length of the agricultural year as on the Malabar coast, yet both agricultural productivity and agricultural security are much less in South Madras. The reason is that the latter gets little or no benefit from the south-west monsoon and is too far south to get much benefit from the north-east monsoon. Thus South Madras has not the long agricultural season of the Malabar coast characterised by a rich variety of crops.

In the coastal plains soil is also a determining factor of agricultural productivity and security. In the western plain agriculture no doubt enjoys the advantage of heavy rainfall; yet the greater amount of laterite soil (which is dry and porous and unproductive without manure and irrigation) found in this region reduces agricultural productivity to a corresponding extent. On the other hand, ferruginous red soils, which are more productive than the laterite, are found to a greater extent in the eastern plain, par-

[1] *Economic Geography*, 1933, "The Coastal Plains of South India," by Ethel Simkins.

ticularly in the densely populated deltas. But these soils also require continual watering, and the yield of crops depends upon an efficient system of artificial irrigation. Again, in the arid tracts of the coastal plains the black cotton soil, which conserves moisture during long spells of drought, grows both summer and winter crops in spite of insufficient and ill-distributed rainfall.

It follows from the very nature of the natural environment described above that artificial irrigation is an important factor of agriculture in the coastal plains. On the Malabar coast artificial irrigation presents little difficulty. Here the main problem of irrigation is not to conserve the torrential rainfall but to conduct it to the proper channels and prevent it from scouring the land. This is easily done by means of water courses and field embankments which one finds in Travancore, Cochin and the spice gardens of Kanara. Again, in the arid black-soil region of the north, the very nature of the soil obviates the necessity of artificial irrigation to a great extent. But elsewhere in the western plain land is irrigated from wells in the trap country (which has a level surface unsuitable for tanks and has a subterranean water supply) as in the Konkan districts of Bombay, and from tanks formed by embanking the natural depressions, as in the metamorphic region of the Kanaras which receives a heavy rainfall. In the eastern plain there is a greater need for artificial irrigation, as the rainfall is lower than in the western plain and as the red soil of this region depends for its productivity on continual irrigation. Here a splendid system of canal irrigation has been evolved by developing and controlling the deltaic rivers, and agriculture is completely dominated by canal irrigation.[1] But in the arid tracts of South Madras food crops are grown largely on "wet" land with water from artificial reservoirs which should be filled by rainfall from the north-east monsoon, and thus a failure of this monsoon current is disastrous in its effects on crops.

Let us now study the choice and combination of crops

[1] For example, the percentage of irrigated area is as high as 73 per cent in the Tanjore delta.

in relation to agricultural productivity and the density of population. In the coastal plains at one extreme we observe the plantation region growing tea, coffee and cinchona; this is a region of commercial crops and proprietary agriculture, having a low density of population. At the other extreme we observe the densely populated rice region, where, with the exception of small patches of land devoted to sugar-cane, or garden crops, or pulses and millets, the entire cropped area is devoted to rice. The high agricultural productivity of the rice region has depended on the development of canal irrigation. Here the yield of irrigated rice is 1,000 lbs. to 1,500 lbs. per acre as compared to 400 lbs. to 800 lbs. per acre in the case of unirrigated rice, and there is a corresponding difference between the density of population in the canal irrigated tracts and that in the unirrigated tracts of the river deltas. In fact, agriculture is so much dominated by canal irrigation that the growth of population is limited by the possibilities of the extension of irrigation. For example, in the Kaveri delta, a "comparative saturation of population has an obvious connection" with the fact that the Kaveri irrigation system is being utilised to its maximum.[1] Again in the Telegu river deltas a similar saturation point has been almost reached and a "strong emigration current has entered prominently" into the scheme of rural life in the two northern coastal districts.[2]

Between these extremes we find regions showing a combination of food crops and non-food crops in varying proportions. In the first place, there are the cotton-growing areas of the rice zone (Coimbatore, Salem, Trichinopoly, Madura and Tinivelly) where low rainfall combines with black cotton soil. These are prosperous areas having a sound economic basis of two food crops, rice and *jowar*, the latter also yielding good cattle fodder in addition. Moreover, cotton is here grown as a very profitable crop which does not compete with rice. But there is considerable emigration from this region owing to the development of commercial cropping, the surplus population being absorbed

[1] *Census Report, Madras*, 1931, p. 24. [2] *Ibid*, p. 46.

to some extent by the factory towns. A second variation of the combination of food crops and non-food crops is found in the well-watered valleys of the south-west coast (Kanaras, Malabar, Travancore and Cochin) where a long agricultural season yields a rich variety of food crops and commercial crops. Here there is a sound economic basis of two food crops, rice and millets. Rice is grown on low lands. As the land rises there is garden cultivation yielding spices, condiments, sugar-cane, cardamom and betel. On the poorer dry soils above the zone of garden cultivation are found the *ragi* fields. Coconut, a staple food crop, which is also a good commercial crop, is intensively cultivated in all parts of this tract. Moreover, agriculture is supplemented by the fishing industry and numerous occupations of a commercial and maritime character. In such a rich agricultural region the density of population is necessarily high. For example, in the low-lying tract of Travancore, where the proportion of food crops (paddy and tapioca) and money crops (coconut and pepper) to gross cultivated area is as high as 89·3 per cent, the population has reached a density of 2,186 persons per square mile. Lastly, there is another combination of crops to be found in the cotton-*jowar*-wheat zone of Surat, Broach and Baroda, in which rice does not find any place. The cotton and *jowar* crops are grown here in rotation and have exceptionally high yields. Moreover, the soil is so retentive of moisture that the wheat crop in the *rabi* season is also highly successful. This is a prosperous region, having the sound economic basis of a food crop combined with two commercial crops. The population, however, is sparse, as may be expected in a wheat region which also grows a crop like cotton.

II. The Region of Table-lands.—As already said the entire region of table-lands may be sub-divided into two regions, *viz.* (1) the Deccan Plateau, and (2) the Deccan Foreland. The Deccan Plateau may again be sub-divided into three distinct regions, *viz.* (1) the Western Border Region, covering Bombay east of the Ghats; (2) the Eastern Deccan (red soil region), covering Mysore, Madras, Deccan and East Hyderabad; and

(3) the Black-Soil Region, covering West Hyderabad. The Deccan Foreland is also a distinct agricultural region, as it receives a comparatively high rainfall owing to the absence of the Ghats as a rain barrier.

(a) **The Deccan Plateau : The Western Border Region.**— This region is an almost bare and treeless plain sloping down from the rocky edge of the Western Ghats. It has a light rainfall as it lies in the "rain shadow" of the Western Ghats. The normal rainfall is so scanty that if it is slightly reduced in amount and a little badly distributed there is a probability of crop failure. In the famine tracts of this region the most valuable crops (cotton, wheat, *jowar* and oilseeds) are sown during the period of late rains (September or October). Hence an early termination of the monsoon is disastrous to agriculture. Artificial irrigation from wells is indispensable; but the great depth of the water-level in many parts of this region is an impediment to artificial irrigation. Thus, with the exception of the district of Poona, the percentage of irrigated area nowhere exceeds 5 per cent. In this region we find the same combination of crops as in the prosperous tracts to the north (Broach and Surat). But the absence of black soil, combined with low rainfall and want of irrigation, explains the poverty and low density of this region. It is in Bijapur, Belgaum and Dharwar (situated in the Tapti Valley) that we find a sound combination of food crops and other cereals and pulses with a valuable commercial crop like cotton. The reason is that owing to the edge of the Ghats being thickly wooded on the west of these districts the farmers can command a better water supply and can also reckon on a more certain rainfall.

The Eastern Deccan (red soil region).—This region, covering Mysore, the Madras Deccan and East Hyderabad, receives rainfall from both the monsoons in varying proportions, but only after their full force has been exhausted on the coastal country. The Mysore table-land may be regarded as a plain for its heavy rainfall, although it is a plateau for its high elevation. In this region the hilly country on

the west (Malnad) receives heavy rainfall from the south-west monsoon and is covered with evergreen tropical forest. Here the cultivable area is small and the population sparse. On the eastern plain the rainfall is fairly heavy and the soil fertile. Here rain-water is stored in tanks and hollows to aid wet cultivation. But the proportion of land which is cultivated is itself small. Hence, although the density of population is here higher than in the hilly country, yet, by itself, it is sufficiently low. In recent times, however, we find a two-fold tendency of agricultural development which signifies greater economic prosperity. First, there has been a striking development of artificial irrigation, the irrigated area having increased by 25 per cent during the decade 1921–31. Secondly, the area under crops other than food crops has increased during this decade at a higher rate than the area under food-grains. In fact the recent increase in the importation of food-grains is due to the development of commercial cropping, which has probably been stimulated by industrial development.

In the Madras Deccan the rainfall is deficient, fitful and irregular, as it does not get the advantage of the full force of either monsoon. The farmers usually sow most of the food crops on "dry" land with the help of the light rainfall of the south-west monsoon. Moreover, they have a tendency to cultivate extensive areas of land in a hasty and haphazard fashion rather than adopt intensive cultivation on smaller plots. Hence they are entirely at the mercy of the monsoons except where well irrigation is possible. But the construction of wells is much too expensive as the subsoil is usually rocky. The tanks are mostly rain-fed and are precarious sources of irrigation. Many of the wells also dry up in years of drought. The Government canals do not serve a large area, and, not being provided with sluices and dams, are scarcely effective means of irrigation. Excepting the black soil found in the plains (which depends for its fertility on rainfall), the soil formed out of the granitic rocks on which it lies is also generally extremely poor and infertile. Thus the Madras Deccan has always been one of the blackest spots on the famine map of India and the

density of population in this region varies from 100 to 250 persons per square mile.

East Hyderabad, which is contiguous to the Madras Deccan, is also a granitic region. Here the soil is sandy and does not retain moisture, and the rivers dry up in summer. Hence it becomes necessary to store up the agricultural water-supply in artificial reservoirs. But artificial irrigation in the Hyderabad State is concentrated in this region, which is studded with numerous storage tanks; and it appears that extension of irrigation will considerably increase the economic prosperity of this region in the near future. Moreover, this district is also assured of a more regular and copious rainfall than either West Hyderabad or the Madras Deccan. Agricultural productivity in this region is maintained at a comparatively high level. Assured of a sufficient agricultural water supply, the farmers rely more on heavy-yielding wet crops. *Jowar*, the main food-grain, which is supplemented by *bajra* and *ragi*, occupies as much area as all other grain crops put together. The commercial crops are also not insignificant. The yield of rice is here nearly twice as much as that of *jowar* on an acre of land. Hence it is as much a commercial crop as cotton, groundnut or oilseeds.

The Black Soil Region.—In this region, although the rainfall is somewhat less than in East Hyderabad, yet the black soil is very fertile and, being argillaceous, it can retain moisture for a long time and resist a long spell of drought. But all the same, agriculture here depends precariously on regular and well-distributed rainfall. Failure of the monsoon rains means the failure of the *Kharif* harvest which provides about one-half of the total supply of the staple food-grains of the people; and if the late or autumn rains fail there is a partial failure of the *Rabi* harvest, which means that the farmer loses not only the valuable commercial crops like linseed and wheat, but also the white *jowar* crop which forms the most important food crop of this region. West Hyderabad does not possess an extensive system of irrigation which one finds in East

Hyderabad. Here the agricultural water supply is obtained largely from wells, and the irrigated area is barely 1 per cent. Hence the density of population in this region seems to be essentially a function of the facilities of irrigation. In fact it was stated in the Census Report, 1911, that the whole of this region was "already supporting a population much nearer to the maximum capacity of its agriculture," which is obviously limited by the absence of an extensive system of irrigation.

(b) **The Deccan Foreland.**—The Deccan Foreland stretches from the arid tracts of Western Rajputana to the rice region of the Mahanadi Valley in the east. In this region as a whole the cultivated area is below 40 per cent, and the density of population is low, except in the black soil region and in the rice region of the river valleys. The rainfall increases from west to east. The reason is that the Western Ghats do not serve as a rain barrier north of the Narbada and that the rain-bearing winds from west-south-west flow up the Ganges Valley. Except the arid western part of Rajputana, where land utilisation is still generally of a steppe type, the rest of the Deccan Foreland may be sub-divided into four distinct regions, *viz.* (1) the Plateau; (2) the Heavy Black-soil Region; (3) the Shallow Black-soil Region; and (4) the Region of Yellow and Sandy Soil, forming the rice region of the river valleys. On the Plateau, the poor shallow soil requires a long fallowing and yields cheap millets, forming the main food-grain of the aboriginal cultivators. Here the crops depend entirely on the rains of August and September. Of the four regions the Plateau has the lowest density of population. Next in order of the density of population comes the Heavy Black-soil Region which is pre-eminently a wheat region. Here the water-level is deep and there is little irrigation, but the rich, moisture-retaining soil, which readily responds to manuring, compensates for the absence of irrigation to a certain extent. The Shallow Black-soil Region stands next in order of the density of population. Here the soil is excellently adapted to the growth of autumn crops which require only light

rainfall and respond greatly to manuring. This is a cotton-*juar* region in which a food crop is combined with a valuable commercial crop, and the density of population is comparatively high. The highest density of population is found, however, in the Region of Yellow and Sandy Soil covering the rice plains of the river valleys. Here the soil has little natural fertility but it responds readily to artificial manuring and irrigation. The heavy rainfall which this region obtains has increased the productivity of land. At the same time numerous tanks have been constructed in the east of the Nagpur plain for the irrigation of rice fields, while in the low country of the Chattisgarh plain the cultivated area is one expanse of small embanked rice fields.

Agricultural Planning.—The foregoing survey of the agricultural regions of India suggests a few important problems of economic adjustment which may now be sketched out in their barest outlines. In India what Professor Bowley calls "Adequacy of cultivation" does not generally imply an exploitation of the possibilities of intensive commercial cropping. As Mr. P. C. Tallents, I.C.S., observed in his report on Census Operations in Bihar and Orissa in 1911: "Experience generally shows that it is extension and not increased efficiency of cultivation that leads to an increase of the agricultural population, in so far as increased efficiency involves the use of labour-saving devices and the economy of man-power."[1] One result of such a process of agricultural development has been that, while the population multiplies with all the vigour and tenacity of tropical vegetation, agricultural holdings are gradually reduced to a size which may be hardly recognised as economical. Another result has been the evolution of intensive subsistence farming. The Indian farmer is so poor that he cannot afford to raise valuable commercial crops which require much capital and labour and occupy his tiny plot of land for too long a period of time. To him irrigation, manuring and judicious crop rotation are expensive operations which he will avoid if he can help it. Hence his main

[1] *Census Report, Bihar and Orissa*, 1921, p. 33.

object is to raise as much of heavy-yielding food crops as possible, with his slender resources. It is commonly supposed that if the poor standard of farming and, with it, the low level of economic life have to be raised, it is absolutely necessary to reverse the entire process of agricultural development to a certain extent and evolve a judicious combination of food crops and non-food crops on the basis of intensive commercial farming. But at the same time it is clear that any efficient and scientific system of farming would require economic holdings, the use of labour-saving devices and economy of man-power. Should we, then, welcome the plantation system of proprietary and capitalistic agriculture which would secure the maximum economy of man-power? According to one school of thinkers, under the present conditions such a process of consolidation of holdings and development of commercial cropping would be disastrous, as it would swell the ranks of the landless proletariat and lead to serious agrarian and social discontent in a land of peasant proprietorship. Hence what they propose is voluntary consolidation of holdings, which would not upset the stability of agrarian life and would, at the same time, increase the efficiency of agricultural production. But the formation of compact economic holdings by voluntary consolidation would, as such, achieve but little if it is not accompanied by a release of the pressure of the population upon the soil and a real economy of man-power in agriculture. In any case, already in the densely populated regions of India the impact of economic forces has been sometimes too powerful to be resisted any longer. Thus the pressure of the population upon the land has been released through emigration, and automatically bigger holdings have been formed and the cultivation of commercial crops encouraged. In the rice regions of Madras, for example, we find a tendency for farmers to have larger holdings through the sale of smaller holdings by poor farmers in payment of debt. The result is that the surplus population has emigrated, either permanently or temporarily, to the factories of Bombay, Madras, Madura and Trichinopoly or to the plantations of Ceylon, Burma, Malayas or

the Nilgiris. That industrial development will give a fillip to such a process of new adjustment in Indian agriculture is a truism the apparency of which has become almost surfeiting. But when we visualise such an adjustment on a large scale the difficulties of the transition are no less apparent. Indians have no doubt shown a readiness to migrate in large numbers to even the farthest corners of the globe and there is also a considerable volume of inter-provincial migration, particularly to the centres of large-scale industry. But it seems that such mobility of labour, which is normally subject to considerable economic friction, will have to overcome greater economic friction in future. The stream of overseas migration is sure to be dammed up to a considerable extent by the economic barriers set up in foreign countries.[1] Inter-provincial migration is also likely to encounter serious obstacles in future. As industrial development becomes more and more widespread, and especially as its pace is accelerated by protectionism, large-scale industries will no longer be necessarily localised in particular centres or particular provinces. Thus economic rivalry and economic separatism will dominate inter-provincial relations, particularly under the régime of provincial autonomy. In such an eventuality it may not be a far cry also to economic self-sufficiency of the Provinces. Is it possible to forestall all this by a regional adjustment between industry and agriculture which would effect the transference of surplus labour from agriculture to industry with the least economic friction, would encourage the development of commercial cropping according to the requirements of the region as far as possible, and would, at the same time, ensure, as far as possible, a steady supply of raw materials for industries adapted to local needs?

[1] Dr. Hutton, the Census Commissioner, remarks that overseas emigration was less in the decade 1921–31 than in previous decades owing to restrictions on immigration in foreign countries.

CHAPTER II

THE SOCIAL BACKGROUND

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Institutional Control of Economic Life.—The dominant feature of India's social history is the incursion from age to age into a single enormous land of different races possessing different standards of culture. The presence of different racial elements and the disparity of stages of economic development among the various races and peoples make an indelible impress on the Indian social structure. The tribe, the caste, the village community and the joint family represented an effort to organise a workable social system based on the autonomy of each group, collective discipline and mutual tolerance. No doubt caste, the rural community and the joint family collectively played an important historical rôle as a great contribution to social and cultural stability in a country in which differences of race and standard of culture were apt to provoke perpetual social discord. These still secure to the individual members of each group the much-needed protection, and this explains why the social organisation which imposes upon the individual fairly rigid rules of conduct in all phases of human relations still dominates the life of the people.[1] There are few countries, therefore, where there is so much of institutional control over occupation and economic life. On the other hand, since culture and economic life are not static, a *modus vivendi* was established under the maintenance of which the tribe and the caste could not disregard the claims to culture and advancement

[1] Mukerjee, *Foundations of Indian Economics*, Ch. III.

and the rural community and the family the needs of economic progress and individualism. Nothing is truer in India, along with the rigidity of Indian social control, than the plasticity and responsiveness of those very institutions which control a man's social, economic and domestic life.

I. Social and Economic Stratification: Tribe, Caste and Guild

Primitive Tribes in isolation and in contact.—Tribes, castes, rural communities and families, though making up an interwoven, compact structure, which is ancient and solid, are plastic, bending to social and economic forces. The total population of primitive tribes in India is about 25 millions. Many of these maintain their tribal integrity and pursue their economic routine outside the pale of Hindu culture, having no doubt been driven back to swamps, forests and mountain fastnesses by the ever-growing pressure of new-comers who occupied the more fertile and more healthy lands. Natural obstacles and malaria have here protected them from frequent disturbance and this explains why in some tracts they are still thriving. On the other hand, many aboriginal tribes who have advanced to a higher level of economic life as the result of culture contacts, have become merged more or less rapidly in the Hindu social organisation. Typical instances are the *Bhumuji*, *Mahili* and *Kora* of Chota Nagpur, the *Dom* and the *Dosadh* of the United Provinces and Bihar; the *Koku* in the Narbada Valley; the *Koli* and the *Mahar* of Bombay; the *Bagdi*, *Bauri*, *Chandal* and *Rajbansi-Kochh* of Bengal; and in Madras the *Mal* and *Thiyan*. On the other hand, such depressed castes as the *Bhar* and the *Cheru* of the United Provinces, the *Kaibartta* and *Pod* of Bengal and the *Pariah* of the south retain traditions of a time when they ruled the land, possessed an independent organisation of their own and had not been relegated to a low place in the Hindu social system.[1] Similarly, in the south-western coast of India, the *Pulayas*, *Parayas*, *Kuravas*, and *Vetas* were

[1] For the *Pariahs*, *see* Risley, *People of India*, pp. 74, 94 and 95.

probably primitive tribes who have been made agrestic serfs. As a matter of fact in the whole of Southern India the depressed castes, which are generally derived from various classes of cultivating serfs, are probably derived from the aboriginal tribes. In the Central Provinces the *Gandas*, *Pankas*, *Kolis*, *Pradhans*, *Ojhas*, *Nararchis* and *Paikra Kanwars*, which are primitive tribes, have all become Hindus both in religion and customs and are included among the depressed classes.

Economic Forces and the transformation of tribes into exterior castes.—When the aboriginal tribes attain economic advance they claim inclusion in the Hindu fold everywhere. It is the universal effort to secure social recognition through economic uplift which we encounter when a section of a gipsy and vagrant tribe, the members of which hunt animals, eat carrion and vermin, plait grass, live with their women in a sort of group marriage and pilfer at every opportunity, gradually settle as menials in a village. Here they will still plait grass or learn a new craft like basket-making, but adopt scavenging as their main occupation. From a vagrant tribe they would now become a caste, though occupying the lowest rung in the Hindu social ladder. Gradually they resort to a yet higher occupation, such as tanning and leather-work, or labour in the fields. Such occupations establish and maintain contacts with the vast mass of Hindu agriculturists, that profoundly influence their living and social standards. They modify their promiscuous habits, supersede the worship of mountain and forest spirits by that of Hindu gods and goddesses and obtain a higher place in the Hindu social system. Finally, when as agricultural serfs and labourers (or artisans if they live cleanly) they give up keeping pigs and eating pork, adopt such customs as infant marriage, prohibition of widow re-marriage, seclusion of women as well as various commensal restrictions enforced by their *panchayats*, and supersede their aboriginal priests by Brahmins or semi-Brahmins, they rise correspondingly in the caste scale.

Along with the adoption of a new and higher calling there accordingly may be and often are adoption of new

social customs and religious practices and change of residence. Thus a variety of economic, social and sometimes adventitious circumstances breaks up tribes into endogamous sub-groups.

In the United Provinces it appears that from being tribes the *Korwas*, *Saheriyas* and *Tharus* are at present emerging as Hindu castes. Among the *Saheriyas* the occupation of the members of the tribe has changed with changing circumstances and a more or less traditional occupation of collecting forest produce and agricultural labouring has crystallised out. The *Kanjars*, a criminal tribe of the United Provinces, now call themselves in some districts *Kunchbandhs* and have settled near villages and towns in order to ensure an easy exchange of such handiwork of theirs as brushes (*kunch*), ropes, baskets, sieves, nets, etc., for grains. They have separated themselves from the *Jallads*, *Supwalas* and *Jungal-basis* although they are not as yet settled agriculturists, and are still outside the pale of the Hindu society. In Rajputana, where they have not learnt such crafts but live by hunting and begging, the *Kanjars* still remain vagrant (also criminal and undifferentiated). The tendency to give up vagrant habits is not confined to the *Kanjars*. Several groups who belonged to one or the other of the vagrant tribes now return themselves by unusual names. These are all occupational—*Kunchbandhiya*, *Rachbandhiya*, *Singhiwala*, *Gidhiya*, *Kanmail* and *Kangigar* being most common. All these are subcastes of the *Kanjar*, *Bawariya*, or *Nat*. The *Kanmail*, *Gidhiya*, *Kangigars* (who are comb-makers), *Kunchbandhiya* (who are brush makers), *Rachbandhiya* (also occupational), *Gual Nats* (who are now traders and have adopted the style and designation of the *Badi Banjaras*), have all become settled in Rohilkhand, Bundelkhand or in the neighbourhood of Delhi. Examples of aboriginal peoples in north-eastern India, on their way to assimilation with the Hindus through adoption of agriculture, are the *Meitheis* of Manipur who are the Hinduised agriculturist and ruling group in the tribal areas. The *Aimol Kukis* and *Purums*, who are also transforming themselves from hunters into cultivators, are

but partially Hinduised. Similarly the *Kharias* in Chota Nagpur who are hunters, fishers and food-gatherers are transforming themselves into Hinduised groups economically dependent on the Sonthal agriculturists. There are many instances in India of filiation in social grouping associated with the linking of economic stages of agriculture, and the exchange of forest materials and products of animal industries and primitive crafts for the handiwork of superior artisans and trinkets of enterprising traders of the plains.

Economic obstacles to the exterior castes.—Throughout India the economic history of depressed castes and tribes thus often gives a clue to the Indian social gradation. And we have also amongst the recently settled and Hinduised tribes and castes division and subdivision into sub-castes, due to the adoption of different occupations and social practices by different social groups according to opportunities. The gipsy, thieving tribes often find it easy to adopt some primitive crafts like brush-making, comb-making, tanning, leather-work, rope-making, basket-making, and weaving. These occupations, however low, inevitably give rise to separate castes, all marking an entry of the tribe into the pale of Hinduism. That the opportunities of permanent agriculture have not always been available for them (mainly due to the fear and repugnance that they engender among the higher castes) explains why India has to-day about four million persons who adopt crime as an hereditary calling, a challenge to the social order, and 50 to 60 millions of the depressed castes, *i.e.*, 20 to 25 per cent, of the total Hindu population, a legacy of the high caste Hindus' crime of unapproachability.[1] In Northern India on account of the heavy population pressure such depressed castes as the *Chamars*, who represent 12 per cent of the total population in the United Provinces, can only obtain the relatively infertile and distant plots and

[1] Haikerwal, *Economic and Social Aspects of Crime in India.* Foreword by the present writer, p. 14; also Mukerjee, *Groundwork of Economics*, pp. 28–29.

the worst wells and pay the heaviest rents and rates of interest. Their holdings are as a rule the smallest. They cannot, even in the best years, make ends meet by cultivation, and they resort to keeping pigs and flaying dead carcases, occupations which prevent their rise in the social scale. In Central and Southern India, the Central Provinces, Chota Nagpur and Orissa the majority of the exterior classes do not possess land at all and are agrestic serfs, often bound hand and foot like the old Negro slaves to the land, and no social legislation such as the *Kamiauti* Agreements Act of 1920 in Chota Nagpur has been able to solve the situation presented by an over-plus of farm-hand population crowding in agriculture.

In Western India much of the social unrest among the depressed castes has also arisen because the lands set apart for the services of village menials, or shares of grains at each harvest, can no longer maintain the castes who have increased in numbers and cannot obtain employment. Due to sub-division, the *inam* lands yield little income to them, while the collection of the *baluta* has declined due to the poverty of the cultivators themselves. Unlike the *Chamars* and *Bhangis*, who have some hereditary occupation of their own, the *Mahars* have to depend upon casual labour, which means continuous unemployment even for twenty days on an average in a month.[1] These are economic rather than social problems and could be solved by special legislation making it penal to keep bond slaves and extinguishing their old debts, by the free assignment of newly reclaimed lands for cultivation by the exterior castes, by the provision of new village sites where they would be free from the oppression of landlords and their *begar*, by the construction of wells or excavation of tanks for their exclusive use, by the provision of burning *ghats* and burial grounds and sanitary requirements, by the organisation of co-operative credit and thrift societies, and, above all, by training in crafts and occupations subsidiary to cultivation, so that the growing pressure on the land and the over-crowding of agriculture may be adequately relieved.

[1] See Bhagat, *The Untouchable Classes of Maharashtra*, p. 15.

In a densely populated valley, subjected to a long series of immigrations, it is naturally more difficult for the vagrant aboriginal tribes to adopt agriculture and honest livelihood. Thus the so-called criminal tribes and castes are mostly to be found in India on the outskirts of prosperous valleys of which they were often the original owners and rulers. Where, however, they have sought refuge or have been drawn into the jungles and foot-hills, economic adjustment has been easier and the tribes are vigorous and expansive, while they exhibit no criminal habits at all. In the mountains and jungles of Chota Nagpur, Assam and the Central Provinces, for instance, such tribes and castes are hardly "depressed." Greater opportunities of economic life and tribalism have enabled them to resist the alien culture of the plains or to assimilate it without deterioration.

But no primitive tribe or vagrant caste is now secure within the shelter of the forest. The forest and land laws, often inappropriate for the stage of economic development of the tribes and castes, produce devastating results. In most tribal areas the original tribal system was naturally one of a village headman and *ryotwari* tenure, the village lands being regarded as the property of the community rather than of individuals. The land revenue policy of the British Government, adopted in the middle of the last century, was inappropriate so far as the primitive peoples were concerned. A limited number of persons were given proprietary rights, which they gradually lost, as moneylenders and traders from the plains could come and exploit the ignorance and improvidence of the primitive peoples. The *Gonds* in the Central Provinces, the *Bhils* in Central India, the *Korwas* in the United Provinces, the *Mundas*, *Birhors* and *Oraons* in Chota Nagpur, have been unfairly exploited by moneylenders and adventurers and there have been widespread expropriation and conversion of tenants into landless labourers. In Chota Nagpur and the Central Provinces the Land Alienation Act has recently been passed to check this process of a wholesale transfer of aboriginal villages to non-resident moneylenders, traders and adventurers, but unrest associated with agrarian

unsettlement still continues. The Usurious Loans Act has also been unsuccessful in giving adequate protection to the aboriginal debtor. Many primitive peoples and castes in India still regard liquor as a necessity in marriages and other tribal ceremonies. The prohibition policy of Government has operated very harshly on them with the result that many are driven to illicit distillation. When illicitly distilled liquor is not obtainable, they cannot afford high priced Government liquor and so are driven to offering their gods a mixture of sugar and water. This indirectly promotes the decay of rites and ceremonies and adds to the general depression. The more Hinduised aboriginals of India have adopted Hindu ideas of succession, superseding the old idea of inheritance by the senior efficient member of the family. This will introduce among them the evil of the fractionalisation of holdings in a few generations. As the tribe becomes more Hinduised it also eats less meat. The physique of the more Hinduised aboriginals is certainly inferior to that of the wilder ones. This is due not merely to the omission of meat and animal-raising but also to the reduction of the number of meals. The wilder tribes in the Central Provinces, for instance, have generally four meals a day as compared with the two meals normally taken amongst the average population of India.[1] Finally, when the aboriginal people lose their identity and are absorbed into the Hindu fold, they are regarded as unclean and untouchable, such social segregation stinting economic opportunities. The occupations they adopt are regarded as impure and undignified. On the one hand, such occupations as basket-making, rope and brush-making, leaf-plate making, skinning and tanning can be easily adopted by the aboriginal people, who may thus embrace a settled life without being aided by outside agencies. On the other hand, there are hardly any other employments available for them which would enable them to make both ends meet. Such are some of the baneful results of the contacts of the aboriginal peoples in India with the superior mode of economic life and culture of their neighbours.

[1] *Census Report of the Central Provinces*, 1931, p. 403.

Inter-mingling of tribal and caste government.—Economic facts and statistics all point to the gradual absorption of the aboriginal tribes and depressed castes in the Hindu social organisation. Nor is social assimilation through Hinduism confined to the aboriginal tribes. Many land-holding and military clans and tribes in Northern and Western India such as the *Gujars*, *Jats*, *Ahirs* and *Meos* of Rajputana and the Punjab and the *Marathas* of Bombay have become Hindu castes. The entry has been often through inter-mixture with the *Rajputs*, and the establishment of claims of *Rajput* descent through myth or legend, the *Brahmans* helping them to their fictitious and miraculous pedigree. On the other hand, it is even probable that the Agnikula *Rajputs*—the *Parmar*, *Chauhan*, *Padihar* and *Solanki* owe their origin to the raising of an indigenous Aryan tribe lower in scale—probably *Vaishya* in occupation—to the *Kshtriya* status by reason of its deeds in conquest and its militant organisation. Both the *Gujars* and *Jats* were ancient *Vaishya* tribes who came into fitful prominence on the stage of Indian history, and these have claimed and obtained *Rajput* filiation.[1]

It is in this manner that tribal socio-juridical government and caste socio-juridical government have mingled and have been assimilated the one to the other in India. The semi-Hinduised aborigines were assigned a place as castes and tribes on the lower rungs of the Hindu social ladder and their *panchayats* to-day are most irrepressible aboriginal institutions. Beginning with the original polity of the aboriginal folk we find in great strength and cohesion among many of the Indian tribes and castes an elaborate village *panchayat* system, with its usual complement of village officers based upon a federal union of villages under a sub-divisional headman and council. The old tribal jurisdictions, as well as the central government of the chiefs in council or local hereditary chiefs or again a strong democratic organisation of circles of village councils, still survive; but the most vital of the aboriginal survivals are: (1) the social control exercised by the standing

[1] *Cf.* C. V. Vaidya, *History of Medieval India.*

assemblies of the castes; (2) the local jurisdiction of the assemblies of groups of from five to a hundred villages; (3) the communal apportionment of revenue burdens and of political duties of all kinds according to the measure of rights in the tribal subdivisions; (4) the agrarian distribution under the scattered field system and the equalisation of agricultural and grazing rights in the village communities, and (5) the organisation of watch and ward as well as the allotment of lands for village officials, artisans and employees.[1]

If the plasticity of Hinduism and caste organisation could enable the primitive tribes to gain social admittance and recognition through an upward economic movement, caste itself, internally speaking, has not been slow to respond to uplift and occupational change.

Plasticity of Caste.—Indeed, caste is hardly the steel frame, inexorable and solid, as its semi-rigidity and isolation would lead one to expect. Few of the castes and tribes mentioned in the *Mahabharata* and the *Vishnu Purana* can now be traced in the caste nomenclature of to-day. Blunt observes in this connection, "*Abhira*, *Ambastha*, *Kaivartta*, *Malava*, *Nishada*, *Tomara*, and *Yadava* and one or two more may possibly survive; but where are all the rest—the *Angas* and *Aparakashis* and *Sakas* and *Surasenas* and *Yamunas*, not to mention many of Manu's mixed castes?" Caste has become no more rigid and inelastic with time. Not only do sub-castes break up within the caste but sub-castes break off from a caste and form a new caste altogether. The formation of sub-castes and the ease with which they are formed indicate the dynamic aspects of caste.[2] In the immense array of the occupational groups which form the largest portion of Hindu castes we find that, when members of one caste take to the occupation of another, both communities occupy more or less the same social status and coalesce later in the same caste with the same social and religious observances. As peasants, artisans and traders

[1] Mukerjee, *Democracies of the East*, p. 9; *cf.* also Ch. XIII.
[2] Mukerjee, *Principles of Comparative Economics*, Vol. II, pp. 7–11.

rise in the economic scale, in every upward step there is ramification of the caste into groups, marking the ascent of the social ladder. In some cases the adoption of a degrading occupation by certain families has spelt social disaster for that section, and, though still retaining the caste name, they are compelled to marry among themselves and thus form a sub-caste. In other instances, the converse is the case, and a group that abandons a disreputable occupation or commands social respect by the adoption of the customs (and restrictions) of higher castes itself attains in time to the higher social grade. Thus we find in Bombay the upper section of the *Nadars* looked down upon because they commenced making salt, the *Rangari* or dyeing divisions of the *Shimpis* and the *Haldi Malis* who prepare turmeric. On the other hand, comes the shining example of the *Chandlagar Chaitara* and *Rasania*, sub-castes of the *Mochis*, who gave up leather work and took to making spangles, paintings and electro-plating. As a result they are treated like reputable artisans and do not touch their brother *Mochis*.

Economic uplift and caste differentiation.—Where modern conditions have rendered their employments unprofitable, enterprising individuals have drifted away from their parent castes to new trades or have taken to the land. The *Kayastha-Mochi*, *Kayastha-Darzi*, *Kayastha-Bharbhuanja*, *Kayastha-Senduria*, *Chamar-Julaha*, *Bhagvan*, *Ghogar*, *Gidhiya*, *Kanmail*, *Phansiya*, *Singhariya*, *Sainthwar*, *Turaiha*, *Chikwa*, *Mahajan*, *Kutamali*, and *Dhimar* in the United Provinces are all off-shoots from other castes, who have broken off from the parent caste and have become new castes. The reason is generally a change of occupation; occasionally, it is due to greater prosperity, as in the case of the *Mahajan* and *Sainthwar*; sometimes, however, there is no very obvious cause as in the case of the *Turaiha* and *Dhimar*. In much the same manner are formed the new castes *Kadia-kumbhars*, *Luhar-sutars*, *Sutar-luhars*, and *Kumbhar-sutarias* in Baroda.[1] In 1911, the first-named group was still forming with only 45 persons. In 1931, the *Kadia-kumbhars*, who are potters, have

[1] *Baroda Census Report*, 1931, p. 410.

taken to the more elaborate work of builders. The *Sutar-luhars* were similarly a new caste formed by fission in 1911. They were only 72 then; they are now 2,040 and they include among them also *Luhars* who had turned *Sutars*. We see thus two opposite processes coalescing for purposes of association.

In the Punjab as well the *Desi Kumbhars* rarely engage in making earthen vessels; although this seems to be the original trade of the tribe, they look down upon it and take to it only in extremity. They have a higher status than their fellows from Jodhpur who still work in clay. Many of them who have no land of their own engage in agricultural labour rather than in potter's work. Similarly the *Suttrars*, who are most exclusively devoted to agriculture, look down upon the trade of the carpenter which they follow only when in poor circumstances. They keep aloof from the *Khati* or carpenter who works in wood.

It is especially characteristic how many of the lower castes have taken to agriculture and despise their former occupation, and separate themselves from those who still follow it. On the other hand, traditional agricultural castes split up into groups by abandoning field work as something below them and taking to other pursuits. From the recent caste history of Bengal may be adduced in this connection examples of the separation of the *Mahishyas* from the *Jalia Kaibartas*; of the *Tilis* from the *Telis*; and of the *Rajbangsis* from the *Koches* and *Paliyas*, with whom they have affinities. The attempts of a group of *Mahishyas* to constitute a higher group called the *Devadas* and of one group of *Shahas* (until recently all regarded of the same group as the *Sunris*) to form a higher caste group under the distinctive name *Sadhubaniks*, are also instances in point.

Perhaps the most remarkable example of the upward economic movement and consequent social differentiation is to be seen among the workers in cloth and tanned leather who rank higher than makers of the raw materials. All the tribes, the *Chamar*, *Meghwal*, *Dhed*, *Julaha*, *Paoli*, *Mochi*, engaged in weaving coarse cloth and working in tanned leather in the Punjab, are riginally the same race, or at

all events closely connected, and perhaps of aboriginal descent. The *Chamars* are divided into several distinct sections which will not inter-marry with each other. The *Chandor Chamars* will not associate with the *Jatiya Chamars* who (they say) work in leather made from camels' and horses' skins, which is an abomination to the former. On the other hand, the *Marwari Chamars*, settled at Delhi who make tours in the Punjab in the cold weather selling leather ropes in the villages, refuse to have any connection with the local *Chamars*, who (they say) tan leather and eat the flesh of animals that have died; while they work only in leather already tanned. In the United Provinces those *Chamars* who have given up their former occupation of skinning dead animals now call themselves *Jatavs* or even *Jatav Rajputs*. In other places, they still call themselves *Chamars* but call those who still follow the traditional occupation *Pharraiya Chamars*. Again, the *Koris* who have given up weaving will style themselves *Kush Kuleen Rajputs* or *Tantuvai Vaishyas*.[1] Similarly in Madras the *Panikkans* who have taken to weaving will not inter-marry with those who serve as barbers to the *Shanans*. In Bengal the *Sukh Tanti* has become a separate endogamous group, because it only sells cloth and does not weave it.[2]

Similar characteristic instances of social differentiation are to be found among the *Teli* castes of the Central Provinces. The hereditary occupation of the caste is oil-pressing, but a large majority have abandoned it and become cultivators. They are subdivided into *Ekbaila*, *Dobaila*, *Erandia*, *Sao* and *Gandli*. *Ekbaila Telis* use only one bullock in their oil mill, while *Dobailas* use two. *Sao-telis* are mainly cultivators and grow sugar-cane and rice. The *Gandlis* are landowners, traders, and moneylenders and aspire to be classed as *Banyas*. *Erandia Telis* are socially the lowest sub-caste and they alone extract castor oil (eranda). Oil-pressing in any form, but especially castor oil, is regarded as a vulgar occupation, and most *Telis* are anxious to rise in society by abandoning it.

[1] *Census Report of the United Provinces*, 1931, p. 538.
[2] Gait, *Census Report of India*, 1911.

Economic causes of fusion of castes and sub-castes.—If castes are splitting into sub-castes and new castes are formed due to change of occupation in the economic uplift, sub-castes also are getting fused into wider castes everywhere in India. Even in Kerala, the most caste-ridden tract in India, the fisherman and the washerman castes are aiming at amalgamation and sooner or later will fuse themselves. The movement towards amalgamation of sub-castes is similarly noticeable among the *Brahmins* of Orissa, the *Ahirs* of Bihar, the *Aguri* or *Ugra Kshattriyas* and the *Vaidyas* in Bengal, while in Northern India the *Ahars* and *Ahirs* and *Barhais* and *Lohars* are also fraternising in order to improve their social status. Even castes show signs of fusion in some provinces. In Bengal the *Brahmins* and *Kayasthas* are mingling to a certain extent in some districts. In Orissa the *Chasas* are trying to inter-marry into, and pass themselves off as members of, the *Khandait* caste, while the *Khandaits* in their turn are aiming to the *Karan* caste. The adoption by the artisan classes, comprising the carpenters, blacksmiths, goldsmiths, and others of a common designation, for example, *Viswakarma* or *Viswa-Brahman* as in Bengal, Bihar, United Provinces, the Madras Presidency and Travancore, and by the milkman castes such as the *Ahirs*, *Goalas*, *Gopis* and *Idaiyans* of the single name, *Yadavas*, in various parts of India, also points towards amalgamation and is a clear instance of the adaptation of castes to modern conditions.

The caste system is thus plastic and fluent. No tendencies are stronger, especially in the lower rungs of the Hindu social ladder, than the almost unceasing processes of differentiation and fusion of castes and sub-castes on the one hand, and the rapid and frequent change of social incidents, or customs of caste, which are in essentials superficial. While the obnoxious restrictions of the caste system are often abjured, the protection which the caste system insures to individual members of each group, or sub-group, amply guarantees the future of the system.

Ancient caste and the new economics and politics.—The decline of the time-honoured handicrafts and occupations, due to competition from the machine industry of the West and a new social valuation, has set adrift multitudes who have been forced to take to occupations that have no reference to ancestral callings. The growing population pressure has also led to the city-ward drift of millions of landless people. In the markets, factories, and teashops all sorts of castes work and eat together defying the ancient restrictions of commensality and exclusive living. But if these economic forces loosen the grip and rigidity of the caste system, the ancient tradition of organised collective action which caste has stored-up for the Indian through the centuries, has led to the rehabilitation of the caste *panchayat* even in factories and slums. In the crowded tenements and *bustis* of Cawnpore, Calcutta, Madras and Madura, we find the caste *panchayat* effectively exercising its disciplinary authority among the majority of the lower and depressed castes. Caste has certainly brought the ancient experience of social government to the aid of the new industrial order as it is evolving out of the present chaos and unsettlement in our new manufacturing towns and regions.

What is true of the depressed classes, which have migrated in large numbers to the cities for manual work and industrial labour, is also true of the higher artisan castes, which are fighting the rigours of the present industrial transition by absorbing groups dissimilar in ethnic origin and domicile, by adopting the functions of trade unions and by expanding into federations on the basis of community of occupation in adaptation to the larger economic and cultural needs of to-day. Similarly, the merchant and trader castes have often shown great integrity and solidarity in business and trade, their *sabhas* and guilds representing the dignity and power of the commercial community in most cities of India, outside the radius of European banking. Again, some castes such as the *Patidars* of Western India, the *Kurmis* of the United Provinces, the *Namasudras* of Bengal and the Christian castes of Travancore have used their

discipline and authority for elections to local bodies. The *Patidars* have actually captured seats in District Boards and Municipalities with an ease which has been an eye-opener for the higher castes like the *Brahmans* and the traders amongst whom caste solidarity has considerably weakened.[1] Caste thus has furnished a new implement in the process of industrial and political adjustment. It has become, so to speak, the "election agent" of the new system of representative government as well as the guild or trade union in the new system of industry. Caste, shorn of its abuses, may thus become a powerful lever of group action and solidarity, at no time more indispensable than in the present era of social strains and new opportunities.

While economic forces act as social binders and levellers, and the liberalising movement in social service, literature and art throughout Hinduism gradually disintegrate the caste restrictions. The new civic and political consciousness, however, has engendered the fear among the backward castes that they are swamped by the advanced sections of the community in the struggle for political privileges and proportional representation in Government service, and thus these now stand out as independent and even rebellious units. It is this feeling that threatens to keep asunder the different castes of the Hindu community and has now become the root cause of recent caste exclusiveness which was being resolved in the gradual process of social assimilation. An increase of unemployment among the middle classes has, indeed, indirectly contributed to strengthen the barriers separating one caste from another, which education, economic and social reform have been pulling down. Whether caste will subserve the ends of nationality by utilising its social discipline and co-existent tolerance, and ultimately resolve Indian society into horizontal divisions on political lines,—more inelastic, perhaps, in the beginning than their prototypes in the West,—has thus become a less certain matter than the transformation of guilds and caste *panchayats* into co-operatives and trade unions, by which caste will adapt itself to new economic

[1] S. V. Mukerjee: *Baroda Census Report*, 1931, p. 41.

conditions. It may be that caste, through its renewal of guilds and co-operatives and adaptation of economic forces and institutions to its service, will import into the political field the lessons of tolerance and mutual goodwill, and overthrow, or at least control, the forces of disunion that are at present preventing its development in the direction of nationality.[1]

Transformation of castes into guilds.—Occupational castes have easily transformed themselves into guilds in India, guaranteeing the artisans, traders and merchants both social and economic protection.[2] The guild is nothing but a temporary or permanent union of caste-people plying the same craft and trade, and framing general rules of conduct and social morality and observances, while sometimes it regulates trade and wages, the conditions of employment of labour and the use of machinery as well as the education of apprentices, and the protection and maintenance of the destitute and the helpless. But one craftsmen's guild may comprise different castes or one caste may have sub-divided guilds. Thus in some cities the trade council is differentiated from the caste *panchayat*. For example, in Ahmedabad there are three castes of confectioners, and, therefore, three assemblies for caste purposes, but only one confectioners' guild. So the silk-mashru weavers' *mahajan* in the same city contains both the *Kanbis* and *Vanias*. Many more instances might be cited. In the Punjab, some of the classes of artisans, such as the *Lohars*, *Julahas*, *Telis*, and *Dhobis*, are more trade-guilds than tribes, and a family giving up its traditional occupation and taking to another would be considered, after a generation or two, to belong to the caste whose common occupation it had adopted, so that the different castes are not divided from each other by fixed and lasting boundaries. Still, so strong is the tendency to follow the ancestral occupation, and so closely are the persons belonging to each such caste or trade-guild inter-connected by community of occupation, which generally carries with it

[1] Gilchrist, *Indian Nationality;* also Mukerjee, *Civics*, pp. 50–54.
[2] Mukerjee, *Principles of Comparative Economics*, Ch. XII.

inter-marriage and similarity of social customs, that these well-recognised divisions are of real importance in the framework of society. On the other hand, the same caste may be divided into distinct guilds. At Lahore, both the Hindu and the Mohammedan goldsmiths form one craft guild, which has fixed the charges for particular classes of work. Such rates are strictly adhered to by members of the same guild. In many cities of Northern and Western India there is a guild of traders of all castes, consisting of representatives of each caste, who decide cases relating to trade.

At Surat, Ahmedabad, Jaipur, Delhi, Agra, Muttra, Puri and Madura, the guild organisation and the powers exercised by the *vania*, the *seth*, the *mahajan* and the *periadanakaran* deserve the most careful investigation. In different regions and among different occupations the solidarity of the industrial and mercantile guilds and their capabilities for self-government have varied, and thus the recognition of their place and status at the hands both of ruling authorities and of the community as a whole have been different. Again, a flourishing guild, which regularly derives its fee income from monthly or annual collections of a certain percentage of profits and spends it on charity, on feeding the poor, on *pinjrapols*, *dharamshalas*, tanks, shade-trees, cattle-troughs, fountains, supply of rice, *ghee*, oil, and other requisites to temples, on anointing and scents for the bath of the god, procession at festivals, etc., naturally commands greater prestige than a guild which contributes its small income derived from occasional subscriptions to the expenses of a village or city festival and amusement. Similarly, the jurisdiction of the guild and its power to resist outside competition vary. In small villages the guild is all-powerful and the caste coincides with the guild, lending it a double authority. In cities where there is a large number of workmen, artisans, and traders who do not belong to the guild, the power diminishes, unless, as is very often the case, different guilds mutually support one another and form a loose union to protect themselves from the forces of competition and exploitation from outside.

Modern orientations and adaptations.—The federation of groups of guilds has been a characteristic development in Indian economic history. Where the organisation is rather loose, as in Central India and Rajputana, the number of guilds is very large, a city having even more than a hundred guilds, while with a strong and compact organisation the number diminishes. The more powerful the guild, the stronger the tendencies towards a federation; the weaker the guild, the more marked are the tendencies towards sub-division.

In many cities of Southern and Central India we find the merchants, bankers and large dealers united together into one central co-ordinating guild, while the artisans representing the simpler handicrafts and occupations are similarly federated into one artisans' organisation. The bankers' and merchants' guilds fix the rates of exchange and discount, settle commercial disputes, levy petty imposts on certain transactions and spend the proceeds on humane and religious objects. In the smaller cities these guilds, working outside the pale of the Chambers of Commerce and similar associations, modelled on Western lines, still contribute not a little towards a high degree of mutual trust among the commercial community, the promotion of industrial peace and the prevention of commercial crises. In many of the Indian States in Central India and Kathiawar these guilds still exercise important rights and privileges and hold an important and influential position in the body politic, embracing as they do all merchants and bankers of the regions. For a long time to come the indigenous organisation of bankers and traders will continue to play an important part in India, although they must move with the times and adapt themselves to modern banking methods in order to arrest the present decline of their business. Similarly the present decline of handicrafts in India may be effectively combatted by re-orientating the guilds of artisans and craftsmen into co-operative industrial societies.[1] A notable instance of the revival of an important handicraft, through assimilating modern methods of business

[1] Mukerjee, *Groundwork of Economics*, pp. 169–170.

and marketing, into the guild structure is furnished by the *Sourashtra* community of silk-weavers and traders in Madura in the South.

In India caste solidarity has not been incompatible with the fusion of social and economic elements. The artisans' guild, as we have seen, sometimes embraces different castemen, or one caste comprises several guilds. The guild of traders also comprises not only different castes but also different races. The Mohammedans also form guilds as they form village communities and castes in weak imitation of Hindu models. The guild in India, therefore, has developed as a conglomerate structure in obedience to larger economic needs than those which caste satisfies, and caste is not the only root of the institution.

II. Economic Structure of the Joint Family

The Stability of the commensal family.—Caste solidarity, control of the community over marriage and occupation, population pressure and consequent compactness of the rural settlement have all contributed to maintain the joint family as an integral element of the social order in India. In the most fertile parts in India rural density is the highest, and where the best results in agriculture can be achieved by pooling all available labour and resources we have the largest commensal families. The highest average of persons per inhabited house in India is 5·5, which is recorded in Eastern Bengal where the rural density is 688 persons per square mile and in Cochin with its density of 814. Similarly Travancore (5·48), Sind, Deccan, Konkan all show more than five persons per house. Such figures may be compared with the average size of a family, *viz.* 4·36 in England and Wales, with 4·4 persons per farm family in the United States and 5·78 persons per farm family in North China and 5·19 persons per farm household in Japan. Among the Mohammedans in Eastern Bengal, polygamy and widow marriage have contributed in large measure towards the increase of the size of the family, but the polygamous commensal household is less stable than the Hindu joint family, whether patriarchal or matriarchal

(as in the south-western coast of India). The existence of strict exogamous customs in Hindu society permits a wider circle of relatives to live together than would be possible among peoples where even close relationship is no bar to marriage.

Recent statistics seem to indicate that there has been little change in the constitution of the family in recent years. As a matter of fact, the growing economic pressure and agricultural depression have combined to keep the members of the peasant family together. Yet caste traditions and economic opportunities sometimes have encouraged the elder sons and daughters away from their parent homes to set about earning their livelihood. The tendency is stronger among the lower agricultural tribes and castes throughout India whose married sons and daughters often live in separate houses. Interesting light may be thrown on this subject by showing the disparity between the number of married females aged 15 and over and the number of houses in Chota Nagpur and Orissa, on the one hand, and North and South Bihar, on the other. In the former regions where aboriginal tribes and lower Hindu castes dominate these statistics indicate a tendency for families to separate.

Number of houses per 100 *married females aged* 15 *and over.*

	1921	1931
Chota Nagpur plateau . . .	103	95
Orissa	102	96
North Bihar	86	84
South Bihar	91	84

One family, especially in the lower agricultural castes, prolific in itself, often splits up into two or three smaller families cultivating poorer lands brought under the plough under the pressure of population on the far-off outskirts of the village and laying the foundations of new hamlets.

Economic considerations similarly tend to hold the artisans' families together, and in fact throughout India it is observed that the average number of persons per house is larger among the artisans than among the agricultural

castes and the joint family has preserved much of its vigour. An intensive survey of fifty-four villages in the middle Gangetic valley has revealed that the record of very big families comes from the *Tamolis*, *Manihars*, *Bhurjis*, and *Darzis*, with families of more than twenty souls. The members of such castes have very sedentary and easeful, if not slothful, occupations. The biggest families of the *Kumhars* and *Halwais* have fourteen to sixteen members. The average number of persons in a family in the artisan group is as follows:—*Darzis* (8); *Kumhars* (6·5); *Bhurjis* (6); *Barhais* (6); and *Jolahas* (6). In the agricultural castes the average is lower: *Chamars* (6); *Kurmis* (5·5); *Brahamans* (4·5); *Morais* (5·5) and *Koris* (4·4). A social survey of the untouchable castes in several districts in the Bombay Presidency has shown much larger families, the average size being as follows: *Mahars* (7·7), *Chamars* (7·3), *Mangs* (7·0), and *Bhangis* (who are migrants) (5·4).[1] The average size of the Indian family may be regarded as comprising five to six persons. Among the trading classes the existence of established business firms controlled entirely by the family has still further aided the survival of the ancient system, although, of course, among old family firms the ties are beginning to change from those of a joint family whose property and earnings are common and subject to the control of the head of the family, to those of mere partnership, where the capital is held in shares and the profits are subject to periodical distribution.

Transitional family types.—The urge of economic advantage is on the whole maintaining the solidarity of the joint family among the agricultural, artisan and trading classes, and, indeed, in the lower artisan castes and amongst purely agricultural communities the joint family remains firmly established as a social bulwark and a characteristically Indian provision against unemployment and penury.[2] On the other hand, the system is weakening among the educated and professional classes. The spread of Western individualism

[1] Bhagat, *The Untouchable Classes of Maharashtra.*
[2] Mukerjee, *Foundations of Indian Economics*, Ch. II.

and the disparity of income and social status as between earning members and parasites who claim maintenance have contributed towards domestic disharmony. Thus, in educated circles the joint family tends to split up into a number of separate establishments, which perhaps contribute towards the maintenance of the parent family, or the aged or infirm or otherwise helpless among the relatives, and meet on ceremonial or stated occasions on which the solidarity of the family becomes a much-sought-for social convenience. Further, even when members of an educated family set up "on their own," economic considerations often would drive them to rent a house in common in the city and share the expenses of the establishment. The family, in this case, represents a transitional stage reconciling the interests of individual independence on the one hand and economic co-operation on the other. Economic conditions, family traditions, opportunities of co-operation and individual temperaments would determine the nature of the compromise between the joint and individualistic type of family among the educated and professional classes. The greater the unemployment and poverty of the middle classes, the stronger is the tendency to maintain separate establishments, however feeble may be their economic bases, and the greater the privations of the non-earning members of the family and of its widows. The Hindu widow is often an economic asset in the sense that she cheerfully undertakes the drudgery of the family whilst the extreme austerity expected of her makes her maintenance very little of a burden. The growing economic stress among the middle classes, however, has made her presence in the family unwelcome and the widow's helplessness, when the joint family has disintegrated, is one of the saddest features in the present social transition. Economic re-adjustment, however, is now sought through the provision of new opportunities of independence and career for widows provided by occupations such as teaching, nursing, sewing and embroidering, as well as by the increase of widow marriage.

Family disintegration in the industrial cities.—Economic causes are now disintegrating the home and the joint family in the cities in more ways than one. In the villages the economic collaboration of the members of the family in farm work has stood for the solidarity of the family, but in the cities the machine has greatly limited woman's opportunities for earning in the home. The decline of hand-spinning, which formerly made the housewife nearly equal to the husband as a support to the household, has affected the unity of the family. Not merely the slowly narrowing sphere of woman's profitable employment in the home, but also the growing economic pressure, have made it harder to maintain the joint family.

A chronic house famine and industrialism in most Indian cities have made real homes in the shape of whole houses very rare. The great bulk of the urban population can afford but single rooms in *chawls* and *busties*, while the lower middle classes live in flats, messes and partitioned houses and do not ordinarily bring their families with them. Of the total population of Bombay 74 per cent live in one-room tenements, 62·5 in Cawnpore, 60 in Nagpur and 58 in Karachi, as against 6 per cent in London, 5 in Edinburgh, 9 in Dundee, and 13 in Glasgow.[1] The average number of persons per room is 4·01 persons in Bombay as compared with 2·5 in Edinburgh and 3·25 in Glasgow. In New York, to have more than 1·5 persons in a room is considered to be over-crowded, and houses and rooms are much larger in the West than in India. A one-roomed tenement in Bombay normally varies from about 10 by 10 feet to about 12 by 15 feet, and thus each person has on the average from 5 to 7 square feet of floor-space. Even if over 2·5 persons may be held to be more than enough for the average room in India, 86 out of 100 persons in Bombay live in over-crowded conditions; 65 per cent of the one-room tenements in Bombay City contain two families; and 18 per cent contain three families. The number of families per room rises to as many as 5, 6, 7, 8, and over, in some areas. The conditions in

[1] *Cf.* R. B. Gupta, *Labour and Housing in India*, Introduction (by the present writer), p. x, also pp. 55–65; also Mukerjee, *Civics*, pp. 142–157.

which several families comprising from 20 to 40 persons live in single rooms must be counted as disgraceful and indefensible in any civilised community. In a recent survey of predominantly working-class localities in Bombay, families have been analysed into two classes, *viz.*, natural families and joint households that include relatives. The classification shows that only slightly over one-third of the families are joint households. Thus the joint family system has nearly dissolved among the working classes of Bombay City.

In Bombay, Cawnpore and Calcutta godowns are often converted into dormitories for mill-hands and labourers, and the *Bahayas* in Bombay and the *Oriyas* in Calcutta, who are often single men, flock together and hire single rooms. It is appalling to think that more than three-fourths of the families in Bombay and two-thirds of the families in Cawnpore live in such limited accommodation, which makes it impossible to preserve ordinary decency and the amenities of domestic life, not to speak of the discomfort in a hot climate. No doubt family life under such conditions of congestion becomes impossible. "It is obvious in such circumstances that beds must be a luxury. There is simply no room for beds in the average room and before people can sleep they must at night clear spaces on the floor and spread bedding there, sleeping in the cook-room and wherever they can find space. In the monsoon the verandahs, stairways and alleyways have all to be pressed into service as dormitories since the weather prevents the use of the pavements for the purpose. Most of the men must perforce sleep outside and leave the rooms for the women and children."[1] A marked feature of all the Indian cities is the street-dweller and squatter. String cots which are in common use in Northern India from Karachi to Cawnpore, both inside and outside the dwellings, indirectly contribute to mitigate over-crowding. But in cities like Bombay, Madras and Calcutta, with a rainy season of several months, sleeping on the pavements is more

[1] *Census Report of the Cities of the Bombay Presidency*, Vol. IX, 1931, pp. 89 and 107.

difficult. A midnight tour of the Indian cities any fine night would, however, disclose armies of sleepers, wrapped in cloths, on every side. These persons are not all tramps, by any means; the majority indeed being ordinary citizens in everything but the possession of a roof.[1] In the rainy months a considerable number of coolies and labourers of all sorts will be found crowding cellars, godowns, public buildings and protected lanes or even under bridges and culverts. For the considerable majority of the labouring population in Indian cities, who live in single rooms, and for those who are street dwellers, there is no family life. In Cawnpore, the percentage of families consisting of only one and two persons is as high as 43·2, the majority of industrial workers having left their families at home.

Disparity of sex-proportions.—The absence of family life in the Indian cities is also revealed by the enormous disparity of the proportion of sexes. In most cities and industrial towns the males outnumber the females by distinctly over two to one, and the corresponding ratio in the average commercial or industrial town is still more remarkable. The growing difference in the sex ratios is now becoming a real danger signal. In Calcutta, the number of families per 1,000 males is only 490; but among immigrants, taken alone, there are only 236 families to every 1,000 males. Between the ages of 15 and 55, which contains almost exactly 75 per cent of the male population, the numbers of families form less than 60 per cent of the total females. The discrepancy is, perhaps, most marked in the age group 25–30 and 30–35 in which in equal numbers of both sections there are almost half as many more men as women. The separation of the sexes just when normal marital life should begin is full of social portent.

The worker in a city or industrial town in India does not, indeed, find conditions convenient for bringing his family with him. The Royal Commission on Labour in India observes: "If it were possible to analyse the figures for the industrial classes separately, the number would

[1] *Census Report, Presidency of Madras*, 1931.

show even a greater disparity." In some of the mines and plantations the disparity is even more considerable. It is estimated that in the coal mines of Bihar there are only two women for every seven men. The recent Government legislation (1929) directed to the gradual exclusion of women from underground employment in mines is increasing the male preponderance and indirectly encouraging immorality and prostitution in the coal-fields. Such a scarcity of women in cities, mill-towns and mining centres promotes improvidence and vice, and, indeed, the atmosphere in the *bustis*, *dhauras*, and tenements, where there is little or no privacy, is immoral in the extreme. The Indian villager thus regards an urban woman worker as one who has lost her caste. The lack of privacy in many *bustis* makes family life impossible, and, in fact, there is practically open prostitution near the workers' houses in many small industrial towns where housing schemes have not been launched. In a Bengal Government Report we read that among the immigrants from Midnapore, out of 300 women mill workers one in three admitted being a prostitute, and among the people born in Hooghly one-third of the families worked in the mills, of whom one in every four professed to be a prostitute. Nor do the women who come for industrial employment in the cities belong to castes of high social standing. In Cawnpore, the chief industrial city in Northern India, nearly three-fifths of the female operatives belong to the depressed castes. It is also noteworthy that the female industrial worker in India, unlike her compeer in England, China and Japan, has to bear the triple burden of factory work, child-bearing and house-keeping. Home life for a working-class woman's family in India is almost non-existent, while the figures of infantile and maternal mortality are appalling. Yet as agriculture fails to bear the burden of multiplying numbers in the villages of India in general, and as cottage industries and handicrafts cannot withstand the competition of manufactures, an unplanned industrialism holds man and woman in tighter grips, leading to an enormous waste of human material in our new industrial cities and towns.

CHAPTER III

THE ECONOMIC ASPECT OF THE CASTE SYSTEM

By Sir Edward Blunt, K.C.I.E.

Occupation and social position.—In all social systems there is a definite relation between the social position of the individual, and the occupation which he follows. Generally, public opinion regards particular occupations as suitable to particular ranks of life; and if a man disregards convention in making his choice of a calling he will fall in public esteem, and his friends will censure his conduct. Nevertheless, his choice is entirely free, and his social position is his own personal attribute, of which he cannot be deprived.

Conditions of Hindu society.—Hindu society, however, is communal; it is the caste and not the individual that counts. A man's social position is that of the caste of which he is a member. The caste chooses his occupation for him, and if he disregards its decision then it can take away his social position altogether by outcasting him. Secondly, the caste-system is rather a socio-economic than a social organisation. Almost every caste is closely associated with a particular occupation. If the caste is functional—*i.e.*, if it was originally an aggregation of persons who were drawn together by the bond of a common occupation—then that association is traditional, preceding and causing the formation of the caste itself. If it is of other origin—tribal, racial, sectarian,[1] then the association, though incidental, is still ancient. Function, moreover, is

[1] A "sectarian" caste was originally a group of persons who held a common belief or were disciples of the same religious teacher, but having cut adrift from their former castes, were forced to find wives within their own fraternity. They are few in number.

hereditary: so far from a Hindu having any choice, he must adopt his father's occupation, which is also the traditional or ancestral occupation. And lastly, the chief characteristic of a caste is endogamy; a man must marry a woman of the same caste as himself. Endogamy is a social restriction, but it has one important economic result. It reinforces heredity of function, for it ensures that it is hereditary on both sides of a man's family, and secures those advantages of which heredity of function is the safeguard—technical skill, trade secrets, and trade connexions—not only to the men but to the women of the group concerned.

It is accordingly useless to examine the relation between social position and occupation in terms of the individual. It must be examined in terms of the caste, for the former relation is dependent on the latter. And the examination must be historical; for differentiation of function lies in the roots of the caste-system, and has exercised a powerful influence on its development.

The evolution of an endogamous system.—Many factors have assisted in the production and evolution of caste; but for present purposes it suffices to consider the causes which made the caste endogamous. Between 1500 and 1100 B.C., India, then inhabited by the Dravidians, a submissive and industrious people with a dark skin, was invaded by the Aryans, a vigorous people with a fair skin. The Aryans had three advantages which enabled them to conquer and rule the more primitive Dravidians; these were iron, the horse, and an established social organisation, consisting of three classes—the Kshatriya nobility, the Brahman priesthood, and the Vaisya commonalty. Intermarriage between the two races occurred, and resulted in the addition of a fourth class of half-breeds, called Sudra, to the three Aryan classes. Significantly enough, the name given to these four classes was *varna*, or colour. For in India, as elsewhere,[1] the contact between a fair and a dark race brought the colour-bar into prominence; the resultant

[1] *e.g.*, in South Africa; see Curtis, *Civitas Dei*, pp. 12–13.

colour groups learnt to despise each other, and to avoid further intermarriage. The endogamous tendency thus created might have disappeared with time. But when the Aryo-Dravidians penetrated the Deccan about 250 B.C., and came into contact with fresh Dravidian tribes, the colour-bar again became prominent. From 200 B.C. onwards, successive hordes of invaders[1] swarmed into India, who (with the exception of the Muslims), were ultimately absorbed into the Hindu social system—but not till they had nearly wrecked it, till, in the words of an inscription,[2] "the *varnas* were mixed"; and so, before the end of the twelfth century A.D., the old endogamous tendency had become a rigid custom, and the caste system had thus come into existence.

The evolution of the economic system.—Even in Vedic times each *varna* had its appropriate functions. The Kshatriyas were rulers, warriors, and landholders. The Brahmans were priests, statesmen, lawyers, and teachers. The Vaisyas and Sudras, according to Kautilya,[3] had three occupations—cultivation, cattle-breeding centre and trade. By the Buddhist period, from 500 B.C., two more classes, obviously of Dravidian origin, had been formed—the *hina-sippani*, or low trades, such as those of the weaver, the potter, the barber, and the tanner; and the *hina-jatiyo*, or low tribes, who followed such occupations as hunting, fishing, fowling, and scavenging.

The guilds.—From the Buddhist era onwards we also hear much of occupational groups called *sreni*,[4] a term usually translated guilds, because of their resemblance to the guilds of medieval Europe. There were guilds not only

[1] Greco-Bactrians (*Yavana*), Parthians (*Pahlava*), Scythians (*Saka*), Yue-Tschi (*Kushan*), Huns, and finally Muslims, who mostly came from Arabia, Persia, and Central Asia.

[2] An inscription recording the victory of an Andhra king over a Scythian chief, about A.D. 126.

[3] One of the earliest lawgivers, author of the *Arthasastra*.

[4] Various other names are used, but this is the most common. For further details about the guilds see Mukerjee, *Local Government in Ancient India*, Chs. II and III.

of merchants, traders, and craftsmen, but of priests, mercenaries, actors, cultivators, moneylenders, even of vagabonds and brigands. There were guilds for degraded as well as respectable occupations: those mentioned in literature and inscriptions include washermen, fishermen, potters, and tanners, as well as armourers, shipbuilders, goldsmiths and corn-dealers. The number of them was certainly large; one story[1] speaks of eighteen, but these were probably the guilds of a single city, for like most corporations and communities in ancient India they were not national but local institutions. They were all well organised, and the better of them were also wealthy and influential. They made their own laws, they regulated both the business and the family affairs of their members, they exercised judicial and executive powers, and they could only be taxed with their own consent. They were governed by a president (*sreshti, jetthaka*), assisted by a council of four; and these presidents were persons of high consideration both in society and in the State.

Guilds and varnas.—There are indications that at this time function was usually hereditary; and there is no doubt that the guilds were always organised on that basis.[2] They often, however, accepted as apprentices young men from outside their own ranks, some of whom ultimately became members of the guild; and it is clear that the individual had almost unlimited freedom to choose his own occupation. The lawbooks mention certain occupations that were forbidden to a Brahman, and Narada[3] has a list of impure occupations forbidden to the higher *varnas*. But the prohibition of certain occupations implies that all others were permissible. Again, the law laid down that any man of whatever rank might adopt any occupation in times of distress, and the *Mahabharata*[4] mentions a group of distressed Kshatriyas who thus became goldsmiths. We hear of Brahmans who became merchants, physicians, archers, goatherds, hunters and snake charmers; of Kshatriya kings

[1] *Jataka*, IV.
[2] Mukerjee, *op. cit.*, pp. 60–65.
[3] Narada is one of the later lawgivers.
[4] *Mahabharata* XII, 49, 84.

and princes[1] who became *rishis* and priests, who were sculptors and painters, or who took to trade and commerce; and of a young nobleman who, in pursuit of a love-affair, apprenticed himself successively to four humble trades. Such cases were exceptions to the general rule of heredity of function; but they are numerous enough to show that the individual had a wide range of occupations at his disposal.

Ancient guilds and modern functional castes.—Dahlmann[2] and others of his school hold that the modern functional castes are descended from the ancient guilds. So much is clear, that the origin of the caste-system must be sought in the conditions of Aryo-Dravidian society. There was then a social organisation of classes, whose principal attribute was endogamy, and an economic organisation of guilds, whose principal attribute was heredity of function. Caste is a socio-economic organisation, possessing both these attributes, and is the result of a coalescence between the two ancient organisations. That coalescence can only be explained on the assumption that the guilds became endogamous. The circumstances warrant such an assumption. First, all members of a guild were also, by birth members of some social class; as such they were predisposed to endogamy, and the guild as a whole must have been so too. Secondly, though the original guild must usually have consisted entirely of members of the same social class, yet, by affiliation of individual apprentices, or of groups which had usurped its occupation, it would acquire members from other social classes. Both the probabilities and the evidence suggest that such members would always come from a class of rank superior to that of the guild; it is inconceivable, for instance, that a Vaisya or even a Sudra guild should recruit from the *hina-sippani* or the *hina-jatiyo*, and all recorded cases of such recruitment

[1] *e.g.*, Visvamitra, King of Kanya-Kubja. See Blunt, *Caste-system of Northern India*, pp. 33–35.

[2] Dahlmann, *Das altindische Volkstum;* Oldenberg, *Geschichte des Indischen Kastenwesens;* Bouglé, *Essais sur le régime des castes;* and *Encyclopaedia of Religion and Ethics*, article on Caste. The account of the last of these is followed here.

relate to Brahmans or Kshatriyas. These newcomers, of course, would come into contact, in their business relations, with their fellow-members of lower social classes; but that very fact would cause them to display all the greater exclusiveness in their social relations with those members, and also to draw together into strictly endogamous groups. The guild would thus become an endogamous whole composed of endogamous parts, and that is precisely the constitution of a modern functional caste, which is almost invariably composed of endogamous sub-castes.

Thirdly, since (as has already been explained), endogamy serves to reinforce heredity of function, since the two customs together would turn a guild into a close corporation, independent of all other groups, it is clear that the guilds had much to gain by enforcing a strict rule of endogamy. And lastly, though many centuries have passed since the guilds were flourishing, there are, even yet, many striking points of resemblance between them and these castes. We can safely accept, therefore, the main conclusion of the Dahlmann school of ethnologists.

Manu's description of the caste-system.—About A.D. 400 the great lawgiver Manu[1] wrote a description of the caste-system as it was in his day. He divides the castes into four categories—*varnas*, *vratyas*, *vrisalas*, and *varnasankaras*. The occupations of the *varnas* are the same as of old, except that Vaisyas and Sudras are differentiated; the former are traders and craftsmen, the latter are labourers and workmen. The *vratyas* are pseudo-Hindu castes, formed out of invading tribes; the *vrisalas* are those clans of the invading tribes which ruled kingdoms of their own. The *varnasankaras* are almost all functional castes, and being reckoned as lower than Sudras, correspond generally to the *hina-sippani* and *hina-jatiyo* of the Buddhist classification.

The caste-system of the present day.—At the present day, two of the old *varnas* have disappeared. The Kshatriya was destroyed in warfare with invading hordes, which lasted

[1] Manu's Institutes. For a fuller account, see Blunt, *op. cit.*, pp. 20–22.

for seven centuries; his name alone survives, to be claimed by castes that aspire to higher social rank. The Sudra *varna* has broken up into a number of functional castes; the name survives, as a legal term[1] for all castes of rank lower than that of Vaisya. But in other respects the caste system of to-day is similar to that described by Manu. Brahman and Vaisya are there—as castes. The *vratyas* are there, as tribal castes, which are now agricultural or pastoral. The *vrisala* corresponds to the modern Rajput or Chattri, who has usurped both the functions and the status of the ancient Kshatriya, and the *varnasankaras* correspond to the lower functional castes. Though many new castes have been formed by fission from older castes, which Manu never knew, yet the caste-system is now in all essentials what it was then—a socio-economic system, based on differentiation of function.

Caste Government in a functional caste.[2]—There is no governing body for the caste as a whole (*zat, jati*): the unit is the *biradari*, which is the group of caste-brethren living in one place and acting together for all caste purposes. The name of the governing authority is *panchayat*, a word which means "quintette." But no *panchayat* consists of only five persons; in most castes it consists of all the adult males in the *biradari*. In functional castes, however, there is usually a permanent committee, which controls the *panchayat*; and this committee often does consist of five members. One is the headman (*sarpanch*); the rest are either officials, whose duties vary from those of vice-president to those of an orderly, or assessors of the headman (*panch*). All these posts are usually hereditary. The committee convenes the *panchayat* when necessary, and brings before it all offences against caste custom, whether of a professional or a social nature.

Caste control in professional matters.—Fifty years ago,[3] the control of the *panchayat* in professional matters was

[1] And as such, is far too wide.
[2] For fuller details, see Blunt, *op. cit.*, Ch. VI.
[3] Hopkins, *India Old and New*, pp. 193 *et* 199.

nearly as complete as that of the council of an ancient guild. They fixed the wages of labour, the hours of work, the prices and output of commodities. They regulated trade processes and methods; they tried offences against caste custom; they arbitrated in disputes between members; they engineered strikes and boycotts when their subjects were oppressed. But as civilisation progresses, the needs of the community grow more numerous and more complex. Primitive occupations die out, fresh occupations appear to meet fresh needs; and the functional castes must adapt themselves to the new conditions. It is vain for *panchayats* in such circumstances to insist on rigid adherence to heredity of function, or on rigid maintenance of traditional methods. Twenty-five[1] years ago, there were still *panchayats* which interfered in some of the matters mentioned above; but even then, most of them exercised their power in three cases only: (1) to regulate the custom of *jajmani*, now to be described; (2) to organise resistance to oppression; and (3) to prevent the adoption of an occupation involving social degradation. And now, *panchayats* have for various reasons[2] lost most of their former authority; and even in the three cases just mentioned they are far less active than they used to be.

Jajmani.—The word *jajman*[3] means an employer or client. A workman's *jajmani* is his circle of regular clients, and the bond between them is very close. The *jajman* may employ none but his regular workman, the workman may serve none but his *jajmans*. The remuneration always includes a fixed fee in the shape of grain, which is paid at harvest time; but there are also payments at fixed rates for individual services, and presents are usually made on all ceremonial occasions. The priest's *jajmani* consist of his parishioners, whose domestic rites (*sanskara*)[4] it is his duty to superintend. The *Nai* (barber)

[1] Blunt, *op. cit.*, pp. 243–45.

[2] Turner, *Census Report, U.P.*, 1931, pp. 544–46, gives these reasons.

[3] *Jajman* is literally "the giver of the sacrifice," *i.e.*, the person who employs a priest to carry out a sacrifice for him. *Brit* (caste dues) is a synonym of *jajmani*.

[4] There are sixteen of these. For a list see Blunt, *op. cit.*, p. 310.

shaves his *jajmans*, cuts their hair, and performs their minor operations, such as drawing teeth and lancing boils. The *Lohar* (blacksmith) and the *Barhai* (carpenter) between them make and mend the ploughs and other implements of their customers. The *Chamar's* (tanner's) *jajmans* are those from whom he receives dead cattle, and to whom he supplies shoes and other leather articles; but he also receives fees for work as an agricultural labourer. In some castes the women have their own *jajmanis*, as midwives or monthly nurses. These *jajmanis* are valuable sources of income, and are both heritable and transferable; for instance, it was discovered in 1929 that 84 *jajmanis* had been mortgaged in three districts of the United Provinces. They are carefully demarcated, and the crime of poaching is severely punished by the *panchayat*.[1]

Strikes and boycotts.—Since functional castes work for members of other castes, it often happens that one party to a dispute is not amenable to the *panchayat's* jurisdiction. The means used to coerce him is then a strike or a boycott; the *panchayat* forbids its subjects to work for him, and unless he can placate them, he remains unserved. *Panchayats* are as ready to strike against a public as a private employer. More than once municipal scavengers, aggrieved by some order of the board, have not only struck work themselves, but have prevented others from taking their place. And some fifty years ago, the *Koiris*, being dissatisfied with the price fixed by the Indian Government for opium, decided to give up all poppy-cultivation till the price was raised. In such cases board and government have usually to give way. Even unorganised trades can strike effectively; but when a *panchayat* is handling a strike, there is small chance of breaking it.

Changes of occupation.—In the past, desertion of the traditional function was a heinous offence which inevitably led to the ostracism of the offenders, and to a change

[1] Thieves and beggars also have their *jajmanis*, in the shape of beats where they alone may steal or beg.

in the constitution of the caste concerned. For the outcastes must either affiliate themselves to the caste whose occupation they had adopted, or must form a new caste. But economic changes cut across caste customs, and in modern conditions occupational apostasy has become so common that the old methods of preventing it have become ineffective; no *panchayat* could afford to outcaste the faithless majority for the sake of the faithful minority. They would do so only if the change of occupation involved social disgrace; for instance, the *Nai panchayat* recently outcasted a girl who took up midwifery. A *panchayat* does not resent, and often approves, the adoption of a more respectable occupation; though in such a case the person concerned, with the intolerance of a parvenu, will sometimes of his own accord cut himself adrift from his caste.

Agriculture.—India has always been an agricultural country. The Dravidians were cultivators; the Aryans, and every invading race after them, settled on the lands that they conquered. Yet neither in the Buddhist classification nor in that of Manu is any prominence given to agriculture. It is the foreigner Megasthenes[1] who puts "husbandmen" in their proper place, as the second of his seven social classes. But the explanation is simple. The guilds or other functional groups which followed any other occupation were relatively few, and so akin in origin and social position, that they were able to coalesce into a single caste. But the agricultural castes were numerous, and of original and social position so various that such coalescence was impossible. How could the Aryan *Bhuinhar*, the Dravidian *Bhar*, the Aryo-Dravidian *Kurmi*, and the Scythian *Jat* ever blend into a single community? Agriculture has always been an occupation too widespread to produce any effect on the evolution of the social system, except that it has always been regarded as a respectable occupation, likely to raise the prestige of anybody who followed it.

[1] Ambassador of Seleukos Nikator, King of Syria, to Chandragupta Maurya, King of Magadha (303 B.C.) He left an account of India which exists only in fragments.

The Census figures of the United Provinces (1931).—At the Census of 1931, figures were taken out in the United Provinces for 40 castes,[1] to show the extent to which the traditional occupation had been abandoned, and others substituted. Of these, nine were agricultural castes, the rest were non-agricultural. The percentage of wage-earners[2] in the nine castes who were agriculturists was 88, a figure which shows how little agriculture has suffered from desertion by its followers. The percentage of agriculturists in the 31 non-agricultural castes was 49, a figure which shows that many have deserted other occupations for agriculture. The situation is unfortunate: agriculture is overcrowded, and cannot sufficiently support all its followers, many of whom are miserably poor. The caste-system, however, is not to blame, but the sentimental attachment of every Indian to the land.

Trade and industry.—There has been widespread desertion of the traditional function in all non-agricultural castes, as the figures just mentioned show. But the extent of it, and its nature, vary greatly. There are a number of castes who have been forced to abandon their traditional functions by causes entirely outside their control. The spread of education has driven the *Kayastha* professional scribe to other pursuits, for there is no longer the same need for his services. The *Kalwar* distiller and the *Pasi* toddy-drawer are seriously hampered by excise restrictions. The caste of *Chamar* tanners and leather-workers is nearly one-sixth of the total population; their traditional function cannot provide them with a sufficient livelihood, and for many years they have followed a second occupation, that of a farm-hand. Other occupations have become less profitable: the *Teli* has lost by the increasing vogue of kerosene oil, the *Julaha* by the competition of the mills,

[1] There were ten other Hindu castes, mostly vagrant or criminal, for which figures were taken out; but they are ignored as meaningless, since there is nothing that can be called a traditional occupation. See, however, paragraph 21.

[2] In the *Census Report*, the figures are given for males and females separately, but they have been combined, so as to show percentages on earners of both sexes.

the *Kahar* prefers independence to domestic service, whilst boatmen, bards, priests, cattle-breeders, shepherds, hunters, earthworkers, cotton-carders, blacksmiths, and carpenters, have all taken to cultivation in large numbers.

The figures of the 31 non-agricultural castes in the United Provinces are reproduced in Appendix I (page 80). In 16 castes, the percentage of persons who follow the traditional function is 40 or over; 10 of them have a figure of over 50. At the top of the list stands the *Gidhia*: this is a branch of a vagrant tribe, which rose in social status because it adopted a settled occupation, and still clings to it. The *Vaisya* and the *Khattri* are favourably placed, for any "trade" is traditional to them. The *Rajput* is faithful to the Kshatriya functions,—landholding, military and public service. The rest have occupations necessary at any stage of civilisation: the *Halwai's* figure is high because of the Hindu's conservatism in matters of food, whilst the *Bhangi* and *Dhobi* would not attract competition anywhere, least of all in India. Five castes have a percentage between 39 and 20: four have been mentioned already, the last is the *Khatik*, who trades in many wares. The 10 remaining castes all show figures of under 20 per cent: the only two that need special mention are the *Bhat* and the Brahman. The former is a bard and genealogist, who visits his clients at intervals to sing to them their family ballads and to post their family trees—an occupation of limited scope. As for the Brahman, when we remember the enormous prestige of the priesthood, and that every Brahman is enough of a priest to earn an income by attendance at domestic and caste ceremonies, his figure appears surprisingly low, In these 31 castes, taken together, 36 per cent still follow the traditional function and 64 per cent have abandoned it, of whom 49 per cent are agriculturists, 9 per cent are engaged in industry, trade, transport, the learned professions, and public service, and 6 per cent in other occupations.

These figures, however, can only be accepted with certain reservations. First, as regards followers of the traditional function, they are generally too low, and as regards agriculturists they are generally too high. Many

persons follow two or more occupations, and the fact is recognised at the Census by obtaining a record of one "subsidiary" occupation in addition to the "principal" occupation. But so high is the prestige of agriculture, that when there are two occupations, one agricultural and one non-agricultural, the former is generally recorded as "principal" and the second as "subsidiary"; and when there are (as often happens), three occupations, two of which are agricultural, these two are recorded to the exclusion of the third. And as the figures given above relate only to the principal occupation, and as all the traditional functions in these 31 castes are non-agricultural, it is obvious that a certain number of followers of these functions were not recorded as such at all, but as "principally" agriculturists. The three figures are probably nearer 40 and 45, than 36 and 49. Secondly, the figures do not give a complete picture of the economic situation. They relate only to "earners," male and female; they exclude the "working dependents,"—*i.e.*, the women and children who assist the earners, but themselves receive no wages. Yet these working dependents have their economic value, for though they bring in no income, they save expenditure, since in their absence it would be necessary to hire additional labour. And, lastly, these figures relate to individuals, whereas the real economic unit is the joint Hindu family, the members of which have all things in common. And the members of such a family generally pursue several occupations. For instance, a *Chamar* tenant with a family of a wife and two sons might have the following resources:

Father—tenant-cultivation, agricultural labour, *jajmani* dues, as a tanner.
Wife—*jajmani* dues, as a midwife.
Elder Son—domestic service, *e.g.*, as a groom.
Younger Son—cowherd.

This family, therefore, would have one principal and five subsidiary occupations; of these one of the father's occupations—probably his *jajmani*—would not be recorded in the census papers at all; the other five would be recorded,

but under heads so different that they could not be correlated. In other words, the subsidiary occupations of a *family* are generally shown as the principal occupations of *its individual members.*[1]

Labour.—Labour is not the traditional function of any caste. Of the 40 castes mentioned above, and ten others for which figures are available, there is only one, the *Khattri*, which has no agricultural labourers, and only six—of which five are high castes—which have no general labourers. The members are naturally highest in the lowest castes; but even the Brahman, the Rajput, and the Vaisya contribute their quotas both to agricultural and general labour. There is little to be said regarding the castes of industrial labourers: information was collected at the Census of 1931, but the figures were abstracted only for Cawnpore.[2] They show results of the same kind. Muslims account for 34 per cent; high Hindu castes for 23 per cent; low Hindu castes for 33 per cent; castes unspecified, but probably low, for 9 per cent; and Indian Christians for 1 per cent. The highest individual figures are those of the *Chamar* (14), and the *Kori* weavers (13): but after them come three high castes—the *Brahman* (10), the *Kayastha* (6), and the *Rajput* (4). The value of these figures must not be over-estimated: they relate to a small total of 21,000 operatives. But so far as they go, they support the conclusion that there is no connexion between caste and labour.

Modern associations.—The caste *panchayats* are now being replaced by associations of a more modern type, called *sabha* or *mahasabha*, some of which deal with a single caste, others with a group of cognate castes. They are deliberative bodies, working by persuasion rather than coercion; they do not handle individual cases, but pass resolutions and frame rules for guidance in general terms. Their activities, however, are chiefly in the social sphere.[3]

[1] *U.P. Banking Enquiry Committee's Report*, pp. 359–60.
[2] Turner, *op. cit.*, pp. 419–23.
[3] Turner, *op. cit.*, pp. 551–52.

But a new economic organisation is also coming into existence. It includes labourers' unions, such as the Mazdur Sabha of Cawnpore; Kisan Sabhas, or cultivators' unions; transport-workers' unions; chambers of commerce; and associations of traders, bankers, and moneylenders. In some parts of India, notably Gujarat, Kathiawar, and Rajputana, there are also associations, called *mahajans*, of bankers, brokers, wholesale dealers, and others engaged in large scale business.[1] The various unions exercise much the same functions as our trades unions: the *mahajans* and other similar associations regulate rates of exchange and insurance, and other business matters, and also act as insolvency and arbitration courts for their members. All these associations cut across caste, just as the ancient guilds cut across the *varnas*; indeed, in many respects, this new economic organisation resembles the organisation of the Buddhist era.

The force of custom.—Every Hindu is a slave of custom. It regulates his conduct, his actions, even his movements. Social custom tells him where to look for a wife, what occupation he should follow, what food he may eat, and what clothes he may wear. Religious custom lays down what rites he must observe at birth, marriage, death, and other crises of his life. His personal law is crystallised custom. Custom, in short, governs the relations of a Hindu both to God and man. But whether the custom be social or legal or religious, it is always the caste which enforces observance of it.

The economic effect of custom.—Custom impinges on the economic life of a Hindu at five points. One of these, the functional point, has already been fully discussed; the others must be briefly explained.

(1) Expenditure on ceremonies.—The normal form of Hindu marriage is marriage by purchase, which purchase takes the form of a dowry amongst the better castes, and a bride-price amongst the lower. Dowries are always

[1] Hopkins, *op. cit.*, pp. 193 *et* 199; Jain, *Indigenous Banking in India*, pp. 39–42.

large, and often extravagant; bride-prices[1] are relatively low. But apart from dowry or bride-price, there is always heavy expenditure on the ceremony itself, which falls usually on the father of the bride. He must provide his daughter with ornaments, clothing, and household utensils: he must fee the priests, he must feast the assembled brethren and Brahmans, he must entertain the bridegroom's party for several days. In any high caste, where display is almost a social duty, the birth of a daughter is the beginning of debt. Marriage expenditure is less burdensome in the lower caste, and the guests often make presents of money which help to meet it; but even so, it sometimes amounts to three or four times a man's annual income. And heavy expenditure is often incurred on other ceremonies, at birth, initiation, and death.

(2) **Caste penalties.**—*Panchayats* often impose heavy fines on offenders, or order them to feast the *biradari*, or a fixed number of Brahmans; and as the culprit is always outcasted till the sentence has been carried out, these penalties must often lead to borrowing.

(3) **Repayment of ancestral debt.**[2]—The Hindu law provides that an heir must take over and discharge the debts of his ancestors. The liability is limited to the son and grandson; it cannot exceed the amount of the assets inherited; and it does not arise at all if the debt was incurred "*contra bonos mores.*" But few heirs would be willing to brand an ancestor with immorality; and the moneylender can always defeat the other two limitations by inducing the heir to execute a bond in his own name, when the debt is revived for two more generations.

(4) **Maintenance of social prestige.**—A high-caste woman must live in seclusion, and gives no help to her family in the fields, as does a low-caste woman. Neither a Brahman nor a Rajput can touch a plough. No high-caste man can come in physical contact with an "untouchable"

[1] Blunt, *op. cit.*, pp. 70–71.
[2] For a fuller account, see Blunt, *op. cit.*, pp. 261–63.

without becoming himself unclean; many agricultural labourers are untouchable, and it is difficult to avoid such contact in some field-operations. The result of these three customs is that the high-caste agriculturist must depend on hired labour to a far greater extent than humbler folk, and his crops suffer accordingly. The second taboo is losing strength, and there are ways of avoiding the third. Nevertheless, they are still strong enough to enable an expert eye to detect at a glance which of two neighbouring crops belongs to a high-caste man, and which to a low.

The indebtedness of different castes.—In 1929 the Banking Enquiry Committee in the United Provinces collected figures to show the comparative indebtedness of certain castes.[1] They are reproduced in Appendix II to this chapter. Of the total number of persons concerned, only 30 per cent belonged to the high castes; but of the total number of debtors concerned, the high-caste percentage was 34, and of the total debt, was 66. If the high-caste debtors had been indebted only to the same extent as the average of the debtors of other castes, their total debt would have been only 17 per cent of their actual figure: which shows that 83 per cent of their debt was due to the expenditure entailed by their high social position. These figures prove to demonstration how large a part of the total debt falls, and how heavy its burden is, on the high castes—Brahman, Rajput, and the Muslims of similar rank. The lowest figures are those of the market-gardening castes, who make large profits, and the non-agricultural castes, who are lenders rather than borrowers. It is, nevertheless, true to say that a large part of a Hindu's total disbursements, and a still larger part of his debt—whether he belongs to a high or low caste, to an agricultural or non-agricultural caste—is the result, direct or indirect, of social usages which his caste will see that he observes.

Conclusion.—"The despotism of custom," says J. S. Mill, "is everywhere the standing hindrance to human

[1] *U.P. Banking Enquiry Committee's Report*, p. 103.

advancement." That saying, for many centuries, has been specially applicable to India. But under the pressure of modern conditions the hindrance is surely, and not too slowly, being removed. The authority of the caste, which maintained that hindrance, is growing weaker; the traditional function is becoming an effete superstition; and before long the Hindu will be as free to choose his occupation, as any man in any other country.

APPENDIX I

Distribution by occupation in 31 castes, United Provinces

Caste	*Traditional Occupation*	*Percentage of Wage Earners Employed in*			
		Traditional Occupation	*Agriculture*	*Industry, Trade &c.*	*Other Occupations*
Gidhia	bird-catcher	77	9	6	8
Bhangi	scavenger	75	13	1	11
Darzi	tailor	71	23	3	3
Sonar	goldsmith	67	24	6	3
Dhobi	washerman	63	33	2	2
Vaisya	trader	60	29	6	5
Halwai	confectioner	60	24	13	3
Mochi	shoemaker	56	21	19	4
Teli	oil-presser	56	35	6	3
Nai	barber	51	30	3	16
Khattri	trader	47	19	25	9
Julaha	weaver	45	38	11	6
Rajput	military and public service, landholding	45	47	4	4
Kahar	domestic servant	44	41	10	5
Kumhar	potter	42	47	4	7
Barhai	carpenter	40	50	6	4
Kayastha	clerical work	36	43	17	4
Lohar	blacksmith	32	60	6	2
Khatik	petty shopkeeper	28	44	14	14
Gadaria	shepherd	26	66	6	2
Dhunia	cotton-carder	20	63	13	4
Brahman	priest, learned professions	15	72	7	6
Ahir	cattle-breeder	14	80	2	4
Lunia	earth-worker, saltpetre maker	12	80	4	4
Gujar	cattle-breeder	11	85	3	1
Bahelia	hunter	10	71	14	5
Bhat	bard, genealogist	10	64	17	19
Kalwar	distiller, liquor-vendor	6	55	34	5
Chamar	tanner	5	81	11	3
Kewat	boatman, fisherman	5	87	6	2
Pasi	toddy-drawer	2	88	3	7

Col. 5—The occupations are industry, trade, transport, public service, and learned professions.

APPENDIX II

Indebtedness by castes, United Provinces.

Caste group	*Number of persons*		*Percentages of*		*Amount of debt* (000's omitted) *Rs.*	*Percentage of Total Debt*
	Debt-free	*Indebted*	*Debt-free*	*Indebted*		
High castes	7,420	9,109	45	55	58,87,	66
Good agricultural castes	5,608	7,287	44	56	11,79,	14
Market-gardening castes	1,345	2,010	40	60	2,60,	3
Low agricultural castes	3,443	4,417	44	56	4,26,	5
Non-agricultural castes	1,210	724	62	38	2,79,	3
Other castes	5,938	6,020	50	50	8,15,	9
Total	24,964	29,567	46	54	88,47,	100

High castes,—Brahman, Rajput, and four Muslim tribes.
Good agricultural castes,—Ahar, Ahir, Kisan, Kurmi, and Lodha.
Market-gardening castes,—Baghban, Kachhi, Koiri, Mali, Murao, Sairi.
Low agricultural castes,—Bhar, Chamar, Pasi.
Non-agricultural castes,—Kalmar, Kayastha, Khattri, Vaisya.

CHAPTER IV

POPULATION

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Influence of social customs on population increase : Manu and Malthus.—In a more or less vague form, the problem of numbers must have occupied the attention of thoughtful men in all ages. "To its influence, often unavowed, sometimes not even clearly recognised, we can trace a great part of the rules, customs and ceremonies that have been enjoined by law-givers, by moralists, and those nameless thinkers whose far-seeing wisdom has left its impress on national ideals."[1] A study from this point of view of the Hindu scriptures and law-texts and of the habits and customs based on them would be very interesting indeed. Such a study will have to be necessarily supplemented by conclusions drawn from history; for it is well-known that population policies are not moulded by economic and religious ideals alone. We must, for example, remember the anxiety of the ancient Aryans to colonise the land. We are also apt to forget that till the establishment of the British rule, there was practically no part of this country which enjoyed long periods of peace, unbroken by war. It is therefore, not surprising to find a general tendency towards an expansive policy of population in which a particularly high value was set on male warriors. At the same time restrictive influences were also at work. The progressive sub-division of society into rigid caste-groups must have considerably enhanced the difficulties of girls' marriages; probably it explains the prevalence of female infanticide in some castes. The institution of marriage tended to become more sacred and pure. Thus

[1] Marshall, *Principles of Economics*, pp. 173–74.

the spread of the monogamic ideal and the consequent prohibition of widow remarriages must have to some extent affected the growth of population. The law-giver did not neglect quality for quantity. The effects of the rules against inbreeding and of the injunctions[1] against dysgenic marriages deserve careful study. There is also reason to believe that administrators made some efforts to collect the data necessary for the formation of population policies. For example, in Maurya India the system of registration of births and deaths was enforced for the information of Government as well as for facility in levying taxes.[2] No study of Indian population will, therefore, be complete, unless we trace the influence on the quality and quantity of numbers, of the ideals, the aspirations, and the mode of life of ancient and medieval India. In this chapter, however, considerations of space oblige us to deny ourselves the pursuit of this fascinating historical and demographic study.[3]

We would, however, like to note that the population of India must have, in the past, practically remained stationary over long periods, and at times, must have even declined. This can be easily demonstrated. With the present rate of increase, a population of even one million in the beginning of the Christian Era would have swelled to enormous proportions, many times in excess of the present figure; and it is certainly not unreasonable to suppose that, in Christ's time, India had a population of only one million souls. The conclusion that, on a long view, India must have had a fairly stable population is also in accordance with

[1] See, *e.g.*, *Manu*, Ch. iii, verses 5–8. For effects of inbreeding on producing an excess of males, see the *Census Report, Census of India*, 1931, Vol. I—India, Part I, Report (1933), pp. 196–97. Gini thinks that caste leads nations to a long and peaceful life. Its abandonment might lead to a revival of population, as in modern Japan. See Gini's essay, "The Cyclical Rise and Fall of Population," in *Population*, Harris Foundation Lectures, 1929.

[2] Law: *Studies in Ancient Hindu Polity;* and Vincent Smith, *Early History of India*, 4th Edition (1924), p. 134.

[3] Reference might be made to Mukerjee: *Food Planning for Four Hundred Millions*, Ch. XIV; Ranadive, *Population Problem of India*, Ch. III; and Carr-Saunders, *The Population Problem*. It is interesting to note that Malthus himself gave some thought to these considerations and particularly to *Manu*.

the observation of history as a whole.[1] Nor is there reason to believe that this stability was brought about by the inevitable and merciless natural checks of pestilence, war, and famine regularly pruning off the excrescent growth. As in other similar societies, preventive checks were not altogether unknown. A study like the one now suggested would probably reveal that the inherent power of multiplication was restrained by rules, habits, and customs which tended towards a low fertility.

Inaccuracy and inadequacy of Indian vital statistics.—In this chapter we are not, however, concerned so much with the past as with the present and the future. We will only try to ascertain the real rate of our increase as distinguished from that which is apparent; we will, therefore, make a tentative inquiry into the trend of the net reproduction rate. This question will be discussed as far as possible, in that spirit of calm and critical inquiry which all writers on population must always keep as their ideal, if only to respect the memory of Malthus.

That the vital and other allied statistics of India are inaccurate has been widely acknowledged. The eminent authors of the scheme for an Economic Census of India quote with approval the statement of the Census Commissioner that the vital statistics of India are well known to be defective. We should particularly like to refer to one of their own comments as an illustration of the dangers which attend the use of such statistics.[2] Statistics on the side of subsistence are the by-products of an administrative routine, and need considerable improvement. The Decennial Census is more reliable. Unfortunately, however, the latest Census came to be taken at a time of intense political agitation. Information of age (and as the 1931 Census shows, of the married state), should, therefore, be received with circumspection. Altogether, before we lean very heavily on the statistical data, we might with advantage

[1] *Cf.* Carr-Saunders, *Population* (The World's Manuals), pp. 12–21.

[2] See *Scheme for an Economic Census of India*, p. 32. *Cf.*, however, Wattal, *The Population Problem in India*, 2nd Edition 1934, p. 49 and note.

give serious consideration to the "human nature" in these statistics.[1] Sometimes the figures themselves will have to be subjected to a searching cross-examination before any judgment is based on their evidence.

More than the inaccuracy of the available statistics, it is their insufficiency which renders a complete discussion of the problem well-nigh impossible. This insufficiency makes itself felt in all directions. Thus in vital statistics we have not yet advanced far beyond crude birth and death rates. "Figures of the size and composition of families, and statistics bearing on the rate of propagation in India, are so inadequate that it was decided to attempt to obtain some figures of fertility at this (1931) Census in spite of many difficulties."[2] The other economic information at our disposal is equally meagre. There has been no census of production; and we have estimates of national income which, to say the least, are highly controversial. Therefore for want of colours we can at best present only a bare outline of the true picture of population. It is really surprising that till recently we have been quite content with what little we had, and did not even ask for more. In many important particulars connected with population we followed the ancient method of guessing; and those who guess naturally magnify or minimise as inclination best suits them. Any ingenious attempt to coax the available statistics must, therefore, be watched with considerable caution. It is to be earnestly

[1] See "Human Nature in Statistics" an essay in Sir Josiah Stamp's *Some Economic Factors in Modern Life* (1929). We cannot resist the temptation of quoting the following passage from this essay. "The individual source of the statistics may easily be the weakest link. Harold Cox tells a story of his life as a young man in India. He quoted some statistics to a judge, an Englishman, and a very good fellow. His friend said: 'Cox, when you are a bit older, you will not quote Indian statistics with that assurance. The Government are very keen on amassing statistics —they collect them, add them, raise them to the *n*th power, take the cube root and prepare wonderful diagrams. But what you must never forget is that every one of those figures comes in the first instance from the *Chowt(k)y dar* (village watchman), who just puts down what he damn pleases.' We suppose that such a Chowkidar was responsible for recording child-birth as a cause of death among men, as mentioned in the Madras Census Report. Sir Albion Bannerjee described to the East India Association a similar experience of how a clerk put down what he pleased."

[2] *Census of India*, 1931, *op. cit.*, p. 204.

hoped that we shall soon have an economic Census of India which will enable us to speak with greater confidence on matters to which the remaining pages of this essay are devoted.[1]

The population at the reproductive period.—Let us now review a few facts and figures so as to get a fair idea of the salient features of the Indian population. The area covered by the Census of 1931 was 1,808,679 square miles. During 1933 the total population of India was estimated to be 370 millions, British India being responsible for 273 millions. This population does not seem to be very harmoniously distributed between the two sexes. During all Census periods India has shown a shortage of women, which has progressively increased, and now measures nearly 11 millions. In 1931 for the whole of India, there were only 940 females to 1,000 males. We believe that this is one of the lowest figures in the world.[2] What is more significant, this fall in the proportion of females to males has been steadily going on since 1901. From the point of view of increase of numbers, however, we are concerned more with the population at the reproductive ages. During this reproductive period (15 to 45 for females and 20 to 50 for males) "the point at which the number of females is adequate to the number of males is limited to the ages from 15 to 30" only. Now ordinarily this population of the reproductive age-groups is inclined to seek married happiness. It is well known that in India people do not suffer marriage as a necessary evil. Instinct, religion and custom alike lead men to seek the delight of domestic society. We are told that in 1933 the population so engaged in the reproductive process added 9,678,876 babies, in British India, thus giving a crude birth-rate of 35·5 per thousand of the total population. During the last 45 years the crude birth-rate in India has never fallen below 30; excluding exceptional years like 1899, 1904, 1913–14, it has hovered around 35.

[1] On the whole subject of vital and other statistics, see *A Scheme for an Economic Census of India*, by Dr. Bowley and Mr. Robertson.

[2] See Table XXXII on p. 63 of the *Census of England and Wales*, 1921 —*General Report* (1927).

The crude death-rate per thousand during the same period hardly fell below 25; it has usually been in the neighbourhood of 28.[1] It has, therefore, been calculated that "8 per cent per decade would be the normal rate of growth, provided there were no widespread calamity or exceptional unhealthiness." It is too early to base any safe prediction on the higher rate of the last few years.[2] Taking the long periods of 1871 to 1931 or of 1901 to 1931, it would seem that the rate of increase in India is substantially less than the actual increase in many countries.[3] To take an illustration for comparison, the Census Commissioner himself tells us that during the last 50 years India's population has increased only 39 per cent, whereas that of England and Wales has increased 53·8 per cent.[4] A good percentage of the babies that are being added does not survive. From 1892 to 1920 the infant mortality per thousand of live births was practically over 200. A downward trend appeared to set in after that year, but the Public Health Commissioner in his Report for 1933 now tells us that "the recorded rates of the past six years seem to indicate that the trend has disappeared. Since 1928, in fact, the annual figures for infant mortality have fluctuated only slightly between 181 per 1,000 births in 1930, and 169 in 1932 and the figure for 1933 again lies between these two contiguous limits." Mr. Wattal gives us a chart[5] from which it would appear that in all advanced nations the infant mortality is below 100. In 1934, the infant mortality figure of England and Wales fell from 64 to 59, the lowest on record;[6] it might be added that in the past the infant mortality in England and

[1] We might wait for some time before we can assert from the experience of the last few years that there is a downward tendency in the death-rate

[2] Between March, 1931, to June, 1933, the percentage increase was 2·6.

[3] See the table given by G. Findlay Shirras, "The Population Problem of India," *Economic Journal*, 1933, p. 61. Also the tables on pp. 216–17 of Thompson's *Population Problems*.

[4] Attention is invited to the Comparative Table of Vital Statistics on p. 244 of Pearson's, *The Growth and Distribution of Population*. Birth-rates of over 30 per thousand were quite common in the European countries till 1880; and natural increase is still (in 1930) over 10 per thousand in most of them, in spite of the declining birth and death-rates.

[5] On p. 61 of his book, *op. cit.*

[6] See the Report of the Chief Medical Officer of Health, extracts from which are given in *The Observer*, Sunday, October 13, 1935.

other countries has been steadily and continuously declining.[1] In India death takes a heavy toll not only of the infants but of mothers as well.[2] The rate of maternal mortality per 1,000 births is estimated to be 24·05 for India as a whole, which is six times the rate prevailing in England.[3] It can easily be demonstrated that the dangers attending maternity are primarily responsible for the heavy death-rate among females of the reproductive age-group. The mortality of females, which is at its lowest at the age of 9–10, thereafter rises continuously and rapidly between the ages of 20 to 40. After the age of 10, and till we come to the age of 55, the mortality among females is greater than that among males.[4] The expectation of female lives at the ages between 20 and 50 has been progressively deteriorating since 1881. The annual rate of mortality per thousand of Indian females, particularly in the reproductive period, is very high as compared with other countries—not excluding Japan; and correspondingly the number of survivors during this period out of 100,000 females born alive is practically half of that in other countries.[5] Thus it is apparent that a good many wives drop on their way through the reproductive cycle. Of those that remain an appreciable proportion is further withdrawn from the reproductive process by the ban imposed on widow remarriages. Out of a total population of 171 million females, 26 million are widows. Over 14 million of these are in the reproductive age-group of 15 to 50. "For European countries the normal figure is about 7 per cent of the female population. . . . In England and Wales, according to the 1921 Census figures —the latest available—there were only 4 per cent widows

[1] See Table 50, Infant Mortality, in Thompson, *op. cit.*, p. 140.

[2] *Cf.* "The high birth-rate of India is largely discounted by a high death-rate, particularly among infants, as apparently among women at child-birth," *Census Report for* 1931, p. 7.

[3] Wattal, *op. cit.*, p. 70.

[4] For the course of female in comparison with male mortality in the U.S.A see the graph on p. 25 of Vol. XI of the *Encyclopædia of Social Sciences*. This graph only illustrates the general experience of the advanced countries that women generally have a lower death-rate than men, even throughout the reproductive period. See Thompson, *op. cit.*, pp. 150–51.

[5] See Tables XXXII, XXXIV and XXXVI in the Actuarial Report, *Census Report of* 1931, *op. cit.*

among women at the reproductive ages (20–45). In India the corresponding figure is 16."[1] Finally, in order to complete the relevant information, we should like to add one more particular. Recently the Public Health Commissioner has been calculating the birth-rates on the estimated female population of the child-bearing groups, 15 to 40 years.[2] In 1931 this rate was 169·2 per 1,000 such females; in 1932, it was 166, and in 1933, 176. It is interesting to note that the crude birth-rates in these three years were 34·3, 33·7, and 35·5 respectively.[3]

We are afraid that the significance of all these important facts has not so far been fully understood. In almost all discussions and writings on Indian population too much attention is usually paid to crude rates of birth, death and increase, to absolute increases, and to grand totals. The Census Commissioner, for example, concludes his introduction with the apt quotation that "of all the nations that we know it is India has the largest population." In the beginning of Section IV, headed "Population Problem," he speaks of the grave increase, and adds: "The actual figure of the increase alone is little under thirty-four million, a figure approaching equality with that of the total population of France or Italy, and appreciably greater than that of such important European powers as Poland and Spain." Sir John Megaw told the East India Association that reliable estimates indicated that nearly five millions were being added to the population every year.[4] Mr. Wattal makes us tremble before the staggering prospect of the twenty-first century opening with a population of 700 millions in this ancient country. Picturesque language such as this readily

[1] Wattal, *op. cit.*, pp. 28–29.

[2] Fifteen to forty-five would be more accurate. We regret that we have not been able to adhere to these figures in this paragraph. That would not, however, make any appreciable difference to the general argument which follows.

[3] See also Wattal, pp. 40–41.

[4] The total population of the world is estimated to be 1,800 millions; Carr-Saunders says that it is calculated that the population of the world is increasing every year by some 15 to 20 millions. *Population*, p. 6. See also Kuczynski. "World's Future Population: An essay in Population," *Harris Foundation Lectures*, p. 291. Considering that India's population, is about one-fifth of the world population, an annual increase of five millions appears to be proportionately normal.

captures public imagination, but we think that in our present discussion it is really out of place. As students of population, we have no use for such shock statistics. They represent only half-truths; and we apprehend that when the other half is known they will cease to be truths at all.

The net reproduction rate.—And what is that other important half?[1] We could get a faint glimmer through the figures detailed just now. The real meaning of those imperfect figures can only be appreciated if we approach them with the conceptions of fertility and reproductive capacity now made quite familiar by the work of Dublin and Lotka and particularly of Kuczynski. Kuczynski's methods have been accepted by writers of repute like Gini[2] and Carr-Saunders. As Dr. Enid Charles rightly points out: "Of late years the treatment of population growth has been revolutionised by the introduction of a very simple and direct index of population growth in a series of important memoirs by R. Kuczynski. This is called the net reproduction rate." This very useful and simple concept can be best explained in the author's own words. "The pertinent question is not: is there an excess of births over deaths? but rather, are natality and mortality such that a generation which would be permanently subject to them would during its lifetime, that is until it has died out, produce sufficient children to replace that generation. . . . Since we are concerned here with birth-giving only, it suffices to take into account the female population. The pertinent question then is: are natality and mortality such that 1,000 newly born girls will in the course of their lives give birth to 1,000 girls? . . . It becomes necessary, first to ascertain on the basis of present mortality how many out of 1,000 newly born girls reach child-bearing age, that

[1] In this paragraph we have largely drawn from Dr. Kuczynski and Dr. Enid Charles. For further details the reader is referred to the following works:—Kuczynski, *Balance of Births and Deaths*, and *Fertility and Reproduction*, (his latest book, *The Measurement of Population Growth*, has not yet become available in India) and Dr. Enid Charles, *Twilight of Parenthood*.

[2] See "Population," *Harris Foundation Lectures*, 1929, p. 63; and a review by Carr-Saunders of Kuczynski's latest book, *Measurement of Population Growth in the Nation*.

is 15 years, how many reach 16 years, etc., finally how many pass through the child-bearing age, that is 50 years.[1] This information is to be derived from the life-table which for a given period exhibits the numbers of females surviving at the beginning of each year of age out of 1,000 live born, assuming that the mortality for each year of age was that of the period under consideration. It becomes necessary, secondly, to ascertain the actual number of females living in each year of child-bearing age, and the number of female births by years of age of the mother in order to compute the female fertility rate for each year, that is, the number of female births for 1,000 women of 15 to 16 years, etc. . . . It becomes necessary, thirdly, to apply those fertility rates to the number of women who according to the life-table would in a stationary population be 15 to 16 years of age, 16 to 17 years, etc. These numbers are derived from the numbers of female survivors by assuming that the women of 15 to 16 years would be equal to the average of those surviving 15 and those surviving 16 years, etc. By multiplying the number of women of 15 to 16 years in the sta-

"The main point to grasp is that by itself the number of births in a year is not an index of the reproductive capacity of a population, because human beings are only capable of becoming parents during a part of their lives. . . . The birth-rate is not a function of the reproduction capacity alone. Neither does the death-rate depend upon liability to death alone. Each is a resultant of the forces of fertility and mortality, and the task of disentangling their relationship to them is one which calls for considerable statistical ingenuity." That is why a mere arithmetical calculation of balance of births and deaths is not sufficient. To envisage the inherent capacity for growth of a population, we have to bring together the data concerning the frequency of births at different ages in the child-bearing period of life and the chances of survival to each age. The conception of the net reproduction rate combines all this relevant information. It will now be apparent that the arithmetic of human multiplication is not so easy, and that conclusions do not flow with any assurance from crude rates of birth, death, and increase. At the same time it will be obvious that this arithmetic is capable of realistic and statistical verification and investigation if proper methods are followed.

Low specific fertility rates in India.—Unfortunately, for want of the requisite data we cannot estimate the net reproduction rate for India. The important information of births according to the ages of the mothers is lacking. We do not think that it will be impossible to obtain this information; and we trust that our vital statistics will be soon so improved as to enable us to arrive at this convenient index of reproductive capacity. We need not, however, give up the pursuit in despair. Where figures fail, logic and common sense may still prevail. Now we have seen that in order to arrive at the net reproductive rate, we multiply the specific fertility rate of each year of the reproductive period by the number of female survivors at that age. This latter number we can gather from our own life-tables. A reference to the tables given in the Actuarial Report of 1931 shows that these

survivors in India, practically throughout the whole reproductive period, are considerably fewer than in the Western countries, broadly about half as few. A comparison of the expectations of life naturally points to the same conclusion. Thus out of 1,000 females born, only 483 reach the age of 15, and only 238 the age of 45; only 238 women, therefore, are expected to pass through the whole of the reproductive cycle. The corresponding figures for England are 798 and 683 respectively; for Japan 745 and 550; and for Sweden 867 and 708. These figures refer to the years 1901–10. The 1931 Indian figures show some improvement. There has been still greater improvement in the West; and the opinion is now entertained that the "figures do not leave a margin for further reduction of mortality during the reproductive period." We have also to take into account the large number of widows—16 per cent of the women of the reproductive age—who do not participate in parenthood. Therefore, with our number of female survivors and of widows, it would be necessary that the specific fertility rates should be about twice those of the Western countries if we are to have the same net reproduction rate. We doubt very much whether such high specific fertility rates at all prevail in India. We know that the general fertility rate, that is the number of births per 1,000 women of the reproductive group, has been only 166 to 176 during the last three years. We are not aware that this rate is regarded as particularly high. We possess information about nuptial fertility. Thompson (*op. cit.*, p. 91) gives a comparative table of nuptial fertility rates; and from that table it appears that India had the lowest nuptial fertility in 1920–1922, the rate being as low as 139, as compared to 179 of England and 245 of Japan. In India, about 78 to 80 per cent of the women of the age-group 15 to 45 (and about 80 per cent of the age-group 15 to 40 according to the latest Census) are married; a high percentage indeed. A general fertility rate of between 166 to 176—found in the three latest years—will therefore give a nuptial fertility rate of about 207 to 220 for one thousand married women of the ages of 15 to 40. We are

told that in 1920 in England and Wales 1,000 married women of the ages 15 to 45 gave birth to 209 children. The Census Superintendent for Bihar and Orissa found that the corresponding figure in his Province was only 151.[1] The rates of the last three years will be further reduced if the limit is extended to 45, as reproductive activity is generally on the wane after 40. We should like to quote what the Census Superintendent of Bihar and Orissa had to say on the subject: "It is commonly supposed that the birth-rate in this country is high because it is uncontrolled, and for this reason the average married woman in Bihar and Orissa must give birth to more children than the average married woman in say, England and Wales. But this apparently is not so." We shall see later on that the average married woman in India has four children born alive. Carr-Saunders is inclined to regard the average of four children to a family as indicative of low fertility.[2] On general grounds, also, he saw indications of a lower "fecundity" in India.[3] In short we think we can safely say that fertility is low in India as compared to other countries. *Prima facie*, therefore, we should expect lower specific fertility rates and considering the very low number of female survivors, a low net reproduction rate. Anyway, we should expect more and reliable evidence before we come to the conclusion that our net reproduction rate is appreciably higher than those of the countries of Western and Northern Europe dealt with by Kuczynski. In this connexion we must refer to the progressive shortage of women at each Census in India. Might it not be an indication that females are not replenishing their numbers? and that potential future mothers are getting less?

[1] Bihar and Orissa in 1933 had a general fertility rate of 169 per thousand of females of the ages 15–40. The percentage of married females (according to the last Census) in this group is about 85. A nuptial fertility rate of about 200 would, therefore, follow for the year 1933. In 1930 the Census Superintendent found this rate to be only 151 per thousand married women aged 15 to 45. The difference is rather remarkable.

[2] See *Population* (The World's Manuals), p. 15.

[3] *The Population Problem*, p. 100.

Stationariness of the Indian population.—A rougher estimate made by Prof. Gini[1] also led to similar results. He took the number of females shown by the census returns of 1921 to be between the ages of twenty and thirty, and compared it with the annual average number of female births during the last years for which data were available (viz., 1926–7). "If we divide the first number by the second multiplied by ten, we get the percentage of survivors there should be from present births in order to secure in twenty or thirty years' time numbers equal to those returned by the last Census." Comparing these co-efficients of survival with those of the life-tables of India for 1901–11 he found that the effective survival rate (0·413) was lower than that (0·509) required to restore the female population. We find that the survival rate necessary to maintain constant the female population is practically the same to-day[2] (0·52); and there is no serious reason to think that the effective survival rate is now considerably higher, as Professor Gini expected. On a reference to the present life-table we cannot say that it has exceeded the former. This rough estimate thus reinforces the conclusion that our population is practically stationary in its reproduction.

Another similar well-known test can also be usefully applied. The Swedish statistician Sundbärg was of the opinion that where the population is growing, the number in the age-group 0–15 is much greater than the number in the age-group 50 and over, but where it is stationary the numbers in these two age-groups approach equality. To be more precise, the youngest of the three groups must be double the eldest if the population is to continue to grow. Just short of that point it may be stationary."[3] The actual figures of Sundbärg's theoretical types as quoted by Whipple are, in a progressive population, 40 and 10 for the youngest and the eldest group respectively;

[1] "Population," *Harris Foundation Lectures, op. cit.*, p. 66 and pp. 82–4.

[2] The total female population of the ages 20–30 in British India proper in 1931 was 24,547,759; the number of female births for the same area in 1933 was 46,507,060.

$$\frac{24,547,759}{46,507,060} = 0{\cdot}52 \text{ (about)}.$$

[3] *Census of India*, 1931, Vol. I, India, *op. cit.*, p. 87.

and 33 and 17 respectively in a stationary population.[1] Now it is clear that Sundbärg's categories need some adjustment before they are applied to India. The idea underlying these three divisions is to compare the children, the adults, and the old men in any given population. Sir Edward Gait, therefore, was right when he took "the age group 15—40 instead of 15—50 as Sündbarg has done, partly because old age comes on quicker in India, and partly because this corresponds more closely to the reproductive period of life."[2] Taking, therefore, the three categories, "0–15," "15–40" and "40 and over," we get according to the census of 1931, the following figures

0–15	139,606,414
15–40	143,799,004
40 and over	66,353,900
	349,759,318[3]

It will be seen that the youngest age group is slightly in excess of twice the oldest. The relation is more similar to the proportions of a stationary type than to those of the progressive type. The Census Commissioner for 1931 thought that "it would be perhaps more satisfactory to divide the population into the age groups 0–13½, 13½ to 45, and 45 and over." This method gave the following results: 0–13½, 128, 465, 421 persons, 13½–43½, 167, 523, 422; 43½ and over, 53, 770, 457. Stated in percentages the corresponding figures are 37, 48 and 15. For reasons given already we think that the grouping 0–15, 15–40 and 40 onwards is more convenient and more appropriate. However, even the figures of the Census Commissioner do not disclose that the population is of a progressive type, having the proportions of 40, 50 and 10.

Proportion of women living through the reproductive period.— An argument of common sense based on the available

[1] See *Census of India*, 1921, Vol. VIII, Bombay Presidency, Part I, General Report, p. 91.

[2] *Census of India*, 1911, Vol. I, India, Part I, Report, p. 149.

[3] The reduction is due to certain exclusions. See Table VII, p. 199 onwards of *Census of India*, 1931, Vol. I, India, Part II, Imperial Tables.

evidence of fertility supports the view that the Indian population is probably stationary in its growth. Figures of fertility were obtained at the Census of 1931 from all parts of India (excepting the United Provinces) and from all grades of society. "The resulting figures may be taken as a well mixed sample, though admittedly inadequate numerically." The Census Commissioner therefore felt that "it was not unlikely that the results obtained for India as a whole bear a reasonable approximation to the general average for the whole country, deduced as they are from returns from half a million families or more of all kinds and conditions," although he warns us that these fertility tables hardly admit of safe conclusions except on the broader lines. He found that the general conclusion could fairly be drawn that the average married woman in India has four children born alive, and that 2·9 in every four, that is 70 per cent, survive. It is interesting to note that the Census Superintendent of Bombay arrives at a similar conclusion from a calculation based on the number of persons of varying ages per 1,000 houses. These figures are very instructive indeed. Under Western conditions of infant and female mortality, it is now agreed that at least three children per marriage are required to maintain a stationary population. In the U.S.A., on the basis that out of every thousand females born 788 women live to get married, Dublin came to the conclusion that "each family must, on the average, produce 2·6 children to replace the original quota from which the parents sprang."[1] We must, of course, make allowance for the high incidence of marriage in India and for a lower sterility of marriages generally. Even so, when we remember that according to the latest life-tables only 618 women out of 1,000 females born reach the age of marriage, and that their ranks are further depleted at a greater rate by mortality and widowhood, so that the proportion living through the whole of the reproductive cycle is considerably less, we cannot say that a replacement of 2·9 by a married couple is indicative of an increasing population and of a high reproductive vitality. The matter

[1] *Population Problems.*

may be put this way. Four children are born to an average married couple. Taking the proportion of male to female births, *viz.*, 108 to 100, every such marriage would, therefore, have about 1·9 girls; out of whom 1·37 were found surviving. Will all these potential mothers eventually marry and have children? Speculations along these lines would lead us to say that it would not be appropriate to describe our population as containing an inherent tendency to rapid growth.

Let us not be misunderstood. It is not our purpose to prove that our population will ultimately become stationary or will eventually decline. Our real object is to impress the necessity of considering the future trend rather than the present growth; of concerning ourselves more with reproductive capacity than with absolute increases; of diverting attention from the crude rates of birth and death, which have so far obsessed the minds of writers on this subject, and of turning it to the only satisfactory criterion of the net reproduction rate. The real rate of reproduction is amenable to a statistical answer. We have seen that there is *prima facie* proof for raising a strong presumption that it is low and indicative at the most of a normal stable growth.[1] However that may be, if once

[1] Dr. Enid Charles in her *The Twilight of Parenthood*, gives her general impression that the population of India is more or less stationary, or is probably slowly increasing. What we have said supports that impression. Her statement has been criticised by the Public Health Commissioner in his Report for 1933, pp. 284–8. His criticism is based upon a paper published by Dr. Raja. We have not read the original, but we are constrained to say that the summary of arguments given in the Report leaves us unconvinced. In the first place, all arguments based on crude rates of natural increase are not relevant to the discussion. No attempt is made to calculate the net reproduction rate; female mortality has not been sufficiently considered. It is obvious that the female mortality of the age-groups 5–9 and 10–14 gives no valuable information when we are dealing with the reproductive period. Thus the major portion of the paper is not of much assistance. An attempt is made to show that the proportion of women in the age-groups 15–24 has increased. The comparison of the age-group 15–19 in 1921 with the age-group of 25–29 in 1931 (to which it must have progressed in 10 years), however, shows that the proportions yield the curious result of the excess of the latter over the former. In this connexion we must remember the Census Commissioner's comment that "the age groups of 10–20 of 1921, and 20–30 of 1931 represent of course an impossibility, as the apparent increase, where there should be a decrease on account of mortality, cannot be accounted for except by misstatements of age in 1921 or in 1931." The

we shift the emphasis in this manner, concealed confusions of thought will come to light. Without disparagement to any current argument, we maintain that before the unsuspecting world is confronted with apparently alarming facts, the full significance of those facts should be grasped, and their inherent tendencies be clearly visualised. We think that before reproofs are administered to prolific parents for the devastating deluge of babies, better statistical proofs should be produced. In short, we plead for a proper perspective.

Population Policy.—It is no part of this chapter to formulate policies. We do not propose to advocate any ready-made measures. But enough has been said above to show that there is no cause for complacency. There is no evidence in India of a biological or economic self-regulating process bringing about a natural harmony. The manner of the increase in our population involves a terrible amount of misery and waste which we can easily avoid. Indian civilisation attaches great sanctity to human life. It is, therefore, our first duty to evolve an organisation which will make that ideal possible. It is always more easy to manage the death-rates. In other countries a fall in death-rates has generally preceded a rise in the standard of life and a fall in birth-rates. The death-rate of children and mothers in India must be reduced. We must make their welfare the object of our anxious care.[1]

And poverty? In spite of the rise in income and production the poor still abide with us in great numbers. It may be that institutions and land customs are to blame. It may be that the inequality in the distribution of wealth is great. It may be that there is considerable scope for state-action. These questions will be dealt with by other

figures must, therefore, be taken with considerable caution. We must confess that we are unable to follow the argument based upon the comparison of Ukraine rates. Unless female mortality and fertility receive due consideration, such "scraps" of evidence cannot "point unequivocally to the conclusion that the population of India is increasing at an alarmingly rapid rate," which the Public Health Commissioner wishes us to draw. Incidentally we might mention that this is the only investigation on these lines we have come across so far.

[1] In England there is a regular system of ante-natal and post-natal services, of health visitors, of medical inspections, and of the provision of free milk and meals to children.

contributors to these volumes. We can only suggest, as students of population, that the time spent in lamenting the inordinate increase in the population of the poor would be far better spent in arranging effective measures for the removal of their destitution.[1] Thus if policies are needed at all we can formulate them in terms of the three "Particular affirmatives" of Malthus himself:

1. A lower death-rate for all.
2. An end of the *waste* of young human lives and, we must add, of the lives of the mothers.
3. A higher standard of life and livelihood for the poor.[2]

[1] Village Studies like those of Dr. Mann's, "*Land and Labour in a Deccan Village*" show that the economic position will not appreciably improve even if birth-rates fall. See Chapter VI of that book.

[2] Dr. Bonar, *Economic Journal*, June, 1935, p. 222. The original essay of which this chapter forms only a part, was written in December, 1935.

Part II

AGRICULTURE

CHAPTER V

ORGANISATION OF AGRICULTURE

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The predominance of the Village.—The peasant's life and routine of labour are everywhere organised by custom and tradition. Nowhere, however, is this truer than in this country where more than half a century of industrialisation has as yet failed to obliterate the distinction between rural India and urban India. Throughout India the village, placed in its ancient, organic, social setting, is definitely holding its own. The ancient communal organisation of agriculture and industry, under which each small community is self-contained, has still maintained its ground. Even in the most industrialised province in India, *viz.*, the Bombay Presidency, the great bulk of the population, in fact more than two-thirds of it, is living in units with a population of less than 5,000. The larger villages, especially of those with a population of between 5,000 and 20,000 have greatly increased, and the number of cities is stagnating.

It will be interesting to give a comparison of rural and urban elements in the major Provinces of India, 5,000 persons being regarded as the minimum for a town. The proportions of the urban population per mille are: 44 in Bihar and Orissa; 73·5 in Bengal; 109 in the Central Provinces; 112 in the United Provinces; 130 in the Punjab; 135 in Madras and 224 in Bombay, which is the most urbanised of the provinces. England and Wales' figure of 800 and France's 508 show how far India has to travel before she can achieve rates of urban population comparable with industrialised Europe. In the socio-economic structure

under which the majority of the population have to live, the requirements of the people are met from the fields of the village peasants and the looms and lathes of the village artisans.

The Complement of Rural Artisans and Functionaries.—The indigenous socio-economic organisation, according to which each village has its complement of artisans and functionaries, who are often allotted rent-free lands and paid in shares of grain at each harvest, shows a striking adaptation in India to climate, race and social needs.[1] In every part of India the village carpenter, blacksmith and potter, so essential for agricultural economy, are to be found. They make and repair all agricultural implements and domestic utensils, find their own tools and implements necessary for performing the work; while the villagers supply the raw materials. The making or repairing of carts or building of houses are also undertaken by these artisans. There has been little change in the position of artisans of this class during the last 50 years. Then there are the weaver, the oilpresser, the goldsmith, the tanner, the barber, the washerman, the agricultural labourer and the scavenger. A field investigation of a rural area in the United Provinces has revealed that the agricultural labourer (*chamar*) is represented in 64 per cent of the villages, the barber is present in 60 per cent, the blacksmith and the oilpresser in 40 per cent, the washerman and potter in 36 per cent, the tailor in 28 per cent, the carpenter and the goldsmith in 22 per cent and weaver in only 14 per cent. There are also the schoolmaster and the priest. Everywhere the artisans and village functionaries have their circles of constituents. In Northern India these are called *jajmanis*, which are both heritable and transferable, and there are instances on record where *jajmanis* have been mortgaged both with and without possession, whilst it is said that the *dom's* begging beat and the scavenger's circle of clients are often given as dowry.[2] A village in

[1] Mukerjee, *Principles of Comparative Economics*, Vol. II, Ch. XI, p. 168–169.

[2] Blunt, *The Caste System of Northern India.*

Oudh started legal proceedings in a Criminal Court against the village blacksmith, and sought to have him bound over to be of good behaviour, because he had threatened to migrate from that village to another. The needs of the distribution of irrigation water have brought into existence the irrigation-man in the South Indian villages. Similarly, in the dry regions of the Punjab the village water-carrier is met with, supplying water to the household and carrying food to the peasants working in the fields. The village policeman is met with all over India but is especially important in the Deccan and Southern India, while the watcher of crops and cattle is to be found in the southern districts of Madras and in Cochin and Malabar. Agricultural labour is mostly in the hands of the depressed castes throughout India, and in the outlying tracts in Chota Nagpur, Orissa, Central India and Malabar such castes are yet tied to the lands as serfs and bondsmen. Many other functionaries are also encountered with their endowments of land or shares in harvest representing bygone stages of culture or peculiar social needs. The astrologer throughout Northern and Central India, the medicine man and the exorcist in the aboriginal villages of Chota Nagpur and the Central Provinces, the evangelist and the catechist of the Christian villages in Travancore, the priest and his associates in the Nair villages and the temple girls in Central and Western India, are all interesting instances of extra-economic valuation still respected in the rural economy of India.

Rural Economic Management by the Panchayat.—Such variety of rural public services, however, accompanies a remarkable simplicity of village organisation and management the roots of which are set deep in the past. The autonomous village management with its common lands and pastures, its collective distribution of irrigation water, its allotment of lands for village officials, artisans, and employees and its *panchayat* goes back to the totemistic proto-Australoid and to Austro-Asiatic inhabitants of pre-Dravidian India. It was these people who discovered rice agriculture

and the institution of the *panchayat*, which arose out of the need of a periodical redistribution of holdings that prevailed among the rice-growers of the past.[1] The *panchayat* has migrated far beyond its original abode. Throughout India it is the village *panchayat* that is the trustee of the community, even though it has outgrown the primal communism in property, and nothing is more characteristic of its functions throughout the country than the work of supervision over the co-operative irrigation of the village and the management of rural labour and husbandry. Many races have since entered India and settled in the villages but the *panchayat* has become assimilated to the social structure and become the ubiquitous institution of rural India, supervising the economic management and the social life of the village community. As British administration extended its authority into the smallest village and centralisation became an established feature in government, or as superior landlordism developed out of the chaos of peasant and village communal rights, the *panchayat* declined in importance and power, and the need for the services of many village officials and functionaries diminished. As their number has increased, the lands allotted to them by the village communities also are no longer adequate to support them. In some Provinces, such as the Punjab and the Madras Presidency, wages given to the village artisans and functionaries are revised as a consequence of the increase of population and rise of prices. But in the greater part of India wages and perquisites which are paid in kind have hardly undergone any change, and this has become a real hardship. On the other hand, the growth of industrialisation and the expansion of towns have supplied the village artisans and labourers with new sources of employment. The consequent disorganisation of rural communal services has contributed in no small measure to the decline of Indian agriculture.[2] It is, however, only in the Madras Presidency that we find a definite attempt by legislation to restore the village self-sufficiency

[1] Mukerjee, *Democracies of the East*, Ch. XIII.
[2] Mukerjee, *Land Problems of India*, p. 53.

and the organisation of rural services. Such an attempt to revive the autonomous village organisation with its powers of economic management, supervision of lighting, sanitation, schools, markets and village pastures and forests has not come too early and the progress of village communal government in Madras is of good augury for the whole of India.

Types of Rural Settlement : (a) Village communities.—The social composition of the village and the conditions of agriculture have thus determined the number and variety of rural artisans and functionaries. Landlordism and the process of centralisation have no doubt modified this system of village economic management, but it has survived through the centuries as eminently adapted to the conditions of the communal routine of Indian farming and the communal instincts of the people. Both ethnic and geographical factors have determined the compactness of village communities and the autonomous type of rural organisation, which show the greatest strength and persistence in the Indo-Gangetic plain, in Gujrat and in the Cauvery valley. Here and there in the heavily populated river valleys as well as on the terraced hill slopes, where population has just begun to cluster, the collective management of irrigation, especially necessary in rice culture, and the economic necessities of peasant farming and animal keeping, maintain the indigenous communal organisation which has withstood the modern centralisation. The maintenance of rural public works such as schools, temples and irrigation channels, the management of common pastures and tanks, the employment of agricultural labourers, artisans and functionaries and agricultural co-operation in various forms in the South Indian villages, still offer lessons in rural reconstruction for other parts of India. Even in a new canal colony in the Punjab, like Shahpur, or a district like Bulandshahr in the United Provinces, dominant tribal elements account for the strength of the village community as a real union, and cases are recorded where a number of cultivators with no proprietary rights hitherto had clubbed together to purchase a share in their villages.

Geographical rather than racial elements in the formation of village communities are also illustrated in South-western Punjab and in the North-western Frontier Province where compact villages, bearing marked resemblance to the "hydraulic communities" in Spain, have grouped round wells for the exploitation of water for agriculture, through an effective collective organisation which is yet far different from that in fertile river valleys dotted with village communities.

As population has expanded along the course of rivers the necessities of agriculture have demanded an equalisation of conditions through a collective village ownership and management of common lands and pastures and scattered field distribution. Common wood and grass lands have been the mainstay of peasant farming everywhere; while the distribution of plots in different soil blocks has secured not only equalisation of agricultural advantages, as in the village communities in other lands, but has also served to protect cultivation carried on in different soil areas against the vicissitudes of the Indian rainfall. It is in this manner that the *bhaiachara* village communities among the Jats, Gujars, Tagas and Rajputs in the fertile plains of the Punjab and the United Provinces, are still held together by ties of village communal solidarity which have replaced the older tribal feeling. Strangers have been introduced with similar rights in the waste lands and pastures as the original settlers and new bonds of economic and social co-operation tie the old and new families together.[1]

(b) **Scattered hamlets.**—On the other hand, as population expands from the river valleys into the fringes of the forest and marsh, we find isolated and scattered hamlets as a general rule and there can be no social solidarity under such conditions. The agricultural castes and tribes that have reclaimed the Terai in the United Provinces and Bihar, and the marsh dwellers of Bengal, are lower and depressed elements in the Indian social composition showing little cohesiveness. Such castes are strikingly different from the predominantly

[1] Mukerjee, *Democracies of the East*, Ch. XIV, p. 254.

military and dominant tribes and castes, which are everywhere seen to live in close continguity with one another and form land-owning brotherhoods in the northern portions of the Indus and Ganges valleys. Land tenure is also strikingly different in these new areas in the forest, marsh and the delta. The overlordship of feudal nobles and revenue farmers in the past, and the system of Talukdari and Zamindari tenures in modern times, have encouraged agricultural expansion on the one hand and insured the protection of scattered rural habitations on the other.

Lay-out and size of fields.—Along with soil, agricultural water supply and the communal routine of farming, the social composition of the village also thus largely determines the lay out of the cultivators' fields. Normally speaking, members of low castes such as the Chamars, Pasis and Lodhas in Northern India, and the Pods, Mahishyas and Namasudras of the Bengal delta are not likely to have compact blocks of good land near the heart of the village *abadi*, but a little fragment of good land not far from the *abadi* and a larger fragment of poorer land far away, and a large block of the poorest land just brought under plough under the pressure of population on the far off outskirts of the settlement.[1] The lower agricultural castes are the pioneers of cultivation in poor and virgin lands on the brink of forests and sand-dunes, marshes and swamps. It is among them that the evils of the smallness and scattered condition of holdings are the greatest, though uneconomic holdings are also true of the higher agricultural castes as well. On the other hand, the standard of living is lower and the expenses of cultivation are as a rule smaller among the lower castes though the rent and interest which they pay are on a higher scale. Thus 3 acres of land may be sufficient to support a Kurmi, a Chamar or a Bagdi, while 10 acres may not be enough for a Jat, a Brahmin, or a Kayastha.

It may be estimated that in the United Provinces, Bihar and Bengal more than 50 per cent of all cultivators possess

[1] See Nehru, *Caste and Credit in the Rural Area*, Foreword by the present writer, xiii, and p. 38.

undersized holdings. In the United Provinces the number of the indebted on holdings less than 5 acres actually forms more than 50 per cent of the total number of indebted tenants and peasant proprietors; while 56 per cent of all tenants and peasant proprietors possess holdings either at or below the minimum economic figures.

Causes and extent of fractionalisation of holdings.—The cause of this fractionalisation is a process of sub-division which is principally the result of the laws of inheritance, though its effect is enhanced by indebtedness, forced sale and land hunger. Sub-division is also encouraged by the fact that the fields in India are open and without hedges and thus lend themselves to easy and speedy division. Further, the whole agricultural system of India is adapted to meet the predominant feature of the climatic condition, *viz.*, the deficiency and precarious distribution of rainfall. In Northern India there is generally a large area of fallow land in every holding, while the practice of rotating crops can only succeed when each cultivator has several kinds of land suiting various climatic conditions. Thus the practices of fallowing and rotation are both responsible to some extent for the existing distribution of fields. Again, holdings have to be small in the rice lands of the Eastern United Provinces, North Bihar, Bengal, Orissa and Madras, for the purposes of drainage as well as for transplantation of paddy. In the rice zone of the Central Provinces we find that the average area of holdings per family is only 12 acres as compared with 33 acres in the cotton zone. The percentage of holdings below 5 acres in the villages intensively surveyed is 53·6 in the Chattisgarh division, which grows rice abundantly, as compared with 31·0 per cent in the Berar division.[1]

Yet there is no doubt that fractionalisation of holdings is a recent phenomenon. In pre-British days population pressure was less heavy, while the cultivation unit was the joint family estate and partition was uncommon. Even in a district of *bhaiachara* communes like Meerut, the

[1] *Provincial Banking Enquiry Committee Report*, Central Provinces, pp. 69–75.

number of proprietors increased by 50 per cent during the last three decades of the nineteenth century. In another district of the United Provinces, Badaun, it has been found that 60 years ago the proportion of holdings of 2½ acres or less was 23 per cent. The figure has increased now to 37 per cent. The minimum economic holding has been between 4 and 5 acres. The unabated tendency towards fractionalisation is also vividly illustrated in the Madras Presidency, where the size of agricultural holdings paying an assessment of Rs. 1/- and less, and Rs. 10/- and less, diminished from 0·50 and 2·21 acres to 0·25 and 1·71 acres respectively, during the past 25 years.[1]

On a rough calculation the size of the average holding in the United Province has been put at 6·7 acres. In Benares and Gorakhpur divisions, where rice is important, the average holding is put at 4 to 5 acres, which is the same as the estimate for Bihar and Orissa, excluding Chota Nagpur. Here the average holding is 10 acres, only one-third of which is fit to grow rice. In Bengal the average holding is 5·21 acres and in Madras the average holding may be put at 5 acres, 36·0 per cent of the total number of holdings having an area of 2.3 acres each on the average.

In such densely populated areas as the Ganges-Gogra Doab, the eastern districts of the United Provinces, South Bihar, the Padma, Jumna, Cauvery and Godavari deltas, fractionalisation of holdings has gone to grotesque lengths. In a particular village surveyed in Gorakhpur the average holding comes to only 0·29 acre. The average cultivated area per individual is 0·27 acre. In Pargana Sidhua Jobna, the average holding was found at the time of the last settlement to be 1·3 acres, in Hata it was 0·9 acre and in Salimpur 0·65 acre. According to the Banking Enquiry Committee's estimate the minimum economic holding in the Gorakhpur Division is 3.5 acres. The average holding in Gorakhpur District is 4·1 acres. Holdings, small though they are, are rarely contiguous, but comprise small plots scattered all over the villages, due chiefly to the method of partition in holding. For instance, a holding

[1] *Provincial Banking Enquiry Committee Report*, Madras, p. 17.

of 0·13 acre is divided into two parcels, 0·60 and 0·70 acres respectively, the former being again divided into three fragments 0·2, 0·2, and 0·3 acres respectively. We read in the *Gorakhpur Settlement Report*: "Everything is divided—shares, holdings, plots, tenants, houses, groves, ponds, and even trees. And where there is no formal partition there is always an informal one." Again, in the recent *Census Report* we read: "each heir invariably demands his share of each item of the property, his share in every kind of soil, of every well, tank, house, grass and pasture land, of roads and paths, and even of individual trees." And what is true of the United Provinces is also true of considerable parts of Bihar, Orissa, Bengal and Madras.

The uneconomic holding.—The disadvantages of the fragmentation of holdings and their pepper-pot distribution are obvious.[1] The fields in the main village *abadi* are apt to be overworked and depleted and the more distant and smaller fields neglected. Scattered ownership of small fields stands in the way of permanent land improvements, such as well construction and the maintenance of banks and drains to check erosion and water-logging of the low lands. The waste of labour in carrying manure, implements, and water to tiny plots situated at a distance from one another can easily be imagined. There are also waste of land in providing ridges and waste of time and energy in traversing field to field with the plough cattle for agricultural operations. Crops on distant fields require careful watching to prevent theft and damage by cattle and other beasts. One reason why in the Punjab, the United Provinces and Madras tenancies are increasing is that the owner in many cases lets out fields wholly or partially which are far apart and themselves as tenants cultivate other lands more conveniently situated. Cultivation by tenants is always inferior to cultivation by owners. Small-holders, whether proprietors or tenants, often have also to employ either hired labour or work in the fields less intensively. Thus the supreme advantage of peasant farming is lost. On the other hand, where there

[1] *Vide* the writer's *Rural Economy of India*, p. 34.

are too many persons dependent upon the small holding, there is an enforced idleness.

Toy holdings restrain the farmer not only from adopting more improved methods of cultivation but also even from intensive farming. Most under-sized holdings are in debt. Debt-ridden cultivators can hardly adopt improved agricultural methods. Formerly, the larger holding could be given rest at intervals, the practice of fallowing contributing towards replenishment of fertility. The abolition of fallowing, due to population pressure and consequent fractionalisation of holdings, is best illustrated by the Dacca District, where only 1 acre in 25 acres of land capable of bearing crops is now left fallow every year, compared with 1 acre in 10 in Bakarganj, and 1 acre in 3 in Purnea (in Bihar). The actual current fallow in Dacca is only 14 square miles. This implies that a period of 156 years is required before every acre has been relieved in turn for one year only of its burden of bearing its one or two annual crops. The silt deposit of the Padma and Meghna has made it possible for the fields of the Dacca District to bear the burden of the arranged succession of crops without undue exhaustion,[1] but this would not apply to large areas in the United Provinces and Bihar, where the exclusion of fallowing and double or multiple cropping in tiny plots has meant such haste, imperfect tillage and depletion of soils that the total produce shows a tendency to diminishing returns. As a matter of fact the cultivator reacts to this by curtailing his double cropped area. In the United Provinces during the last 10 years the percentage of double-cropped to cultivated area has actually diminished, the decrease being of 6 and 9 per cent in the Indo-Gangetic plain Central and East respectively. In Jaunpur District, the double cropped area, which is one of the largest in the United Provinces, this has diminished from 194,000 to 152,000 acres between 1916 and 1933, the percentage of the net-cropped area decreasing from 30 to 23·75. Even in a prosperous district like Meerut the

[1] In the moribund delta in Central and Western Bengal, decrease of soil fertility accompanying succession of croppings is discernible. *See* the present writer's *The Changing Face of Bengal.*

percentage of the double-cropped area to the net cropped area diminished from 32·8 as the average for 1914–18 to 28·3 as the average for 1927–1933. In several heavily populated districts in the United Provinces, Bihar and Bengal, which have reached the limits of extension of agriculture, the expansion of double-cropped areas has slackened in recent years, although the United Provinces and Bengal have now 3 millions more each and North and South Bihar 2 million more mouths to feed since 1921. In the United Provinces the average net cultivated area during the years 1927–31 was 34·4 million acres as compared with 35·2 million acres in 1921. There has been a dimunition of the double-cropped area in the whole Province by about 6 lakhs acres.

Soil depletion due to recent agricultural practice.—In Northern India the accumulation of nitrates and the activity of micro-organisms in the soil, provided that rest is given to the land, helps to a great extent to maintain the balance between the intake of the crops and the recuperation of the over-worked soils. Thus in small holdings, where fallowing is given up and yet farming is intensively undertaken year in and year out, there is great danger of soil depletion. On the other hand, a type of heavier yielding crop like the improved sugar-cane must make greater demands on the soil, equivalent to 100 to 120 lbs. of nitrogen per acre. In the small holdings as sugar-cane expands fallowing is excluded and other food crops curtailed. A recent survey undertaken personally indicates that more than three-fourths of the holdings in Kasia sub-division in Gorakhpur have given up fallowing and reduced the cultivation of legumes such as pea, gram, masoor and arhar, all important for nitrogen fixation, as a result of the introduction of sugar-cane. Cane expansion in the absence of manuring is thus not only fraught with the danger of disturbing the established balance between crop production and soil replenishment, but also indirectly reduces the amount of proteins in the dietary of peasants, most of whom are vegetarians.[1] The need of crop-planning and rationalisation

[1] Mukerjee, 'Limits and Potentialities of Agriculture' in *India Analysed*, Vol II pp. 177–180.

of agricultural practice for preserving the soil equilibrium and the essential physiological values in the local diets is strongest in several eastern districts of the United Provinces, where the average holding is actually below the economic limit.[1]

The recent fall in prices of agricultural produce and foreign competition have made most crops unprofitable. Sugar cane, which at present is one of the few remunerative crops, requires, however, not merely larger initial outlay but it cannot be reaped before over a year, during which period the peasant must have to maintain himself and his families by borrowed capital. For 122 cultivators in different areas of the United Provinces, crop returns for the Fasli year 1934 indicate only sugar cane, paddy, potato, tobacco, hemp and gram as yielding profits more frequently than losses:—

Crops	*Profits*	*Losses*
	Percent	
Hemp	81·8	18·2
Potato	77·8	22·2
Paddy	75·5	24·5
Sugar Cane	70·5	29·5
Gram	65·6	34·4
Tobacco	60·0	40·0
Masoor	43·7	56·3
Pea	29·5	70·5
Cotton	25·9	74·1
Bijhra	24·7	75·3
Wheat	23·8	76·2
Barley	16·7	83·3

[1] For instance an appropriate crop planning for Gorakhpur may be as follows:

Early paddy and jowar (four months): pea and gram (four months); green manuring with sanai (three months), and sugar-cane (one year). Some kind of restriction of cane through *panchayats* and co-operative societies in proportion to the size of the holding seems indispensable. On account of the present low yields of cane, ranging from 300 to 350 mds, as against 1000 to 1200 mds. per acre on Government and big Zamindary farms, the same output could be obtained from half the area under cultivation at present in the U.P., if ratooning be abolished and manures were liberally applied. In the garden lands of the Madras Presidency where cane rotates with rice at long intervals, the rice crop which succeeds the cane always shows a lower yield. The economic mistake of an unrestricted increase of the cane area in the U.P., which is similar to the earlier expansion of jute in Bengal, should be avoided by an All-India arrangement fixing definite quotas of cane for each Province. Ratooning for more than a year should be prohibited by legislative enactment or checked by the withdrawal of canal irrigation water from the ratoon fields.

Animal husbandry and the uneconomic holding.—Intensively fragmented holdings not only make agriculture inefficient and unremunerative but also make it impossible for the cattle to be maintained in adequate numbers. The following figures would show the cattle, grazing and plough statistics for average holdings in Gorakhpur, Meerut and Lucknow divisions, Meerut showing the largest average holding. In Gorakhpur the number of cattle and livestock is much smaller and shows steady decrease.

Divisions	*Average holding*	*Percentage of average to minimum economic holding*	*Plough and cart bullocks*	*Cow and cow-buffaloes*	*Plough*	*Share of waste available for grazing*
Meerut	7·8	142	2·0	2·1	0·84	2·3
Lucknow	7·2	153	2·1	2·1	1·04	3·3
Gorakhpur	3·8	95	1·2	1·3	0·82	1·1

It is obvious that the Gorakhpur peasant possesses fewer bullocks, cows and ploughs than any other; the practice of lending bullocks to one another for agricultural operations is widespread. In a village surveyed in Tashil Deoria while about 50 cultivators have a pair of bullocks 75 have only one each and 40 have none. In Pargana Haveli men who own only a single bullock hold 8 per cent of the cultivated area. For the district as a whole, the recent Cattle Census (1930) has shown a reduction in the number of breeding bulls by 11 per cent: cows and bullocks have increased between 1925 and 1930 by only 1 and 2 per cent respectively; while the cultivated area has remained almost the same, the number of ploughs has increased by 6 per cent. This seems to point to both the disruption of the joint family and the fractionalisation of holdings. The fragments of land have become so small that the cultivator has sometimes to dismiss the cattle and use the spade. If the process continued women in Gorakhpur might be compelled (as in Shantung in China) to draw the plough.

The optimum cultivation unit.—That the smallness of the holding raises the general costs of cultivation and particularly

the proportionate amount of labour done by men and bullocks is obvious; but it is farm accounts which can show this accurately and help us indirectly to determine the economic cultivation unit in particular agricultural areas. In the heavily populated areas of India, however, the cultivation unit is rarely of the optimum size and more often uneconomic.

A meticulous enquiry into the costs and profits of cultivation of 122 cultivators in 13 typical villages in the various agricultural regions of the United Provinces shows[1] that about 28 per cent of the holdings are below the economic size, that 37·7 cultivators do not earn any profits and seek to improve their economic position by agricultural labour and that 93 per cent of the families investigated do not have even the bare necessities of life.

Size of holding	*No. of cultivators.*	*Percentage.*	*Expenses of cultivation per acre*	*Gross income per acre.*	*Net income including wages of family labour per acre.*	*Family labour per holding man-days* [3 *women days* = 2 *men days.* 2 *child days* = 1 *man day.*]
Below 3 acres.	14	11·5	Rs. 41/1/–	Rs. 40/–	—Rs.1/1/–	150
3 to 5 acres.	20	16·4	„ 35/15/–	„ 36/12/–	+Rs. 0/13/–	184
5 to 10 acres.	47	38·5	„ 33/5/–	„ 35/12/–	+Rs.2/7/–	267
10 to 20 acres.	32	26·5	„ 32/–	„ 37/2/–	+Rs.5/2/–	358
Over 20 acres.	9	7·1	„ 32/5/–	„ 40/5/–	+Rs.8/0/–	390
All groups	122	100·0	Rs. 34/3/–	Rs. 37/2/–	+Rs. 2/15/–	274

It is only in the Canal Colonies of the Punjab, where the average cultivator owns from 10 to 25 acres as against 5 to 15 in the most other parts of the Province, that we have optimum units of cultivation; and carefully kept farm accounts indicate that the costs of cultivation in the Punjab holdings under both well and canal irrigation tend to

[1] These results have been made available for me through the courtesy of Dr. R. B. Gupta, Statistican, U.P. Government.

increase in relatively greater proportion with diminution of the area of the holding, and that almost similar results are traceable so far as the net income per acre is concerned, which tends to decrease as the area of the holding decreases. The number of working days per acre, both as regards men and bullocks, varies inversely with the size of the holding. However, the difference in the number of working days per acre as regards bullock is not so marked in canal irrigated holdings as in the case of well irrigation.

Canal irrigated holdings. arranged according to size.	*Area.*	*Expenditure per acre*		*Net Income per acre*		*Number of work'g days per acre*	
		Tenants.	*Landlords.*	*Tenants.*	*Landlords.*	*Men*	*Bul'ks*
	Acres.Ks.Ms	*Rs.A.P.*	*Rs.A.P.*	*Rs.A.P.*	*Rs.A.P.*		
I (Montgomery)	50	7·14·6	19·0·0	35·13·6	19·6·0	17¼	10
II (Rohtak)	34-5-10	9-7-4	19·13·6	26·6·11	16·0·9	12¾	6
III (Amritsar)	30-7-18	8-11-7	28-7-11	54-7-11	34-11-7	16¼	9¼
IV (Amritsar)	29-4-16	8-2-7	24-15-5	48-8-8	31-11-10	17¼	9½
V (Lyalpur)	28-0-0	24-10-6	10-1-9	26-0-4	40-9-1	22	8¼
VI (Amritsar)	27-5-16	8-11-9	27-10-3	55-7-10	36-9-4	17½	9
VII (Rohtak)	23-1-0	9-5-7	23-7-11	28-14-6	14-12-2	20½	9

Well irrigated holdings arranged according to size.	*Area*	*Expenditure*	*Net Income*	*Number of work'g days per acre*	
	Acres.Ks.Ms.	*Rs. A. P.*	*Rs. A. P.*	*Men*	*Bul'ck*
I (Ludhiana)	65-6-8	18·8· 6	15·7·10	17·5	5·9
II (Jullundhar)	48-1-12	38·5· 9	16·5·10	37·1	16·2
III (Jullundhar)	19-0-13	34-5-11	11·1· 7	43·4	20·1
IV (Ludhiana)	17-6-14	33-8- 5	30·5· 8	46·2	15·9

Caste, tenure and the size and situation of holdings.—The size of holdings, however, is intimately connected not only with agricultural circumstances but with the standard of living and the social status of particular agricultural castes. Thus in the western part of the United Provinces the Jats, who are rather hard-headed and averse to any false notions of dignity, and who more than any other caste co-operate and work as a family under its head, also possess the largest holdings and are the most successful farmers. The greater proportion of their cultivated area

being held in permanent rights, either proprietary or occupancy, is at once the cause and effect of their more substantial holdings. Conversely the Chamars have a low standard of living and are least equipped with live-stock and agricultural implements. Their holdings are usually the smallest and they occupy inferior land and possess the least protected rights, while they pay the highest rents and rates of interest. Thus in the Meerut District where the average size of the tenant's holding is 8·7 acres, the Jat holding is 15·1 acres in Kithor, 16 acres in Hasthinapur, and 14 acres in both Hapur and Sarwa. In comparison, the Chamars and Gaddis in some villages investigated in Hasthinapur show on an average 4·3 and 4·1 acres only respectively. Similarly in Rae-Bareilly, in Oudh, where the average size of holding is 4·5 acres, among the Thakurs and Ahirs in 54 villages investigated by Nehru, the majority hold between 1·8 and 3·6 acres, while the majority of Pasi holdings lie between 0·9 to 2·4 acres and the Chamar holdings between 0·6 and 2·7 acres.[1]

The history of agriculture and movement of agricultural tribes and castes in the past explain the disparity of advantages of protected tenures and consequently of lower rent and revenue demanded among different castes in a district. It is the lower castes which, generally speaking, have less protected rights in land, occupy smaller holdings, are inferior farmers and pay higher rent and rate of interest.

Consolidation of Cropping.—The inter-relations between the untouchability and unapproachability of a caste, its low standard of living and farming, its undersized holding and unprotected rights tend to perpetuate themselves, establishing a vicious circle from which no escape is possible as a result of a mere administrative measure of consolidation of holdings. Perhaps a more practical and immediate programme is one of consolidation of cropping, *i.e.*, the cultivation of the same crops in contiguous fields, which ensures facilities of irrigation, introduction of better seeds, fertilisers and

[1] Baljit Singh's unpublished survey on Agricultural Progress in the Upper Doab.

implements and co-operation in the routine of agricultural operations and prevents theft or cattle trespass.[1]

Small farming and supplementary occupation.—Small holdings thus continue to persist, maintaining cultivators-cum-labourers who have small resources in manure, implements and stock, and show poor technique of cultivation, but who endeavour to eke out a bare subsistence by combining farming with agricultural labour, small craft, dairying, carting or grain-dealing. It is this which largely explains the facts that a large proportion of farmers cultivate less than the economic holdings in India, and that agriculture, even though it may not be self-supporting, can yet grip the peasant families. High-caste agriculturists, however, cannot follow mean callings such as those of weavers, potters, oil-pressers, washermen and carpenters. The low-caste agriculturists have thus an advantage in this connection; some may go in for tanning hides and skins, for vegetable gardening, for poultry farming, for keeping silkworms and bees, or some may carry on weaving, fishing or pottery without incurring social displeasure. Thus often would the social composition of the village determine the character and scope of the supplementary occupations. As a rule such occupations are governed by considerations of prestige and social status. Often agriculture and caste occupation are combined when the latter by itself cannot support the family. Except in the case of artisans who combine their crafts with farming many of these subsidiary occupations are not remunerative enough under the existing system of communications and marketing, while all share

[1] The experience of the benefits of consolidation of cropping in the tube-well areas in the United Provinces justifies the employment of additional agricultural staff for such purpose in other areas. Its application converts the appearance of the village area to that of a single farm consisting of fields of cane, wheat and other crops instead of the chess board appearance of the land of most villages. The individual still owns his particular portion of any one block and he may still farm it as a separate unit; but close association of persons growing the same crop invariably leads to co-operative work on the block as a whole, it makes the utilisation of co-operatively owned implements easier and it facilitates the demonstration of improvement and stimulates rivalry towards better production. *See Report on Economic Planning in the United Provinces;* also Mr. R. G. Allan's note on village demonstration and technical procedure in the building up of better village practice.

the vicissitudes of agriculture in unfavourable years when those who possess uneconomic holdings and who can hardly keep their heads above water in ordinary years are in distress.

Combination of intensive farming with dairying.—A subsidiary occupation which does not hurt social pride and status, and has been widely adopted by the agricultural tribes and castes of the Ganges Jumna Doab, is stock-raising. Similarly in the canal colonies of the Punjab and in Gujerat dairy farming on a large scale is combined with intensive farming of an improved type. In one Taluka of the Kaira District Gujerat, it is estimated that there are about 50 cream producing machines and 38 casein factories where casein is produced from the remnant of the milk after cream is taken out of it.[1] Indeed, in the Punjab colonies and Upper Ganges and Jumna plains the combination of intensive farming with cattle-breeding and dairying represent a development in the direction of mixed farming as is practised in Western Europe on a scale hardly paralleled elsewhere in India. The larger holdings here enable fodder crops to be grown, which supplement the stalks of *jowar*, *bajra* and maize and straw of wheat and gram also given to the cattle. The costly and powerful animals in these areas are in striking contrast with the miserable and half-starved beasts in Bihar and Bengal, providing largely for the adequate nutrition of the cultivators, helping materially to preserve the soil against exhaustion and increasing its total return.

Agricultural unemployment.—Where a holding ordinarily possesses milch cattle and buffaloes, the cultivator has less spare time than elsewhere for his dairy work. For Northern India as a whole we may estimate that the peasant is occupied outside the more intensively cultivated areas for not more than two hundred days. In those parts where facilities of irrigation are not available the cultivator has to remain idle for yet longer periods, which are extended to the whole of the

[1] Mukhtyar, *Life and Labour in a South Gujerat Village*, p. 17.

agricultural season in years of deficient and irregular rainfall. Again, agricultural employment is more continuous in well irrigated districts than in the dry canal lands or in the Terai. Further, even in the busy agricultural season a cultivator's family whose holdings are undersized—and the majority of holdings in the fertile and congested areas of the Ganges plain are undersized—cannot be employed fully. In the slack season it can find employment in the field for barely one or two hours a day.

✓Increase of agricultural labourers: causes and effects.—The smallness of holdings, low standard of living, caste tradition relating to subsidiary occupation, and unemployment and wastage of labour, go together in India. Their causes are deeply-rooted in the social background of the peasant's life. Even successful farming, both by cultivating proprietors and tenants, depends largely upon the employment of hired labour on account of both caste attitudes towards field labour and agricultural inconveniences caused by fragmentation and scatteredness of the fields; while inefficient farming, especially when holdings become smaller and smaller, leads to an increase of the landless labour class when cultivation reaches the stage of diminishing returns. The multiplication of landless labourers from decade to decade is, on the one hand, the surest symptom of agrarian unsettlement in India. The presence of a landless population, on the other hand, cheapens labour relatively to capital and delays the introduction of improved agricultural tools and implements. The proportion of agricultural labourers to cultivators has increased considerably in the last decade in India as the following figures would indicate:—

	1921		1931	
	Workers Farm servants plus Field labourers.	*Ordinary cultivators.*	*Principal Occupation. Agricultural labours.*	*Actual Workers. Cultivating owners plus Tenant cultivators.*
Total figures	21,676,107	74,664,886	24,925,357	61,180,004
Ratio	291	1,000	407	1,000

We find in 1931 that to every 1,000 cultivators there are 466 agricultural labourers, a very much higher ratio than in 1921. If we take the 1931 figures of cultivating owners and tenant cultivators, both principal and dependent, and compare them with the number of those who returned agricultural labour as their principal occupation, the resultant ratio is 407 agricultural labourers to every 1,000 cultivators. In any case the change in ratio is somewhat remarkable even when adopting the lowest ratio which can be compared with that of 1921. The explanation, according to the Census Commissioner, is that a large increase has taken place in the agricultural population without a corresponding increase in actual holders of land, whether as tenants or owners, though it is likely that a concentration of land in the hands of non-cultivating owners is also taking place.[1]

Danger-spots in rural economy.—Every circumstance which has weakened the economic position of the small holder has increased the supply of agricultural labourers,—the subdivision of holdings, the loss of common rights in the rural economy, the disuse of collective enterprise, the multiplication of rent receivers, free mortgaging and transfer of land, and the decline of cottage industries. On the other hand, the multiplication of agricultural labourers has fitted well with the expansion of rice, and recently of sugar-cane, in India, crops which necessitate large seasonal supplies of labour in some of their processes of cultivation and for which machinery and implements will not be of much use. The efficiency of the agricultural labourers has also decreased in spite of an increase in wages, increasing the cost of cultivation. In some areas in Bombay the average number of hours which a hired labourer works has decreased from 10 to 6, and the output of work per day has considerably decreased.[2] In the United Provinces such decrease of efficiency has, however, accompanied a striking fall in agricultural wages

[1] *Census of India*, 1931, Part D, Report, p. 288.

[2] Mukhtyar, *Life and Labour in a South Gujerat Village*, p. 166. Also *Report of an Enquiry into Agricultural Wages in the Bombay Presidency.*

which have been brought down recently to the barest pittance. As compared with 1928, wages in 1934 showed a diminution of 33 per cent over the present wages, being only 3 as. for cash wages and 2 as., 9 pies for wages in kind.

Caste attitudes towards field labour.—The main problems are to maintain the economic point in the size of holdings without undue subdivision and to industrialise the village. The former cannot be achieved without modifying the Hindu Law of Inheritance and the predilections of the cultivator himself. The traditional caste attitudes also prevent certain high caste agriculturists from driving the plough, thus raising the expenses of cultivation due to the employment of hired labour. In so far as many of the lower castes who have recently made considerable acquisitions of property and wealth are now imitating the higher castes and sacrificing better farming and living to social prestige, caste attitude encourages inefficient farming and decreases the size of the average holding. Small farmers at least in India have not been slow to adopt the advantages obtained from science as regards the improvement of crops, manures and implements. In the United Provinces about 16 lakhs out of 77 lakhs of acres are to-day sown with improved varieties of wheat. The sugar cane acreage has nearly doubled in recent years and about 90 per cent of it is planted with heavier yielding varieties in the more important cane producing districts. Yet caste considerations are to-day great obstacles to improved farming. Agricultural castes which have risen higher in the economic scale would tend to ape their superiors, employing more hired labour in the fields, spending more on social ceremonies and forgoing some remunerative subsidiary occupation as below them. Caste opinions must change in order that the sturdy, lower agricultural castes of India, who are thoroughbreds of the soil, may keep their holdings and may not sacrifice the hard-won acquisitions of decades to a false social dignity which has been the chief reason why many hereditary cultivating higher castes have lost ground in India in the recent decades.

Bye-occupation for the Cultivator.—Industrialisation must also be speeded up; without large industries which may draw off surplus labour from the land, agriculture itself cannot be rationalised. Industrialisation includes the provision of alternative occupations for the peasants in their villages without which there is no hope of an increase in the size of their holdings or of improvement in their standards of farming and living. Thus a new social valuation; the adoption of scientific agriculture; an increase in the size of holdings; agricultural co-operation and marketing; security of tenure and fair rents; rural industrialisation and partial withdrawal of population from dependence on the land; control of the size of the family; and prevention of waste and extravagance of all kinds,—all these must go together, for each without the others must fail. In a sound agricultural planning social, agricultural and industrial programmes must be combined in a collective drive for the uplift of the peasant.

CHAPTER VI

CROP PRODUCTION AND AGRICULTURAL PRACTICE

By Sir Bryce Burt, Kt., C.I.E., I.A.S.

Cropped areas in India.—In the preceding chapter the question of the organisation of the agriculture of India has been discussed and in the first part of the book the general economic and social background of Indian agriculture. The general features of Indian agriculture are essentially those of any country of peasant cultivators. The land, speaking generally, is fertile and comparatively easily cultivated; and it is largely this fact, together with a climate which despite certain obvious drawbacks is distinctly favourable for crop production, that has rendered possible the dense population of India. In round figures there are some 300 million people living in the villages of India, *i.e.*, living on the land. The total area by survey is approximately 813 million acres, 670 million acres of which are in British India and 143 million acres in Indian States—or less than 3 acres per head of the agricultural population. Not all of this is culturable. The actual cropped area, including 60 million acres of current fallows, is approximately 360 million acres. The total annual sown area, omitting fallows but including double cropping, is 340 million acres. Of the remaining area we have 170 million acres classed as culturable waste but much of this has never been under cultivation and its agricultural value is highly problematic. The area under forest is a hundred million acres. Much of this is inaccessible and only indirectly connected with agriculture. Much of it is of importance in providing grazing and fuel. But when all is said the average area per head of the rural population is strikingly small. Of the cultivated area referred to above, approximately 270 million acres are

occupied by food crops; the rest by non-food or commercial crops. The distinction is not an entirely happy one, for the area under food crops naturally includes both rice and wheat which in many districts are definitely grown as cash crops for sale. On the other hand, the area under non-food crops includes about 13 million acres of special fodder crops intended for the feeding of cattle—which in turn are merely supplementary to the straw from the large area under food grains. But for many purposes the distinction is a useful one.

Of the non-food crops, the oil-seed group, with about 22 million acres, and cotton, with about 24 million acres, head the list. Sugar cane, with $3\frac{1}{2}$ million acres, and tobacco, with about $1\frac{1}{4}$ million acres, are important, because the gross return per acre is high and cultivation relatively intensive.

Planned crop-production.—One very important handicap to agricultural production is the scattered character of many holdings; indeed it is no exaggeration to say that fragmentation has made uneconomic many holdings which are large enough to be worked satisfactorily. For this state of affairs the customary laws of inheritance are largely responsible. But, fortunately, it is not irremediable, as the successful work in the Punjab shows. In that Province a hundred co-operative land consolidation societies are at work and with the assistance of a full-time Government staff are regularly consolidating about 60,000 acres annually. The cost is below two rupees per acre and part of this is now recovered from those who have benefited. The resulting increase in efficiency is easy to visualise. Men and bullocks waste less time in going and coming from work. Uneconomically small and awkward-shaped fields are eliminated and tillage rendered more efficient. Proper drainage and the more economical use of irrigation water become feasible and many agricultural improvements can be introduced effectively. But this is a digression only permissible because of the importance of the subject.

In all countries the central problem of agricultural improvement is an increase in the efficiency of production

and distribution of agricultural products. With a dense rural population the problem largely resolves itself into one of getting for the peasant a larger reward for his labour. Land being relatively scarce it is the gross production per acre rather than the gross production per man which is important. The increase in monetary production per acre is, of course, extremely important but is not the sole consideration; for increased production per holding, if properly balanced, will also mean that the agriculturist, his family and his cattle will all be better fed. It remains to add that, to be practicable for the average cultivator, an improvement must not call for much new capital but can, with advantage, call for a substantially increased amount of human labour. This type of increased production, speaking generally, can be achieved in one of three ways. By a better balance in cropping, by an improvement in the quality of the produce and by an improvement in the yield per acre. All of these are inter-related. For example, an improvement in the quality of a staple crop such as cotton or tobacco may permit of a larger area being placed under cultivation as the demand for it will be greater. An increase in the yield per acre of a food-grain may release land for additional cash crops or better still for additional fodder crops for the cattle. It is convenient, however, to discuss these factors separately. Crop-planning as one aspect of economic planning has attracted attention in recent years for two reasons. In the first place, the world surpluses of such commodities as wheat, sugar and cotton have been large enough to force attention to alternative crops. Secondly, the greater use of rotations promotes sounder agriculture and often results in a smaller bill for the purchase of fertilisers. In India a high degree of diversification of cropping is already characteristic of the agriculture of the country and is no mean insurance against price changes as well as unfavourable seasons. Moreover, the area under cash crops, especially non-food crops, is quickly adjusted to demand, as evinced by prices. For example, when world cotton prices fell the area under that crop declined sharply from 27 million acres in 1928–29 to 22½ million acres in

1932–33 and is now fairly stable in the neighbourhood of 24½ million acres, relative prices having appreciably recovered. On the other hand, the area under sugar-cane has risen from about 2¾ million acres in 1929–30 to 4 million in 1935–36 consequent on an enhanced demand resulting from the development of the sugar industry and the enhanced profit derived from improved varieties of cane. But there is still scope for an increase in the area under certain crops, *e.g.*, linseed and cigarette tobacco of improved strains, and agricultural departments have taken steps to make these opportunities better known. Above all there is scope for a larger conversion of cultivated crops into milk and milk products—this can only take place gradually as the efficiency of milk production and distribution is raised. And finally any effort at planned production worthy of the name must include the better nourishment of the agriculturist and of his cattle. Higher yields of the staple crops, whether cereals, fibres or oil-seeds, should release an additional area for the production of pulses, which are of vital importance in a vegetarian diet and of the highest value in maintaining soil fertility. An increased production of pulses would mean a definite step towards an all-round higher efficiency in agricultural production.

Improvement of Yields.—The two other principal methods of raising the standard of production can rarely be dissociated. To the small producer in every country, yield per acre is of primary importance and only when marketing is very highly organised can a lower yield safely be set off against higher quality. In general a larger yield of better quality is the desideratum and this can be achieved in three principal ways: by varietal improvement, by better nutrition of the plant and by a reduction in the damage caused by diseases and pests. Since the Indian agricultural departments were re-organised some thirty years ago very significant advances have been made in all three directions. The production by modern methods of plant-breeding of superior strains of the principal crops and their introduction into

cultivation has gone on apace and there are now four million acres of improved cotton out of a total of 24 million acres, 2 million acres of improved sugar-cane out of 4 million, 7 million acres of improved wheats out of 36 million, and so on. The latest reported figure for the ascertained area under improved crops is over 16 million acres, whilst the real total is considerably higher. These improvements include either better yield, or higher quality and usually both, enhanced resistance to disease being an important feature. It is easy to understand why this type of particular agricultural improvement has caught on more readily than others. It has lent itself readily to actual demonstration in the villages, and to official organisation of seed supplies, is quickly appreciated by practical farmers and it does not involve much extra cash expenditure.

This is perhaps a suitable place to add that adequate demonstration in the villages under the cultivators' own conditions has been the foundation of all the agricultural departments' successes in the introduction of improvements. Given such opportunities of seeing for themselves, Indian cultivators are no more conservative than the peasant farmers of other countries, but they number many millions, and to organise demonstrations which will reach them all is in itself a most difficult problem.

It will be realised, however, that an improved crop is little more than a better machine for turning plant food into vegetable produce and that without better cultivation only a portion of the benefit of the new variety is realised. Neither the full yield nor the quality of an improved strain will be realised unless the tillage is also improved. It is true that most of the factors determining yield and quality are hereditary, and so transferable in plant-breeding operations, but the degree of their expression is limited by environment.

Improvement of tillage and soil management.—The outstanding need of Indian agriculture at the moment is better nutrition of the plant and better soil management. Fortunately the means are at hand, although much

of the most valuable of the manures, cattle-dung, is used for burning. Indian soils need to be better supplied with organic matter and this can be done by green-manuring and by the use of composts. The precise conditions to be fulfilled if green-manuring is to be successful have been worked out for many tracts and there are several parts of India where green-manuring is now part of the general agricultural practice. The conversion of vegetable wastes into humus by a composting process has been worked out fully at the Indore Institute of Plant Industry and the method, with such adaptations to local conditions and materials as are necessary, has been widely demonstrated in different parts of India. For this process only a fraction of the total supply of cattle-dung is needed so that composting to some extent compensates for the misuse of cattle-dung as fuel. Nevertheless, the avoidable waste due to faulty collection and storage should be minimised and in particular alternative fuels should be more thoroughly developed in Indian towns. It is impossible to over-emphasise the importance of adequate supplies of organic matter to Indian soils. Given such supplies, a satisfactory physical condition and good tilth can be maintained, and a considerable amount of nitrogen fixation also takes place. With deficient supplies of organic matter many soils become difficult to work and their moisture-retaining properties definitely deteriorate. Mineral and other concentrated fertilisers form a valuable adjunct to bulky organic manures and of recent years no inconsiderable progress has been made with the use of mineral and other concentrated fertilisers. In India nitrogen is commonly the limiting factor in crop production and it is of interest to note the use of oil-cakes, particularly castor-cake for sugar-cane, is steadily increasing, whilst the nett consumption as manures in India of ammonium sulphate and ammonium phosphate has progressively increased. Formerly a foreign market had to be found for part of the ammonium sulphate produced in India. Since 1932–33 production has risen from 8,411 tons to 13,098 tons and all of this, plus nett imports of 37,000 tons, has been used in the country. Especially

for rice but also for some other crops the newer ammonium phosphate type of fertiliser has also proved exceedingly valuable. There are definite areas where soil surveys and field experiments have shown that additional phosphate is required for maximum crop production. Quite recently simple methods of "solubilising" the phosphates in bones and of pre-treating bones in order to render them more convenient as a manure, have been worked out by Lander and Dalip Singh, and Sen and Sahasrabudhe, and are now being demonstrated. In such methods, and not in the oft-advocated restriction on the export of bones which would help no one but deprive some of the poorest classes of a source of income, lies the best solution of the phosphatic manuring problem in India. Of potash most Indian soils possess an abundance and general potash manuring is rarely profitable. But a word of warning is necessary: wherever intensive manuring for high production is resorted to, a proper balance of the fertilising elements is essential. Farm manure itself is practically a balanced manure but the supply is never adequate and when it is supplemented by another nitrogenous manure—be it compost, green manures or ammonium salts or nitrates—proportional supplies from potash and phosphates must be ensured. A watch for other possible soil deficiencies, *e.g.*, lime, must also be kept. This brings one back once more to the predominating importance of better soil management. The soil is a marvellous complex, with a bacterial flora and protozoal population of its own, and its physical condition is at least as important as its chemical composition. It is at once the home of nearly one-half of the plant, and the seat of profound chemical and bacteriological activity. The soil has to provide a kindly seed-bed for the young plant, a reservoir of food and water during growth and an "anchoring" medium. Its ability to absorb and store water and deliver it to the plant as required is of literally vital importance. By the method of trial and error continued over centuries man has found that certain methods of cultivation usually produce satisfactory results. But things sometimes go wrong and one badly needs to be able

to interpret "tilth" in scientific terms. Knowledge is gradually accumulating on the effect of tillage operations and climatic changes on measurable physical characteristics of the soil, whilst recent advances in colloid chemistry have enabled the clay complex to be better understood and have placed soil chemistry on a sounder foundation. We are still far from understanding all the factors which control the movements of moisture and nutrients in the soils and their supply to the plant. The question naturally arises whether better tillage presupposes better cultivating implements. Here also knowledge is increasing and recently some research on this subject has been started in India. For reasons already stated, the demand for purely labour-saving implements is naturally small, but there is a genuine need for implements which will do a better job. Improved ploughs which are within the capacity of an average pair of bullocks, inter-cultivating implements which will get over the ground quickly during a brief favourable period, and similar improvements, are steadily spreading. During recent years Agricultural Departments alone have sold to many cultivators many thousands of improved implements, mainly ploughs, the sales from assisted unofficial depôts have been greater, there are several indigenous firms manufacturing implements on a substantial scale and many village blacksmiths are doing the same in a small way.

Mechanisation.—Though mechanisation in general has little scope in India there are special problems which can only be solved by mechanical means. An excellent example is the use of the modern crude-oil motor tractor for the eradication of deep-rooted weeds like *Hariali* (*Cynodon dactylon*) in the Deccan and *Kans* (*Saccharum spontaneum*) in the Central Provinces and adjoining areas; other special cases could be mentioned. Nor must one overlook the great possibilities of small power-units for well-irrigation, sugar-cane crushing and other operations connected with the preparation of agricultural produce for the market. In several Provinces much progress has already been made in this direction and the number of small oil-engines now in use is very

large. Moreover the electrification of several rural areas is now well advanced. "Grids" are supplying electric energy to numerous villages in the United Provinces, the Punjab and Mysore State, and in several areas cheap electric energy promises to revolutionise rural conditions. There are other directions in which the introduction of mechanical power would lighten the burden of farm animals in times of considerable pressure and thus indirectly raise the standard of cultivation.

Pests and diseases.—Throughout the world, insect pests and fungoid, bacterial and virus diseases levy a heavy toll on crops, and constant effort is necessary to keep them under control. The methods of prevention and amelioration are various. In every country the first step is to take all reasonable precautions against the introduction of pests and diseases from other countries, since these are frequently more virulent in a new environment, especially in the absence of their natural enemies. This explains why there are restrictions on the import into India of plants and certain other agricultural products.

Of the various means of controlling disease, the indirect ones are the more important. The use of resistant or immune varieties is one most important method, and disease resistance is one of the characters to which the plant-breeder pays most attention. Most of the new Coimbatore varieties of sugar-cane, for example, are markedly resistant to disease, the Verum cottons in the Central Provinces possess a considerable measure of resistance to wilt, whilst an improved strain of groundnuts in Bombay, and one of gram in Burma, has rehabilitated a crop which was going out of cultivation owing to disease. Cleaner cultivation, better plant nutrition and proper rotations are important methods of controlling plant diseases or of limiting their destructiveness and are of universal importance. The use of actual fungicides is only economic in a limited number of instances, but some of these are now well-established practices, *e.g.*, the spraying of areca-nuts and coffee with copper preparations and the use of copper salts as a preventive of cereal smut.

Considerable success has also been achieved in controlling some of the major insect pests. The pink boll-worm of cotton, which causes damage of anything up to 50 per cent of the crop in some parts of Northern India, can be controlled effectively by heat-treatment of cotton seed. Effective means have been devised of dealing with periodical locust invasions and a good deal can be done to check the ravages of insect pests of fruit. Here also selection of varieties is important, for some varieties of staple crops, for structural or other reasons, are less liable to insect attack than others. Much work on the Indian insects has been done during the last 30 years and even where insect damage cannot be avoided it can be mitigated. More work is still needed, especially on the insect pests of sugar-cane, which so seriously reduce both the quantity and quality of the produce.

Improvement of quality of crops.—Having sketched briefly the problems connected with the improvement of yield per acre we may return to the improvement of quality as a method of making agriculture more profitable, and it will be noted that such improvements are mainly relative rather than absolute. From a commercial standpoint an improved agricultural product is one better adapted to the needs of industry or better suited to the requirements of the principal market. Not every intrinsic improvement has a proportionate value. Organised industries are extremely conservative over their raw materials and consumers of foodstuffs have pronounced tastes. These preferences are not always easy to explain scientifically but are frequently based on experience. Consequently, research on the improvement of quality in agricultural produce demands a study of the underlying reasons for the suitability of certain materials and foodstuffs and, so far as possible, the quantitative statement of these in terms of measurable values. We have three important examples of such research in India relating respectively to cotton, sugar and wheat. The Indian Central Cotton Committee maintains a research laboratory in Bombay where the relation between the measurable characters

of the cotton fibre and its spinning value are under study, and where all new cottons go through exhaustive practical spinning tests before introduction into general cultivation. At Cawnpore the Imperial Council of Agricultural Research finances an experimental sugar-factory which can carry out small-scale trials of new canes whilst the Sugar Technologist is in a position to organise full-scale factory trials. Practical milling and baking trials on improved Indian wheats have been carried out both in India and abroad and at more than one centre, but mainly by Mr. A. E. Humphreys, for some years President of the National Association of British and Irish Millers, and latterly by the Research Association of British Flour Millers. As stated earlier in this article, the improved strains of these three crops eventually selected for general distribution have largely been characterised by superior quality as well as by enhanced yield. Work is now in progress on the quality of Indian groundnuts, linseed, hemp, jute, rice and barley and some important results have been achieved. Considerations of space forbid a detailed reference to this very important aspect of crop improvement. The question of quality leads on to the problem of better marketing, for the full premia for quality can only be achieved if the mechanism connecting producers and consumers is efficient. This aspect of India's agricultural problem was emphasised by the Linlithgow Commission and, as a result, the Government of India has recently set up an Agricultural Marketing Branch under the Imperial Council of Agricultural Research, which is at present engaged on marketing surveys of the principal agricultural commodities.

In this brief and necessarily somewhat superficial survey of some of India's agricultural problems the various means of improving agricultural production have been touched upon. The results already achieved by the application of the scientific method to agricultural problems are important in themselves and demonstrate the possibility of great future development. The speed of such development will necessarily be affected by numerous economic factors, but will also depend on two others which are perhaps more

easily controlled. Progress will depend in the first place on the extent to which the scientific ability and resources of India can be mobilised for an attack on the many scientific problems requiring solution, and, secondly, on the building up of an adequate organisation for bringing home to the cultivator the results of successful experiment. It is the object of all rural uplift work to foster the desire for a higher standard of living and to show how it can be attained. The practical demonstration in the village of tested agricultural improvements should thus be the central item in all such campaigns.

CHAPTER VII

ANIMAL INDUSTRY

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The excessive cattle population.—As pointed out in earlier chapters, India is a country of small holdings, and the type of agriculture in vogue is such as to require implements of the simplest character only, with little tendency amongst the vast majority of the cultivators towards the use of mechanically propelled appliances. The whole of the vast agricultural industry is, therefore, dependent on the cattle population of the country for its existence, for in India it is the bullock that draws the plough, pulls the cart and threshes the corn. It is no wonder, therefore, that the cow, which, in addition to being the mother of the irreplaceable bullock is also the producer of several articles in daily use, notably milk, which is one of the best all-round foods for children and vegetarians Nature has provided, has been made the object of so much veneration in India and so many social customs have been designed to multiply the species. The same tendency has spread to the treatment of other animals, many of which are concerned in adding to the sum total of the live-stock products of the country, with the result that one shrewd observer, visiting India for the first time a few years ago, was led to remark that India is being eaten up by her animals; and that, in a nutshell, is the great live-stock problem of this country to-day.

The latest available Census figures show that India, with an area of 1,800,000 square miles and a population of 352 million people, contains 300 million animals, excluding pigs and poultry, and that of that number approximately 220 millions are to be found in British India and the re-

mainder in Indian States. The number of cattle and buffaloes alone in British India is 154 millions and Indian States contain 47 millions, while there are 26 million sheep and 36 million goats in British India, and 19 million sheep and 13 million goats in Indian States.

Figures from other countries fade into insignificance when compared with India in this matter, and even the United States of America, which possesses the second largest animal population in the world, with an area of nearly 3,000,000 square miles and a human population of 122 millions, contains only 140 million animals excluding pigs and poultry. When one comes to analyse the Indian figures, however, it is found that for the cultivation of her 300 million acres India possesses only 60 million working cattle, giving an average of 1 pair of bullocks to 10 acres, which is barely sufficient even in the Punjab, where the largest working bullocks are to be found. In the other Provinces, where a very large proportion of the cattle are underfed and undersized, the position is much worse, and the proportion of animals not capable of paying their way must be very large indeed. It is no wonder, then, that the Royal Commission on Agriculture in India should observe, when considering questions relating to cattle-breeding, that it is not *more* cattle but *better* cattle that India requires. The chief reason for the present position appears to be that while a policy of uncontrolled breeding has grown up through the ages, no corresponding efforts have been made to provide the extra amount of fodder required by these additional animals, with the result that a gradual deterioration has taken place throughout India and for many years now the tendency has been to produce more and more animals to compensate for the low productive power of the existing ones. It is clear that unless steps are taken at once to break this vicious circle the economic state of the Indian peasantry must become rapidly worse.

Value of live-stock production.—Let it not be thought, however, that the collective figures of live-stock production in this country are unworthy of consideration. Actually, when

the last estimate was made by a statistician, who based his figures on the prices prevailing in September 1929, the annual value of live-stock and animal products reached the staggering figure of over 2,000 crores of rupees per annum, and even now, with the drop in world prices, it may be assumed that this industry is still worth about 1,300 crores of rupees per annum to India. In arriving at this figure it has been assumed that there has been a drop in prices of 33 per cent since the original valuation was made in 1929, and on this basis the figures of the individual items will be as follows:—

	Crores of Rupees
1. Milk and milk products	540
2. Cattle labour in agriculture	408
3. Manures	180
4. Labour for purposes other than agriculture	107
5. Other products	30
6. Live animals exported	0·12
	1265·12

An analysis of the different items which go to make up this enormous total will be made later, but the most significant fact which has emerged from this statistical analysis is that, in conformity with what has recently been shown to be the case in several other countries, the value of India's live-stock industry is slightly greater than that of her cash crops; and this is a point which should be borne in mind in any economic planning of the future. The main problem in India obviously is to raise the productivity of the individual animal by efficient measures of disease control, the application of scientific principles to all breeding operations, and the introduction of improved methods of feeding, and so either increase the total output of the existing animal population, or, conversely, provide the present output with a small number of animals.

The Government of India early recognised the necessity for devising methods of control for the numerous contagious diseases which periodically attack India's live-stock, and in 1890 set up what is now the Imperial Institute of Veterinary Research, Muktesar, for that purpose. This Institute, therefore, is able to boast of being the oldest

of the central institutes for scientific research in this country and that it has justified the money spent on it can hardly be doubted. Biological products for the diagnosis, cure or prevention of most of the animal plagues of India are now obtainable from this Institute, and it only requires a greater demand by the public for their use for even such a widespread and fatal disease as rinderpest to be brought under control.

Although no central Institute for fundamental work on Animal Genetics has yet been opened in India, a great deal of practical breeding work is being done in the cattle farms maintained by the Agricultural and Veterinary Departments in the different Provinces, and in particular one may refer to the world-wide reputation attained by the Punjab Government Farm at Hissar, which is maintained for the supply of pedigree Hariana breeding bulls to the surrounding districts.

The subject of Animal Nutrition has not yet received the amount of attention it requires in this country, but a good deal of preliminary investigational work has already been carried out by the Animal Nutrition Section attached to the Imperial Institute of Animal Husbandry and Dairying at Bangalore, and at the laboratories attached to the Agricultural Colleges at Lyallpur and Coimbatore; and it is now proposed to build a properly equipped central institute for the further prosecution of this work.

Development of the dairy industry.—In calculating the value of the Dairy Industry in this country, a flat rate of milk consumption of 10 oz. per day per person for the entire population, including that which is consumed in the form of *ghee*, butter and other milk products, was taken, and this has since been corroborated during a careful village survey carried out by Major-General Sir John Megaw, late Director-General, Indian Medical Service, who put the equivalent at 10·8 oz. of milk *per diem*. In other countries the consumption of dairy products is far higher than this, and in a country where the diet is mainly vegetarian, in order to obtain a satisfactory development of youth and for the maintenance

of human health generally, the consumption of dairy products should be at least two or three times as much as it is at present in India.

The greatest limiting factors to an increased consumption of milk in this country are probably the small amount of this article produced by the average cow and the difficulty in obtaining a pure supply at a reasonable cost. Taking the latter point first, if the people of India wish to have a reasonably clean and pure supply they must themselves take the initiative in ensuring more stringent control. The best rules and regulations cannot be effective unless their strict application is insisted on by the public, and this is a matter in which the women of India could take a very active part. At present, effective control of the dairy industry does not exist anywhere in India, not excepting the big cities, where, in some cases, suitable legislation for the purpose has been passed. The enforcement of existing regulations, however, is generally so lax and the provision for expert inspection and testing of dairy products so inadequate that the honest producer of sound clean milk is unable to compete with the dishonest vendor of the very debased product which is commonly sold as milk.

Regarding the capacity of the Indian cow as a milk producer, it should be noted that recent experimental work has shown that indigenous Indian cows, and to a less extent buffaloes, possess latent milking qualities which respond markedly and rapidly to proper feeding and management. One of the best examples of increased production under improved conditions is that of a pure-bred Sahiwal herd, maintained at one of the Military Dairy Farms in Northern India, which in less than 20 years has shown an increase in its over-all milk yield from 5·5 lbs. to 17 lb. *per diem*. In this herd daily average yields as high as 27 lb. have been recorded and one cow in 1931 produced 8,829 lb. in a year's lactation. Moreover, the average butter-fat content of the milk produced by this herd is 4·6 per cent. These figures may be compared with the results recorded for the same year amongst English dairy Shorthorns, of which for the whole of England only

72 gave a yield of 9,000 lb. or over, with a butter-fat content of only 3·7 per cent.

In England it is now generally accepted that an average annual yield of 7,000 lb. of milk is as much as it is sound to aim at in commercial dairying. The best Indian cows, therefore, already compare very favourably with average English dairy cattle, while the possibilities of further improving them by selective breeding still remain.

The scientific development of dairy cattle in India is indeed a matter of the greatest economic importance, and in addition to what is being done on many central and provincial Government farms to improve the indigenous breeds of milch cattle, it is suggested that the wealthy land-owning classes of the country might give their support to this subject by maintaining high grade herds of pure-bred indigenous dairy cattle and by supplying approved sires for use in the villages.

It will be apparent from what has already been said that the potentialities of the dairy industry of India, if systematically developed on modern lines, are immense for external as well as for the already huge internal trade. In order that this development may proceed on a scientific basis the Government of India have recently provided funds for the expansion of the existing central Dairy Institute at Bangalore, and for the equipment and staffing of a Dairy Technological Institute at Anand in Gujerat, where investigational work in the processing, handling and distribution of milk and its products on a large scale will be undertaken.

Although the value of cattle labour, according to the figures available, does not equal that of dairy products in this country, in the minds of the vast majority of the ryots of India there is no doubt which of these two branches of the livestock industry occupies the foremost place; and in considering this aspect of the question we need to remember that not only are cattle used as the main source of labour both for cultivation, irrigation and road transport in India, but, in addition, an enormous amount of transport work is also performed by ponies, donkeys, mules, camels,

elephants in a few areas, and even by sheep and goats in some of the hilly tracts of India.

The fodder problem.—The production of suitable animals, particularly oxen, for use as beasts of burden, is therefore of paramount importance in the economic life of India, and as the country is so large and composed of such varying conditions, one of the greatest difficulties confronting animal husbandry experts is to determine the best advice to give cattle-owners in regard to providing suitable fodder for their young stock, which must be well fed if they are to be a paying proposition when mature, whether they are required for work, milk production or other purposes. While the advocates of mixed farming stress the well-known advantages of this system and the necessity for setting aside a certain area for the production of fodder crops, the economist knows that in many areas the yields of crops are so low that, with traditional methods of cultivation, the available land will yield only a bare sufficiency for the family, with possibly a little over for a pair or two of working bullocks and perhaps a cow in milk. The main fodder of these essential animals will be the residue from the human food-stuffs, so that there is, therefore, literally nothing left for the young stock and other non-producing animals, apart from what they can find for themselves. Those villages which are in the vicinity of forests open to grazing have a great advantage in this matter and even the dry pastoral areas of India, devoid as they appear to be for most of the year of any suitable grazing, rear better stock than the wet arable areas. One matter requiring urgent investigation is whether those forest areas, which are not capable of producing good timber, would be more profitably utilized than they are at present in providing land for the breeding and grazing of young stock. In the case of villages too far remote from grazing areas for these to be of any value to them, and in which the struggle for existence is too intense to make mixed farming a practical proposition, the only solution appears to be to encourage the ryots to reduce breeding to a minimum and rely for their working

animals on the internal trade, which is carried on through the agency either of drovers or fairs, the latter of which are spread like a network throughout India and deserve more attention from those interested in livestock improvement.

Other animal products.—Turning to the lesser items which make up the total value of India's live-stock industries, the largest of these is obtained from the manure which is produced by the different species of animals and is used both as a fuel and for the much-needed enrichment of the soil. Next in importance is the hides and skins industry which is estimated to be worth about 20 crores of rupees annually to India at the present time and with better organisation might be worth a great deal more. The early stages of this industry are in the hands of *chamars*, and butchers, who stand to gain very little by the adoption of better methods of hygiene and flaying; but to show how much improvement can be effected it may be noted that as a result of certain propaganda carried out by the Indian Munitions Board at the time of the Great War, the percentage of hides and skins at the Bandra Slaughterhouse declared suitable for the production of leather for Army purposes rose from 5 per cent to 60 per cent in a few years. Another serious deterrent at present to the advance of this industry is the Warble Fly pest, which is very common in North India and is estimated to be the cause of a loss of 1½ crores of rupees to this industry annually.

The wool industry of India also suffers very greatly from lack of organisation, and although in 1929 the value of wool produced in India was estimated at 3 crores of rupees annually, reliable statistics in regard to this industry are very difficult to obtain. It is to be hoped that the interest which is being taken in sheep-breeding and wool production by the Imperial Council of Agricultural Research will result in an improvement being effected in this matter in the near future.

While on the subject of sheep and their products, a few words may be said in regard to their cousin, that much

maligned but most useful animal, the goat. Schemes for its improvement have also been sanctioned in recent years by the Imperial Council of Agricultural Research, particularly with reference to the improvement of the milking qualities of certain breeds of this animal, which has so often been termed the poor man's cow. In addition its usefulness as a meat producer for some communities must not be overlooked.

Regarding the general question of meat production, attempts to develop this industry have always given rise to considerable opposition in India, owing to the religious precepts of certain sections of the inhabitants; but judged solely by economic standards, the provision of an outlet for animals not required for other purposes is one to be encouraged. The slaughter of valuable milch cows, such as takes place in the large cities of India to-day, is to be greatly deprecated and it is to be hoped that public opinion will soon insist on the practice being stopped, but the institution of proper arrangements for the humane destruction of other animals, inspection of the meat, whether for consumption in India or for export, and the disposal of such by-products as bones, horns, etc., would be of great advantage to the community, both from the hygienic and from the economic point of view, and also to the animals themselves.

The export trade in live animals, mostly cattle, is a small item at the present time, but it is one that should not be ignored, for it is capable of considerable development. It has been found by experience that the Indian Zebu, by reason of its natural immunity to certain classes of diseases and ability to exist on a small ration, is very suitable for export to other tropical and sub-tropical countries, and this should be a matter of congratulation amongst Indian breeders. The success of the British Live-stock Industry has been largely attained through its export trade, and given suitable methods of control, to prevent the exportation of foundation breeding stock, a development of the trade between India and other tropical countries should give a much-needed fillip to the breeding of some of

the most sought after breeds, such as the Ongole, Scindi, Gir, etc.

A description of India's live-stock industries would not be complete without a reference to Poultry, although no attempt has been made in this aritcle to estimate the value of this subsidiary industry. From other countries, however, where the development of this industry has proceeded on scientific lines, very remarkable figures are available; and in the United Kingdom to-day it is estimated that the value of that country's poultry products is greater than her entire wheat crop. How much easier, therefore, it should be to produce striking results in India, which is the home of the domesticated fowl and is in every way suitable for the development of this industry, once the control of contagious disease has been effected!

A passing reference may also be made to such cottage animal industries as silk-worm rearing and bee-keeping, regarding which it has recently been realised that they are worthy of more attention with a view to their improvement.

To sum up, it may be stated without fear of contradiction that in her Animal Industry India possesses an enormous potential wealth, probably greater than the value of a single industry of any other country in the world, and that its exploitation on scientific lines by the aid of an organisation suitably equipped for this purpose is likely to produce results of far-reaching importance in her future economy.

CHAPTER VIII

IRRIGATION AND ITS POSSIBILITIES

By Sir Bernard Darley, Kt., C.I.E.

Ancient works of irrigation.—The rainfall over the greater part of the Indian peninsula is so unequally distributed, and so often liable to failure or serious deficiency, that successful cultivation cannot be assured for any considerable period unless facilities are available for watering crops artificially when necessary.

The average rainfall over the country as a whole is 45 inches per annum: but variations are considerable; the average annual fall is only three to five inches in upper Sind and the South-west portion of the Punjab, while it is as much as 50 to 100 inches in the submontane tracts of the United Provinces.

Rainfall is also unequally distributed throughout the seasons. Except in the south-east of the peninsula, where the heaviest precipitation takes place from October to December, by far the greater portion of the rain falls during the South-west Monsoon, between June and October. Rainfall in the other months only amounts to an inch or two over the greater part of the country.

From the agricultural point of view undoubtedly the most unsatisfactory feature of the Indian rainfall is its liability to failure or serious deficiency. Before irrigation works gave assured supplies of water to the more precarious areas, or railways had been built, which enabled grain to be transported to districts where crops had failed, ghastly famines ravaged the country periodically and scarcity was the common lot of the people over large areas in many years.

Irrigation was undoubtedly practised in small isolated areas from the earliest times. Wells have been used for this

purpose from time immemorial and most of the numerous tanks, which are found in Southern and Central India, have been in existence for many generations: indeed, two in the Chingliput District of Madras are shown by their inscriptions to be over 1,100 years old. Small inundation canals from the Indus and other rivers in the Western Punjab and Sind undoubtedly provided water to riverain areas during the flood season. Some of these rivers have dried up or have changed their courses, but ancient forts and mounds covered with broken pottery still mark the site of towns and villages once occupied by an ancient people who lived along the banks of these old rivers.

Only a few irrigation works of any magnitude were constructed before the country came under British rule. Probably the oldest of these was the Cauvery Delta system of canals in Madras; these were fed originally with the help of an ancient stone weir, known as the Grand Anicut. For some 1,600 years this work withstood all floods and forced water down the Cauvery and into the Delta area which was irrigated by means of artificial cuts from the numerous branches of the river.

Two other notable old works were the Western and Eastern Jumna Canals. The former was built by Feroz Shah about the middle of the fourteenth century to carry water to the Emperor's hunting lodge at Hissar. It was extended by Shah Jahan to irrigate his gardens near Delhi about the middle of the seventeenth century. The Eastern Canal was constructed by Muhamad Shah to carry water to a royal preserve at Ranup. Neither of these works functioned efficiently; the Western Canal was taken through a series of depressions which gradually formed unhealthy swamps; the Eastern Canal was abandoned within a very few years because of its faulty design and excessive slope.

The only other old work of any magnitude was the Hasli Canal constructed from the Ravi to carry water to Lahore, with a branch to Amritsar to supply water to Sacred Sikh tanks at that place.

Irrigation under the East India Company: the Jumna and Ganges Canals.—The first efforts of the British engineers under the East India Company were directed towards the improvement of these old indigenous works.

In 1819 Lieutenant Blane of the Bengal Engineers was sent by the Company to reopen the Western Jumna Canal which had fallen into disuse in the middle of the previous century. For reasons of economy the old channels running in depressions were utilized once more and a small quantity of water passed into the canal in 1821.

After the famine of 1832–33 the canal was enlarged and numerous irrigation channels dug; but the work was done in haste and many of the alignments were faulty. No check was put on over-irrigation and because of this and the bad alignments much of the country became water-logged and most unhealthy. It was not until 1873, however, that remodelling was taken in hand seriously; channels were re-aligned on watersheds and in the succeeding years drains were dug and the country gradually reclaimed. Eventually a canal with a permanent headworks emerged, which is now entitled to rank as a modern irrigation work. There are at present over 2,000 miles of main canals and distributaries irrigating some 800,000 acres annually.

The reopening of the Eastern Jumna Canal was investigated under the orders of the East India Company shortly after the Western Canal was taken in hand. It was opened once more in 1830, but unfortunately many of the mistakes made on the western side were repeated here also and in addition the canal was given too steep a gradient.

Eventually the canal was remodelled and distributaries re-aligned and now there is a modern canal taking off on the opposite side to the Western Canal from above a common masonry weir which was constructed across the Jumna at Tajawala in the Saharanpur district during the years of 1875–79. This canal, with over 900 miles of main line and branches, now irrigates about 400,000 acres annually and is one of the most remunerative irrigation works in India.

It is not too much to say that the lessons learnt from the Jumna canals laid the foundations of the modern science

of the design of irrigation canals throughout the world. These lessons were of the utmost value to the engineers who were engaged upon so many great canal schemes during the middle and latter half of the last century, and when some of these engineers were called to Egypt they carried with them the experience thus gained in India.

At the time when the Jumna canals were being reopened Madras Engineers were engaged in the development of the old irrigation works in the delta of the Cauvery River. The East India Company became responsible for the maintenance of the Grand Anicut when the district of Tanjore was ceded to them in 1800. For years the position had been becoming more and more unstable as the Cauvery branch of the river had been drawing less water owing to silt deposits near the head. Eventually Captain (afterwards Sir) Arthur Cotton of the Madras Engineers in 1836–38 replaced the old Anicut by a new masonry bar with sluices. These sluices were not large enough, but the works were successfully remodelled during 1843–45 and they now irrigate over a million acres from some 3,500 miles of main canal and distributaries.

The success achieved by remodelling these major works in Northern India and Madras led to a vast expansion of irrigation in several Provinces with a view to mitigating the numerous famines which ravaged the country periodically.

In 1842 the construction of the Ganges Canal was begun, but owing to delays caused by the Afghan and Sikh Wars it was not opened until 1854. This great work stands as a monument to the engineering and architectural skill of Sir Proby Cautley, then a Captain in the Bengal Artillery. This officer had been one of those engaged previously on the remodelling of the Eastern Jumna Canal and the lessons learnt there enabled him to design and construct a canal which is even now one of the greatest and most successful irrigation works in the world. It adjoins the Eastern Jumna Canal and with it irrigates the northern portion of the Ganges-Jumna Doab. The main line of this canal from its head at Hardwar to Cawnpore was built for navigation also:

it was connected at the tail by means of a series of locks with the Ganges River, then a great highroad for the transport of heavy goods from Cawnpore to the sea. Considerable traffic passed up and down the canal before railways provided a more modern form of transport. It is still used to a modified degree for this purpose.

The Ganges Canal now consists of 3,888 miles of main line and distributaries which irrigate about 1¼ million acres annually. It has converted a famine-ridden tract into one of the richest in Northern India. In 1933–34 300,359 acres of wheat, 163,433 acres of sugar-cane and 156,318 acres of cotton were grown with the help of canal water and the total value of crops raised that year in the area irrigated was Rs. 3,53,41,080 (£2·6 millions).

Another of the great classic works of Northern India undertaken by the East India Company is the Upper Bari Doab Canal. This canal was built to replace the old Hasli Canal, already mentioned, which carried water to Lahore and Amritsar from the Ravi River. The construction of this canal was undertaken soon after the annexation of the Punjab in 1849 but was not opened until 1859. The country commanded by this canal has been converted from wild jungle into one of the most highly cultivated tracts in the Punjab. The system to-day comprises 1,845 miles of main canal and distributaries irrigating about 1¼ million acres annually.

While these great works were being constructed in Northern India, the Madras Engineers were not idle. There had been four years of famine and three of scarcity during the ten years 1832 to 1841. The success of the Cauvery system during those years of distress led Sir Arthur Cotton, then Major Cotton, to propose the construction of a weir on the Godavari River with the view of irrigating the delta area. This work was sanctioned in 1846 and eventually the Gautami Godavari and the Vasista Godavari, each with two branches, were harnessed by four weirs, one on each branch.

These weirs, with a total length of 2¼ miles, were an extremely daring piece of engineering carried through successfully at a time when there was no previous experience

of such works except the weir on a much smaller scale built by Major Cotton himself on the Cauvery. The canals taking out from these weirs now irrigate nearly a million acres annually. They were constructed for navigation as well as irrigation and they provide an excellent means of transport to the present day.

The success of these works led to the construction of a weir and canals to irrigate the Kistna Delta, which, though a smaller scheme, was none the less a bold enterprise. This work was completed successfully in 1855 and with few alterations it stands as originally constructed to-day. The Kistna Delta system now comprises 2,535 miles of main canal and distributaries, which irrigate over 700,000 acres annually.

The only other work of magnitude undertaken under the auspices of the East India Company was the improvement of a large number of the indigenous inundation works taking off the Indus and its tributaries in the Punjab and Sind.

The first work undertaken about 1851 was the Begari Canal, taking out from the right bank of the Indus above Sukker. This canal, before it was partially replaced by one of the new Sukker Barrage canals, used to irrigate some 300,000 acres in a good inundation year.

In 1857 the improvement of the Fuleli Canal was begun. This is the largest inundation canal in Sind. It is now capable of carrying 10,000 cubic feet a second and it irrigates about 450,000 acres annually.

Apart from these larger works various smaller schemes were undertaken under the orders of the East India Company. Some of the small hill streams in the submontane tract of the United Provinces in Dehra Dun and Rohilkhand were harnessed and small canals constructed to irrigate that fertile country. Various tanks schemes in Southern India were also improved and remodelled.

Irrigation schemes of private companies.—All these earlier irrigation schemes were built out of revenue surpluses and, though profitable, the capital outlay imposed a heavy strain

on the resources of the East India Company. In 1857, therefore, the Court of Directors asked for proposals to construct new works in Madras by private enterprise. Sir Arthur Cotton, then at the zenith of his career, recommended a huge irrigation and navigation system which would link up Madras canals on the west with the Bombay Deccan and on the east with a system of Orissa canals, then under consideration. He also proposed a navigation canal from the Ganges north of Calcutta to connect that city with Cawnpore and so up the Ganges Canal to Hardwar, 1,200 miles away.

Two companies were floated in England to take up these ambitious schemes section by section. The first company, under the title of the East India Irrigation and Canal Company, was formed in 1858 with the intention of constructing irrigation and navigation canals in Orissa. Work was actually started on these canals in 1863 but by 1866 the whole of the capital of the company had been spent and eventually in 1868 Government took over the work, paying the company £990,000 as their share of the expenses to date. The Orissa canals, which were completed eventually, now irrigate over 200,000 acres annually. These canals have never been a success owing to the fact that the rainfall over the tract averages 60 inches per annum, a fact that was entirely ignored when the project was framed.

Government also undertook later the construction of the Son Canal in Behar, which was part of the Company's original scheme. This canal has not worked up to expectations though it irrigates 570,000 acres annually.

The second Company, known as the Madras Irrigation Company, was formed in 1863 with a capital of £1,000,000. This also was a sad failure. Work was started on only one portion, known as the Kurnool Cuddapah Section, of the vast scheme proposed by Sir Arthur Cotton for utilising the waters of the Tungabhadra and Penner rivers. On completion of this section, work was stopped for want of funds and Government were compelled to buy out the Company for £1,185,500 and carry on the construction themselves. The Kurnool Cuddapah Canal has been a failure. It only irrigates about 80,000 acres annually and

the net revenue is not sufficient to meet the interest charges.

Thus ended the disastrous chapter in the history of irrigation schemes financed by private enterprise in India.

New financial policy.—To meet the cost of taking over these projects and of carrying out irrigation schemes elsewhere, the Governor-General, Lord Lawrence, urged the Home Government to permit remunerative irrigation works to be constructed from loan funds. No project was to be taken up from such funds which did not promise to be remunerative within a given time. The appalling famines which ravaged the country periodically made it imperative that money should be raised by some means for irrigation works. During the Orissa famine of 1865–66 it was estimated that about a million people died—over a quarter of the population in the tract affected.

The Secretary of State accepted the principle of financing productive works by loans raised in the open market and this led to the inauguration of five irrigation works of great magnitude, namely the Sirhind Canal in the Punjab, the Lower Ganges and Agra Canals in the United Provinces, the Lower Swat Canal in the North-West Frontier and the Mutha Canal in Bombay. Apart from these major projects several smaller ones were undertaken, notably the further development of the inundation from the Indus in Sind.

The Sirhind Canal, taking out from the Sutlej River, commands an area of 8,500 square miles, of which 47 per cent is British, 35 per cent in Patiala State and the remainder in the States of Nabha, Jind, Faridkot, Malerkotla and Kalsia. This canal has been a vast success; with a total mileage of 3,733 miles it irrigates an area of about 1,800,000 acres annually and pays a return of 11½ per cent on the capital invested.

The Lower Ganges Canal, which was commenced in 1872, takes out about 120 miles below the Upper Canal head. The two canals are interlinked and share the supplies available at both headworks. This canal, with 3,827 miles of main canal and distributaries, now irrigates nearly a million acres annually.

The Agra Canal takes out from the right bank of the Jumna and irrigates a very dry tract on that side of the river. Orders were issued to prepare this project in 1868, but in the meantime work was started on the weir and main canal in order to afford employment for a famine-stricken population. The existing Agra Canal has 1,002 miles of channel and irrigates about 280,000 acres annually.

The Lower Swat Canal commands a most forbidding country in the North-West Frontier Province. The project for this canal was sanctioned in 1876 not only as a productive work but also because of the anticipated political effects on the turbulent hill tribes which inhabit the surrounding country. Although the original estimates were greatly exceeded this canal has been a vast success. It has turned the lawless inhabitants into peaceful cultivators who now irrigate annually about 160,000 acres of what was formerly barren waste, or far more than anticipated when the project was prepared.

India was already well ahead of other countries and in the magnitude of the river works from which their supplies were drawn; with the construction of the Mutha project in the Bombay Presidency she entered upon a new field, the building of great masonry dams. The object of the scheme was twofold, the protection from famine of a very precarious tract in the Poona District and to provide an assured supply of drinking water to the town of Poona and the cantonment at that place and at Kirkee. The work which was commenced in 1869 consists of a dam nearly a mile long and at one point it is 109 feet high above the foundation level. The reservoir above has a storage capacity of 3,955 million cubic feet and is over six square miles in extent.

The most important inundation canal undertaken in Sind under the new financial policy was the Desert Canal, which, taking out in the north of Sind, runs parallel to the Baluchistan border and has been an important factor in weaning the frontier tribes from their inveterate lawless habits. It has also been a profitable undertaking, irrigating over 200,000 acres annually.

Agricultural colonisation works.—The last 20 years of the nineteenth century are chiefly remarkable for the inauguration of the first colonisation canals in the Punjab and famine protective works in many parts of India.

In 1880 the greater portion of the Punjab consisted of arid waste with a rainfall which varied from 5 to 15 inches per annum, and this desert area was sparsely populated by nomad tribes of camel and sheep graziers. In order to open up some of these waste tracts, and at the same time to relieve the pressure on the land in highly populated areas elsewhere, Government took over these unclaimed lands as Crown waste and embarked on a scheme of colonisation. The country was first surveyed and divided into large squares or rectangles; these in turn were subdivided into smaller squares which varied in area in the first colonies from 22½ to 27½ acres each, but were standardized at 25 acres in all later schemes. Canals were then constructed and village boundaries demarcated, one or more watercourses being allotted to each village. In the first colonies these squares were sold for nominal sums, chiefly in small blocks, to peasant proprietors or given free to military pensioners. The success of these first colonies was so great and the value of land rose so rapidly that Government eventually adopted the principle of auctioning the best lands to the highest bidder. A large area in each colony was, however, set aside for selected peasant proprietors who were allotted one or two squares each on fixed terms; these enabled them to acquire proprietary rights after paying for their land by instalments in a stated number of years.

Colonisation has gradually developed into a fine art. Peasants of the same caste and creed are allotted lands together in the same village. All villages are laid out on a model plan round a central well, with a separate section for servants' quarters. Village roads are aligned ahead, so that each man can get to his holding without trespassing on the land of his neighbour. Concessions are given to those who plant and maintain a shade line of trees along these roads. Once cultivation begins in earnest, market towns are soon established with good district roads radiating

into the surrounding country. Cotton factories and oil and flour mills are built by private enterprise. Thus within a very few years a wild desert is turned into a highly cultivated country inhabited by a happy, prosperous people, each man owning his plot of land and living in more sanitary surroundings than are to be found elsewhere in India.

The first colony canals were the Sohag, taking out from the right of the Sutlej below Ferozepur, and the Sidhnai irrigating in the Multan District. Neither of these schemes is large; the former has since been absorbed by the Sutlej Valley canals, while the latter now irrigates about 250,000 acres annually.

The success achieved by these schemes led to the construction of the Lower Chenab Canal, one of the largest and probably the most successful and remunerative canal in India. The country commanded was most uninviting desert and the average price obtained for the land when colonisation started in 1892 was only Rs. 43 per acre, but prices quickly rose and in later colonies ten times this sum was often paid for good land.

Lyallpur, the capital of this colony, is now a large flourishing town with an enormous export trade. The capital headworks have been remodelled and enlarged and the system now irrigates 2¼ million acres annually. The accumulated surplus of revenue over expenditure is nearly Rs. 400 millions and the return on the capital outlay is about 40 per cent per annum. The value of crops raised annually is nearly five times the original capital cost of the works.

Famine protective works.—The second marked advance in the later part of the last century was the inauguration of Famine Protective Works.

As a result of the great famine of 1877–78 it was decided to set apart each year a sum of Rs. 150 lakhs, known as the Famine Relief and Insurance Fund. Part of this was to accumulate, to be utilised on district famine relief when necessity arose. One half was, however, allotted for the construction of protective railways and canals; the charge

on account of protective railways has now ceased and the whole amount has consequently been avaliable for many years for irrigation works.

Works were to be undertaken which would protect a country subject to famine, whether they were likely to prove productive or not. It was recognised that a considerable outlay was justified to save Government from a heavy periodical expenditure on famine relief works.

The first protective work sanctioned was the Betwa Canal, which irrigates a precarious tract in the Jhansi and Jalaun districts of the United Provinces. There are now two storage reservoirs, one at the canal head and one, added later in 1906, farther up stream. These store 6,220 million cubic feet of water between them and in years of scarcity about 200,000 acres of crops are matured, sufficient to save this country from famine.

During the same period the Rushikulya project was undertaken in Madras and several important storage schemes were inaugurated in Bombay Deccan. The most important of these are the Nira and Periyar canal systems, which are each fed from lakes held up by massive masonry dams.

In Sind two important works were undertaken, the Jamrao and Western Nara canals. The former takes out from the old Nara, formerly a mighty river running parallel to the Indus, but now dry save for a supply passed into it through the Eastern Nara Canal, taking out from the left bank of the Indus at Rohri.

The success of both the productive and famine protective works of the last century led to the appointment of the Indian Irrigation Commission of 1901–03. This Commission, consisting of irrigation and revenue experts, toured the country in 1901 and 1902 and presented a report in 1903 recommending definite lines of policy regarding the selection, financing and maintenance of canal works. This report also enumerated some of the important works which might with advantage be taken up in each Province.

As a result of the Commission's recommendations a very large number of new works were undertaken between 1905 and the outbreak of the Great War.

By far the most important of these works was the Triple Canal project in the Punjab. This bold scheme linked up the Jhelum, Chenab and Ravi rivers and made it possible to construct the Upper Jhelum, Upper Chenab and Lower Bari Doab canals.

The Upper Jhelum Canal is a magnificent piece of engineering. The main line runs parallel to the river along the foot of the Salt Range on a most difficult alignment which necessitated no less than 60 drainage crossings. Two of these are level crossings of considerable size, the larger consists of a barrage 1,582 feet long with 33 bays each of 40 feet span fitted with steel gates, which can be raised to allow floods to pass across the canal.

The Upper Chenab main canal has the largest carrying capacity of any canal in the world. Designed to take 11,700 cubic feet per second, it now is called upon at times to carry considerably more. A large portion of this discharge is passed on into the Ravi just above the barrage which was built to supply the Lower Bari Doab Canal. The total area commanded by this vast project is 3,997,000 acres; of this 1,570,000 acres is Crown waste, practically all of which has been colonised. Nearly 2 million acres are now irrigated annually.

During this period also, work on the Lower Jhelum Canal was completed. This scheme had been sanctioned in 1888, but work was not begun in earnest until 1897, and then various difficulties led to further postponement. The canal was opened in an incomplete state in 1901, but it was not finished until seven years later. It now commands 1½ million acres, 568,000 acres of which are Crown waste, and over 800,000 acres are irrigated annually.

Most of the other works carried out as a result of the recommendations of the Irrigation Commission were famine protective storage works irrigating in the hilly tracts of the Central Provinces, Bombay Deccan and Bundelkand. Although none of these schemes irrigate such vast areas as those mentioned above, still they stand out for the boldness of the design of their massive dams and for the size of their reservoirs, which are often 10 to 20 square miles

in extent. The construction of these canals in a rocky country, where the main channel often has to wind through hilly districts for many miles, crossing every form of obstruction before the fertile valley to be irrigated is reached, offered difficulties never encountered in the flat alluvial plains of Northern India.

Although the rainfall in the Central Indian plateau averages 40 to 60 inches, per annum, it is so unevenly distributed and it so often fails at critical periods that famine and scarcity used to be the common lot of the people. During the famine of 1899–1900 nearly one quarter of the whole population of the Central Provinces were in receipt of relief and Rs. 437 lakhs were spent on famine works and gratuitous relief in order to keep the people alive. Since that time some 35 works have been constructed for which capital and revenue accounts are maintained. The largest of these are the Mahanadi, Wainganga, Tendula and Ramtek canal projects. The first two are works of some magnitude and are each capable of irrigating about 100,000 acres annually.

In the adjoining districts in Bundelkand, Allahabad and Mirzapur of the United Provinces almost every populated tract suitable for irrigation has been provided with canal water. The principal works constructed since 1903 are the Ken, Dhasan, Ghaghar, and Garai Canals. Each of these canals has two reservoirs, one at the canal head and a larger one higher up the river. The Ken and Dhasan are capable of irrigating 130,000 and 100,000 acres respectively in years of scarcity when there is a great demand for canal water.

Besides these works for which capital and revenue accounts are kept, innumerable small tank schemes have been constructed, each holding enough water to protect two or three villages. Many were constructed as famine relief works during the famine of 1907–08 and the remainder as petty agricultural works.

Similarly in Bombay Deccan a large number of storage works have been completed since the beginning of the present century. Here have been constructed some of the

finest dams in the world. The Bhandardara Dam is 270 feet high and it stores 10,800 million cubic feet of water. The Bhatgarh Dam, constructed to replace the old dam of the same name, is over a mile long and is 190 feet high. It can store 24,300 million cubic feet of water. These two dams supply water to the Pravara River Works and the Nira Right Bank Canals which are capable of irrigating 57,000 and 132,000 acres respectively in dry years.

The success of the Lower Swat Canal in the North-West Frontier Province led to the construction of the Upper Swat Canal, which was opened in 1914. This canal is passed, by means of a tunnel over two miles long, through the Malakand range of hills. The scheme now irrigates nearly 200,000 acres annually.

The only other canal of magnitude completed during this period was the Tribeni Canal in Behar. This canal has never worked up to expectations and is run at a loss. It irrigates nearly 100,000 acres annually.

Post-war irrigation development.—After the Great War the world entered on a period of fictitious prosperity. Wages in the world's markets had increased enormously; prices had soared and with these the value of land and food grains had gone to unknown heights. Fortunes were made out of the land, more particularly where irrigation enabled the better-class crops to be grown. Projects, which had previously appeared doubtful from the financial point of view, now offered prospects of remunerative returns. Governments were launching out into expenditure on roads, railways and buildings in all directions, deceived into believing that this prosperity would last.

The waters of all the great rivers of Northern India were being fully utilised for irrigation as far as this was possible, except in the case of the Indus, Beas and Sarda. Three very large canal projects were hurriedly prepared and sanctioned in quick succession. These were the Sukkur Barrage scheme in Sind, the Sutlej Valley scheme to irrigate partly in the Punjab and partly in the Indian States of Bahawalpur and Bikaner, and the Sarda Canal project

to irrigate parts of Rohilkand and Oudh in the United Provinces. These were all schemes of the first magnitude about which controversy had raged for years. They were pushed through at a time when prices were at their height and their united cost has been as much as all the previous expenditure on productive canal works in India. The Sukkur Barrage is a magnificent piece of work; built of local stone, it contains 66 spans each 60 feet wide, which can be closed by means of steel gates 18½ feet high. Taking off from either bank above there are seven canals with a total length of 6,564 miles and these can draw off a combined discharge of 46,000 cusecs. A gross area of 7½ million acres is commanded by these canals, of which it is estimated that 5⅓ million acres will be irrigated annually. Much of this area previously received a precarious supply of water from old inundation canals, but a large area of waste land is also being colonised. This is the largest canal project taking off from a single headworks in the world, and its total cost has been over Rs. 2,300 lakhs (£17,000,000).

The Sutlej Valley project has been constructed to utilise the supply of water available in the Beas and any coming from the five rivers of the Punjab after the needs of the canals above have been met. There are four weirs, three on the Sutlej below the junction of the Beas and one on the Panjnad River; this is the link into which the waters of all five rivers of the Punjab find their way, before passing into the Indus.

There are in all 10 canals taking off above these four weirs, with a total length of 9,600 miles; these can draw off a combined discharge of 48,516 cusecs and it was anticipated that over 5 million acres would be irrigated annually, of which nearly 2 million acres of waste lands were considered suitable for colonisation. Unfortunately the original estimate for this scheme was prepared very hurriedly and it has been exceeded considerably; the total cost to date is over Rs. 2,100 lakhs (£16,000,000). Much of the land, particularly in Bahawalpur State, has been found unsuitable for cultivation. Lastly the supply of water in the Sutlej and Beas rivers, in certain seasons of

the year, is less than anticipated. All these factors have led to disappointing results.

The Sarda Canal was designed to irrigate 13 million acres in a country already highly populated in Rohilkand and Oudh, parts of which had suffered considerably in famine years in the past. This canal, with 4,177 miles of main canal and distributaries, is the longest single canal system in the world. It was opened in 1928 and already irrigates 300,000 acres of wheat, 250,000 acres of sugar-cane and 400,000 acres of other crops. It thus bids fair to turn the country served into one of the richest tracts in India.

It is most unfortunate that these three great post-War schemes should have come into operation at a period of unprecedented depression in the agricultural world. It will be years before any of these can be classed as productive.

Another great work just completed is the Cauvery Mettur project in Madras, which comprises the most massive dam ever constructed; more than a mile long and with a maximum height of over 200 feet, it will hold up a lake capable of storing 80,000 million cubic feet of water. This will be used for the generation of electric power and also to supplement the fluctuating supplies of the old Cauvery systems and for an area 300,000 acres of new irrigation.

The Nira Right Bank Canal scheme is also another important work, one of the largest of its kind in India, the Lloyd dam connected with it being designed to impound over 24,000 million cubic feet of water.

Lastly there is the Damodar Canal in Bengal, recently opened, which has been designed to irrigate 200,000 acres in the Burdwan and Hooghly districts.

This completes the history of achievement in the past; the only other large scheme likely to be undertaken in the near future in Northern India is the Haveli Canal to utilise the spare water in the Chenab River below the junction of Jhelum. It is estimated that 1,500,000 acres can be commanded, of which 1,000,000 acres now receive precarious supplies from the Sidhnai and old inundation

canals, and the remainder is desert land suitable for colonisation.

Two other doubtful projects have been proposed in Northern India, namely the Thal Canal scheme from the Indus and the Lower Sarda Canal. Neither of these schemes holds out much hope of success; the former because the country commanded is very sandy and unsuitable, and the latter because the demand for irrigation in the eastern districts of Oudh is not sufficient to warrant the enormous expenditure which would be involved.

Elsewhere all available river supplies have been fully utilised, and if anything is to be done it must be by means of storage works to hold up the water which now runs away during the monsoon period unused to the sea, or else by pumping from the subsoil water table by means of tube wells.

The Bakra Dam project contemplates an enormous dam on the Sutlej River, over 400 feet high, to store 120,000 million cubic feet of water. This will supplement supplies in the existing canals taking off the Sutlej and Jumna rivers and enable irrigation to be extended to a dry tract in the Western Punjab.

There is also a project for a great dam on the Kistna, in Madras, which was held in abeyance pending the completion of the Cauvery Mettur project. Further storage schemes are also contemplated in Bombay Deccan, the Central Provinces and in Bundelkand.

Tube-well irrigation schemes.—The day of great irrigation schemes in India is now over, and it will be necessary to turn more and more to the subsoil water table as the source of supply when new lands have to be developed in order to meet the ever-increasing pressure on the land as the population of India expands. Already 5 per cent of the cropped area in British India is irrigated from wells while 13 per cent is irrigated by Government irrigation works. In the United Provinces, where spring level is for the most part reasonably near the surface, canal and well irrigation go hand in hand. Only 35 to 50 per cent of the culturable area in any tract is

provided with canal water and the people are compelled to use their wells for any further irrigation. As spring level rises in the Punjab and Sind the same principle will probably be adopted there and canal water will be released for expansion elsewhere.

Electric power generated at a canal fall on the Upper Bari Doab Canal of Amritsar has been used in order to pump water from tube wells for irrigation for many years. A larger scheme has also been inaugurated in the United Provinces for similar pumping from tube wells by means of hydro-electric power developed at falls on the Ganges Canal. Three falls have already been harnessed and these provide 8,900 kilowatts. Two more falls, which will yield a further 6,000 kilowatts, are being electrified and it is hoped that by this means 28,000 kilowatts will be available by the year 1940. All the adjacent towns are gradually being supplied with electric light and power. Landowners are being encouraged to sink tube wells and electricity is sold at cheap rates which will enable them to pump water for high class crops such as sugar-cane, wheat and cotton. Government has also installed some tube wells, each capable of irrigating annually 150 acres of sugar-cane and 250 acres of wheat. Two schemes for pumping water from low-lying streams, which could not otherwise have been used for irrigation, have been constructed and other similar projects are under consideration.

In the Punjab power from the large Mandi hydro-electric scheme, lately completed, will probably be used for the same purpose.

Economic benefits from irrigation.—Altogether Government has spent to the end of 1933 Rs. 9,700 lakhs (£72,000,000) on productive irrigation works in British India and these irrigate over 21 million acres annually and bring in a net profit after paying working expenses and interest charges of about Rs. 400 lakhs per annum.

Similarly, a sum of Rs. 4,300 lakhs (£32,000,000) has been spent on non-productive and famine protective works which irrigate 4 million acres annually and are run at a

loss of Rs. 120 lakhs per annum. No credit is given, however, for the expenditure on famine relief which has thus been saved nor for other indirect receipts which accrue from stamps, excise, railways, salt, etc., when a countryside is prosperous. If these were all taken into account this annual loss would be more than covered.

But the benefits of irrigation cannot be measured only by Government receipts, nor indeed by the area irrigated. India has an ever-growing population which must be fed; the time is not far off when every available acre will be cultivated and still more land will be required to raise food for the multitude. The only remedy for this desperate situation will be to increase the yield from the land already under cultivation. Much has already been done in this direction with the help of canal irrigation; the cheaper classes of grain, more particularly millets and pulses, have given place to good rice and wheat and the diet of the people has improved accordingly. The yields also have been increased enormously with the introduction of improved seed by the Agricultural Department. Much, however, remains to be done and it is safe to say that, with better seed and more efficient cultivation, the yield from crops in India could be increased by from 30 to 50 per cent according to the locality. Thus as the pressure of the population on the land increases, the value of these great irrigation works constructed in the past will become more and more apparent. In the meantime they have banished the grim spectre of famine and brought peace, prosperity and a higher standard of living to the whole country.

CHAPTER IX

RURAL INDEBTEDNESS

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Causes of debt.—Indebtedness is a familiar evil in all agricultural communities, but its worst results are seen in the countries where peasant farming prevails. The large farmers of America and Australia sometimes get heavily indebted, but it is mostly due to sudden fall in the price-level or to the vagaries of season; but in countries where the *petite culture* obtains, peasants are chronically in debt, partly because of the insufficiency of their income and partly on account of improvidence and ignorance, which are characteristic of peasant life, especially in the East. Indeed, the American farmer raises large loans, but those are mostly for productive purposes; the Indian ryot borrows chiefly for maintaining himself or for celebrating marriages and other social ceremonies. Thus, in the United Provinces, according to the Provincial Banking Enquiry Committee, 70 per cent of the existing debt was contracted for unproductive purposes, and the same is more or less true of Bengal and Bombay.[1] Even in Madras, where things are slightly better, the proportion of unproductive borrowings was found to be 60 per cent in several districts.

Although improvident borrowings are the characteristic feature of the Indian debt problem, it cannot be said that this is the only or even the fundamental cause of debt. India is a poor country and a large number of people do not earn enough to maintain themselves even in a normal

[1] *U.P. Banking Enquiry Report*, p. 84; *Bengal Report*, p. 74; *Bombay Report*, p. 52.

year. But normal years are not too frequent in India. In nearly every year, something or other happens to crops or cattle; rain fails or there is too much rain and flood; or rains come at the wrong time. This leads to crop failure and the loss of cattle, and the ryot is compelled to borrow for what he calls "family necessity"—*i.e.*, chiefly for maintenance. But his normal income is not sufficient to repay such loans, and therefore they accumulate. In these circumstances, as Mr. Darling says: "To support a family upon a few acres without getting into debt requires a level of skill, industry and thrift seldom attained in a hot country. Undoubtedly it can be done, just as a small sailing boat weathers the storm of the Atlantic; but unless the boat is both well found and well manned it will assuredly sink. In India the farm is too often neither the one nor the other and nature can be almost as destructive on land as at sea."[1]

There are indeed parts of the country where nature is more generous; but in such areas, other causes lead to exactly the same results. Normally a ryot can eke out his livelihood, but a daughter gets married, and as inexorable custom demands, money is borrowed for festivities and for paying dowry. The amount may be small, but for a householder who just makes both ends meet there will be little surplus, even to pay interest, and soon the debt accumulates, a mortgage is executed, and eventually foreclosure follows. Such is the course of debt in India.

Although the genesis of debt is in improvident expenditure and vicissitudes of season, its growth is largely due to the accumulation of interest. Interest rates vary with the nature of the security, the position of the parties, the purpose of borrowing, the period of loan and so forth. They are lowest in the ryotwari tracts, and highest in the zamindari tracts and where the ryot has only tenancy rights in land. In the Punjab and the Central areas, where there are restrictions on the alienation of land, the rates vary between agriculturist and non-agriculturist lenders. Thus in Madras and parts of Bombay 9 to 12 per cent is the common rate

[1] Darling, *Punjab Peasant in Prosperity and Debt*, p. 25.

and the village moneylenders do not usually charge above 18 to 24 per cent even on unsecured loans; but in Behar and Orissa, Sind and Assam, the usual interest charged is between 25 and 50 per cent, and even in the United Provinces 18 to 37 per cent is the rule. Indeed, landowners in most provinces can raise loans on first mortgage at rates between 9 and 12 per cent, but the small-holders have often to pay higher rates; and as for tenants and labourers, who have no proper security to offer, the rates charged may be anything up to 150 and even 300 per cent. The rate of interest on grain loans is nowhere below 25 per cent, but in many parts of the country it rises to 50 and 100 per cent. Is it any wonder if agriculturists get into debt? Even if the interest charged is 6 per cent, it is doubtful if, except when prices are very high, the average ryot will be able to pay it without pinching from his wages. According to Sir Josiah Stamp, "The world as a whole and over a given length of time has almost certainly been fed below cost price for the last 100 years, if one takes into account the proper elements of cost";[1] and this statement is truer of the *petite culture* of India than of the capitalistic agriculture of the "new" countries.

Effects of indebtedness.—The menace of indebtedness arises from the fact that it has serious *economic*, *social* and *moral* consequences.

Debt leads directly to agricultural inefficiency. A person overburdened with debt can have little incentive for making the utmost use of his lands, nor will he be interested in introducing better crops and better methods. Hence the very poor response to the work of the Agricultural Department. Debt also prevents orderly and profitable marketing. Many of the ryots who borrow from town merchants or brokers give a lien to them on their crops. In some cases, the borrower is bound to sell at prices previously fixed, or on other terms materially profitable to the lender. Even if the lender forces the borrower to sell his produce on the threshing floor, the same consequences will follow. Such

[1] *World Agriculture* (Institute of International Affairs, 1932), p. 260.

a combination of moneylending and trading is generally detrimental to the interests of ryots, and must be avoided if they are to obtain the maximum prices for their produce. Only by the firm establishment of co-operative marketing can such a change be brought about.[1]

Debts generally result in loss of property. Unless exceptional circumstances intervene—*e.g.*, a sudden rise of prices —mortgages generally end in sale. In this way land is frequently changing hands. According to some observers, all land in a village changes hands once in 30 years; at any rate in certain tracts most land has changed hands during the last 30 or 40 years. That this is a social evil will be easily conceded, but its economic consequences are not so certain. The transfer of land from the debtor may result in greater productive efficiency if the new owner is himself a keen cultivator. But, as generally happens, land passes to professional moneylenders or non-cultivating landowners, and those classes usually let their land to tenants. Thus tenancy increases, and tenant-farming generally is not noted for efficiency. The Indian Banking Committee points out that where moneylenders are mostly landholders (chiefly in the Punjab and Madras), changes in the ownership of land are not detrimental to agricultural efficiency, but this is a highly questionable view, seeing that such transfers lead to the increase of tenants and tenant-farming, which is not desirable in many ways. The peasant proprietor is the pride of a country, and the decay of that class necessarily leads to a weakening of the moral fibre of society. As Arthur Young puts it, "the magic of private property turns sand into gold." He who doubts it may compare tillage in ryotwari and zamindari tracts.[2] A comparison of the conditions in East and West Germany, or in Denmark and Ireland (till lately) will also bring this out.

[1] See *Report of Investigations into the Finance and Marketing of Cotton* (Indian Central Cotton Committee); *Madras Banking Enquiry Committee Report*, pp. 187–97; *Bombay Banking Enquiry Committee Report*, pp. 147–152.

[2] See Thomas, "The Economic Incidence of Tenurial Systems" (*Indian Journal of Economics*, 1929); also *Agricultural Tribunal of Investigation, Final Report*, pp. 306–310.

There is every indication that landless agriculturists have increased in India in recent times. In 1921, for every 1,000 ordinary cultivators, there were only 291 farm servants and field labourers, but in 1931 the proportion of labourers was found to have increased to 407 for every 1,000 cultivators.[1] This sudden rise may be partly due to a change in classification, but there is no doubt that the number of landless men is on the increase, particularly in wet areas, and no agricultural improvement is possible unless the pressure on land is diminished. The growth of a landless proletariat is also a social menace and every effort must be made to reduce it; this is not possible if indebtedness continues at the present levels.

The worst social and moral result of indebtedness is that it entails servitude. In ancient Greece and Rome the debtor was the slave of the creditor. Some vestiges of that custom are still found in the arrest and imprisonment of judgment debtors, which obtained formerly in most European countries. In the last century it was abolished in most of those countries, but was newly introduced into India. The Civil Procedure Code, wherein this provision was made, exempts from attachment the bare means of subsistence of the debtor but not his person. The anomaly in this law was pointed out by no less an authority than Sir Courtenay Ilbert in 1888, but even now the law is in the statute book.[2] It is not only a source of harassment but entails great economic waste.

The Kamiauti agreements of Behar and Orissa and the Pannaiyal system of Madras remind us of such servitude. In both cases, a labourer borrows a small sum of money to celebrate a wedding or funeral, but in return he has to work for the lender, receiving a bare pittance for his livelihood. He can never be expected to save up the amount needed, and therefore the transaction becomes an indenture

[1] *Census of India* (1931), Vol. I, p. 288.

[2] In his *Statement of Objects and Reasons to the Debtors' Bill of 1888*, Ilbert wrote: "Of what use is it to reserve by law to the debtor the bare necessaries of life when he can be compelled to give them up by the threat of imprisonment?"

for life. In Behar such agreements are now null and void under an Act of 1920, unless those are terminable within a year and provide for equitable remuneration for labour. But the Kamia is too powerless to set the law in motion, and the law appears to have failed.[1] In Madras there is no formal agreement; the promissory note for the loan taken is the weapon in the lender's hands. On the borrower refusing to work, a suit will be filed and eventually he will be arrested and imprisoned. That fear hangs, like Damocles' sword, over his uneasy head and makes him work for the lender without grumbling. In the Central Provinces, too, a similar system prevails, under which the debtor or a member of his family has to render service to the creditor, with or without payment, for a fixed period. Wherever the moneylender is an influential local notable, especially if he is also the landlord, the ryot has to do free service when called upon, and when he fails to do so civil or criminal suit may follow.

A historical view.—Indebtedness has always been with us; at no time known to history was the Indian agriculturist free from debt. But in former times the solidarity of the village community was a powerful bulwark against the accumulation of debt and alienation of property, and customs like *Dandupat* curbed the exorbitant demand of moneylenders. But with the establishment of a centralised administrative system by the Moghuls, and its re-establishment on a more systematic basis by the British, the village community decayed and all the laws and customs that kept down debt fell into desuetude. The whole trend of developments in the nineteenth century favoured the growth of debt. In the first place, the land-settlements of the early nineteenth century established private property in land in a form practically unknown in the past, and this greatly enhanced the credit of the Indian zamindars and ryots by raising the value of land; and in this enhancement even the tenants shared after the passing of the various Tenancy Acts, which gave

[1] *Agricultural Commission Report*, pp. 434–45; Mukerjee: Land Problems of India, pp. 229-234.

a fixity of tenure to the lease-holding classes. Land which was formerly an encumbrance became thus a valuable asset and a reliable agency for raising credit. Secondly, the establishment of a hierarchy of civil courts, with a new type of procedure, enabled the creditors to secure effectively claims which they never could have ventured to maintain under the indigenous system. The laws administered by these courts—the Indian Contract Act and the Civil Procedure Code in particular—gave a powerful handle to creditors, not only to recover their dues but to attach the cattle and implements of the debtor and even to arrest and imprison him.[1] This new system of judicial administration has had disastrous moral and economic consequences. Thirdly, the passing of the Registration of Documents Act (1864) and the Transfer of Property Act (1882) enabled claims to be systematically recorded and led to the growth of mortgages in number and value. Fourthly, the rise of prices, which was rapid after 1854 (although curbed in cotton tracts in the sixties) created too great an optimism and engendered increased borrowings; for, as Darling has shown, a rise of prices is generally followed by an increase of indebtedness.[2]

All the agencies mentioned above were intended to regulate economic dealings, and they were all essential for modernising India's economic life, but the circumstances of India have been such that while those agencies legalised the rights and furthered the interests of the enlightened classes, they had just the contrary effect on the great majority, who are improvident and illiterate. The secure right to property is a blessing, but in the hands of the average Indian ryot it is often a curse. Gide's remark about credit is apposite in this connection. "It has often been said," writes he, "that credit holds up the landowner as the rope holds up the hanged man."[3] A shrewd Englishman

[1] Calvert, *The Wealth and Welfare of the Punjab*, p. 123: "The sale of land in execution of decrees was almost unknown in the Punjab as recently as 1873–74." Also Keatinge, *Rural Economy in Bombay Deccan*, p. 84.

[2] *The Punjab Peasant*, pp. 15 and 40.

[3] *Political Economy*, p. 394.

wrote in the last century: "To a people in the state of civilisation to which India has reached, a secure title to a fixed income only means the power of borrowing on the occasion of a marriage, a funeral or some great family festival more than the borrower can ever pay."[1] Hence the dangers of facile credit to a people ignorant of the true use of credit.[2]

Present indebtedness.—No wonder that during the last forty years, which have witnessed a steady rise in commodity prices and land values, indebtedness has been also steadily on the increase. We have no accurate statistics, but enough can be inferred from a comparison of land values and commodity prices in any Province with the average mortgage rate per acre and the total mortgage debt there. In the Punjab, the mortgage rate was only Rs. 19 in the quinquennium 1900–05, but it rose to Rs. 85 by 1924. Thus, while the general price level of exported articles rose by about 105 per cent between 1900 and 1924, the mortgage rate rose by 347 per cent. The annual mortgage debt also increased more than the price-level during the same period. In the Madras Presidency the total annual value of mortgages which was only Rs. 6·67 crores in 1891–92 rose to Rs. 7·75 crores by 1900 and to Rs. 14·78 crores in 1914, and between 1919 and 1928 the average had been as high as Rs. 20 crores. Similar increases must have taken place in other Provinces also.

The total indebtedness of the various Provinces and States of India in 1928–29 was estimated by the Banking Enquiry Committees in 1929. Those figures are given below with the estimated values of total production of the various Provinces in 1928–29 and 1932–33, in order that some idea may be formed of the *nominal* and *real* burden of the indebtedness in India to-day.[3]

[1] Fergusson, *Indian Architecture.*

[2] *Report of the Royal Commission on Agriculture*, p. 425.

[3] The figures of total indebtedness given by the Banking Enquiry Committees are only approximate.

Province	*Population (Millions)*	*Total Indebtedness. (Crores.)*	*Average indebtedness per agriculturist. Rs.*	*Total Production of the principal crops. Value in Lakhs*	
				1928–29	1932–33
Madras . .	46·7	150	50	1,80,78	99,33
Bombay . .	21·8	81	49	1,20,52	86,86
Bengal . .	50·1	100	31	2,32,59	90,54
United Provinces	48·4	124	36	1,40,52	91,01
Burma . .	14·6	50 to 60	..	63,38	29,45
Central Provinces	15·5	36	30	68,77	35,40
Punjab . .	23·5	135	92	76,78	48,53
Bihar and Orissa	37·6	155	31	1,35,17	56,55
Assam . .	8·6	22	31	..	..
Central Areas .	..	18	..	..	..
Total British India . .	271·5	881	..	10,18,51	5,74,67
Hyderabad .	14·4	..	..	..	..
Mysore . .	6·5	..	..	..	..
Travancore .	5·0	25	54	..	..

Debt and the Depression.—Since 1929, an unexampled fall of prices has taken place. A fall of price necessarily hits the debtor as he will have to pay in goods much more than he received; and especially when the fall is a catastrophic one, as has lately happened since 1929, the burden is bound to become very heavy. This is what has happened. Between 1929 and 1932 the prices of most commodities produced by the Indian agriculturist fell by about 50 per cent. This meant a doubling of the real burden of debt. The consequence has been that repayments have become rare, even interest payments have fallen into arrears and debt has been accumulating.[1] Thus indebtedness has increased in amount and its real burden has become heavier. If the total agricultural debt of British India was about Rs. 900 crores in 1928–29, it must have increased to about Rs. 1200 crores by 1933, and the real burden must be tantamount to Rs. 2,200 crores, assuming that prices fell by 50 per cent between 1929 and 1933, that no repayment of the principal has been made and that interest payment is in arrears.

[1] According to enquiries made in the United Provinces in 1932, only 7 per cent of the long-term debt and 25 per cent of the short-term debt had been repaid annually. *The United Provinces Government Gazette*, September 10, 1932.

Thus the dimensions of the problem of rural indebtedness have largely increased owing to the depression. Social discontent followed economic distress, and Government was compelled to intervene. At first remissions of land revenue were given to relieve the agriculturists, and subsequently measures of relief were put through in many parts of the country. In the Central Provinces an Act was passed in 1932 for the establishment of conciliation boards, consisting of non-officials with an official chairman, charged with powers for adjudicating between debtors and creditors, provided that those creditors to whom 40 per cent of the debts are owing agree to conciliation. Several Boards have been working there since 1932, and till the end of August, 1935, debts amounting to Rs. 128 lakhs were conciliated for about Rs. 70 lakhs, thus cutting down claims by about 44 per cent. The same Government has also carried out an amendment of the Usurious Loans Act of 1918, giving the civil courts larger powers to mete out justice to the debtor. In the United Provinces and the Punjab, action has been taken for giving agricultural relief and for curtailing the burden of debt, and in both those Provinces there has been an acrimonious controversy which reminds one of the days of the Deccan Agriculturists' Relief legislation. In Bengal, an Agricultural Debtors Act has been passed and an elaborate scheme of agricultural relief is being initiated. In Madras, the Agriculturists' Loans Act of 1884 has been amended so as to include indebtedness as one of the objects of the loan; and a Debt Conciliation Act has also been passed. Several of the Indian States also have taken action. In Bhavnagar, a total debt of Rs. 86 lakhs has been compounded for Rs. 20·5 lakhs, and Government has paid the whole of it and hopes to recover it in easy instalments. Laws have also been passed in the Punjab (1932), Bengal (1933), and the Central Provinces (1934) for regulating the dealings of moneylenders. In Madras, Bombay and the United Provinces the government has proposed to introduce shortly legislation for the adjustment and liquidation of debts.

The provision for repayment is the crux of the whole problem. Without making satisfactory provision for it, the

creditor will not agree to a settlement favourable to the debtor. If Government undertakes to repay, the debt can easily be compounded. This may be done by the State redeeming the whole debt, as has happened in Bhavnagar; or by floating long-dated, interest-bearing, marketable bonds guaranteed by Government. Either of these methods are suitable for the smaller States, but may be too risky a venture for the Provincial Governments. A liberal offer of takavi for debt redemption will be a practicable measure, as Government has easy means of recovery. But such a relief must necessarily be restricted in scope. In the great majority of cases, the most suitable medium of repayment is the co-operative land mortgage bank working under Government supervision.

In Madras land mortgage banks have been working for some years, but in most other Provinces such institutions have yet to be started. Steps are being taken all over India to establish land mortgage banks, but it will be some time before they will come into proper working order. Hence the slow progress of debt conciliation.

However liberal the debt settlement may be, several persons are bound to lose their land, and the only—and the best—provision that we can make for them is to transplant them from the congested old villages into new land, where they may start life afresh. Hence the urgent need for a land clearance and colonisation policy, as has been carried out in Italy and elsewhere. By pushing through such a policy, we may not only relieve those in debt, but may increase purchasing power and productive activity in the country. It is deplorable that this subject is not arousing any serious interest in this country to-day.

Preventive measures.—To extricate agriculturists from indebtedness without guarding against a relapse into debt may turn out to be a waste of effort. Let all debt be wiped out by a fiat of Government to-day, and to-morrow debt will be born again and will soon grow into its former size—provided those who have money to lend have not been scared away in the meantime by the arbitrary action of Government. Nor can legislation go very far. The only effective means of con-

trolling debt is to fortify the agriculturist against the improper use of credit.

The following measures of reconstruction may be recommended:—

1. An effective propaganda must be carried out against unproductive borrowing and speculative moneylending. Without controlling improvident expenditure at social ceremonies, indebtedness cannot be cured. Similarly, measures must also be taken to discourage the questionable transactions of petty moneylenders among ignorant and unwary people. An active village *panchayat* can do a great deal in these matters, but for a radical cure, education of the proper kind is essential.

2. Even if all loans are taken for productive purposes, recovery may be difficult, owing to the negligence of the borrower or to the insufficiency of his income. We must therefore increase the repaying capacity of the borrower in every possible way. First, improved crop-production methods must be put into practice with a view to reducing the cost and increasing the yield; and, secondly, the crop should be marketed at the right time and in the proper way. In other words, credit must be linked to agricultural improvement on the one hand, and better marketing on the other. If the Co-operative Movement is to succeed in this country, it can only be by the adoption of such a system in which the ryot will not only be supplied with credit, but will be given help for growing the most profitable crops in the most economical manner, and for marketing his produce in the most efficient way. This means controlled credit and requires an active collaboration of the co-operative agency with the Agricultural Department and with General Administration.

If the above measures are given effect to, credit will become a blessing and not the curse that it too often is. An active effort must be made to reform the habits of the borrower and to reorganise the system of rural credit. Indeed it is difficult to change world-old habits, but education, if properly imparted, will go a great way to keep in check the evil propensities of man.

CHAPTER X

CO-OPERATION

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The introduction of co-operative credit.—The introduction of the Co-operative Movement into India was preceded by prolonged investigations, lasting over three decades, conducted with the aid of official experts to determine the forms of relief and organisation calculated to rehabilitate the economic condition of the Indian Agriculturist. As a result of such enquiries, the Government of India passed Act X of 1904 for the establishment of Co-operative Credit Societies in India. The Indian Act of 1904 was modelled largely on the English Friendly Societies Act and was restricted to credit co-operation. Organisations for other forms of co-operation did not come under its scope. The credit Society which that Act provided for was a rural or an urban primary society composed entirely of individuals, and the distinction rested on the occupations of its members—agricultural and non-agricultural. There was no provision for formation of central societies even for purely credit purposes. The authors of the Co-operative Credit Societies Act of 1904, though it was modelled on the English Friendly Societies Act, drew their inspiration from the German experiments of Raiffeisen and Schulze-Delitsch, for they seem to have found a parallel between the rural economy of India at the commencement of the twentieth century and that of Germany in the middle of the nineteenth century. But long before the year 1904, Raiffeisen's countrymen had vastly developed and modernised his movement, and the German Co-operative Credit Movement, with its secondary organisations to serve as financing agencies and balancing centres to the primaries,

its *Landschaften* to provide substantial long-term farm mortgage credit and its arrangements for expert audit and efficient internal supervision had assumed by 1904 vast proportions and developed a self-contained system of rural finance. The official idea that the Indian Co-operative Credit system should be started on the 25th day of March, in the year of grace 1904, with an unbuttressed primary credit society, at the point where Raiffeisen commenced his experiment half a century before that date, must appear to be strangely anachronistic to any student of the economic history of India.

It did not, however, take a very long time for the Government of India to realise that the primary credit societies of the kind established under the Act of 1904 could not, unaided by other organisations, derive financial sustenance from the rural areas, nor help the agriculturist to any appreciable extent. After eight years of the working of the Act of 1904, the entire working capital of the movement in India was less than Rs. 75 lakhs in 1912, a sum which was perhaps less than the rural indebtedness of a single *taluk* in many parts of India. The necessity for the enactment of a co-operative law on less archaic and more comprehensive lines thus forced itself on the Government of India and the Act of 1904 was replaced by the Act of 1912. The Act of 1912 made provision not only for the formation of central credit societies, that is, regional as well as provincial co-operative credit organisations, but also for the formation of co-operative institutions of almost all types and for all purposes.

When co-operation became a provincial transferred subject under the Government of India Act of 1919, the Provinces were given option either to be governed by the Act of 1912 or to pass their own provincial enactments; so far, four Provinces have exercised the option—Bombay in 1925, Burma in 1927, Madras in 1932 and Bihar and Orissa in 1935. Provincial legislation is understood to be in progress also in the Punjab. In the rest of British India, the Act of 1912 is still in force.

The Co-operative Rural Credit organisation: *The Primary Society.*—In any survey of the Co-operative Movement in India, the Rural Credit Society naturally occupies the most prominent place, for the Indian Co-operative Movement is mainly the outcome of the search for a solution of the problem of agricultural indebtedness and of finding such solution in placing agricultural credit on a co-operative basis. Those who are responsible for the introduction of the Co-operative Movement in India built their scheme of economic organisation of agriculturists on the collective guarantee of the inhabitants of a village to be utilised for their own economic relief. In other words, the co-operative credit society of India is the offspring of the application of the theory and practice of co-operation to a problem of immediate concern to the people as well as to the State in this country, namely, providing cheap and controlled productive credit for the agriculturist, so as to rescue him from the bonds of debt, "which shackle agriculture." The rural credit society is therefore naturally the foundation of the credit structure, for as Mr. Wolff observes, "it is the local society—the single brick at the bottom layer upon which the intended fabric has to rest—which makes for the safety of the organisation." The primary credit society is simple in structure; it is an association of borrowing and non-borrowing individuals residing in a village or a group of adjoining villages. The idea of membership of primary societies being confined to a special creed, caste or calling, or to a certain number of people resident in a village, is generally discountenanced. There does not, however, seem to be any objection to the formation of societies for the exclusive benefit, especially in towns, of employees of particular departments of the State, municipal corporations or industrial concerns. But the ideal to be encouraged is that of cosmopolitan societies, for they help "to bring together persons of different status in life and to foster the true spirit of co-operative brotherhood." The functions of management in the rural societies are shared between their general bodies and their executive called the *panchayat* or *panch*, which is a committee of the

general body. The funds of the society are composed of entrance fees, share capital, deposits and other borrowings from members or non-members. Occasionally the State also grants loans, but the volume of financial aid rendered by the Provincial Governments in the shape of loans to co-operative societies is comparatively very small. The reserves built up by the societies in course of time also add to their funds, there being a statutory obligation to carry substantial portions of their net profits to reserve fund. The liability of the members in the rural credit societies is unlimited. The unlimited liability is in essence ultimate contributory liability which arises only on the liquidation of the society, and is unavailable so long as it retains the character of a corporate body. The liability of a member subsists for a period of two years after his membership ceases.

The progress of rural credit societies since the movement entered on its second stage of development, after the passing of the Act of 1912, has been very rapid. The pace became much quicker after Co-operation became a Provincial "transferred" subject, administered by Ministers since 1920. There are now roughly 90,000 *agricultural societies* in India out of which a little over 14,000 are in the Indian States. The credit societies in British India number about 76,000. The rural credit societies have a membership of over three millions, a paid-up share capital of Rs. 4.37 crores, a reserve fund of Rs. 8.56 crores and a working capital of Rs. 34 crores. On the usual computation that a rural family consists of about five members on an average, the membership of 3 millions means that 15 million people have been drawn into the Co-operative Credit Movement.

Central banks.—In order to strengthen the primary credit societies operating in any specified area, they are usually federated into a central financing institution called the central bank or banking union. There are about 600 central banks in India, of which about 500 are in British India and 100 in the Indian States. They have a paid-up share capital of about Rs. 290 lakhs, a reserve

fund of about 3 crores and a working capital of about Rs. 30 crores. The amount of deposits held by them is in the neighbourhood of Rs. 27 crores. These banks are generally located in the headquarters of a district or *taluk*, or in other important towns, and have on their committees persons of influence residing in the locality, besides representatives of primary societies affiliated to them, who largely preponderate in number and have a decisive voice in their management. Central banks vary in their size and membership from Province to Province. While the central banks in Bombay, Madras and Central Provinces are big, operating over large areas, very often the whole of a revenue district, they are much smaller in Bengal, Bihar, Orissa, the United Provinces and the Punjab. Generally speaking, central banks have won the confidence of the public and are decidedly a factor to be reckoned in the Indian money market. Their working capital is derived from their own share capital and reserves and deposits from the public, and loans from their provincial banks, and sometimes from the commercial banks and to a small extent from the Provincial Governments.

Apex banks.—The central banks in their turn are federated, in almost all the Provinces (except the United Provinces) and in some of the Indian States like Hyderabad and Mysore, into their own apex organisations, called provincial co-operative banks. In all, there are now ten such banks affiliated to the Indian Provincial Co-operative Banks' Association with a paid-up share capital of about Rs. 68 lakhs, a reserve fund of about Rs. 62 lakhs and a working capital of about Rs. 11 crores. They hold deposits to the extent of about Rs. 9 crores. As in the case of central banks, the representatives of affiliated institutions generally preponderate and have a decisive voice in the management of the apex banks. The main function of these "apex" banks was conceived to be the co-ordination of the working of the central banks, virtually acting as the financial nerve centres for co-operation in each Province. The apex banks were also considered to be necessary to avert the

danger of uncontrolled inter-lending among central banks, leading to inter-locking of their liabilities.

Loan policy.—There has always been a general agreement on the proposition that the credit liberated by co-operative banks must be prompt as well as adequate. But there has not been the same clarity of vision in regard to the regulation of loans and their purposes. It is only at a very late stage of the movement that we have come to realise that without a sound policy to regulate co-operative loans with due regard to the legitimate credit needs of the borrower, the economic effect of the loan on his productive activities, his capacity to repay, the sources of repayment and other economic factors, there can be no orderly and beneficial development of co-operative credit. Judged by its economic background, a co-operative loan falls into three well-marked categories: (1) the short-term, self-liquidating, loan which is repayable out of the next harvest except when such harvest fails, in other words, out of the *gross yield* for the year; (2) the intermediate loan which is recovered in *kists* spread over a small number of years repayable out of the normal annual *net savings*; and (3) the long-term loan which admits of being recovered only in small dribblets over a substantially long period extending up to 25 to 30 years (in some Western countries it goes up to 75 years) and which ought to be made repayable at least in part from the *enhanced margin of profit* accruing from savings in interest charges or from the increase in the yield of land, consequent upon the judicious use of the loan. The *gross yield* and *normal net savings* and *enhanced margin of profits* constitute, from a true economic standpoint, three distinct sources of repayment. The non-observance of these economic considerations in the transactions of our co-operative credit societies and the dispensing of short-term loans for long-term purposes and *vice versa*, without reference to the repaying capacity of the borrower and his resources, are, in my opinion, largely responsible for the dislocation and chaos of our financial arrangements.

The federal structure of co-operative credit.—An elaborate description of the structure and functions of the several limbs of the co-operative credit organisation is unnecessary, as most people are now familiar with the subject. It must be remembered that we did not start with a plan to give a structural or functional solidarity to the credit organisation and that its growth in all the Provinces did not follow the same course. In some cases it was built from the cone downwards, if there was any "building" at all. Is this federal structure safe and sound? The juridical and functional relations that now subsist between the primary societies and the central banks and the provincial banks in any Province are not such as to make them integral parts of a closely-knit organisation. Each member of the organisation claims autonomy for itself and any suggestion of a central direction is viewed as dictation from outside, and resented. The central banks have no control over or integral financial association with the primary societies affiliated to them. The position of the provincial banks in relation to their member institutions is much the same. I must say that this is one of the main weaknesses in our organisation. The idea of a central association or general union to co-ordinate the activities of the numerous individual societies can thrive only on the realisation of the need for it and the willingness to be guided and regulated by it. There is no evidence of this in India even to-day after three decades of unrelated existence of societies.[1]

Financial position of the Rural Credit Societies.—It must be stated that the success of the Co-operative Credit Movement cannot be judged correctly merely by the statistical information about the number of societies,

[1]The strength of the movement in countries where co-operation has been a success is partly attributable to the vitality of their central associations. British co-operators, for instance, realised the need for co-operation between the societies *inter se* through a general union of their own, more than a century ago, as will be seen from the circular addressed to the co-operative societies in Britain to send delegates to the First Co-operative Congress held in Manchester on the 26th and 27th May, 1831. Extracts from the circular are published in the July, 1936, issue of the *Indian Co-operative Review*, the official organ of the Manchester Co-operative Union.

their membership and working capital. We have already examined these statistics for the rural credit societies, central banks and the provincial banks separately. Taking the Rural Credit Organisation as a whole for British India and Indian States, it works with a paid-up share capital of about Rs. 13 crores, reserve and other funds of about Rs. 14 crores and working capital of about Rs. 95 crores. This is certainly an impressive and creditable position. But is it sound and stable as well? It is idle to deny that there has been a considerable set-back especially during the last decade. It is not merely the structural weakness and the non-observance of business and co-operative principles by which the loan operations should have been regulated, that is responsible for our failure to achieve our expectations. Inefficiency of the *panchayats*, tenderness in collections and want of adequate knowledge of co-operative principles among the members due to widespread illiteracy and insufficient attention to co-operative education, among other causes, have contributed to the deterioration of the societies, which were multiplied during the last quarter of a century with, what appears to us now, as undue haste and without adequate preliminary survey of the existence or otherwise of the conditions and environments necessary for their successful working. The position became worse owing to the severity of the continued economic depression and the phenomenal fall in the value of land and agricultural produce. The position to-day is that a considerable proportion of the outstanding loans in the rural credit societies have become long overdue, resulting in a large bulk of their working capital becoming frozen. Since 1930–31, there has been a tangible contraction of credit. As the working capital of central banks is mainly invested in loans to primary societies, the financial position of these banks has necessarily been affected adversely to the extent that there is a deterioration in the financial soundness of the societies indebted to them. Similarly, some of the provincial co-operative banks are also necessarily affected by the growth of overdues in the societies and central banks financed by them. But having regard to the aggregate

value of the assets of the members of the societies, generally speaking, and the volume of share capital and reserves owned by the central banks and their affiliated societies, the movement in most parts of the country will be able to absorb any financial shock resulting from a portion of the assets becoming irrecoverable, and on the whole the depositors and creditors in the co-operative credit institutions may not sustain loss in most cases.

Co-operative land mortgage credit.—The long-term land mortgage credit and urban co-operative credit require separate treatment because, really speaking, they do not enter into the co-operative financial structure which we have described above. The land mortgage banks do not now derive, except perhaps in the Punjab and a few other places, their working capital from the provincial co-operative banks. Moreover, the tendency everywhere is to set up their own primary and provincial organisations quite apart from the rural co-operative credit organisation, though land mortgage credit is essentially rural credit. Similarly, the urban banks, though they have no separate central and provincial organisations of their own and occasionally derive a portion of their working capital from the central and provincial banks, still they never came intimately into the co-operative credit structure as a whole. The stronger of them are self-sufficient and the smaller ones actually compete for working capital with the local central banks by offering higher rates of interest on deposits. They borrow and invest elsewhere if they *can* and go to the central co-operative credit institutions only if they *must*. The general working of the co-operative rural credit organisation is therefore very little affected by the working of the land mortgage banks and the urban banks. Nevertheless, they are both very important types of co-operative credit institutions which are full of great potentialities for the economic benefit of the rural credit society in course of time.

The rural credit society was at one time considered to be the proper agency for the satisfaction of all the credit needs of agriculturists. But in the light of experience gained, it is

now felt that it can supply only short and intermediate credit and not long-term credit and that a separate type of institution is required for the supply of long-term credit. There is, therefore, a move in the Provinces and in some Indian States to establish co-operative land mortgage corporations for dispensing long-term credit and to run them as parallel institutions alongside the ordinary rural credit societies.

Except in the Provinces of Madras, Bombay and the Punjab, experiments in land mortgage banks have not been tried on any appreciable scale. Among the minor Provinces, Ajmer has about 20 land mortgage banks and societies modelled on those of the Punjab. Their transactions are very small, but they are working fairly well and have helped agriculturists to redeem their land, to dig new wells and repair old ones. Bengal, Assam, Central Provinces and Berar and United Provinces have a few land mortgage banks each, but it must be said that co-operative land mortgage credit is still a negligible factor there. There are proposals in Bengal for increasing the number of primary land mortgage banks and to establish a central land mortgage bank more or less on the lines of Madras and Bombay. But the scheme has not so far been given effect to. In the United Provinces the Economic Planning Committee appointed by the Local Government has, I understand, advocated the establishment of a Central Land Mortgage Bank for the Province. There is yet no provincial bank in the United Provinces. But there can be no objection for a central land mortgage bank preceding the provincial co-operative bank, if conditions for the earlier establishment of the former are forthcoming. In other Provinces, there are practically no co-operative land mortgage banks.

In the Mysore State, land mortgage banks are being developed with a fair amount of success. There are about 20 land mortgage societies with a paid-up share capital of about Rs. 50,000 and a membership of over 2,000. There is a central land mortgage bank which raises credit by floating debentures. It has a paid-up share capital of over Rs. 50,000, and a debenture capital of over Rs. 3 lakhs.

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Loans to the extent of over Rs. 3 lakhs were sanctioned to the land mortgage societies and a sum of over Rs. 2·5 lakhs was disbursed up to the 30th June, 1935. The rate of interest charged is 8 per cent. The Mysore Committee on Co-operation recommended its reduction to 6 per cent —a very urgent reform. The Registrar of Co-operative Societies (Mysore) is not, however, quite satisfied with the progress made in regard to the volume of business done by these banks. He attributes it partly to the mechanical, dilatory and inelastic nature of the procedure followed in sanctioning loans, but mainly to the fact that "really credit-worthy persons are either not fully aware of the working of these institutions or do not find their terms attractive enough to induce them to change their present creditors." In his Report for 1934–35, he also expresses his regret that even with such easy terms of repayment that these banks offer, the borrowers should be in default to a large extent, the percentage of collection to demand being as low as 54·5. He, however, opines that it is largely due to the economic depression.

In Madras there is a special Act which vests co-operative land mortgage banks with summary powers of recovery of loans without the intervention of civil courts, so as to make land mortgage bank debentures readily marketable and negotiable. Since 1924–25, when the scheme of primary land mortgage banks was inaugurated, 80 primary banks have been established. A central land mortgage bank, which is the apex bank for them, was established in 1929, and debenture issue has been centralised in it so as to prevent competing issues being placed on the market, leading to the weakness of all of them. The bank has a share capital of Rs. 3·6 lakhs and a reserve fund of Rs. 1·1 lakhs. The debentures issued amount to Rs. 79 lakhs and the loans outstanding in the affiliated primary banks comprise Rs. 79 lakhs. The primary land mortgage banks are enabled to keep down the rate of interest on loans to their members by the Government partially remitting the cost of the services of departmental officials lent to the bank. The loans now carry 5½ to 6 per cent interest. The Provincial

Government has guaranteed the principal and interest on the debentures floated by the central land mortgage bank to the limit of Rs. 100 lakhs, and they are now trustee securities within the meaning of the Indian Trust Act. The bank is now able to raise credit on debentures carrying interest at 3½ per cent. But as these debentures are liable to be redeemed whenever collections come in from the primary banks, they cannot show any capital appreciation on the stock exchange nor will they be coveted as securities for small investors. The bank will be well advised to make arrangements to establish a sinking fund, to invest its collections and also to enter into open market transactions to buy the debentures when they come into the market, so as to avoid their redemption periodically on short notice. Another element of weakness in these debentures is that they are floated in tiny lots and in numerous series as and when loan applications from primary banks accumulate. They will be much stronger in the market, if floated in larger bulk at longer intervals by securing accommodation in the interval on the backing of the mortgages from the Provincial Government or the Reserve Bank of India.

The bank is managed by a Board of Directors, which consists of 15 members, of whom six are representatives of primary banks, six of individual shareholders, while the remaining three are the Registrar of Co-operative Societies and his two nominees. The Registrar is the trustee for the debenture holders. There is an Executive Committee of the Board which consists of six or seven members selected from the Board, of whom not less than two are representatives of primary banks. The other four or five consist of the office holders of the Bank, who are generally individuals, and the Registrar and his nominees. The object aimed at appears to be to run the Bank more on commercial than on co-operative lines—by keeping the borrowing element in an effective minority in its management—may be in the hope of securing recognition from the Reserve Bank of India which does not seem to have faith in co-operative enterprise in banking. It remains to be seen how far this abandonment of the co-operative principle of democratic

control by the borrowing element and management by capitalists and officials—approximation to commercial ideal —will secure for the bank recognition from the Reserve Bank of India at least to the extent of purchasing or lending on the security of the debentures, which, as already stated, are fully secured by Government guarantee.

In Bombay, the primary land mortgage banks at Dharwar, Broach and Pachora have been working for some years past. The Provincial Bank of Bombay raised the necessary long term funds to finance them by the issue of debentures which were recognised as Trustee Securities by a special amendment to Section 20 of the Indian Trust Act. But this function is now taken over by a central land mortgage bank, which was recently started in 1935. It is expected that this measure will help the development of land mortgage banking in the province rapidly, and that the number of the primary banks will be multiplied to meet adequately the demand for long term loans.

Though the Punjab was the first to start land mortgage banks, and about a dozen of them were established between 1920 (when the first bank at Jhang was started) and 1929, these have not only not made much headway, but there has actually been a marked set-back in their working. Since 1929, registration of new land mortgage banks has been practically stopped and since 1930 there have been very few new transactions in the old banks. The aggregate volume of business is less than Rs. 25 lakhs now in all of them. These banks are still depending on the Provincial Co-operative Bank and the Local Government for their finance. A proposal to start a central mortgage bank to finance the primary banks seems to have met with the approval of the Provincial Legislature, but the spokesman for the Local Government pointed out that the Land Alienation Act in force in the Province would stand in the way of establishing and working such a bank and the development of land mortgage banking system generally.

Should land mortgage banks be co-operative? There is some difference of opinion on this question. Though it may be conceded that in our co-operative land mortgage

banks co-operation is not a marked and decisive element, and that the human element is much less pronounced, yet there are substantial elements of co-operation in them. The primary land mortgage banks are essentially associations of borrowers, though a few non-borrowers are thrown in for attracting some initial capital and securing other incidental advantages, such as business talent and experience. The rule of "one man one vote" obtains, irrespective of the amount of share capital held by a member, and there is no restriction on membership. Credit is created not by collection of large share capital from non-borrowers and outside capitalists, as in joint stock concerns, but by issue of debentures with a floating charge on all the mortgages executed by the borrowers and by raising a small share capital from the borrowers, usually 5 per cent of each loan, which will grow automatically with the increasing bulk of the transactions. These banks do not aim at profits or dividends and are therefore able to keep interest on loans to borrowers as low as possible. The purpose of the loan and the repaying capacity of the borrowers form very material considerations in sanctioning loans. In order to afford relief to the small farmer, the co-operative type of mortage credit associations, therefore, appear to offer peculiar facilities which joint stock mortgage banks cannot. However, to accommodate large landowners and zamindars, commercial land mortgage banks may be more suitable.[1]

Among the impediments in the way of developing land mortgage banks in many of the Provinces in India, special mention may be made of the system of land tenures and the statutory or customary restrictions on alienation of agricultural lands. The defective system of record of rights in land is another handicap. Madras and Bombay are most favourably situated in this respect by virtue of the prevalence of the ryotwari system, a fairly satisfactory system of land records and the absence of restrictions on alienation of agricultural land.

[1] *See* paragraph 382 of the *Report of the Royal Commission on Agriculture* and paragraph 199 of the *Report of the Indian Central Banking Enquiry Committee.*

Though the Punjab is the home of peasant proprietors, the operations of the Land Alienation Act have proved a serious impediment to the growth of land mortgage banks. In some Provinces the Tenancy Acts themselves qualify the rights of transfer possessed by the occupancy ryots in their holdings as, for instance, in Bengal, Bihar and Orissa. If land is to be a bankable asset in the hands of the agriculturist, he must have inheritable and transferable right in it with a few or no serious restrictions. As the Indian Central Banking Enquiry Committee has put it, "the double object of preventing the free mortgage and sale of agricultural land and the provision of credit for the economic benefit of the agriculturists through the co-operative land mortgage banks cannot be easily achieved."[1] This question cannot be solved on an all-India basis as conditions vary from Province to Province. Not merely economic, but also complicated and delicate political, social and communal issues seem to be involved in the problem.

The utility of land mortgage banks for the liquidation of prior debt, especially by combining their operations with those of debt conciliation boards, is receiving attention both in British India and Indian States. The Mysore Registrar in his latest report says that "whatever schemes have already been proposed or may be further proposed for easing the debt burden of the ryot, it is evident that they should be co-ordinated with the co-operative land mortgage banks." When a Debt Conciliation Board is able to scale down the size of the prior debt and when a land mortgage bank is forthcoming to accommodate the debtor to enable him to pay the creditor in cash the amount of the diminished debt, the chances of success of the scheme may *prima facie* appear to be good. But the reports from Central Provinces and Berar where the experiment is being tried are not very encouraging. The percentage of indebted agriculturists who are eligible for a loan from a land mortgage bank, on the prescribed standards, even

[1] *See* page 176 of the *Report of the Indian Central Banking Enquiry Committee.*

on a diminished scale of their debts, appears to be extremely small. The measure of relief that can be obtained from this source is very limited indeed. The Madras Government dispense mortgage loans to the agriculturists up to Rs. 2,000 under the amended provisions of the Agricultural Relief Act, without the intervention of Debt Conciliation Boards. The Revenue Officers in charge of the work seem to feel that it will be easier to make creditors agree to scaling down the debts and receive cash without the intervention of the machinery under the Debt Conciliation Act recently passed.

In regard to the lines of future development of co-operative land mortgage banks in the several Provinces in India, the eleventh Registrars' Conference, held in 1934 in Delhi, made the following recommendations:—

(1) the maximum period of loans should be extended to 40 years;
(2) the rate of interest should be reduced as low as possible;
(3) there should be a government guarantee of principal as well as interest of the debentures on which credit is raised;
(4) efforts should be made to extend the operations of these banks so as to cover the entire existing debt in all cases in which the conditions governing land mortgage banking are satisfied;
(5) the land mortgage banks and the rural credit societies should, as far as possible, work in co-ordination in supplying the long and short term credit needs of rural co-operators.

In Provinces and States where there is no prospect of establishing land mortgage banks in the near future, some arrangements must be made to raise long term funds in order to supply long term credit to agriculturists. Unless this is done, the economic position of the agriculturist will rapidly deteriorate. If short and long term loans are carefully separated from the primary society at the bottom right up to the apex bank at the top and suitable arrangements are

made to secure long term funds for long term loans, the existing co-operative institutions may be utilised to dispense long term land mortgage credit without the stability of the co-operative credit organisation being in any way disturbed. The Provincial Governments must in the interests of the agricultural classes come to the financial rescue of the co-operative organisations in order to enable them to give such long term loans. Long term funds must be found for them either by grants from provincial revenues or issue of debentures guaranteed by the Provincial Governments.

Urban Co-operative Banks.—Co-operative credit societies which are situated in urban areas and which cater for the financial needs of the non-agricultural population comprising small traders, artisans, shop-keepers, salaried classes, petty contractors, wage-earners and the like are generally called "Urban Banks." The term is sometimes confined to the bigger urban societies which discharge the functions of a bank. They are based on the model of Schulze Delitsch Banks in Germany. When statutory provision was made for establishing co-operative credit institutions in India by the Act of 1904, it was expected that the urban areas would lead the way for the formation of credit societies in rural areas. That was the experience of Italy, where the Luzatti Banks led the way to the formation of rural credit societies. But the pace of development of co-operative credit societies in rural areas where illiteracy is far greater and where human material is much more scarce than in urban areas, has belied this expectation. Some stimulus was needed for the development of urban banks, and the Maclagan Committee, therefore, recommended that the development of urban banks should be encouraged, and the recommendation had the desired effect; and there was a rapid increase in the number of urban banks after 1915. The urban classes generally borrow to take up occupations, for acquisition of household equipment, to meet educational and medical expenses, to pay taxes, insurance premia and the like. Such credit is now obtained on very high rates of interest from urban moneylenders who frequently demand

some tangible security as well. If urban co-operative credit institutions lend to these classes, it will to some extent also relieve growing urban unemployment by assisting intelligent, thrifty and enterprising men and women to take to small but remunerative occupations. These banks can also usefully finance small industries organised on a co-operative basis, specially in the absence of industrial banks.

The urban credit societies have made better progress in Madras and Bombay than elsewhere. In Madras there are about 1,000 societies with a membership of about 250,000 and a working capital of over Rs. 300 lakhs. In Bombay there are about 600 urban credit societies, over 100 of which have a working capital of over 50,000. Among the Indian States, Mysore, where there are about 280 such societies with a working capital of about Rs. 85 lakhs, and Indore have made appreciable progress.

Satisfactory as this development has been, there is much room for the improvement of the co-operative character and efficiency of the urban credit institutions. Two of the weak points that deserve special mention are the high rate of interest that is still charged to members and the large volume of deposits from non-members. The development of urban credit, it must be said, has also suffered to a certain extent from the fact that the constitution and administrative control provided for the large urban societies have followed in the main those provided for small rural credit societies. The need for the reform of the constitution of urban banks, and for providing them with expert and paid staff for their management, is not sufficiently realised by the departments of co-operation and the public. Generally speaking, they have come to look upon the rural and urban primary credit societies as more or less institutions of the same category, except for the fact that the liability of the members in the former is generally unlimited while that in the latter is generally limited. That was even the view of experts. For instance, the Maclagan Committee said, "the main principles which govern the administration of agricultural credit will be equally applicable to the organisation of non-agricultural and non-credit societies." The

Committee was of opinion that large urban societies could not be co-operative in the sense that small rural societies were, and laid down the opinion that "large societies ought to be deprecated" for they "must inevitably lose their co-operative character."[1] But fortunately this view has undergone material modification in later years. The Townsend Committee on Co-operation in Madras, for instance, did not endorse the idea of unduly restricting membership and definitely favoured large size urban societies which will have greater resources to employ technically qualified and adequately paid staffs. In Bombay both departmental and non-official opinion had always favoured large size urban banks.

The difficulty created by the general bodies of these large societies becoming too large to be able to exercise the right sort of control over their management may be solved by the delegation of power to their committees of management and curtailing the power of interference by general bodies in matters of day to day administration, or other devices now adopted in the west to reconcile the "conflicting needs" of "business efficiency" and "democratic government."[2]

The question whether urban banks should have their own central and apex organisations in each Province has been raised. There does not, however, seem to be any need for such separate federations of urban banks, as urban credit, which is essentially of the short term variety, can be effectively handled by urban banks with the aid of existing central and provincial banks.

Supervision and audit.—The agencies for supervision and audit are essential parts of the financial organisation of the co-operative credit movement. The central financing institutions which supply the bulk of the working capital to the primaries are vitally interested in the financial stability of the latter, which largely depends on the efficiency of supervision and audit. The arrangements for supervision greatly vary

[1] *See Report of the Committee on Co-operation*, India, pp. 6–11.

[2] For a collection of articles on Urban Banks in India, see the *Indian Co-operative Review*, January, 1936.

from Province to Province and they are nowhere satisfactory. Audit is a statutory function of the Registrar under the co-operative law of India and whatever may be the agency that does the auditing, it derives its legal power from the Registrar. In the Punjab, and Bihar and Orissa, auditing is done by the staff of the co-operative union or federation and may be said to be more efficient than elsewhere. In other places it is done by the Registrar's staff. In the greater part of India this departmental staff is said to be not properly equipped for the work and generally inefficient.[1] Co-operative auditing aims at much more than the mechanical auditing of the commercial type. A co-operative auditor is expected to see not only that the books of the societies are properly kept but that their business is conducted in accordance with sound economic and co-operative principles. In a few localities the societies have formed their own audit unions with an audit staff of their own. But there are few such unions which are working successfully. The system of supervision and audit requires thorough overhauling all over India. In the case of central banks and large urban banks, the auditors employed must be technically qualified men who are legally competent to audit joint stock banks, as is now generally the case with the provincial co-operative banks. The Standing Committee of the All-India Co-operative Institutes' Association has formulated a well-conceived scheme of audit and supervision, but it has not yet been even seriously examined by any Province.[2]

Non-credit co-operation.—The agriculturists' quest for economy and efficiency has brought in its wake, in India as elsewhere, among forms of co-operative activity other than credit, three main fields of business: (1) operations of actual production; (2) purchase of goods and services required for

[1] *See Report of the Indian Central Banking Enquiry Committee*, pp. 134–39.

[2] *See* Proceedings of the 2nd All-India Co-operative Institutes' Conference, April, 1931, and of the Joint Session of the Standing Committees of the Indian Provincial Banks' Association and All-Indian Co-operative Institutes' Association.

his farm business and household consumption; and (3) selling of his produce. In the way of actual production by co-operative endeavour, there is little for us to show either in agriculture or industry. In agriculture no serious effort was made to amalgamate the numerous tiny and uneconomic holdings of the agriculturist or to place in his possession means for improving his production. Mr. Fay, after his visit to Mysore, says that co-operative supply of implements, feed, fertilizers, sprays, etc., which is so successful elsewhere, assumes a type of intensive agriculture which is rare in India. This looks like arguing in a circle. Did agricultural development follow elsewhere in the wake of such supply or were such supplies started after agriculture became intensive and perfect? Agricultural insurance is practically unknown to the Indian peasant. Consumers' co-operation has not yet been lifted from the uncongenial middle-class environments into an independent organisation of the workers and peasants. Marketing schemes are still in the very elementary stage of study and experimentation by official experts or marketing officers. Nevertheless, a brief description of some of the outstanding forms of non-credit co-operation may be found useful.

Consolidation of holdings.—One of the greatest handicaps to the productive effort of the Indian agriculturist is the excessive fragmentation of holdings. Though this distressing factor in our rural economy is admitted on all hands, no concentrated effort has so far been made to attack it. We seem to be simply overwhelmed by the immensity of the task involved in consolidating hundreds of millions of holdings and a feeling that the obstacles in the way of such a venture are almost insurmountable. No one denies the difficulties arising from the inherent conservatism of the Indian cultivator, who dislikes the idea of exchange and rearrangement of his holdings, leading to disturbance of his ancestral plots, not to speak of the numerous technical and legal difficulties involved in making the compacts as well as in keeping them. Nevertheless, where a serious attempt has been made, it has been attended with an encouraging measure of success. In the Punjab about 1,000

co-operative consolidation societies are working.[1] Though the extent of land consolidated through their efforts (about half a million acres) is small in relation to the 30 million acres of cultivable land in the Province, the results achieved are by no means negligible. Besides bringing about some general improvement in agriculture in the consolidated farms, the scheme has stimulated the sinking of new wells and bringing waste land under cultivation, resulting in larger produce to the peasants and increased revenue to Government. Indeed, the Punjab Registrar, in his Report for 1933, says that money spent by the Government on the work is money well spent.

We are told that by collective farming a miracle in agricultural development was achieved in the U.S.S.R. But the five-year Russian plan for agricultural development is not even looked at in this country, mainly on the ground that large collective farming and mechanisation of agriculture became possible there only by a process of wholesale expropriation accomplished by ruthless repression. While it is true that liquidation of the landlord and the *kulaki* (relatively well-to-do peasant) was effected by methods which must appear to us revolting, it is well to know that the vast bulk of the 25 million peasant families in Russia, who consisted of the poor grade (*bedniaki*) and the middle grade (*seredniaki*) peasants were brought largely, if not wholly, into the *kolkoshi* (collective forms) by persuasion and demonstration of the success of the *kolkoshi*, which offered them prospects of larger share than their tiny holdings had ever yielded.[2] If the Provincial Governments and co-operators in India put forth strenuous endeavours to persuade our peasantry similarly, we can achieve some measure of success. The foreign experts, who came out to India to help the Indian Central Banking Enquiry Committee, were very emphatic on this aspect of the rural economy, and left their opinion on record that agricultural develop-

[1] Similar experiments, though on a smaller scale, are being tried in certain other parts of India—also in the C.P., U.P. and the Indian States of Baroda and Kashmir. *See* the *Year Book of Agricultural Co-operation*, 1935, Horace Plunkett Foundation, p. 283.

[2] *Soviet Communism*, by Sydney and Beatrice Webb, pp. 561–67.

ment in India is well nigh impossible unless the State takes drastic action to bring about consolidation of uneconomic holdings. In order to help the State in this task, much can be done by way of persuasion, and voluntary consolidation and education of public opinion as regards the need for legislation, in the hope that such education may eventually bear fruit, at least in areas where the beneficial results of voluntary co-operation are definitely demonstrated.

Co-operative marketing.—Co-operative sale organisations to market agricultural or industrial products have made but little headway so far. The most outstanding instances of the successful working of such societies are furnished by the cotton sale societies in Dharwar, Broach and Surat Districts of Bombay, the cotton and groundnut sale societies in Coimbatore and South Arcot Districts of Madras and the Commission Shops of the Punjab. They mostly do brokerage business and do not acquire any ownership in the produce which they handle. The loan and sale societies in Madras are mainly intended to advance loans, generally up to 60 or 70 per cent of the market value of the produce, to the agriculturists, who entrust it to their custody in order to enable them to hold it up till prices rise; and these societies do not really do marketing for their members. The very limited success of these societies is to be accounted for by a number of factors.

It must be remembered that the village moneylender, who is often a trader as well, acts as a convenient local agency for the purchase and sale of his debtors' produce, a function of considerable importance in our rural economy, and which accounts for the agriculturists still clinging to the village *sowcar*-cum-trader, in spite of the existence of a co-operative society in the village. The system, however, has its obvious disadvantages, for the freedom of the cultivator, who is in debt to the *sowcar*, to dispose of his produce in the best market and on the most profitable terms, is considerably curtailed by his dependence on his moneylender. There are other factors as well, such as absence of properly regulated markets and information regarding market conditions, lack of combination among producers and non-exist-

ence of storage facilities, which operate against the formation and successful working of co-operative marketing societies. Some of the Provinces and Indian States such as Berar, Bombay, Madras and Hyderabad have enacted legislative measures for the establishment of regulated markets. The marketing branch of the Imperial Council of Agricultural Research holds out promise of beneficial developments in the matter of organisation of markets. No other form of non-credit co-operation offers greater possibilities for improving the income and purchasing power of the agriculturist than organisation of co-operative marketing. Co-operative credit for carrying on agricultural operations will not by itself yield adequate results without being the marketing of the produce organised.[1]

Housing societies.—In certain parts of India, especially the provinces of Bombay and Madras, co-operative housing societies have achieved a fair amount of success. While the individual ownership society is the general type of the Madras societies, tenant ownership or tenant co-partnership societies are common in Bombay. The co-operative house-building in India is essentially a middle-class enterprise and not a solution for the problem of housing the poor and working classes. Cheap and long term money is the main requirement of co-operative house-building societies. The Provincial Governments who have been financing these societies in the past are gradually withdrawing that assistance and there is naturally a set-back in the progress of these societies. The problem is one of great importance, especially in regard to the housing of the poor, as the Mysore Committee on Co-operation in 1923 and the Whitley Commission on Labour in 1931 have pointed out, and deserves the serious attention of the Provincial Governments. The provincial co-operative banks may also examine the

[1] Co-operative supply of pure milk is being successfully attempted in Bengal where about 150 milk supply societies are working. A milk-supplying union for the City of Madras, formed on the Calcutta model, is also making satisfactory progress, though it has no pasteurizing equipment like the Calcutta Milk Union. *See Indian Co-operative Review*, October, 1935, for collection of articles on the working of Co-operative Marketing Societies in India.

possibilities of providing long term capital for co-operative house-building societies.

Co-operative stores.—The great developments that have taken place in Great Britain and elsewhere in Europe in distributive or consumers' co-operation since the foundation of the famous Rochdale Pioneers Society, in 1844, have had but a very feeble echo in India. What is now the largest general co-operative consumers' store in India, namely the Triplicane Co-operative Store in Madras, was opened on the 9th April, 1904. But even after the lapse of three decades since then, the consumers' movement has not taken firm root even in Madras. The record elsewhere in India is even less inspiring. Nevertheless, there are a few consumers' stores in almost all the Provinces in India and many of the Indian States. Some of them, especially those in the suburban areas of Bombay, like Matunga and Dadar, are doing well indeed. Among the Indian States, Mysore, with its 80 and more store societies, with a membership of about 17,500 and a working capital of about Rs. 22 lakhs, has made some comparatively notable progress in the Store Movement, which, however, shows marked deviation from orthodox principles, particularly in regard to sale at market price and cash trading. But at a time when the Rochdale principles themselves are under critical examination in the light of modern experience and practice—some of them having already been deposed from the high pedestal of "principles" to that of "rules practice" —and when the U.S.S.R. and some other countries have actually abolished the dividend on custom—the bed rock of the Rochdale system—it is difficult to assume the rôle of critic of the deviations like those noted in Mysore. But I am a confirmed believer in the efficacy and soundness of sale at market price and cash trading, call them "principle" or "rule of prudence" or what you will. The clientele of most of our stores are drawn from the middle classes and not working classes as in the West—a feature which we noticed in regard to building societies, as well. There are, however, a few co-operative stores like the B. B. & C. I.

Railway Co-operative Stores at Ajmer and Dadar, of which the railway employees and workers are members, and these are in a flourishing condition. Has the consumers' movement a future for it in India? Mr. Fay says, "I believe that India to-day stands more in need of Rochdale than of Raiffeisen." But the sentiment does not find an echo in the Indian co-operator.[1]

Industrial societies.—The two main objectives of industrial co-operative societies are the organisation of artisans on the co-operative basis and the fostering of some subsidiary occupations for the cultivators. But we have failed to achieve either of them. The tale of failure in most Provinces is repeated with a saddening uniformity. Our failure is mainly to be attributed to our scepticism as to the capacity of our rural industries to withstand competition from organised industry. In many quarters there is a conviction that energy and money spent on re-organising old handicrafts and reviving the dead or dying small industrial occupations of the rural population are a waste. The rising tide of Socialism in India, with its belief in large scale mass production through factories, is a new and serious menace to *movement* for the rehabilitation of the old type of rural economy which is symbolised by institutions like the All-India Village Industries Association.

Nevertheless, the need to organise the artisans and to suggest lines of work which can be suitably undertaken by the cultivator or his family in their spare time is universally conceded and the potentialities of co-operation in this behalf are also recognised. The handloom weaving industry has been receiving special attention both from the public and the Government. The Central Government has given a subsidy which is to be distributed over five years for organising handloom weavers in the several Provinces, who number about 10 million even to-day.

The co-operative method of industrial organisation has recently been attempted in regard to manufacture of sugar.

[1] For a collection of articles on Consumers' Co-operation in India, *see* the *Indian Co-operative Review*, April, 1935.

In the United Provinces a moderate-sized co-operative sugar factory was organised at Biswan, and in Bengal a small co-operative sugar factory was established by the Naogaon Agricultural Society in Rajshahi District. In the Kistna District in Madras, a 1,000-ton capacity co-operative sugar factory, entirely owned by the producers of sugar-cane, was organised recently, and has been working for a year. Its sugar is selling well on the market. It is perhaps the largest *co-operative* industrial concern in India with a capital expenditure of Rs. 15 lakhs, which was entirely supplied by the Madras Provincial Co-operative Bank. It is expected to confer substantial economic benefits on the producers of sugar-cane in the area.

The financial needs of co-operative cottage industries fall under three heads: (1) the purchase of raw materials; (2) working expenses during the period of production, and (3) financial accommodation between the period of production and final disposal of the product in a suitable market. No great difficulty has so far been experienced by the co-operative credit organisations in most Provinces to provide such financial accommodation to well-managed industrial societies.

Special industrial banks are also organised for helping industrial societies in Bombay and the Punjab, and some other Provinces like the United Provinces and Central Provinces are contemplating the establishment of similar institutions. The need for them has not been felt in Madras. To overcome the difficulties in relation to marketing of the products of cottage industries, greater collaboration between the Departments of Industries and Co-operation in the various Provinces is necessary.[1]

Co-operative insurance.—Co-operative insurance in India was largely confined to cattle insurance societies till very recently.[2] They were tried mainly in the Provinces of

[1] For a collection of articles on Cotton Industries and Co-operation *see* the *Indian Co-operative Review*, April, 1936.

[2] For a general account of Agricultural Co-operative Insurance, *see* the articles contributed by Dr. N. Barou to the *Year Book of Agricultural Co-operation*, Horace Plunkett Foundation, 1935–36.

Burma, Bombay and Madras, but they are fast dying out; at any rate, they are not popular. Miss Hough, in her *Co-operative Movement in India*, says that "as the scientific stock-breeding, the country so greatly needs, progresses, the increased value of individual animals may lead to a demand for the re-establishment of such societies and this phase of the Movement may yet revive and flourish." There does not, however, seem to be much prospect of her hope being realised, having regard to the very real difficulties and the risks involved in organising and conducting cattle insurance societies, due to the low vitality of our cattle, insufficiency of fodder supply, frequency of cattle pests, inefficiency of our veterinary services and the absence of reliable cattle census. It remains to be seen whether the present Viceroy's enthusiasm for live-stock improvement will give a fresh stimulus to cattle insurance.

But co-operative societies for life insurance and benefit societies are being organised here and there in India and they seem to be making some headway. In Calcutta, the Bengal Provident Insurance Society, Ltd., the first co-operative insurance society in India, was registered in 1929, and it has recently been converted into a regular co-operative life insurance society registered under the Co-operative Societies Act. In Bombay, a co-operative life insurance society was registered in 1930 and is making satisfactory progress. In Madras also, a co-operative life insurance society called the South India Co-operative Insurance Society, Ltd., was started in 1932 and has secured a paid-up business to the extent of about Rs. 33 lakhs in these four years of its working; it seems to hold out promise of sound development. All these three societies have jurisdiction to operate over the whole of India. There is also a proposal to amalgamate them into a large society in course of time.[1]

Co-operative educational institutes.—Among the most interesting and useful co-operative institutions now working in almost all the Provinces in India, are those in which educa-

[1] For an account of Co-operative Insurance Societies in India, *see* pp. 188–90 of the *Co-operative Movement in India*, by Miss E. M. Hough.

tion in the theory and practice of co-operation, and training in the technique of co-operation are imparted to those who seek employment in the State departments of co-operation or in non-official co-operative organisations. The syllabuses for the course and arrangements for testing the knowledge of those who are trained differ in the several Provinces, and there is no uniformity or even an approximation to it.[1] Some Provinces, notably the Punjab, have done well in educating the members of the societies. But generally speaking, it must be said that the education of the members and *panchayatdars* of the rural societies in the principles and practice of co-operation has been neglected; and this neglect, perhaps more than any other single reason, accounts for the weakness of the movement in India to-day.

Co-operative education has not yet helped to produce co-operators whose daily activities are pervaded by that idealism and ideology associated with co-operation and behind whose work there is not merely the stimulus of the coin but of that exalted sense of duty which ought to animate and inspire the co-operator. So far, our objective has not been to create or foster this spirit so as to help the reconstruction of our social and economic structure through "co-operation", and to produce teachers of co-operation who can train men and women to live the conscious lives of co-operators consciously at every moment.

Co-operative education has so far been almost entirely in official hands. The first and foremost reform in regard to co-operative education is the complete dissociation of co-operative education from the official agency.[2]

[1] In the July, 1935, issue of the *Indian Co-operative Review*, a number of articles on Co-operative Education and Training, contributed by writers of standing in the different Provinces, have been published. They give a connected picture of the system of co-operative education in vogue in the several provinces in India.

[2] There is a general consensus of opinion in favour of this view among the contributors to the *Indian Co-operative Review* on Co-operative Education. The Indian Central Banking Enquiry Committee also said that co-operative colleges should not be Government institutions and that the question of their establishment should be left to organisations conducted by co-operators themselves, though Government may assist them by means of grants—pp. 779 of their Report. See also paragraph 5 of the Townsend Committee's *Report on Co-operation in Madras*.

The need for a Central Institution for research and higher studies in co-operation, somewhat on the model of the Horace Plunkett Foundation in London, is felt in many quarters among co-operators in India; and a resolution approving that idea and requesting the Government of India and the Agricultural Research Council to give assistance in this direction, was passed at a joint session of the Standing Committees of the Indian Provincial Co-operative Banks' Association and the All-India Co-operative Institutes' Association held at Fyzabad (United Provinces) in April, 1936. The Standing Committees also expressed the view that higher studies in co-operation in the Provinces might usefully be provided through University courses and urged on the various Universities to give prominence to "co-operation" and make it a special subject for degree courses in Arts and Commerce as well as in agricultural and technological schools and institutions.[1] Hitherto our ideal has been the Manchester College of Co-operation. We are now told that the co-operative education in U.S.S.R. is by far the most extensive in the world.[2]

The All-India Co-operative Associations.—Since co-operation became a transferred subject under the Montagu-Chelmsford Reforms of 1919 the need for the co-ordination of the activities of the movement in the several Provinces has been felt. Proposals of the Government of India to form a Central Bureau under the official ægis did not appear to have met with the approval either of the Provincial Governments or of the non-official provincial co-operative organisations in India. An association of the Indian provincial co-operative banks, called "The Indian Provincial Co-operative Banks' Association," was established in 1926 and the All-India Co-operative Institutes' Association was established in 1928. These two associations have not so far been incorporated under any Statute in force in India. They have been doing some useful work, and their periodical meetings are availed of by

[1] *See* the *Indian Co-operative Review*, April, 1936, pp. 360.
[2] *See Soviet Communism*, by Sydney and Beatrice Webb, 1936, pp. 319-20.

co-operators from all Provinces for discussion of subjects of common interest with a view to reform and strengthen the movement. The All-India Co-operative Institutes' Association is affiliated to the International Co-operative Alliance, and is represented on the Central Committee thereof by a delegate from India.

Lines of reform.—For nearly a decade now, there have been distinct signs of deterioration in the movement. Some of the causes for such deterioration such as the faulty nature of our organisation, neglect of sound business principles and lack of co-operative education have already been referred to. However much we may dislike it, we must also admit that the moral standards have considerably fallen off and demoralisation has become increasingly manifest. Increase of overdues and the consequential financial embarrassment are as much due to economic causes such as the prolonged depression as to wilful neglect of obligations and responsibilities, legal as well as moral. Local politics and faction have also had their share in mismanagement. There is no difference of opinion about the gravity of the evil or the necessity to eradicate it as speedily as possible. Various measures of reform are being tried, naturally with varying degrees of success.

On the economic side, measures of relief to borrowers by legislation to control the transactions of moneylenders and to protect debtors from the more severe consequences of indebtedness, such as the loss of homesteads and holdings, conciliating debts and connecting the debtor with agencies to accommodate him in order to satisfy the creditors and the like are being attempted in most British Provinces and Indian States. Measures to liberate and extend the beneficial operations of the Agricultural Relief Acts and Regulations are also being adopted. The recommendations of the Mysore Committee on Co-operation on these allied measures of reform, when accepted and worked by the Government, and the action that is being taken by the Travancore Government along similar lines will, I hope, improve the situation to some extent. But the relief that such measures

can bring seems to my mind to be very small, for legislation undertaken to deal with the situation is halting and ineffective. Moreover, measures of this character, to cure the malady of indebtedness in its present acute form, may help to recover some of the lost ground but not to cover new ground for the economic rehabilitation of the peasant.

Another line of reform which is being attempted is the increase of official control over the movement to improve the tone of management of the societies. While vigilance and constant advice from the Departments of Co-operation are helpful, I feel that any attempt to officialise the movement and to interfere with the internal management of societies will only result in further weakening of the sense of responsibility on the part of the people for whom the movement is intended and in their increasing dependence on external aid to mend matters. In some Provinces the Registrars are proposing to take power to nominate to committees of co-operative institutions some representatives of capitalists with a view to infuse some new blood of "business capacity" into our pale and anæmic committees. This appears to be a fundamentally and radically erroneous step. Capitalism, which has muddled up the affairs of the world or rather created two different worlds, one for the rich and another for the poor, and plunged the latter in the paralysing dread of poverty and want, has no place in co-operation. No capitalist, however well intentioned, can give a right lead to a co-operative institution.

A more sensible and fruitful line of action which is being attempted almost everywhere consists in paying greater attention to rectification and consolidation of societies, that is to say, to strengthen and improve their working by speeding up recoveries, so as to reduce the overdues, scrutiny of loans to ensure the sufficiency of security therefor and substantial reduction in the rate of interest charged on past and present debt. But as the Mysore Committee on Co-operation has rightly pointed out, the result of carrying this concentration on rectification to excess and of the ban on expansion will be stagnation. Therefore, a

wise policy of rectification should go hand in hand with a sound policy of expansion.

The system of small village societies working on the basis of unlimited liability itself seems to require, in my opinion, radical reform. The enforcement of such unlimited liability is producing great hardship, and the non-indebted or punctual members are being severely penalised for the default of others. It is the experience of co-operators that it is becoming increasingly difficult to induce men with property and character to join these village societies and indeed many such men who have joined them are trying to withdraw from them. The notion that the members of the village community have mutual interest in, and a knowledge of, each other's affairs is utterly illusory in the present state of our rural economy; unlimited liability which is justified on that basis is an anachronism and utterly unsuited to modern conditions of rural life. The idea that the societies must be very small and must as far as possible be confined to a single village is again based on the notion that the members should know each other and watch each other's transactions. But many small societies are working at a loss. It is difficult also to secure honorary service for these societies. In a small society the income is hardly sufficient to employ paid service. The societies would work better, if those operating in a small radius of three or four miles were grouped together into a larger society and put on a limited liability basis. This suggestion deserves careful consideration.

Then there is, of course, the large question of linking up co-operative finance and co-operative credit with the general banking and credit system of the country. The Reserve Bank of India Act has included the provincial co-operative banks in British India within its scope, and has made provision for the organisation of a Rural Credit Section. It is now fairly evident that the Reserve Bank does not intend to touch co-operative paper for discounting or re-discounting through the provincial co-operative banks, and that its Rural Credit Section is one intended mainly to give technical advice to provincial co-operative banks.

The co-operative banking system of the Indian States has been completely left out of the purview of the Reserve Bank Act. The Mysore Committee on Co-operation, presided over by Dewan Bahadur K. S. Chandrasekhara Iyer, in envisaging the need for the establishment of a Central State Bank under the direct control and supervision of the Mysore Government, rightly point out "that a stage of development will soon be reached at which the Co-operative Movement must obtain access to a wider money-market than that opened to it at present;" and proceed to say that the establishment of a State Central Bank "besides ensuring a powerful organised chain of credit for supplying all the needs of co-operative and joint stock enterprise in the State, will also serve to link up the local financing organisations with the controlled credit policy of the Reserve Bank in British India" (*see* p. 79 of the Report). This proposal is one which is well worth the serious consideration of the other major Indian States in India.

The future of co-operation.—A correct evaluation of the achievements of the Co-operative Credit Movement in India is not an easy task. But it may be conceded that the expectations of the founders of the movement have only been realised very partially. There is a school of opinion which holds, though not on definite data, that co-operative credit has supplemented rural moneylending and that indebtedness among the members of the credit societies has actually increased, as a result of the establishment of such societies. Even if this surmise is true, the fault lay not with the co-operative credit but with co-operators who put it to misuse. It is wrong to have expected co-operative credit to yield any benefits without the practice of thrift and other co-operative virtues. As Sir Frederick Nicholson aptly remarked, "to replace the moneylender by the bank is not to replace indebtedness by solvency. The specific gravity of the debt may be reduced by the mass more than proportionately increased." It is, again, wrong to look upon co-operative credit as a mere measure to relieve people from economic misery caused by debt. The claim of co-operative credit to our allegiance

rests on its efficacy to put the distribution of our credit resources on an economic, efficient and equitable basis and to bring down the general level of interest to the advantage of many who actually joined our societies. The Royal Commission on Agriculture were certainly right when they said, "that where the co-operative credit movement is strongly established, there has been a general lowering of the rate of interest charged by the moneylenders; the hold of the moneylender has been loosened with the result that a marked change has been brought about in the outlook of the people" (*see* p. 447 of the Report). From my experience of the working of the co-operative land mortgage banks in the Province of Madras, I can say that in areas where they are working the rate of interest charged on mortgage loans by moneylenders has gone down considerably and they are now actually trying to compete with the land mortgage banks to retain their old custom. Thus the benefits of the movement have reached a large number of the rural population who have not availed themselves of co-operative credit.

Again, it is wrong to estimate the benefits of co-operative credit from the volume of rural debt which it was able to liquidate, for no one ever hoped to liquidate the entire rural debt through co-operative credit organisations. Some writers refer to the colossal amounts of the un-redeemed debts of the Indian peasants, and attribute this chiefly to their improvidence and social extravagance. These, according to them, make it impossible for the Indian cultivators to avoid indebtedness. Prof. C. R. Fay, for instance, refers to the "astronomical" figure of Rs. 200 crores, representing the indebtedness of the Province of Madras. He may be right when he says that from the magnitude of the case, co-operative credit cannot replace private moneylending, if all that he means to convey is that the South Indian moneylenders' account of Rs. 200 crores cannot be settled by a discharge through co-operative credit, so that we may start afresh. But it is difficult to follow his statement that co-operative credit is a "few clean drops poured into a murky bucket of credit." The clean

drops are intended to serve a very different purpose than to get mixed up with the old unproductive debt. Indeed, societies and central banks in Madras have practically ceased to advance loans for discharge of prior debts, leaving it to be done by land mortage banks where they exist. The co-operative credit movement is now really an integral part of a larger programme of economic reconstruction of rural life and the movement is already showing signs of a definite tendency to emerge into a comprehensive scheme to effect rural recovery. Co-operative credit, as Mr. Fay himself admits, has been altered out of recognition under the stress of events in Germany itself, the home of Raiffeisen. It is now a part of the peasant organisation, as it ought to be. The aim of Indian Agricultural Co-operation is to make the occupation of husbandry remunerative and make co-operative credit fructify in the pockets of the agriculturists. Our failure to realise our expectations is due not to the unsuitability of the co-operative credit for such a purpose but to our neglect to link up co-operative credit with programmes which will increase the agriculturist's earning and purchasing power so as to enable him thereby to save and not to borrow. Our foreign observers, like Mr. Fay, are unable to appreciate our difficulties arising from the chronic poverty and the extremely low economic vitality of our masses and therefore have not laid any emphasis on the necessity for suitable action to liquidate poverty and unemployment and to improve the income of the population. Though they claim to possess "a vivid sense of the crushing ubiquity of debt," what seem to have impressed them more are the alleged improvidence and want of thrift among the rural population and the primitive nature of their farming and industry rather than the fact that in their present social, economic and political environment, there is no scope to avoid debt or to find occupations which will add even a farthing to their income. In other words, they cannot sufficiently appreciate the fact that the average Indian agriculturist borrows not because he *can* but because he *must*—that indebtedness is the result and not the cause of poverty, and that without the removal of the causes of

chronic poverty indebtedness cannot be liquidated. The increasing dependence of the population on agriculture, the decline in rural industries which once furnished subsidiary occupations, the increase in the burdens of taxation, a bad system of land tenures, loss of overseas markets for raw products and other indisputable economic factors have contributed very largely to the evergrowing economic debility of the agriculturist and his proverbial poverty. It is true that the situation has been rendered much worse by the economic "milieu" of the past decade—the catastrophic fall in the prices of land and its products—but even in normal times the environment of the average Indian peasant's life was not much better than it is during depression. The future of the Co-operative Movement, as well as of all other movements the aim of which is to improve the economic condition of the masses, therefore, depends on our ability to formulate and pursue some definite and settled plan of action to remove the causes of indebtedness,—not so much indebtedness itself, and to improve the economic strength of the agriculturist by suitable State action based on sound monetary and agrarian reform conceived in the best interests of the Indian agricultural industry. As the Mysore Committee on Co-operation rightly says, "the final solution of the problem of rural poverty lies in a material improvement of the economic position of the ryot population through the steady pursuit of a policy aimed directly at that end" (*see* p. 143 of their Report). The State must look upon co-operation and allied activities not merely as part of its paraphernalia and administrative adornments, but must have a living faith in their potentialities as instruments at their disposal for the economic rehabilitation of the masses. Unless there is a genuine sense of identity of political and economic interests between the people and the State, the socio-economic organisation of the masses involving promotion of Swadeshi, development of village industries and creation of rural leadership, without which no programme of rural recovery will be fruitful, cannot be accomplished. When the conditions for such joint effort of the people and the Government at national reconstruction are forthcoming, the question of finance, the creation

of rural bias in our workers and allied problems will find an easy solution.

The place which co-operation, with its cardinal principles of self-help, self-reliance, sacrifice and service, may, if properly directed, occupy in this programme of national reconstruction or economic reorganisation, will by no means be negligible. As the Maclagan Committee has put it: "By the union of forces material advancement is secured and by united action self-reliance is fostered; and it is from the interaction of those influences that it is hoped to attain the effective realisation of the higher and more prosperous standard of life, which has been characterised as better business, better farming and better living."

CHAPTER XI

LAND TENURES AND LEGISLATION

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The village community and the customary rights of the peasantry.—A vast continent with such varied social and political history like India must present a greater variety and intricacy of land tenures than most countries in the world. Through the centuries the village community had been the custodian of the rights of cultivators. At the same time it was the village which maintained its absolute proprietorship over meadows, pasture lands, tanks and irrigation channels, and the least encroachment of such common rights by a cultivator was resented and punished by the village assembly.

The village community owes its persistence in India to both agricultural and racial factors. The autocthonous Munda-Dravidian peoples developed the custom of clan ownership and periodical division of holdings, and maintained an elaborate system of communal agricultural management. On the other hand, not only the Aryans but also the various foreign invaders, who came in the later centuries and settled down in the village, formed compact brotherhoods. The *panchayat*, the essential and ubiquitous institution of the autocthones of India, has now migrated to all parts of India and is to be found in most Indian villages, Aryan or *Rajput*, *Jat* or *Kunbi*, *Munda*, *Gond* or *Nair*. For, as population has increased in the Indian village, the necessity has arisen everywhere to protect the cultivator's rights of grazing and cutting fuel and the communal control of woodlands, pastures and irrigation channels in the interests of intensive farming and animal husbandry. A scattered field distribution has also equalised opportunities

of farming for all farmers and checked the rise of a landless class. The village community, with its necessary institution, the *panchayat*, was not only the guardian of the small and poor cultivator, but, by maintaining the rights of entail, pre-emption and pre-occupation, as well as the rights in the common lands and waste, protected small scale farming against the invasion of capitalistic interests. All through the centuries it was the village community which was responsible for the collection of the village revenue. In fact, collective assessment from the entire village was the method prevailing in India from the time of Chandragupta Maurya to the Mohammedan conquest. Even in the later days of the Moghul Empire collective assessment superseded the methods favoured by Sher Shah and Akbar. The provincial chief or any person in authority made settlements with the villagers acting through their headmen for such a fixed annual revenue as the latter agreed to pay, or he took a share of the produce in kind; or, again, levied a cash assessment according to the quality of the soil or crops grown.[1]

Rise of assignees, farmers and zamindars.—With the downfall of the Moghul Empire and the decline of central authority, smaller chiefs, *zamindars* and farmers of revenue increased the burdens of the peasantry and levied multifarious exactions (*abwabs*), especially in the out-lying tracts, distant from the seats of Imperial or Provincial Governments. In some areas, such as Southern and Western India, the village communities withstood rack-renting and still remained intact, collecting the imperial, provincial or rural revenues until these were disintegrated by the British Settlements in the middle of the nineteenth century. Munro disregarded the village communities in Madras and introduced individual assessment. The Madras system was based on an error, which later on spread to Bombay. In large parts of Northern India, however, the village community broke down before the advent of the British under the increase of revenue burdens and the overawing authority of petty rulers, assignees and farmers.

[1] See the present writer's article on "Land Tenures in India" in the *Encyclopædia of the Social Sciences*, edited by Seligman.

When the East India Company first came into possession of Bengal, Bihar and Orissa they farmed out the revenues by utilising the older *zamindars* and subordinate chiefs. Warren Hastings also continued the same policy. The short-term settlements resulted both in the oppression of the peasantry and inadequate and irregular collections. Lord Cornwallis introduced the Permanent Settlement in 1793. He identified the class who were in truth assignees, farmers and *zamindars* with the English landlords who were real proprietors, and thus completely effaced the customary rights of the *Khudkhast* ryots. Among these rights were freedom from eviction so long as the *pargana* rates of rents were paid and a number of communal privileges in regard to homestead plots and to the pasture and forest lands, *bundhs*, tanks, irrigation channels and fisheries, to the services of the village servants or officials, and to the pick of the fields left unoccupied. It was, no doubt, Lord Cornwallis's intention to fix the rent payable by the ryot as he fixed the revenue payable by the *zamindar*. But the minute enquiries into the rents of the cultivators, which he contemplated and which Sir John Shore methodically designed with a view to give certainty to the ryot could not be carried out owing to his preoccupation with wars, the cost of the enquiries, and the abolition of the office of *Kanungos*. Within a few decades not merely were the customary rates all broken up, district by district, but the rights of the ryots were so completely obliterated that, according to Field, it was difficult to find a single vestige or ascertain what they were when the first tenancy legislation was being considered. The village community was also broken into pieces, the peasants were disorganised and the *zamindars* appropriated and distributed all village meadows and waste lands among the cultivators on rent, breaking down customary rights in pasturage and neglected *bundhs*, tanks and irrigation channels to such an extent that agriculture and the condition of live-stock were seriously jeopardised.[1]

[1] For the decline of the village community in India, see the present writer's *Land Problems in India*.

Tenancy legislation in Bengal.—In many respects the series of tenancy laws of Bengal since 1859 seeks to give legal force to the customary rights of the cultivators which the Permanent Settlement left unascertained or actually obliterated. The Rent Act of 1859 and the Tenancy Act of 1885 ratified the legal differentiation between two main classes of tenants, namely occupancy and non-occupancy ryots. Every ryot who has held land in any village for 12 years thereby acquires under this Act a right of occupancy which secures fixity of tenure, and protection against arbitrary rents and illegal exactions. About 80 to 90 per cent of the occupants now have such rights in Bengal. The non-occupancy tenants also cannot be ejected excepting in execution of the decree of a court, nor can their rents be enhanced at shorter intervals than five years. A later Act, that of 1928, bestowed on the occupancy tenant the rights to erect *pucca* houses and excavate tanks, a customary right which had so long been denied. Another enactment made valid the transfer of holding from one ryot to another by the payment of 20 per cent of the purchase money to the landlord, and thus made illegal the imposition of an exorbitant *salami* on occasions of sale which became too heavy a burden on agriculture. A similar provision was adopted in 1934 for Bihar and Orissa. *Salamis* and *abwabs* were still exacted by some of the landlords in Bengal, Bihar and Orissa, in spite of steps taken to abolish these illegal exactions, and these are especially vexatious in Orissa where temporarily settled estates are the rule and permanently settled estates the exception. A more recent enactment in Bengal (1937) has effected the complete abolition of *salami* in the event of sale of the ryot's holding, and the landlord's right of pre-emption, which has been conferred on co-sharer ryots, and has withdrawn the privilege given to the landlord of recovering arrears of rent by the summary process of auctioning the lands of the tenants. The rate of interest on arrears of rent has also been reduced by the Act from $12\frac{1}{2}$ to $6\frac{1}{4}$ per cent.

Such reforms are overdue also in Bihar and Orissa. The Bihar Tenancy Amendment Bill now before the Upper House proposes to give the ryot absolute right of transfer

of his holding, to make the levy of *abwab* an offence punishable with imprisonment, to reduce the interest on all arrears of rent to 6¼ per cent and to cancel all enhancements of rent except those made on ground of improvements effected by landlords. A proposed bill in Orissa also seeks to give the right of free transfer to an occupancy holding, to allow the occupancy ryot to make use of trees grown on his holding and to empower the executive to impose heavy penalties on landlords who impose illegal levies.

Failure of subsequent legislation in the other landlord provinces.—The Bengal Tenancy Act of 1885 has since served as a basis for tenancy legislation throughout India though the qualifications for occupancy rights are not the same in different Provinces. In the Province of Agra the 12-year period of continuous possession formerly constituted, as in Bengal, the basis of the acquisition of the occupancy status. But while in Bengal the right of occupancy occurred without any trouble or harassment, in Agra the increase of occupancy areas had been slow and uncertain and had been accompanied by chronic litigation. The reason was that the courts in their decisions relating to the incidents of occupancy status interpreted local custom differently in the United Provinces, while the *zamindars* of the United Provinces, unlike those of Bengal, formed a class, with military aristocratic traditions, which was socially superior to the tenant population. As a matter of fact the distinction between occupancy and non-occupancy status based on cultivation of the land for 12 years proved to be an inadequate protection both in the United Provinces and the Central Provinces against capricious and arbitrary eviction of industrious tenants. For any right which depended for its accrual on a time-limit and, therefore, on the forbearance of the landlord to exercise his power of ejectment before the limit was reached, was bound to be difficult of acquisition. As early as 1880 this was clearly pointed out by the Famine Commission. "The landlord," they said, "is naturally but little anxious to help a tenant who is in a position, or on the road to it, in which his rights will make him comparatively

independent of his landlord; and the fact that such rights are in constant course of accrual frequently results in an equally constant series of efforts on the landlord's part to prevent such accrual taking place. When it has been effected, the landlord's object is to harass the tenant and to diminish the value of his occupancy rights by bringing suit after suit for the enhancement of the rent." Yet for about half a century more harassing litigation and impairment of occupancy status were permitted to continue, encouraged, no doubt, by the growing increase of land values due to expansion of population and extension of irrigation works. Landlords invariably endeavoured to prevent the acquisition of rights of occupancy, more especially where an enhancement of rent was possible. In the 'nineties the average number of ejectments was in the neighbourhood of 60,000, testifying to the chronic tension between the landlords and tenants.

In 1901 the N.W.P. Tenancy Act was passed, in spite of the opposition of the landlords, which sought to prevent the landlord from ejecting a tenant with a view to prevent the accrual of the occupancy right and induce the former to give the tenants some fixity of tenure by granting long-term leases. This Act, however, failed in its purpose. Between 1903 and 1922 the occupancy area increased only by 13 per cent. A part of the increase was due to fraud, mistake and accident. Moreover, such increase as has taken place has been attained at the cost of an immense and growing volume of harassing litigation. In 1923–24 the total number of institutions of suit was 619,653, which is a slightly lower figure than that for 1900–1. The number of ejectment suits averaged approximately 127,000 in the ten years ending 1922–23, and in the year 1922–23 was 157,000. The area held under seven-year leases never reached one million acres and such leases were practically confined to Gorakhpur, Basti and some districts in the Meerut division. Taking the occupancy area and the area under long-term leases together, the protected area in 1901 formed 63·5 per cent of the tenant area and in 1924–25 it reached 74·3 per cent. The non-occupancy tenant, as a tenant-at-will,

had no security against the excessive enhancement of his rent and in consequence his rent tended to be a rack-rent. The area held for less than 12 years, otherwise than on long lease, was nearly 20 per cent of the total area of holdings. The failure of Act II of 1901 for securing reasonable fixity of tenure and freedom from excessive enhancement of rent for a large portion of the tenantry, the increasing antagonism between landlords and tenants and the growing peasant mass-consciousness which was the sequel of the non-co-operation movement, ultimately led to a reconsideration of the whole problem and the passing of Act III of 1926. The Agra Tenancy Act of 1926 abrogated the old 12-year rule, and also granted a statutory life-tenancy to every tenant who had been formerly classified as a tenant-at-will, with a five year's remainder to his heir after his death. Tenants who held a right of occupancy at the time when this Act was passed remained undisturbed; and it is no longer possible for a tenant-at-will to acquire an occupancy right by continuous cultivation over a period of 12 years. On the other hand, a tenant can now purchase an occupancy right from a landlord, or receive it from him as a gift. Enhancement of a statutory tenant's rent is only possible after 20 years, *i.e.*, once during the ordinary life of a settlement, and is subject to the "roster" limitation, according to which in every tenth agricultural year a special officer is appointed to propose fair and equitable rates of rents after a thorough economic investigation; these rents are then used as a measure of enhancement. The proportion of holdings' acreage held by ordinary tenants in Agra was 22·9 in 1935.

In Oudh, according to the Rent Act of 1886, occupancy rights were originally recognised only in the case of tenants who had proprietary rights and lost them, but the privilege has since extended to ex-proprietors whose proprietary rights have been transferred by sale or execution. The majority, however, were statutory tenants who could be ejected or whose rents were enhanced by the landlord after a period of seven years. Thus ejection had been a general rule unless the tenants accepted an enhancement which was inevitable because of the great demand for land. Under

the amendments of 1921 and 1926 the tenant has obtained the security that he remains undisturbed in his holding during his lifetime and his heir for five years after succession, and that the rent can only be enhanced once in every 10 years. The interval, *viz.* 20 years, is half of that adopted in Agra. In 1925 the proportion of holdings' acreage held by statutory tenants was 66·4 in Oudh.

Inadequate protection of the tenantry of the United Provinces.— The position of tenancy is the weakest in Oudh, most parts of which, in addition, are thickly populated and fully cultivated. There are social and historical reasons behind the inadequate protection of the Oudh tenant. But if an increase of population pressure must demand the development of intensive farming and greater investment of peasant capital in holdings, the life tenancy which had been granted first in Oudh and then in Agra as a result of compromise between the interests of the peasants, on the one hand, and the powerful landlord interests, on the other, must give place to universal occupancy rights. For, as long as the principles of occupancy or heredity are not recognised in the case of an ordinary tenancy, whenever the tenant dies the evils of rack-renting, *nazarana* and harassing litigation are discernible, especially in districts where there is competition for land. The lot of ordinary tenants comprising statutory tenants, their heirs and other non-occupancy tenants, is one of considerable hardship on account of the economic pressure. They pay in rent an ever-increasing quota of the value of the produce; they also pay a higher rent than the stable tenants, as the following table shows:—

	Rents per acre		*Index number of wholesale agricultural prices.*	*Index number of rents.*		*Land Revenue demands Lakhs.*	*Index Number of land revenue.*
	Stable tenants.	*Ordinary tenants.*		*Stable tenants.*	*Ordinary tenants.*		
1901	3·98	4·67	107	99	96	623·5	99
1910	4·26	5·41	127	106	112	649·0	103
1920	4·56	6·45	243	113	133	676·3	107
1930	4·88	8·02	162	121	166	704·5	111
1933	4·87	8·09	113	121	167	709·8	112

As contrasted with Agra, the rent-rates fixed by the settlement officers in Oudh have no correspondence with the actual rents charged by the landlords; while the Tenancy Act neither contains any provision for the abatement of rents nor encourages a settlement of rent disputes between tenants and landlords by the court.

Nazarana is also an old evil, which has by no means disappeared; a large part of the agricultural capital which the tenants might otherwise invest in the improvement of land or purchase of live-stock being thus regularly diverted in a clandestine fashion into the hands of the landlords. The *nazarana* is imposed because it can be more effectively concealed than rent-rates, and when the rents are secured at settlement the Government is deprived of its due share of increase. In certain estates in Oudh levies of fees or payments in kind are manifold and even obnoxious —such as *aurat bhagai*, *bakra*, *shadi*, *khoonta garhai*, *chaukat rakhai*, *ghaswara*, *kharchara* and *singhauli*, besides the imposition of corvèe or begar labour. Some of the landlords keep their own private records in which the real rent-rate, which is sometimes 50 per cent more than the rate in the *patwari*'s books, is recorded. In Partabgarh, for instance, the *nazarana* amounts to 20 per cent of the recorded rentals.

It is inevitable that in the coming years the so-called statutory tenants, who possess the right to retain their holdings only for life, will claim and be granted occupancy rights by prescription; and perhaps a beginning in this direction will be represented by the principle that a statutory tenant may acquire occupancy rights in land cultivated from year to year without a lease for at least 12 years. Similarly, in the case of the non-occupancy tenants in Agra, permanence and heritability are the incidents to which the present life tenure will assimilate itself sooner or later as the result of either enlightenment among the landlords or acute discontent amongst the tenantry.

As a matter of fact the future improvement of tenancy status, which does not depend upon gradual accrual, as in Bengal, but on legislation, has its precedent in the C.P.

Tenancy Act of 1920, which made every tenant, whatever the length of his occupation, an occupancy tenant or a tenant with a permanent right of occupation. The same evils of difficult accrual of the occupancy right, eviction and a growing volume of litigation were rampant in the Central Provinces, as in Agra, before this measure was passed. At present in the Central Provinces there are two grades of occupancy tenants. The absolute occupancy tenants have rights of transfer by sale, lease or mortgage, subject to the *malguzar's* right of pre-emption. The occupancy tenants have no right of transfer except to co-sharers and to certain heirs. His land cannot be attached or sold in execution of a decree, though he can be ejected by the revenue court for arrears of rent.

Transfer and sub-letting, the crux of tenancy reform.—This leads us to the problem of transferability of protected tenant right. Both law and custom have differed in this regard in the different Provinces. In the Central Provinces, as we have just now seen, the majority of tenants have no right of transfer. In Bengal the enactment of 1928 gave the custom of transfer of occupancy right, subject to a payment of a premium to the landlord—a secure legal footing which has put an end to a good deal of uncertainty and litigation. In the United Provinces no tenant's right is transferable and no tenant's holding can be legally mortgaged; but all tenants have certain rights of sub-letting, and use sub-leases as a substitute for usufructuary mortgages. An exproprietary or occupancy tenant can sub-let the whole or any part of his holdings for five years, though he may not again sub-let any part thereof until five years have elapsed after the expiry of the former sub-lease. The statutory tenants can sub-let for a period of three years while the period between sub-leases is three years.

The restriction of transfer and sub-letting of protected tenants' right raises wide and important economic considerations. Transfer and sub-letting, indeed, form the crux of all tenancy legislation. In Bengal and Bihar, as a result

of the licence given for sub-infeudation and transfer and the failure of the measures devised to discourage sub-letting by ryots, many of the latter have been converted virtually into rent-receivers and middlemen while the actual cultivators are converted into under-ryots without adequate security. Throughout Bengal *under-ryot* and produce-paying tenancies have increased during the last few decades and the Amending Act of 1928 has but dealt with these problems partially. An under-ryot in Bengal, who holds land immediately under a ryot for 12 years continuously, is given full occupancy rights. He is protected by law against eviction, or on failure to pay an enhanced rent sanctioned by courts of law. The under-ryot has all the privileges of the occupancy ryot excepting the rights of transfer and sub-infeudation.

Metayers.—During the greater part of the 19th century, the landlords of Bihar took advantage of the population pressure, emigration and the cultivation of special crops such as indigo, cane, tobacco and potato to maintain the system of payment in kind and push rents up to the competitive level. Though the produce-rent system gave the *zamindar* sufficient interest to keep up the dams, embankments and means of irrigation in tracts of precarious rainfall, yet it proved obnoxious and oppressive and has been to a large extent superseded by cash rent. One of the proposed reforms in a bill now being considered in Bihar is the complete abolition of all grain rents and substitution of cash instead. Produce-paying tenancies have, however, recently spread, especially in Western Bengal. Here also crops are relatively uncertain, on account of flood and uncertain rainfall; and the higher castes, which would not drive the plough, dominate. The provisions of the Act of 1928, however, have recognised only the cultivators who pay a fixed quantity of produce as ryots or under-ryots who are given protection. On the other hand, the *bhagchasis* or *bargadars*, who pay a proportion of the produce that varies from district to district according to custom and agricultural circumstances, and who form a large section of produce-paying

cultivators, holding the same lands through several generations, have been left unprotected by the amended Act. Both custom and High Court judgments seem to indicate that *bargadars* and *bhagchasis* are tenants rather than hired farmers. A healthy system of mortgage, as in France or Italy, rests on a sharing of risks between the owner of the land and its tiller; yet according to this amendment this is enough to relegate the peasant to the status of a mere tenant-at-will or labourer. Thus the legal definition of the *bhagchasi* or *bargadar* as one who undertakes risks of cultivation has killed him economically. Further, the amending Act has abolished the commutation of produce rent. It is true that commutation has been a source of friction and litigation between proprietors or tenants of land and actual cultivators, but commutation has hitherto strengthened the claim of the latter for elevation to the status of tenants as opposed to labourers or partners. It is thus clear that the power of transfer, mortgage and lease of occupancy right has in Bengal created a new non-cultivating and rent-receiving class from among the ryots, led to the transfer of a right that was especially intended for actual tillers of the soil to the middle and moneylending classes, and reduced a large proportion of cultivators to the status of landless labourers.

Sub-leases by tenants in Bengal, the U.P. and the C.P.— In the United Provinces the tenants' holding cannot be legally mortgaged but both stable and ordinary tenants widely use sub-leases for usufructuary mortgages. As a matter of fact under the new Acts the statutory tenant, who is much weaker, economically speaking, than the occupancy tenant, will be in a much stronger position than the old non-occupancy tenant in the matter of sub-letting. "Such sub-leases are wholly illegal, as these are also wholly pernicious," observe the Provincial Banking Enquiry Committee. Redemption is almost wholly impossible because the tenant has reduced the resources from which he must finance redemption; and the end is generally relinquishment of the land by the debtor and a lease of it

by the landlord to the creditor. Where the holding is not relinquished by the debtor, the creditor tends to neglect the land or deplete soil resources by trying to make hay while the sun shines.

The law in Bengal and the United Provinces has not only failed to check but has actually encouraged sub-leases. Thus wherever the tenant's rents admit scope for sub-letting at a profit to sub-tenant and sub-tenants, mortgages multiply. In certain districts in Central Bengal, such as Jessore, the under-ryots, as we have seen, actually exceed the number of ryots. Under-ryots in Bengal now enjoy practically all the privileges of the latter, excepting the rights of transfer and sub-infeudation. The legal peasant of Bengal thus has transformed himself into a middleman. In the United Provinces the big landlord encourages sub-letting, for the change is often to his advantage; while both large and small proprietors have fully exploited the provision of the recent law relating to the accrual of *sir*-rights. *Sir*-rights are special rights for proprietors originally intended for the actual tillers of the soil. Since non-occupancy or statutory rights can accrue in *sir*-lands, the *zamindars* cling to these with remarkable pertinacity and evade the restrictions for the extension of their *sir* in order to sub-let these at very high rents. More *sir*-land in the United Provinces implies the persistence of a large number of rack-rented and unprotected tenants and the evils of under-cultivation and sub-letting. Yet the phenomenal expansion of both *khudkhast* and *sir*-land after the passing of the Acts of 1926 indicates a tendency to oust protected tenants, and sub-let *sir*-land. During the five years after the passing of the Agra Tenancy Act, *sir* has increased from 3,352,294 to 3,505,318 acres and from 394,247 to 844,405 acres respectively in Agra and Oudh, and *khudkhast* from 552,314 to 610,778 and 363,249 to 405,845 acres, respectively, in the two Provinces. In some districts, for example, Allahabad, about 50 per cent of the *sir* is sub-let. The remedy lies in the prohibition of sub-letting of *sir* altogether or for more than three agricultural seasons, and the legal limitation of the area of *sir* by the extent to which a *zamindar's* family can culti-

vate it without requiring under normal conditions any permanent outside labour. On the other hand, between 1927 and 1932 the occupancy area decreased by 4 per cent, the average annual loss being 107,000 acres, the area being surrendered to proprietors and partly let out to statutory tenants. The fall in prices in 1930–31 left the tenants with a valuable status to conserve and with very varying scales of rents depending on the date from which the State intended to remit them.

The provisions of the law restricting mortgage and sub-lease of tenant right are also inadequate in the United Provinces, with the result that the moneylender has entered by the back door, the economic status of the tenant has been depressed and there has been under-cultivation. It is desirable that both in Bengal and United Provinces more effective laws restricting transfer, mortgage and lease are necessary, if the small cultivating proprietor or tenant is not to give place to a non-cultivating, rent-receiving and moneyed class. The distribution of land among the several classes, the efficiency of the cultivators, the facilities of credit to which they have access—all these will determine both the form as well as the character of such restrictions. As long ago as 1880 the Rent-law Commission recommended that occupancy holdings should not be mortgaged, and that the right of occupancy, though saleable in execution of a decree for its own rent, should not be saleable in execution of any other decree. In the Central Provinces the occupancy tenant has no right to transfer or mortgage except to a co-sharer or to a person in the special line of heirs as defined, and sub-letting is permitted for one year only. The Central Provinces Act of 1920, which drastically forbids sub-letting, also includes a provision that where it is found that tenants are habitually sub-letting the lands, the Local Government may, by notification, declare that in such cases revenue officers clothed with this special power may pronounce the sub-tenant to have the right of an occupancy tenant, and he therefore will be deemed to be an occupancy tenant with all his statutory rights, not only against the tenant but also against the landlord.

Need of restriction of transfer, mortgage or sale of tenancies.—Restriction of transfer, mortgage or sale, though it may mean an abridgement of credit for the cultivator, does not ultimately affect the prospects of agriculture. There is on the whole a greater balance of good from the principle of keeping the cultivator to his soil and holding as the basis on which other necessary legal and economic adjustments should be built up. Both thrift as well as stabilised interest of the cultivator in his holding gradually improve credit and establish it on firmer foundations. Unrestricted transfer in the face of a progressive fractionalisation of holdings provides the opportunity for the non-agriculturist money-lenders. The unsuccessful or unthrifty cultivator whose land is below the minimum economic size—and the majority of proprietors and tenants of Northern India possess uneconomic holdings—forces up credit and does good neither to himself nor to his land. The needs of long term credit for both small proprietors and tenants could be met by a measure that gives the cultivating proprietor or occupancy tenant the right of mortgage and sale in favour of and through a co-operative credit society or land mortgage bank. For an ordinary tenant the purchase of an occupancy right is now permissible in the United Provinces. Thus a co-operative credit society or land mortgage bank may be permitted to lend to an ordinary tenant the money necessary for this purpose on the security of the occupancy holding which he will thus obtain; thereafter he will be able to command long term credit in the same manner as any other occupancy tenant. It is thus that, while such restriction of transfer and mortgage of land will prevent the multiplication of a rent-receiving class and the danger of under-cultivation when the magic of property will no longer be there, credit will be regulated and made to flow into channels for the permanent improvement of the land.

Emergence of absentee landlordism and unprotected tenancy in the ryotwari provinces.—The above economic considerations relating to the restriction of transfer, mortgage or sale for the protection of small farming apply also to the *ryotwari*

areas or areas of peasant proprietorship like Madras and Bombay and the Punjab. In fact the classification of land systems in India into *zamindari* and *ryotwari* or similar systems is apt to be misleading. For in the United Provinces (excluding Kumaon), which is well known as a *zamindari* Province, out of 1,228,980 persons who are in greater or less degree proprietors of land 1,110,000 pay land revenue of Rs. 100/- or under. A large number of this class cultivate their own land and it is estimated that as much as one-fifth[1] of the total cultivated area of 35 million acres is in the cultivation of small-holders. On the other hand in the Punjab, which is described as the land of peasant proprietors, the West is the stronghold of the landlord as the East is the home of small cultivating proprietors and the landlord is too often an absentee.[2] The area under tenancy has been increasing. The number of persons living on agricultural rent increased from 626,000 to 1,008,000 during 1911–21. It is estimated that about 40 per cent of the cultivated area is in the hands of the owners of over 50 acres. On the other hand, out of about 4,000,000 landowners, 350,000 pay only Rs. 25 or over as land revenue; 65 per cent of the land owners pay less than Rs. 5 per annum. Further, out of a total cultivated area of about 29 million acres, 15 million acres are cultivated by tenants. The total number of tenants in 1931 stood at 1,128,014 as compared with 1,707,744 cultivating owners and 192,531 non-cultivating owners. Thus landlordism and uneconomic cultivation of tiny holdings by proprietors and tenants-at-will exist side by side. In Madras and Bombay the ryots can sub-let and the tenant under-ryot holders are unprotected. On the *zamindari* estates in Madras, every ryot who is admitted by the landlord to the possession of land has a permanent right of occupancy. There is no corresponding law, however, applicable to the tenants under the *ryotwari* cultivator either in Madras or in any of the Provinces where the *ryotwari* system is in force. Yet the number of

[1] Sir Malcolm Hailey's speech before the Agra Province Zamindars' Association, November 12, 1934.

[2] *Punjab Banking Enquiry Committee's Report*, p. 7.

tenants in the Madras Presidency, for instance, is quite large. In the following districts the percentage of cultivating tenants and dependents to the total agricultural population exceed 12 per cent: Vizagapatam (43·5), Ganjam (23·5), Chittoor (23·4), Godavari (18·8), Nellore (16·2), Tinnevelly (15·9) and Tanjore (13·3).[1] In the deltas there are considerable areas of *ryotwari* land sub-let by the absentee ryots while land held by Brahmans and all trust properties are commonly sub-let.[2] In some districts the number of cultivating owners tends to decrease and that of tenants to increase. Thus in Tinnevelly during the five years 1907–12 the percentage of cultivating tenants increased from 2·7 to 7·7. The tenant, who is absolutely unprotected, has almost the same economic status as that of a farm labourer. Sub-letting is generally on a partnership basis; seeds, cattle and implements are usually supplied by the landlord who obtains 40 to 60 per cent of the yield. "Thus the tenant commonly goes on from year to year eking out a precarious living on such terms," observe the Banking Enquiry Committee. Settlement figures indicate that the rates of rental to assessment vary from 5 to 16 times in such districts as Vizagapatam, Tanjore and Trichinopoly and such rentals are on the increase due to the competition for land.[3]

In Bombay the census of 1931 shows that the number of tenant cultivators is larger than that of cultivating owners and they represent 23·8 per cent of the total agricultural population; the percentage of the latter being 17·6. There is no tenancy law in Bombay, tenancy in the Province being generally governed by customary law and ordinarily presumed to be annual.

In the Punjab, in Madras and in Bombay, we accordingly see a trend against which Akbar's revenue policy decidedly warned the Collectors, *viz.*, that lands held by cultivating proprietors should not be permitted by them to be held and cultivated by tenants.

[1] *Report of the Indian Taxation and Enquiry Committee*, Vol. II, Appendix.
[2] *Provincial Banking Enquiry Committee, Madras*, p. 14.
[3] Mukerjee, *Land Problems of India*, pp. 148 and 200–01.

Need of protective tenancy legislation in the ryotwari provinces. —It is desirable that the different provinces of India where tenancy is emerging into increasing significance should be brought into line with one another by making occupancy rights universal, by introducing the Roster year system for fixing genuine, adequate and stable rents over a fixed period of years based on a classification of the soils and elaborate analysis of rents and economic conditions and by limiting the tenant's right to transfer, sub-let or mortgage. Apart from establishing similar tenants' status for Bengal, Bihar, Orissa, Chotanagpur, Agra and Oudh, tenancies which have become increasingly more important in Madras, Bombay and the Punjab require more protection or at least must be governed by positive law and not left to be determined by local custom or scattered enactments.

The *Zamindari* Tenure in Madras, on which the total extent of land is 19 million acres as compared with 27 million acres under the *ryotwari*, exhibits the same problems of spendthrift land management as in Agra and Oudh, which should be tackled on similar lines. In the Madras *Zamindari* Tenure, tenants hold of the *zamindar* on payment of a fixed rent. They have an occupancy right which is alienable without restriction, the ryot being liable to eviction only for non-payment of rent and for rendering the land unfit for cultivation. The *zamindar* has, however, certain small home-farm lands which he may cultivate himself or lease to tenants-at-will who have no saleable interest. Tenancy is also important in Malabar and South Kanara. Under the "janmi," who pays assessment to the Government in Malabar, is the Kanamdar whose position is very much similar to that of the Oudh tenant before the Act of 1921. He holds on a twelve years' lease only and can be turned out at the expiry of this period only on payment of the cost of any improvement he may have effected in the land. The Kanamdar may himself cultivate or he may sub-let to a tenant-at-will. In South Kanara, again, there are occupancy tenants and tenants-at-will under the Mulawargdar who pays assessments to the Government. Similarly, in Bombay, ryots who hold land under the

Talukdars in Gujrat but possess no proprietary interest in the soil, and the Haris who cultivate customarily on *batai* under the *zamindars* in Sind, need protection much on the same lines as the tenants in the *zamindari* areas of Northern India. Again, wherever the small-holders in Madras, Bombay and the Punjab who hold land directly under the Government have the power of transfer and lease, tenants-at-will have increased in number and ryots sometimes have become absentee landlords. In the deltas of the Madras Presidency, in Konkan and in the colony districts of the Punjab the proportion of tenant population is on the increase. The Punjab Government have now sternly set their face against peasant grantees in the canal colonies who have become absentee landlords and in the Lower Bari Doab Colony, where most of the peasant grantees have held their grants for 15 years or more, confiscation of grants of incorrigible absentees is proposed.[1]

Anomalous position of tenants-at-will and agricultural partners. —Economic surveys of some villages in the Punjab colony districts show that the area cultivated by tenants paying rent in cash or kind is gradually becoming larger, while changes in the tenants-at-will are frequent. The extension of the period of tenancy beyond eight years is quite rare, and, generally speaking, those tenants-at-will who cultivate small areas are replaced at quick intervals. It is natural that the land cultivated by them is worked with little care. The legal position of the tenant and the method of assessment of the landlord have both become anomalous. Under the *batai* system, which is largely in vogue, the produce-rent which the tenant pays often trenches upon his standard of living, as the Punjab Farm Accounts indicate abundantly. Yet when the landlord's net assets are considered for fixing the land revenue, which is a quarter of the assets, the share left to the tenant is not considered at all from the point of view as to whether it is an economic or a rack rent. While the method of assessment gives due consideration to the cultivating proprietor's and landlord's net assets after

[1] *Annual Report of the Punjab Colonies*, 1933.

deducting his costs of living and farming, the lack of legal recognition of *batai* has meant that such assets often encroach upon the living wages of the actual tiller of the soil.

In Madras and Bombay, as well as in the Punjab, when the owner becomes an absentee and there is a sharing of the agricultural produce it is difficult to distinguish between an agricultural labourer and a tenant-at-will. Protection can only be secured through a formal recognition of all agricultural co-partners paying either a proportion or a fixed quantity of produce as tenants, and the grant of *ryoti* or occupancy right to all sub-tenants who show a better status than that of their hired farm hands by their invariable possession of plough cattle, or who at least have held the land continuously for a term of years. This may be preceded by an offer to the small proprietor to resume cultivation of the land instead of living as a rent receiver. Professional and other classes have been inclined to invest their savings in land owing to the social status and the security which the land offers. On the other hand a class of idle rent receivers who do not work on their land have been recruited during the last 30 years from the richer agriculturists, who have profited from the appreciation of land values due to the rise in the prices of agricultural produce. At the same time the growing population pressure and the competition for land are responsible for a continuous supply of agricultural labourers and sub-tenants who till the soil under the occupancy tenant, ryot or owner who sub-lets. The process of sub-letting by the peasantry inevitably paves the way for the pernicious cottier system. This happened in Ireland where, in some areas, as many as five or six degrees of interest intervened between the proprietor and the actual cultivator. This array has been far out-stripped in Eastern Bengal, where proprietary rights are quite commonly found seven and eight deep and in some cases 12, 15 or 17 tenure holders are recorded one below the other. Under-ryots are also very common and many of them sub-let, and these are ryots of the second degree and ryots of the third degree. In India as a whole agrarian history is repeating itself, and it is incumbent on us not to

neglect the hardly-won lessons derived from it. A greater population pressure has led to a more acute situation in more than one Province.

Stabilisation of rents, the coming phase of the tenancy movement.—The question of the security of tenure is intimately connected with that of fair and stable rents, and this is the chief reason why tenancy legislation in Bengal, Agra and Oudh has for one of its chief objects the prevention of sudden rise of rents and levy of *nazaranas* which are in essence the capitalisation of the increase of rent. Legislation, however, has not hindered enhancement and eviction, especially in the United Provinces. Even in Bengal, where the rent of occupancy holdings can be enhanced only for certain specified reasons, the courts have not been sure about limiting uneconomic enhancements. In the case of under-ryots, who hold for a fixed period or at the will of the landlord, the rents are pitched extremely high. Out of the total land revenue of Rs. 18 crores realised in Bengal, the occupancy ryots pay about Rs. 8 crores and the under-ryots, whose scale of rents is higher, pay Rs. 3½ crores. According to the Act of 1928 the permissible rate of contractional enhancement in the case of the under-ryots is 4 as per rupee of the previous rent as compared with only 2 as in the case of the occupancy ryot. The rent-rates paid by the *bargadars*, *bhagdars* and *adhiars* are even higher. If the rent-rate payable by the actual tiller of the soil could be fixed, such a measure by itself would eliminate several grades of intermediary interests in the soil. Rent rates in Bihar have also been on the whole on a higher level than in Bengal. Produce rents have been on the increase in Bihar during the last few decades and in some districts in western Bengal, and these represent twice or three times the money rent for similar land. There is also a marked divergence in recent years between old occupancy rents and competitive rents for ordinary tenants in Bengal, Bihar, and the United Provinces. In the United Provinces, where in some districts rents of ordinary tenants are even double those of stable tenants and are still on the increase,

the indirect effects have been to threaten occupancy status, promote sub-letting and perpetuate the evil of *nazarana* of all kinds.

Sir Malcolm Hailey observes: "Previous tenant movements were in the main confined to demands for stability of tenure on the part of the cultivator; we shall now probably see an increasing movement for State intervention in the adjustment of rentals."[1] He also points out the analogy with Ireland, where the initial demand was for fixing of tenure and right of transfer of tenant rights; it was followed by a demand for fair rents and finally for land purchase.

Occupancy rights have not been yet universalised in the landlord provinces. In Agra the occupancy right may now be acquired by purchase from the landlord, but transferability of tenant status holds good only for Bengal. When occupancy status is fully achieved there will, of course, be a demand of legislation in the matter of fair rentals so that these may not encroach upon the peasant family's wages and standard of living. This will imply a revision of the theory on which settlement operations are based throughout India, *viz.*, that rent depends only on the fertility and situation. For rent is also dependent on the site of the agricultural holding, mobility of labour, alternative uses of the peasant's capital, the reciprocally dependent and shifting use of margins of labour, land, capital and enterprise. Not only the under-sized holding will thus claim exemption from land revenue or rent, but the weight of industrial opinion interested in the consuming power of the vast cultivating population will encourage State assistance in favour of the small-holder or tenant, as against the landlord class and an income-tax based on agricultural income as in France or Japan, or a death duty which may shift the burden of revenue more and more to the landlords, intermediaries and more prosperous cultivators.

Land purchase and redistribution, the final phase of the tenancy movement.—Land purchase and redistribution by occupancy tenants would be the final demand in the landlord Provinces,

[1] *India*—1933. *A Review*, 1933.

which will be first enunciated by the Bengal ryots. Bengal, which has been under the permanent settlement, now shows a revenue demand which is roughly only half of what it is in any other Province in India, although in all probability the income *per capita* of the population is greater than in any other Province. The benefits of the enormous extension of cultivation which has proceeded in many districts to the extent of 80 per cent of the cultivable area have been appropriated by the landlords and intermediate tenure-holders having parallel rights and privileges, who as a class have not contributed much to permanent improvements of land. Land revenue has decreased from 90 per cent in 1793 to approximately 20 per cent at present. It may roughly be taken at Rs. 2·99 crores, while the rentals intercepted by the landlords, including the tenure holders, amount to Rs. 16 crores out of a total rental of Rs. 18 crores. This has left the state relatively inadequate resources for urgent measures of public health, irrigation, improvement of waterways and education, which have been sadly neglected. The future land adjustment in Bengal is likely to follow the lines of land settlement in Germany under the law of 1919, according to which landlords are bound to join land transfer associations which have purchased properties fit for colonisation at reasonable prices up to a third of the cultivated area of the estates. Such transfer associations can buy at a fair price or expropriate lands that are under-cultivated, or estates of unusually large size, and give 5 per cent of the land for division among the agricultural labourers. In Denmark a similar policy of land purchase by tenants has been systematically encouraged since the war by the State through credit banks as well as direct subsidies. According to the recent laws the tenant does not pay any purchase money but is required to pay interest only on the value of the land. The minimum area that may be acquired is 5 acres, while the holding may not be transferred, mortgaged or sub-let without the authorisation of the Minister of Agriculture. The inheritance must be single and undivided. Purchase of rights of landlords, and intermediate tenure holders, on similar lines as

in Europe through land-mortgage banks and credit societies, or the State providing a portion of the purchase money or guaranteeing the payment of interest only on the value of the land, drastic restriction of lease and transfer by ryots and the conversion of all metayers or partial metayers (Bargadars or Bhagdars) into the status of occupancy ryots, will probably be the first steps in correcting the present maldistribution of land resources and creating cultivating tenure with healthy limitations in the interests of improved farming. Whether a successful share tenancy might develop in Bengal as in Italy and Japan, where the landlords and tenants enter into an equitable agricultural partnership, or the status of the occupancy ryot would approximate to that of occupancy ownership, is uncertain. The blending of social-communal with agrarian issues adds to the uncertainty of the programme of land reform.[1]

Principles of agricultural costing as determining economic rents.—As measures for the introduction and stabilisation of occupancy should be introduced to *ryotwari* and other areas where tenancies have recently developed and are as yet inadequately protected, so the economic principles which now guide the calculation of the costs and profits of agriculture in the *ryotwari* areas should be applied to Northern India, and it may be profitable to provide for a machinery of determination of rents in Bengal, Bihar and Orissa like that now governing the United Provinces, the Central Provinces, and the *ryotwari* Provinces, instead of allowing rents to be governed by court decisions or by mutual adjustment between landlords and cultivators. It is true that the pitch of assessment is not well adjusted to changes of agricultural conditions in the *ryotwari* area. This is indicated by the increase of coercive processes of different kinds in Madras, for instance, from 909,356 to 1,139,377, and rise in the number of defaulters where properties were sold from 6,330 to 10,062, that are associated with agrarian unsettlement. Similarly in the Punjab, due to the same

[1] For the future of land reform, see the last chapter of the present writer's *Land Problems of India*.

cause, *i.e.*, economic depression and fall in the prices of agricultural produce, the number of coercive processes increased from 10,969 as the average of 1924–27 to 30,000 in 1932.

A recent investigation into the economic condition of the agriculturists in certain districts of the Province of Madras has shown that in most rural parts the value of the agricultural produce is insufficient, after meeting the demands of the Government revenue, for the maintenance of the agriculturists, so that while a few rich people get richer and a small number remain on the margin of subsistence, the majority are running into debt and losing their hold on land which is frequently changing hands. The system of land revenue is based too much on average (average rainfall, average supply of water, average out-turns, average prices, etc.). The inelasticity of the system leads to low production and indebtedness. It is antiquated, and is not in keeping with the trend of land revenue policy in civilised countries. Land revenue in India is much heavier in its incidence than other taxes.[1] Yet through many mistakes of over-assessment in Madras, Bombay and the Punjab, due to under-estimating the total cost of production and ignoring the cultivators' profits while over-estimating the gross produce and the benefits derived from land improvements and irrigation projects, certain general principles of agricultural costing and determination of the cultivator's real economic surplus have emerged. For the assessment of a fair land revenue the Settlement or Roster Year Officer, in estimating the net produce, should make a liberal allowance for the true and full expenses of cultivation, the labour of the cultivator and his family, the interest on the capital he borrows from season to season to carry on his agricultural operation, the depreciation of agricultural capital and live-stock and insurance against the inevitable risks of agriculture in the Indian climate; the State also should return the land revenue in the form of benefits which may increase the efficiency as well as the comfort and amenities of life of the cultivator.

[1] Report of the Committee, p. 99.

The agricultural depression and the scale of land assessment.— The long-term fixed settlement of land revenue in the past permitted proprietors to benefit from the extension of cultivation during a period of stable and rising prices. Government could not increase land revenue during the currency of a settlement and the incidence of land revenue became comparatively slight. The long-term settlement without a reform of tenancy led, however, to the loss of revenue for the State as well as the loss of profits for the peasants. But the unprecedented slump in prices has changed the position altogether. The incidence of land revenue has become heavy and there have resulted not only striking disparities in the actual pitch of assessments between the old and the newly-settled districts, but also rack-renting by proprietors with its inevitable disturbance of social relations. In a period of continually falling prices a long term settlement will have its disadvantages,[1] although the short term settlement would discourage improvements of land by the proprietors and throw the larger share of this burden on the State. The increase of the burden of revenue, the loss of purchasing power of the agricultural population and the dislocation of finance have compelled many Provincial Governments to make remissions of land revenue. In the United Provinces the Government have granted remission and reduction in revenue to the extent of 25 per cent and have recently fixed the land revenue for the full period of 40 years, as laid down in the Land Revenue Act, which has also been amended, giving power to the Settlement or Revising Officer to modify the recorded rents of all grades of tenants according to the prevailing level of prices. In the Punjab a sliding scale of assessments based on index numbers also has been recently introduced. The system devised for Lyallpur and Sheikhpura districts in the Punjab is of great significance in this connection, as this represents a careful yearly adjustment of assessments to the changing trends of market prices, which would greatly help in

[1] Compare in this connection Sir Reginald Craddock's speech in the Imperial Legislative Council, February 27, 1914, and Sir Malcolm Hailey's speech before the Agra Province Zamindars' Association, November 12, 1934.

regulating the tax burden according to the payer's ability if the movement of the costs of agriculture from the base year be given adequate consideration.

Need of fixation of normal profits and size of economic holdings.— Such general principles in agricultural economics are already being incorporated in Settlement Acts and Codes of the *ryotwari* Provinces, and these should guide the rent policy of the whole of India. No doubt the assessment of fair land revenues, irrigation rates and rents, making these correspond with the level of prices year by year and district by district, are very intricate matters demanding the use of index numbers of prices, wages, and rents, the fixation of a normal year for comparisons and the correlation of the cost of agriculture, fall in prices and net profits of the farmer in each agricultural region. In such calculations the agricultural economist with his expert training and technique may usefully serve the Government and the people. Nor should the fear of an unsteady revenue with the attendant difficulty of framing a budget justify inaction. For in the present economic world, where economic conditions and prices are so fluctuating, it cannot be expected that the land revenue might be insured against charge without serious detriment to the purchasing power of the cultivators. But even if all is done the pitch of revenue or rent may yet be too high, a considerable proportion of the holdings in India being uneconomic and yet being fractionalised. A scheme of exemption of uneconomic holdings from taxation and from sale on account of moneylender's decree which was first proposed by the present writer before the Indian Taxation Inquiry Committee, and has since then been adopted by some agricultural and political parties[1], will lead to a serious shrinkage of land revenue income even though it may be offset by a progressive taxation of holdings which are larger than the economic cultivation

[1] In Bengal a section of the New Bengal Agricultural Debtors' Bill proposes to adjudicate certain debtors as insolvent and to exempt one acre of their holdings from sale. This is intended to prevent cultivators from drifting into the position of landless labourers or economic serfs by retaining at least their houses and some plots, however small.

unit and are hired out, as adopted in the cantons of Switzerland.

Land readjustment versus Communism.—The consolidation of agricultural holdings through legislative measures, which is the most crying need of Indian peasant farming, prevention of sub-division or diminution of the economic holding, introduction of the European practice of succession to undivided holdings by the creation of a preferred heir, prevention of sub-letting by small-holders and tenants, restriction on the employment of hired labour and limitation of *sir* and occupancy rights from accruing to land which is above the size of the economic holding and cannot be cultivated by the peasant without permanently importing hired labour—measures such as these alone can rationalise small farming. Such measures are possible in India only when we are able to relieve the enormous pressure on the land, create new sources of non-agricultural employment among the peasants and industrialise the villages. In the coming years land readjustment will be forced upon India by the growing burden of indebtedness of small-holders, the dominance of the moneylender, rent-receiver and rent-payer at the expense of the small-holder and the increase of a floating landless class in the villages. Improvements of agriculture, better marketing organisation or irrigation projects, may postpone land readjustment, but in the Provinces where these have not added much to the income of the agriculturists and in the whole of India in seasons of drought, agrarian unrest and crime challenge a revolutionary change in land policies and programmes. The political influence of the agriculturists in the coming Constitution will bring about this change which, it is expected, will forestall the spread of Communism and preparation of a peasant proletariat movement for some form of expropriation or nationalisation of the land.

CHAPTER XII

RURAL RECONSTRUCTION

By S. S. Nehru, M.A., Ph.D., Indian Civil Service

Dangers of idealism.—An eminent authority[1] on Rural Sociology has observed that where the author talks of Uplift he does not disguise his meaning under a pompous term such as "Progress" or "Science." These high-sounding terms mislead one into believing things not warranted by reality, and Rural Reconstruction also errs in the same direction. The ambition to reconstruct, renovate and replace village life on a totally different footing is very laudable, provided it does not imply a waste of time and energy. Such, however, has been the fate of idealists whose shattered theories mark many a false route towards Rural Uplift.

There are several *types* and *stages* of Rural Uplift.

First type of Rural Uplift.—The very *first* type is that of *single-handed effort* with a one-man show, the energy of which galvanises chosen workers into selective action along divers lines, and who march from success to success, while he is at the helm. Such enthusiasts may verily exclaim: *Veni, Vidi, Vici.* They found the typical Indian village, where the men are caricatures and the beasts are scarecrows and the fields unblessed with plenty and the pools pullulating with parasites and the houses choked with stench and the lanes clogged with mire; with heroic effort they have transmuted it into a Model Village which people from far and near should come and see and admire and imitate, as soon as they go back to their own home villages. This uplift or upsurge is very successful while it lasts, but it may not last

[1] Professor Carle C. Zimmerman's (Harvard) review, in the *American Journal of Sociology*, of *Caste and Credit in the Rural Area*, by S. S. Nehru (with an introduction by Radhakamal Mukerjee) New York, Longmans, Green and Co.

long. For, once the governing enthusiasm gone, the whole machinery loses momentum and comes rudely to a standstill. Even when running, the wary outsider may shake his head and look behind and beyond the *improvement achieved* for the *cost of it*. And that is the main, if not the exclusive, reason why these enthusiastic efforts of *Veni, Vidi, Vici* type have ended after a brilliant success in dismal failure. In sum, progress was registered at a cost and the cost proved prohibitive.

Second type of Rural Uplift.—The *second* type is governed by improvement through joint effort. This yoking together of many experts drawn from different departments and working on their own lines, and yet each in full *liaison* with his neighbour to right and left of him, has achieved less spectacular, but relatively more durable, success. It shows the co-operative principle at work. Obviously, if the sanitarian and the veterinarian and the agronomist and the dominie can jointly persuade the villager that animal refuse, solid and liquid, should be carefully collected where it falls; that it should be promptly removed to distant pits near the tilth; that the house and the yard should be kept scrupulously clean, and the young ones sent to school—why, then, *a big step forward* will have been taken towards Rural Uplift. Similarly, if the local Co-operative Society can expand its activities to cover the promotion of better living, better financing and better economy, then, too, much will have been achieved at little cost. Likewise, if the village schoolmaster can induce his boys to take to amateur farming and gardening and scouting and pioneering in the interest of Rural Uplift, then, also, little care and less money will have gone a long way to promote better health and wealth in the village. For circumstanced as Rural India is, it is better to make the best use of poor means than a poor use of the best.

But this type of activity presupposes intensive staff-work, inspecting and supervising, and only offers the greatest chance of success in areas strictly limited to a certain, small, definite number of villages. Here, too, after a while, when the

agency has absorbed the major part of the funds and the aims have to be starved accordingly, a stage is reached beyond which further progress is impracticable.

Third type of Rural Uplift.—Last comes the *third* type, which calls for particular notice as it integrates the best of practical experience with the minimum of effort—financial, economic, psychological.

Obviously, if the landlord and the tenant can be got to work together for Rural Uplift and pull their weight, and some simple frame-work is provided for their conjugated activity while the official, directive agency is discreetly camouflaged, the foundations for permanent reconstruction will have been well and truly laid. This binding together of prominent Rural Uplift workers drawn from among the landlords and tenantry is possible, very fortunately, on the *panchayat* or village council which is practically elective. Moreover, it finds room for, and brings together, representatives of the different prominent castes and interests not in habitual antagonism but in a spirit of friendly co-operation. Such a body is invested with powers which are *judicial* on the one hand, and *administrative* on the other. As to the former, it has competence to try petty criminal cases and civil suits under certain conditions, the result of which is that frivolous litigation is nipped in the bud and costly lawsuits kept from materialising. For, of course, when the parties can have their ample grievances redressed by those on the spot, and in full view of the spot, where the differences have come to a head, not only shall speedy justice be done, but communal feeling kept healthy and the formation of perilous factions inhibited. That is an important, but only one, aspect. As to the adminstrative side, the village has got its funds derived from fines, dues, donations, and the like, the administration of which is its primary function. It can happen that Hotspurs on the *panchayats* may run away with their judicial functions and ignore their administrative responsibilities, but there is the hidden hand which holds the reins, pulls them back to attention and removes the unbalance, so that the village

fund is properly administered. Such administration easily falls under heads which materially promote Rural Uplift: Better Sanitation, Public Health and Hygiene, Public Works, Education, Agriculture, Animal Husbandry, and the like. In every well-ordered village with a competent *panchayat*, each member has his circle or ward to look after. And the whole body " vets " the projects proposed by the individual members and gives them order and priority. The result is that drinking-wells requiring repairs, village tracks which need raising or culverting, pools that require filling or dressing, and kindred problems and projects are easily put on the work list—to be financed from the Village Fund, as it stands, or supplemented with donations or grants or subscriptions as the case may call for. Here again, the Hidden Hand will play a useful, perhaps vital part. If pools have to be kerosened, or manure pitted, or waste land reclaimed, or better agricultural practice popularised, or better bulls utilised, or any other item of Rural Uplift put through, it is the *panchayat*, and above all the *panchayat*, which comes forward and helps paper schemes to materialise.

This picture may appear overdrawn, as the *panchayat* is not without detractors and defects. Much will depend on the mentality and ability of the *panch*. If he is only a figure-head, time-server, self-seeker, then clearly the *panchayat* system will fail of its purpose as, indeed, will any man-made system in the whole world, when the man at the helm is not equal to his task. Equally so if the camouflaged hand of the official is lacking in promptitude and sureness of touch; but even at its worst, the *panchayat* clothed with authority under law is preferable to the set of workers under the previous system responding to community effort but lacking in basic authority. True, in that case, the so-called organiser or supervisor has ample authority to be able to exercise care, bordering on paternalism, but this organiser himself is a survival of the next preceding system of the one-man effort, and it can scarcely be expected, on an average and in the long run, that a paid official invested with authority will be able to supply

enough momentum when the vehicle of Rural Uplift broke down in the first far more favourable instance. Moreover, a supervisor has no background, still less of foreground, and unfortunately has to move about in an atmosphere of general apathy and neglect. He has no power to compel and no chance to cajole, and his authority is never strong enough to be effective.

The *panchayat*, on the other hand, has penal powers in regard to sanitary and other offences and can bring recalcitrants, obstructionists and other disturbing elements sharply to heel. In striking a balance in favour of the *panchayat* as against the supervisor, the financial factor will preponderate. Where funds are strictly limited and still more, where they are largely derived from within the village, it is clear that any outside inspectorate foisted upon the village will operate just so long as the outside funds last, but no longer. With the *panchayat* and the funds it raises within its village circle, the question of expenditure is reduced to a minimum. The workers in the rôle of *panches* are all unpaid, voluntary and appreciably missionary—using the term in its most catholic sense—and the value of missionary zeal can never be overestimated.

The *panchayat* can, and will, achieve much; but that "much" is little compared with the amount that remains to be done. This particularly holds good for that part of Rural Uplift, which is *Female Uplift*. And here rings the slogan: *Cherchez la Femme!* One need not be dubbed a frenzied *feminist* to call the best agency for uplifting the woman, a woman. But what would, *e.g.*, village education be without the "School-marm?" What would sanitary and social service be without the devoted Sisters of Mercy and Charity, who like true Samaritans walk the wards of infirmaries and bestow their self-sacrificing care in hospital and continue all that after-care at home, which the nurse cannot afford to give and which has no counterpart apparent in India? What would Child Welfare, Better Mothercraft, Domestic Hygiene be, without the loving attention of devoted social servants, who go from home to home and provide effective ward and watch, which is the surest shield against infection?

This, in fact, is not wholly or exclusively a hobby for the idle, but is becoming the field-work for experienced diplomats of the graduate school, who put in several years doing such laudable social service.

Conditions in India are also favourable, and a counterpart of the Western Sister of Mercy does exist. The Sister of Mercy in India is the Indian widow. The care and culture of children, especially girls in private or public schools, is safest in their hands. After all, the widow, especially the child widow arriving at womanhood with a clear call to social service and devotion to the needy and suffering, is quite as qualified to function in the rural economy, and as effectively, as does a Sister of Mercy in European lands. Both practise and preach abnegation and self-denial, both are unsparing in service, where service is wanted; and if anything, the balance of advantage is with the widow.

Uninformed critics complain that enough women teachers are not available, but the fact is that women teachers of the right type are not sought, but of the wrong type which, hidebound by formalism, have, parrotwise, to put their pupils through certain disciplines, which may be good, bad or indifferent. If, however, a genuine effort is made to comb out a needy, workless widow, who has time and training enough to serve the cause of Rural Uplift, there is not a village that will not provide more than its fair quota of such uplifters. Indeed, in the few girls' schools that exist under the present stringency, the best teachers are furnished just by those widows who are all self-reliance, patience, and charity, since, for them, the bogey of Purda has no terrors, the lure of jewellery and finery no meaning, the fear that they will eventually marry off and give up their jobs, no basis. So by harnessing the widow to the yoke of Female Uplift, not only will the cause of the rural women prosper, but also the lot of the widow herself improve. For in this way will she be fitted into the Rural Scheme, and teach language, Scripture, morals, deportment, *bien-séances*, no less than needlework, domestic science, health and hygiene and the like, as one to the manner born, further enlightened by

experience and chastened by suffering, to the helpless girls who are in need of such light and leading. That is not to say that the widow has no further needs. Above all, she should have full right to carve out her own career. If she seeks remarriage, there are castes which recognise it and even encourage it, and these not necessarily the low castes, although the lower the caste the greater in this respect its advance; but the higher castes, too, are progressing in the direction of widow remarriage. And such as do not care to re-marry will always find opportunity for doing good in Rural Welfare.

And here once again the *panchayat* can hold out a helping hand. Usually the village teachers have educated female relations, who are only too anxious to look after girls and children. The *panchayat* can provide them with accommodation in its own *chaupal*, which is the embryo of a Village Hall. If none such are available, it can arrange for a member or members to allow such girls to meet at their houses, exactly as groups of boys are taught in private homes.

And, finally, as Scouting with the different categories of Scoutcraft imbues the boys with new ideals, so also, with greater measure of success, can Girl Guiding, which is a very powerful vehicle of female improvement, inspire the Girl Guides, Guiders, Trainers and all comprised in their categories with the surest ideals of rural service. This is not a pious theme, but a line of experience, for experience of a Guiders' Camp has shown that girls who came in so strange and shy only a few days earlier, tumbling over each other and not knowing how to walk or look, were within a few weeks of training changed into self-reliant, self-conscious, self-determined human beings with humanity writ large over their faces. This was not the result of bookwork but of practical, personal training over camp fire and in tracking, team-work and discipline and all the numerous little nothings which make up so much in the end.

Seven stages of Rural Uplift.—We now break away and turn to the *seven stages* of practical *Rural Uplift*, which are roughly marked by an increasing degree of practicality.

First stage of Rural Uplift.—The *first stage* represents exclusively official effort and dates very far back, indeed, to the earliest times of settled administration. In fact settlement itself, or the transition from lawlessness to law, is Rural Uplift. Obviously, where there is an epidemic and preventive action is indicated, the official in charge, whatever his department, calls together the peasantry and explains to them what they should do to meet the menace. In the measure taken the need for improvement began to be increasingly realised. Such official propaganda was conducted with more substantial results. For instance, in malaria days, in the Eastern districts of the United Provinces, the Revenue Officer convened a meeting, the audience of which was collected by a *tahsil chaprasi* at the gate, who simply impressed the passers-by with persuasion, and often more than persuasion to step in and listen. These sporadic meetings were very effective for the means employed and the times concerned, but obviously did not go far in awakening the rural conscience, for they did not touch or reach the real keeper of that conscience, of whom more will be said.

With greater advertisement at home and abroad and increasing interest in "brass tacks" as against high philosophy, the *second stage* opened on a wider scale and in more continued effort.

Second stage of Rural Uplift.—The repercussions can be studied both along the official as well as along the non-official plane. On the official plane, *ad hoc* officers attended to the task of organising meetings and explaining to the gathered peasantry, attracted less by the *tahsil chaprasi* and more by the exhibits or diversions, the advantages of more health, more wealth, and more happiness. This, again, was a tocsin sounded to the village conscience; but the keeper was again out of the crowd and out of the picture. Out of sight, out of mind, too. On the non-official side, advantage was taken of the traditional Indian *panchayat* with official backing to galvanise it into action along Rural Reconstruction, as then understood. That is to say cheap litigation, better

education, better sanitation, etc. Let there be no misunderstanding. *Panchayats* in India are as old as the hills, and if Indian society in its most important strata has conserved its stratification, which includes cohesion, identity, morale, it is exclusively due to the *panchayat* system. *Panchayats* have been helpful in reclaiming criminal tribes or curbing their anti-social activities through temperance and other propaganda, but these recognised *panchayats* made an honest beginning to help in the rural awakening with practical measures within the modest limits set by their village circle. If every village could have had such a *panchayat*, superimposed by election or selection or both, advance along the two planes would have been very rapid, but here again was a case of *festina lente*. Progress to be effective had to be slow, but the on-coming and long-lasting slump with aberrations in agrarian economics and politics forced the pace. Corrective measures had to be taken to restore the balance which inaugurates the *third stage*.

Third stage of Rural Uplift.—This, again, is viewed from the official, non-official and finally the combined, viewpoint. Officially, the balance disturbed by foreign markets on the one hand, "village Hampdens" on the other, resulting in estrangement between the landlord, tenant and Government, was restored by legislation and propaganda. The former safe-guarded conservative village economy in its widest sense, the latter essayed to improve whatever could be improved with practical means: lecture, demonstration, exhibition, prizes, premia and the like. Non-officially, the *panchayats* were faced with the struggle for existence. With divided politics divided counsels were heard, and the inner harmony, which is vital to the working of any collective system everywhere under the sun, was lacking. The peasant, recoiling from the direct hit, blamed, without complete understanding, those with whom he came into contact. *Panch* often went against *panch* and disrupted the whole *panchayat*. Many narrow-based *panchayats* collapsed, but the system stood the test as those *panchayats* which were

broad-based on popular will and, therefore, working more meritoriously, continued the good work. It is true their difficulties were aggravated by teachers, preachers, prophets, providing a new heaven and a new earth to all and sundry if they only accepted their credo, but the *panchayat* stood the ground, especially when the official agency, with its non-official wing of serried workers, met the menace. From a combined viewpoint Rural Reconstruction may be said to be busy in clearing the cobwebs and sweeping the rubbish rather than putting the village home in order.

Fourth stage of Rural Uplift.—The *fourth stage* is marked by more intensive local as well as general efforts to uplift. It was soon realised that tracts do not always appeal, pamphlets are rarely read, broadsheets are misused, the spoken word of the learned authority may not carry conviction. Hence, special efforts were made along two lines: (1) to improve the attractions and (2) to multiply the exhibits. The attraction would draw as big crowds as possible and the exhibits would make their dumb but more eloquent appeal to the villager. As an instance of these concentrated efforts, it may be noted that a special motor van donated by a prominent landlord and equipped with attractions in the shape of radio, loud-speaker, gramophone, etc. etc., on the one hand, and, on the other, sets of exhibits from constructive departments, Industries, Agriculture, Veterinary Hygiene, Co-operative Education and Public Health scoured one whole Province, district to district, town to town and trade centre to trade centre in three months. Wherever it halted and arranged a show, a local exhibition was held simultaneously with local exhibits, local features and local difficulties. These intensive general and local efforts culminate in the *vans* and *villages*: the vans are shows on wheels and perambulate the countryside conveying a message and teaching a lesson, showing a craft, charming the senses, in fine, combine *utile cum dulce.*

The *villages* show on the spot what intensive efforts can achieve. So sprang up, like a Mid-west settlement,

model villages in Gurgaon, Rahi, Moga, Martandam, Partabgarh and Benares. They achieved equal success but showed unequal vitality—depending on the agency at work.

Fifth stage of Rural Uplift.—From *vans* and *villages* we turn to *exhibitions* and *exhortations* which form the *fifth stage*. The vans had multiplied and were followed with peripatetic carts, ekkas, and other itinerant show-boxes, showing the extensive no less than the intensive nature of the propaganda attempted. The non-officials accompanying those local shows were by now fully trained, not in tame truisms, but also in lively local realities, and faced the heckle undaunted. The peasant was plainly told that to put his *house in order* he must first put his *mind in order ;* and to do so he must learn to discriminate between the true friends and the false. On the eve of the New Constitution, with all the greater power in prospect, he was wooed by persons and groups not exclusively interested in his humdrum uplift affairs. He was propaganded, harangued, hustled until the Great Call was drummed into his ear: the call to stand on his own legs and decide for himself! Persons interested no less than disinterested attempted this; groups and parties arranged tours; budding Gladstones launched their Mid-Lothian Campaigns—till finally the peasant learnt the alarming lesson that the best way to shift for himself was to drift!

More effective and spectacular were the *exhibitions*. With greater precision and specialism they became veritable mammoth shows. They were held by the hundred and presented a mixed bag: hackneyed posters of public health and disease, alongside stereotyped displays of art-ware, handicrafts, urban guilds, Cottage Industries, Agricultural Produce, Animal Husbandry Exhibits, Models of Sanitary and Insanitary Confinement Room, and the various arrays of exhibits on the familiarised lines. Physical Culture Association, Temperance Courts, Boy Scout Camps, Red Cross Displays, etc., furnished the multiple shows within shows, but it is to the credit of a recent Rural Uplift

Exhibition[1] that it broke new ground and initiated movements which go to the core of the problem. Its outstanding features are these:—

(1) Advantage is taken of very big crowds in holiday mood.

(2) True Rural Uplift is served; everything alien thereto ruthlessly discarded. The Reconstructor needs no *Guide to Intelligence* to distinguish true from false items.

(3) Female Uplift is sedulously fostered through Female Court and Camp, enclosure and section.

(4) Rural Cookery to improve the village *menu* is open to contests and the best recipes rewarded and broadcast.

(5) Exhibition of achar, chutney, murabbas and sharbats to show villagers how to convert their surplus fruit from perishable into non-perishable forms and prove that *Fruit* is *Money*.

(6) Sanitary novelties; ratproof go-downs, snakeproof homesteads, monkeyproof homes, bamboo drains for the bullock-cart traffic, etc.—improvements which cost practically nothing and uplift so materially.

(7) Agricultural improvements—new crops, new fruits, new consumers.

Sixth and Seventh stages of Rural Uplift.—The *sixth* and *seventh* stages may be taken together as they overlap and are in continuance. The meetings hitherto called by official bodies or their non-official supporters did not stress the vital fact which these two stages have made it their primary concern to exploit, namely that the *zamindars* and *kisans* should themselves be responsible for their self-help and self-betterment. So, if the *zamindars* and *kisans* meet together and among themselves arrange meetings on the proper occasion and invite officials and experts with their exhibits, the spirit of self-service will have been quickened and big strides taken towards real Rural Uplift. This has been attempted in many places with success. In fact, general associations for improving the village economy

[1] *TRUE Rural Uplift Exhibition*, published by the Mainpuri Devi Fair Rural Uplift Movement.

with fruit-growing and the like are being invited by the villagers themselves to come and address them. The occasions chosen are such as draw big crowds, for instance, holidays like Dashera Ramlila; when on a holiday, a holiday crowd with holiday folk in holiday mood is more accessible to these new ideas, better ideas of Uplift, than a gaping audience staring at a learned authority and wondering why the pipe does not slip sideways out of his teeth? All the while he thinks of convincing while they think of dining.

Here, in this holiday crowd, we for the first time meet the real conscience of the village which is the villager's wife, and here and in her we recognise the root cause of all essential failures of Rural Uplift for there can be no True Rural Uplift without Female Uplift. The men-folk may come and listen or not listen. They may attend gatherings and be propaganded *ad nauseam;* the children may have extra holidays—but unless and until the woman behind the scene is approached, convinced, converted, enlisted, and fired with genuine zeal for the cause and the will to victory, the star of Rural Uplift will never be in the ascendant.

Cherchez la Femme: so the problem has been presented but however shall we approach this eternal, elusive Feminine? Purda has many charming features but the least charming is apathy and where the apathy of the female mates with the conservatism of the male, then truly is purda triple-steel carapace. True, purda does not obtain in the village. Those who go and know may observe the women gathered on house-tops or watching through old nooks and crannies, which the true purda-bound woman will consider outrageous, but just because of this liberty of action which is more liberty of inaction, the woman keeps to herself segregated, insulated, isolated for all time. When in the previous stages the *Sahib* with his assistants went from village to village expounding the virtues of hygiene, manure-pitting, etc., the woman who was most concerned was the least affected.

For the moment the visitation ends she has resumed her chores, the household sweepings are flung into the street, the little one is loaded with tinsel, the manure is

dumped near the kitchen, the cattle are tethered at the door and the whole gamut of evils gone through. How, then, is the woman to be uplifted?

The official hierarchy with instructors, surveyors, superintendents and so forth will not be denied. How does the village housewife and matron profit by their teachings? To the extent that moral persuasion or other pressure is applied on the husband, it is transmitted to the wife and inevitably she will comply with orders. Is her baby to be vaccinated, then she needs must line up with it when the vaccinator or the inspector arrives on the scene. But to expect that she will take vaccination and follow all the precautions with conviction is to expect too much.

The *sixth* and *seventh* stages have been taken together as already said. *Zamindars* and *kisans* are brought together in self-help, not as bed-fellows in misery, but as collaborators towards Rural Uplift. The numerous associations that have been formed can only welcome such collaboration. These are Associations for Rural Development, Fruit-growing, Rural Electroculture including Electro-farming and Electro-gardening, Temperance, Soldiers' Board, District Health and Maternity League, Physical Culture, Scouting, Guiding, Co-operative Finance, etc., etc. Each may apparently be charged with ploughing its own lonely furrow but the furrows in the aggregate will change the face of the whole rural area.

Vital phase of Rural Uplift.—Finally, and fundamentally, —and even prophetically!—let the following be said, and when that is said everything vital to the cause has been said:

Rural Uplift is *not* the politician's chessboard, although the politician gifted with vision can do much. Rural Uplift is *not* the amateur's pastime, although the enthusiastic amateur, borne on a series of brain-waves and psychological impulses can, in his own way, help to defeat the villagers' antipathy and inertia. Rural Uplift is also *not* a field-day for the formalist, the departmentalist, the "thumb-rulist," who seek like Pangloss, impossibly intermating cause and effect, to establish thanks to their adventurous effort, that all is for the best in the best of all possible Rural Worlds;

although this is not to say that when the ground has to be cleaned and dressed and the lines laid out and chalked, there is no need—for exactly then arises the need!—for the wielder of the spade, the line and the rule.

The duty of Rural Uplift: Caveats.—Per contra Rural Uplift is the solemn duty of the Rural Fellow himself—through self-service, self-help, self-sacrifice—alone no less than in team. The *soi-disant* Rural Uplifter from outside is welcome and will fit into the picture—for every little helps—provided he has gained *clarity* about his objectives and *subjectivity* in his approach. The last is more pressing than the first. *Do as you would be done by !* is more than a mere copybook maxim—it is the whole crux of the situation and its imperious needs.

Objectives.—These caveats are not uncalled for. They apply to all objectives in all spheres. Illustratively so :—

I. *Peasant's hearth and home and farm :—*

(1) Air the hovel, but make no hole at the back, for so doing you lighten the burglar's job.

(2) Clean the house-drain, but do not expect spit-and-clean polish everywhere. Better plant papaya and plantain. Double gain will be obtained.

(3) Clean the cattle shed or tethering place, but don't expect it to be shifted far away. As things are, cattle have to be kept in the rear or front for safety. Collect the dung and urine carefully.

(4) Treasure the dung and urine, but do not expect the matron or the maiden to trudge any distance to pit it. That is a counsel of perfection. See the Red Light. Convert the dung into *upla*. It has manurial value. But leave some dung for household washing over.

(5) Lay out your farm sensibly. Exchange, increase, exploit, to your heart's content—but do not make a fetish of consolidation of holdings. Land varies in quality from step to step! Would you give up the rich diversity of many fields for the poor monotony of one? You would not! See the Red Light. Consolidate with care and discretion.

II. *Villager's meals and menu :—*

It can be asserted without any preliminary Food Survey and Census that the villager's menu and meals are very poor but do not give counsels of perfection. The cost of them will be fabulous. See the Red Light. On the other hand, with more fruit and vegetable crops grown, as explained later, you will improve the meal and *menu* without any expense.

III. *Purse and prospects :—*

Put money in thy purse! Said Iago and so say all of you, but how? Don't speak about fabulous marketing schemes. Keep to drab realities. See the Red Light. How far would you trundle a cart of luscious purple *jamun* just beginning to perish, in search of a market? Would you not eat it at home and convert the surplus into conserves, confectionery, syrup and the like?

Agriculture, as such, is not paying, but fruit and vegetable culture is a very much cheaper and more paying proposition. New methods have been shown. Early fruit, better fruit, more fruit, later fruit have been raised. They are all conduits leading into the pool of income. Then there are new crops of industrial value, *e.g.*, broomcorn, which makes excellent broom, baskets, chicks, brushes, ropes, etc.—thus providing an invaluable subsidiary culture, and there are many such.

Then there are nine conduits for credit:—(1) Mahajans (2) Moneylenders; (3) Kabulis; (4) Punjabis and Peshawaries; (5) Grain-merchants; (6) Family Priests; (7) Temples; (8) Co-operative Societies, and (9) Banks and Government. But the most important conduit is the *villager himself.* A meticulous survey house to house, caste by caste, of 50 typical villages has shown that loans by villagers to villagers—again self-help!—vary round 20 per cent of the total indebtedness. Watch it and see the Green Light.

That is a salutary sign. Better to lend *inter se* than to waste the surplus on drink and debauchery; jewelry and finery; litigation and ceremonial.

It is nothing foisted from above. It is a trend of native origin, based on good husbandry and strikes across rural society both vertically and horizontally. All strata, top to bottom, castewise, show it; within each stratum it is equally in evidence. The Rural Uplifter has only to facilitate natural developments, to foresee Nature and help her to realise herself.

The prospects for Rural Uplift are of the brightest. With the quickening of the national conscience has come a true *rural renaissance :* how to exploit it, guide it, control it and bend it to the uplift of the rural masses—that is the weightiest task for the day and the morrow. For the rustic of to-day is the citizen of to-morrow. And "a bold peasantry is its country's pride," and is the best guarantor of a good citizenry.

Part III

TRADE

CHAPTER XIII

COMMUNICATIONS AND TRANSPORT

By Nalinaksha Sanyal, M.A., Ph.D.

Variety of transport and its problems.—The vastness of India's area and population, her varied physical features and the diversity of her social and economic structure and environments have rightly won her the epithet of a continent, rather than a country; and India's trade and transport have been governed mainly by the socio-economic demands and requirements of her people of various areas at different ages. From the pack animals of the mountains and the desert, the bullock-cart of the trackless agricultural areas, the country boats and crafts of alluvial watercourses, to the railways that link up the ports with important inland towns and trading centres, the motor cars that have rendered door-to-door conveyance easy and economical, and the aeroplanes that have reduced barriers of long distances to a minimum, India has become the epitome of all classes of transport. Each of these in its own way continues to serve a section of India's divergent population and is largely justifying its existence in the light of particular social and economic environment.

Organised transport in the modern sense of the term came to be introduced in India at the second half of the nineteenth century. Preceding this, economic life, was necessarily narrowed down into small disintegrated villages with self-sufficient rural economy, and trade was essentially limited to a few surplus products of cottage industries and agriculture. With the advent of the railways and steamers, however, and with the construction of well-planned roads, a quick transformation of this state of affairs has come about

and the scattered villages of India have been fast developing an interdependent economic life with wider and wider contacts in line with the most progressive nations of the world. The problems of communications and transport in modern India resolve themselves on the one hand into the problems of utilising most up-to-date knowledge for the introduction of scientific and economical methods of transport to suit varying economic and physical features, and on the other hand into the difficulties of adjusting the changes in the economic environment without undue loss and inconvenience to the ignorant and conservative mass of the population. The field of transport in India has yet a place for various means, from the pack animals to the aeroplanes, each in its own respective sphere of activity. It will be seen that while the railways have been most useful and economical for long-distance overland traffic, and in the movement of heavy minerals and articles of manufacture, the motor vehicles have been rendering very useful and economical service for short-distance passengers and light loads requiring door-to-door conveyance, as well as in providing less productive areas with transport facilities. The coastal and inland steamers and other vessels have been providing cheap and steady service, though involving some delay, to large quantities of India's agricultural and mineral products, in the movement of which cheapness is of much greater importance than speed in transit. The bullock-carts are still maintaining their place in the six thousand villages of India, affording as they do the cheapest and often the only means of conveyance for short distances and for areas where no road exists, nor is likely to be constructed.

Railways

Development and present condition.—The railways of India have had a chequered career, conditioned mainly by the consideration of finding adequate finance with a view to bring about a quick and steady expansion of the railway network.

Between 1850 and 1868 the initiative came from private

companies, but the real financial responsibility was undertaken by the State in the form of guarantees varying from 4½ per cent to 5 per cent. After a brief period of an attempt to secure railway construction without a guarantee between 1862 and 1867, a programme of direct State construction and administration was undertaken in 1869 and this experiment went on till the end of 1879. In 1880 a Royal Commission on famines urged the rapid extension of the railway system and Government had to secure the co-operation of private companies once again, but with less onerous terms to the State. Between 1882 and 1902 company management and construction was revived and certain branch-line terms were introduced in order to encourage investments of local capital. After a critical examination of the administration of Indian railways by Sir Thomas Robertson in 1902, an attempt was made to provide greater encouragement to private companies, but public opinion was strongly in favour of State management. The Railway Board was constituted in 1905 and a policy of developing both State and company-managed lines was followed till 1921, when the Acworth Committee discussed at great length the comparative merits and demerits of the two systems, as operated in India, and gave their verdict in favour of State management. In 1924–25 the Government of India finally made up their mind to stand by State management and ownership and definitely announced their intention of terminating the contracts of old companies as and when they fell due.[1] About the same time it was also decided not to encourage further the financing of branch-lines by private companies.[2]

As a consequence of various experiments that had to be undertaken in the development of railways in this country a diversity of condition prevails to-day in regard to the ownership, control and management of different lines. The following table gives a summary of the position as it existed at the end of the financial year 1933–34:—

[1] Assembly debate on resolution regarding separation of Railway from General Finance in September, 1924.

[2] Government of India Railway Department, Resolution No. 2131 F, dated February 19, 1925.

Summary of Mileage, Gross Earnings and Working Expenses of Railways, classified according to ownership and working in 1933–34

Classification.	*Route mileage on 31-3-34.*	*In lakh rupees.*		
		Total Capital outlay or at charge.	*Gross Earnings.*	*Working Expenses.*
1. State lines worked by State	17,678	5,00,64	54,06	39,63
2. State lines worked by companies and Indian States	13,999	2,89,27	34,66	20,71
3. Branch line companies' railways under various terms	1,586	11,77	1,13	63
4. Subsidised companies' lines	2,169	19,75	3,03	1,46
5. Indian State lines worked by Indian States	5,214	39,64	4,86	2,90
6. Indian State lines worked by companies or others	1,659	12,91	1,41	80
7. Companies' lines guaranteed by Indian States	39	16	1	—
8. Unassisted companies' and District Board lines, etc.	518	2,74	50	32
9. Lines in Foreign Territory	74	2,34	33	19
10. Miscellaneous lines and adjustments	17	519	41	2,89
Total	42,953	8,84,41	100,40	69,53

It will be noticed that out of a total route mileage of about 43,000 the State-owned lines accounted for nearly 31,700 miles or about 73·7 per cent, and that only about 42 per cent of the lines were directly managed by the State. Of the total capital outlay or at charge the State accounted for nearly 89·2 per cent and of the gross earnings more than 90 per cent came from the State-owned lines. Of the more important lines situated in British India five, *viz.*, the North-Western, Eastern Bengal, East Indian, Great Indian Peninsula, and Burma Railways, are owned and worked by the State; five others, *viz.*, Bombay Baroda and Central India, Madras and Southern Mahratta, Assam-Bengal,

Bengal Nagpur and South Indian Railways are owned by the State but worked on its behalf by companies enjoying a guarantee of interest. Two fairly big lines, *viz.*, the Bengal and North-Western and Rohilkund and Kumaon, and many of less importance, are the property of private companies, some being worked by the owning companies and some by the State or by the companies that work the State-owned system. Certain small lines are the property of District Boards or enjoy a guarantee from them.

Policy Problems.—With the separation of railway finance from general finances effected in 1924–25 and with the final adoption of the policy of State ownership and management by the Government of India, the modern era of Indian railway development began. Whatever might have been the importance of the problem of State management *versus* company management in the past with reference to Indian railway policy, this question has been thrown more or less in to the background during the present era as a result of the growth of a new problem, namely, the introduction of politics in railway management. The question of securing freedom for railway administration from unhealthy political interference is an old one, and in almost all countries this problem had to be tackled at some stage or other. In fact this has always been regarded as one of the most important objections to State management.[1]

In India, however, circumstances had been such that State management was found to be more conducive to the interest of the country, and State encouragement and control remained as essential features of railway development. The Acworth Committee, after carefully examining all aspects of the question, gave their verdict in favour of State management and recommended certain safeguards for the removal of most of the evils complained of in this connection. Indian public opinion had all along favoured this view and held that the ill-treatment of third-class passengers, the unsuitability of rates and fares for the advancement of indigenous industry and commerce, preferential treatment of British firms in the purchase of stores, and discrimination

[1] Sanyal, *Indian Railways*, pp. 135–36.

in favour of Britishers and Anglo-Indians in railway service could only be checked through State management.

With the constitutional changes effected through the Montague-Chelmsford reforms of 1920 the position of the Railway Department had largely altered. The Legislative Assembly, three-quarters of which were elected by popular vote, had thereafter acquired considerable control, both of legislation and administration, and in particular exercised much influence through its vote on the railway budget. The Governor-General, and through him the Secretary of State, have, of course, reserve power to veto the opinion of the Legislature, and this power has often been exercised, but the constitutional change modified greatly the responsibility of the Secretary of State for the management of Indian Railways.

However beneficial the control so far exercised by the Legislative Assembly and Council of State over Indian railway administration has been during recent years, and however great a check the Legislature could provide against the misuse of the Indian railway machinery for furtherance of British political and commercial interests in this country, signs are discernible of an undue weight being given by the Legislature to communal and provincial considerations in matters of railway administration. These are potential sources of great danger to the economical management of the railway property. With the increased democratisation of the country, particularly in view of the coming reforms the Government of India had accordingly to think of adequate provisions against the development of such a menace. Early in 1932 the Europeans residing in this country pressed that as far as possible the railways and ports must be removed from political control and urged for the creation of an independent "Statutory Railway Board." The Consultative Committee of the Round Table Conference thereafter held in March, 1932, proposed that "a clause be inserted in the Constitution Act that there shall be a Statutory Railway Board for the administration of the railways while the functions, composition and powers of the Board would be determined by an Act of the Federal

Legislature." This proposal of a Statutory Railway Board has, after passing through various stages in connection with the discussions of the new Constitution Act, found shape in the proposals for the Federal Railway Authority as laid down in Part 8, Sections 181–199, of the Government of India Act, 1935. Under these new provisions a radical change in the administration and control of Indian railways is proposed. The executive authority in respect of Indian railways is to be exercised by an independent Federal Railway Authority composed of seven members to be appointed by the Governor-General from among persons who, not being members of the Federal or Provincial Legislature, nor being in the service of the Crown in India, nor a railway official, have had experience in commerce, industry, agriculture, finance or administration. At the head of the executive staff of the Authority there shall be a Chief Railway Commissioner, being a person with experience in railway administration, who will be assisted by a Financial Commissioner and by such additional Commissioners as may be required. Contrary to the practice in the past it is now definitely laid down that the railways of India should be managed "on business principles," due regard being had to the interests of agriculture, industry, commerce and the general public, and in particular for meeting out of receipts on revenue account the following expenditure, namely:—

(*a*) Working expenses;
(*b*) Contractual liabilities;
(*c*) Pensions and Provident Fund contributions;
(*d*) Maintenance, renewals, improvements and depreciation; and
(*e*) Interest charges.[1]

There will be a separate Railway Fund under the control of the Federal Railway Authority and the Authority will be required to contribute to general revenues such portion of its surplus earnings on revenue account as may be decided

[1] Sections 183 and 186, Government of India Act, 1935.

upon by the Federal Government. In the discharge of their functions the Authority shall be guided by such instructions on questions of policy as may be given to them by the Federal Government and the Authority will undertake all the financial obligations of the Government of India hitherto incurred, or that may be incurred in future, on account of the railways. Provisions have also been made for the appointment of a Railway Rates Committee to give advice to the Authority in connection with rates disputes as well as for the institution of a Railway Tribunal for adjudicating upon any complaint arising between the Federal Railway Authority and a Federated State. The contractual rights of certain railway companies in respect of arbitration have been maintained undisturbed as far as possible.

While these have been the important features of the proposed changes, an almost unlimited power of control and guidance has been reserved in the hands of the Governor-General acting in his own discretion.

The drawbacks of the new scheme of railway administration as laid down in the Government of India Act, 1935, appear to lie in the following, *viz.*:—

(*a*) The scheme is based upon too much distrust of the Indian people and undue anxiety for preserving British interests in India;

(*b*) There has been no provision made for the removal of present grievances and inequities in the railway field, particularly regarding non-employment of Indians in the superior posts, racial discrimination, want of support to indigenous industries and internal trade, and neglect of third-class passengers;

(*c*) No provision has been made for placing the liabilities on account of strategic railways upon general or military administration of the Federation; and

(*c*) No provision has been made for arranging the co-ordination of various means of transport, nor for enlisting the co-operation of Provincial Governments in the prosecution of a well planned scheme of transport control and development.

However great these drawbacks may be it must be admitted that they are not impossible to overcome if only the future Governor-Generals of India, who are to be vested with plenary powers, are sufficiently sympathetic towards legitimate Indian demands, and are careful enough not to exercise their absolute authority except on occasions of grave emergency.

With the introduction of the reforms another problem affecting railway administration is likely to loom large, *viz.*, the jealousy of autonomous Local Governments in respect of control over intraprovincial communications. Any measure of a Provincial Government that may affect adversely the interests of adjoining Provinces or may run counter to the general policy of the Government of India, whether dealing with a transferred or a reserved subject, can to-day be firmly dealt with. The interests of provincial finance may often require the promotion of road and inland water transport in preference to railways. Such being the case when provincial autonomy will be introduced it is doubtful whether the Government of India will continue to receive the same amount of co-operation and support of the Provincial ministers in the matter of railway development and administration as they can command at the present moment. The Government of India Act, 1935, unfortunately does not lay down any statutory provision to prevent such eventualities. It is hoped, however, that co-ordination will be secured through the machinery of the Transport Advisory Council which has been recently created, as also through the general powers of superintendence of the Governor-General.

The above problems, if not timely solved by means of suitable provisions, are likely to prove particularly embarrassing because of the emergence of various degrees of competition in the field of transport in India. This competition, as will be noticed later on, has been very well pronounced as between the railways and the road motor services. But signs are visible of more or less serious degree of competition developing also between these and inland steamer services where such are possible, as also railways and coastal vessels

in the port towns. It is also not unlikely that in course of time competition will develop between the railways and air transport, specially for high-class passenger traffic and for costly articles like bullion, the precious metals, as well as mails and commercial papers. Great amount of attention should under the circumstances be devoted, in the next few years, toward allocating to different means of transportation their appropriate fields of activity and towards the elimination of competitive waste of all kinds. The railway policy should accordingly be a part of an integral whole, namely the general policy of transportation to be pursued as much by the Federal Government at the Centre as by the autonomous Provincial Governments. To enable the pursuit of such a uniform policy a regularly constituted machinery for co-ordination will be needed, as also ministers of communication specifically charged with the carrying out of a common programme.

Control and administration problems.—The organisation for Government control and management of Indian railways underwent various changes corresponding to the changes in the policy. At first Government exercised their control over the operation of guaranteed railway companies through a Consulting Engineer. In 1874 a State Railway Directorate was established, specially in view of the introduction of State management after 1869. Soon after, three territorial Directors and one Director of Stores were appointed; but this experiment having proved a failure the post of a Director-General of Railways was created in 1880. In 1897 a Secretary to the Government of India for the Public Works Department came to be entrusted with the control and administration of the railways. In 1905 this system was substituted by a Railway Board consisting of three members. After having passed through various stages, during which the position of the Railway Board had gradually become more and more independent, the present form of the Board came to be constituted, following the recommendation of the Acworth Committee. By May, 1932, the Railway Board had again to be reorganised in view of

the decline in traffic earnings, and on March 31, 1934, the Board consisted of the Chief Commissioner, the Financial Commissioner and one Member, assisted by four Directors, five Deputy Directors, one Secretary and an assistant Secretary. As has been stated above, this Railway Board is again going to be reconstituted under the proposed Federal Railway Authority. The Board thereafter will be concerned only with the executive functions of the Railway Authority, and the strength and composition of the future Railway Board will largely depend on the circumstances.

The questions of internal administration and management of the different systems of railways, with their divergent conditions of working have also engaged considerable attention from time to time, and, generally speaking, the bigger railways have now passed over from the Departmental to the Divisional system of management.

Another question that is sometimes pressed for consideration and needs careful investigation is the possibility of effecting suitable amalgamation of certain railways, specially the State-owned lines, not only with a view to the improvement of efficiency in working but also with that of effecting considerable economy in management. If the present state of depression in traffic earnings continues for some time longer the demand for amalgamation will become irresistible.[1]

Another important problem of administration to which attention has been drawn during recent years has been the need for establishing greater contacts between the managers and users of the railways. The Acworth Committee was struck with the existence of a wide gulf between these two and recommended the institution of Central and Local Advisory Councils, as also of a Rates Tribunal and an extensive revision of the Indian Railways Act of 1890. The Central Advisory Council was constituted in March, 1922, and Local Advisory Councils began to be established from 1924. A Rates Advisory Committee was formed in 1926 and the revision of the railway law is still receiving the attention of Government.

[1] Report of the Committee to suggest methods by which efficiency and economy could be improved (*Pope Committee*, 1933, pp. 43 and 44).

Simultaneously with the changes in the railway policy noted above the questions relating to railway construction have also undergone considerable modification. In the first place it is being increasingly recognised that the new railway alignment should, as far as practicable, be based upon commercial or business principles and should provide for house to house service, so that the dangers of road motor competition may be minimised. It has also come to be realised that a break of gauge is no longer necessary for providing quick transport to less developed areas. The needs of such parts of the country can be fairly well met by the construction of motorable roads, and unless the development of an area is found to be overtaking the economic limit of the capacity of roads the construction of a railway need not be seriously considered.[1]

Another important feature which should not pass unnoticed is the advent of electric power as well as of the utilisation of oil engines for railway traction. It is believed that the substitution of the above for coal in some railway systems of India will not only effect great economy but will also provide improved efficiency.

Traffic problems.—An important feature of Indian railway administration is the close interdependence of railway traffic and earnings with the conditions of trade and agriculture. These latter have often been found to be so changeable that the estimates of railway earnings have sometimes been quite out of mark. Broadly speaking, it may be stated that the total gross earnings of Indian railways steadily went on improving from 1914–15, when it was about 60 crores of rupees, to 1924–25, when it was as high as Rs. 114·5 crores, the rate of increase during the four years 1921–22 to 1924–25 being the highest; 1925–26 and 1926–27 had a slight set-back, but earnings again improved in 1927–28 to Rs. 118 crores, and the highest point was reached in 1928–29, when the earnings were as high

[1] Presidential address delivered at the 33rd Session of the Indian Railway Conference Association, 1935. Also speech of the Railway Member in introducing Railway Budget for 1933–34.

as about Rs. 119 crores. Then came the period of depression and a serious set-back occurred during the years following until in 1932–33 the trough of the depression was reached and the traffic earnings went down to about Rs. 96·09 crores only. In 1933–34 the first signs of recovery after a period of depression were noticed and traffic earnings improved to Rs. 99·58 crores, but in the following year this improvement could not be maintained.

So far as State-owned lines are concerned the results of the decade 1924–25 to 1933–34 have been very discouraging. Under the Separation Convention of 1924 the railways assumed liability to make an annual contribution to general revenues, which amounted in the aggregate to about Rs. 42 crores during the first seven years of the decade; but during the last three years the railways could not make any contribution whatever.[1]

Such being the general results to the State it is high time to consider how far the ambitious schemes of railway rehabilitation, as undertaken during recent years, have been commercially justified. It appears that the depression which set in in 1928–29 has come to stay and instead of attempting temporary measures of adjustments the railway management should direct their endeavour towards a more or less permanent reorganisation of their expenses in the light of decreased traffic.

Another problem of Indian railway traffic that is likely to loom large in the coming years is the development of movements between internal points. It is well known that the railways of India had been mainly planned with a view to provide ready access from the interior to the port towns, and the traffic movements generally flowed from and to the ports. The industrial situation in the country, however, is fast undergoing a change and already such centres as Delhi, Cawnpore, Allahabad, the sugar growing areas of United Provinces and Bihar, the coal districts of Central India, the cotton manufacturing centres of Bombay and Ahmedabad, have been fruitful sources of considerable traffic movements internally. If a large number of internal

[1] *Railway Administration Report*, 1933–34, Vol. I, pp. 11 and 12.

industrial centres develop and the country becomes increasingly self-sufficient in respect to her manufactures the railway traffic policy will have to be correspondingly modified.

The other features of current interest in Indian railway traffic, to which some reference should be made, are the effects of the recent Ottawa and Indo-Japanese Trade Agreements upon railway traffic and the effects of competition between the railway, the roads and water transport upon the rates, classification and methods of conveyance of traffic. The Ottawa Trade Agreement has already been reflected in an increase in certain classes of railway traffic, particularly in oil-seeds, fruits and vegetables, and wheat, and decrease in such traffic as used to be exported to non-empire countries. The Indo-Japanese Agreement has also stimulated the export of pig iron and raw cotton and the imports of certain classes of piece-goods, rubber goods and small machinery. And an immediate effect of the competition in the field of transport has been the introduction of various measures for the retention and improvement of railway traffic, including fast or express goods service, container traffic and special quotation of rates between certain points.

Rates and fares problems.—No other problem of Indian railway administration has, however, engaged so much public attention as those relating to rates and fares. The railways of the country were first laid down and operated not so much with a view to their commercial success as in the general public interest. It is only during very recent years that the essentially commercial nature of the railway industry is being emphasised. The rates structure had originally been built more or less on an empirical basis and there was hardly any commercial or scientific investigation into the rates and fares at any stage in the nineteenth century. Previous to 1884 there was no general policy of rates and it was only in 1887 that certain principles of rating were laid down by the Government.[1] The limitation of maxima and minima class rates was then devised with a view on the

[1] Government of India Resolution No. 1446 R.T. dated 12-12-1887.

one hand to prevent the exaction of unreasonably high rates and on the other to stop uneconomic competition between one railway system and another. The Indian Railway Conference Association, which was constituted in the beginning of the twentieth century, took up the question of general classification of goods and tariff simplification, and it was as a result of the efforts of this Association that the first general classification of goods on Indian railways came to be adopted in July, 1910. Certain adjustments and improvements in the classification and rating had to be introduced between 1911 and 1915, during the War period; and various surcharges had to be levied on railway traffic. After the termination of the War the rates and classification had to be thoroughly overhauled, and in April, 1922, the present classification into 10 classes was introduced. Briefly speaking, the following have been the grievances of users of the railway with regard to the rates system, namely:—

(*a*) The rates have been framed more with a view to encourage export and import trade of the country than to provide facilities for internal movements and for the advancement of indigenous industries.

(*b*) The absence of comprehensive and scientific planning in the fixation of rates has resulted in numerous inequities and anomalies in the rates for different commodities in different parts of the country.

(*c*) There have been certain instances of undue preference and discrimination in favour of powerful European importers or manufacturers, as also of unreasonableness *per se* of certain rates.

(*d*) The classification is too inelastic and needs further subdivision and supplementing.

(*e*) The difference between owner's risk and railway risk rates is disproportionate, and the conditions of carriage are often very hard for the users of the railway.

(*f*) The terminal charges hardly follow any clear principle and are often used for placing undue hardship on transfer to other competitive transport services.

(*g*) In a few cases rates have been devised in order to block traffic and to prevent its flow through the natural and most economical course.

(*h*) The absence of telescopic through rates on a continuous mileage basis over several systems has often acted as a check to free internal movement of traffic.

(*i*) Adjustments and exceptional rates to suit conditions of competition or special requirements of traffic are not carefully fixed nor are they decided upon with expedition and a long view of things.

(*j*) The conditions of packing are often constant sources of trouble, particularly for indigenous manufactures.

(*k*) The tariff needs simplification and the machinery for quotations needs overhauling so that firm rates may be obtained by merchants quickly and, if possible, only through a reference to Station Rates Registers.

Now that the railways of India have adopted the new policy of management on business principles the thorough overhaul of the classification and the rates structure is urgently called for. With this end in view the Government of India, as well as the Indian Railway Conference Association, have already been on the move, and various suggestions from different commercial bodies and users of the railway are at present under consideration.[1]

An important step taken with respect to rates revision was the institution of the Rates Advisory Committee in 1926. It is proposed to strengthen this body with the inauguration of the Federal Railway Authority, and with respect to rates and other problems involving Indian States the new Constitution provides for the establishment of a Railway Rates Tribunal.

Another subject of abiding interest is the question of revision of the Indian Railways Act of 1890. In various ways this piece of legislation has become thoroughly out-of-date, and while on the one hand it fails to provide the users of the railways with sufficient protection and suitable

[1] Presidential address at the 33rd session of the Indian Railway Conference Association held in October, 1935.

facilities; on the other hand it does not secure the railway administration and the Government of India enough power to meet effectively the new condition of competition in the field of transport that is causing great anxiety.

Motor Transport in India

Position, policy and co-ordination problems.—The advent of road motor vehicles has greatly revolutionised the problems of transport in this country as elsewhere. In the post-war period there was a phenomenal rise in the road motor traffic and the question of construction and maintenance of roads began to engage serious attention. By the end of the nineteenth century the road mileage of India reached 170,000, of which only about 37,000 miles were metalled. By 1923 the total mileage rose to 200,000 and in 1932 the figure came to 253,000 miles, of which about 75,000 miles were metalled and motorable. The financial problems of maintenance and improvement of the roads, as well as the problem of co-ordination in road development and research, led to the appointment of the Indian Road Development Committee in 1927 under the Chairmanship of Mr. M. R. Jayakar. The principal findings of the Committee were that the development of the roads in the country needed more systematic and scientific attention and that the Government of India should provide a Road Fund out of an increased duty on petrol for the steady improvement of the roads. Accordingly from March, 1929, the Central Road Development Fund was created, and during the first quinquennium a revenue of nearly Rs. 5,13,00,000 was collected for this fund out of which the sum of Rs. 4,61,41,000 was distributed by March 31, 1934, in accordance with certain conventions decided upon by the Legislative Assembly. This increased provision in road construction and development necessitated some scientific study of the road requirements, particularly to prevent unhealthy development of railroad competition, and in 1932 a Technical Committee was appointed to enquire into the extent of road motor competition and to collect other facts for securing a

co-ordinated development of road and rail facilities. Early in 1933 the report of this committee (*Mitchell-Kirkness Report*) was published, which comprehensively dealt with various questions in connection with road communications, motor transport and road-rail competition. The more important findings were as follows:

(*i*) The development of metalled road system in India has been from the trunk outwards, and the trunk, main and feeder metalled roads have frequently been overtaken by the subsequent construction of parallel railways.

(*ii*) The road system in India has been rather unbalanced owing partly to its having become unmanageable by the local bodies with its meagre resources, and partly owing to the absence of a comprehensive plan.

(*iii*) A comprehensive plan of road development is necessary, with the question of adequate provision for future maintenance placed in the forefront, and with a view to linking the more important villages with the proper road system.

(*iv*) Nearly 48 per cent of the railways have metalled roads parallel to them and within 10 miles. In view of this any scheme of road improvement should be more for improving feeder services than for the further construction of trunk roads running parallel to the railway system.

(*v*) As a result of motor competition Class I railways were losing about Rs. 1,90,00,000 per annum by 1932–33. The bulk of this competition was within a zone of 1 to 50 miles and the light railways had been most severely affected. The carriage of goods by road motor services has not as yet developed to an alarming extent. A system of zoning of motor transport on parallel competitive routes within a range of about 50 miles might be considered.

(*vi*) In certain circumstances motor buses provide definitely superior and more convenient services and it is not desirable to deprive the public of such services.

(*vii*) There existed considerable difference in the degree of external control over railway and road transport, and motor transport appeared to have temporarily outrun the machinery for its control. In future years railroad competition was likely to increase in range as well as intensity.

(*viii*) The railways were handicapped in their competition with road motors because of unequal conditions of working and the two means of transport should be placed as far as possible on an equal footing in respect of external control.

With regard to the future policy of railways in dealing with road motor competition the Committee noted three possible courses, namely:

(*a*) zoning of short distance traffic and gradual withdrawal of the railway from competition therein; (*b*) active counter-competition both in respect to improvement in facilities as well as through reduction of fares and rates; and (*c*) the operation of motor transport by the railways.

In conclusion the Committee recommended the creation of a Central Board of Communications to deal with all classes of transport

In April, 1933, the Government of India convened a general Road-rail Conference where representatives of various Provincial Governments, as well as of interested bodies, were invited. The road policy of the Government of India in recent years has been largely shaped on the basis of the discussions held in that conference. The principal conclusions arrived at in the conference were as follows:—

(*i*) that general public interest demands intelligent co-ordination of the efforts of various transport undertakings and their controlling authorities, particularly with regard to road and railway construction, so that uneconomic competition may be reduced;

(*ii*) certain classes of railways may be given the power to run road motor services;

(*iii*) the number of motor vehicles licensed to ply for hire should be restricted in the public interest, and greater control should be exercised over road motor services in the interest of safety and convenience;

(*iv*) every encouragement should be given to the development of rural motor services even to the extent of granting monopolies for limited periods;

(*v*) that various provincial and other authorities should co-operate in bringing about the much desired uniformity in road-motor taxation and motor vehicles rules; and

(*vi*) that suitable machinery should be established at the centre and in the Provinces to ensure intelligent co-operation and adequate co-ordination between all forms of transport.

Another notable advance towards the better co-ordination of road and rail transport has been in the constitution of a Central Transport Advisory Council which held its first meeting in January, 1935. This council is composed purely of representatives of the various Provincial Governments and of the different interested Departments of the Government of India. Though the conclusions of the Council are purely advisory and are not binding on any Province which does not choose to ratify them, there is no doubt that this Central Transport Advisory Council will help greatly in the formulation of an All-India policy of transport development and in bringing about uniform conditions of working and taxation in different parts of India. The Hon. Sir Frank Noyce, Commerce Member of the Viceroy's Council, in his opening address at the first Transport Advisory Council meeting held in Delhi emphasised the point of view that in dealing with the question of competition amongst transport services the guiding principle should be to secure maximum efficiency at minimum cost. He thereupon urged the importance of closest co-operation between the central and provincial authorities so as to

devise a policy which would secure full value to the community as a whole for every rupee spent on the development of communications. The council thereupon came to certain important conclusions regarding the policy to be pursued for future development of roads and railways and the control thereof, as also relating to the creation of suitable machinery for effecting necessary co-ordination of different means of transport.[1]

The need for protection of transport from unhealthy competition does not apply to road and rail transport alone nor to the competition as between different transport machinery. It is also felt urgently necessary in respect to inland and coastal waterways as compared with railways, and more so as between the different units of the same kind of transport service in certain cases. For instance, motor buses have in most cases been subjected to such uneconomic and cut-throat competition amongst themselves that improved operation and efficient service have become well nigh impossible. This aspect of the problem of competition also requires proper handling.

An important step towards the creation of a machinery for co-ordination of efforts, which is under contemplation at the present moment, is through the redistribution of portfolios of the Members of the Viceroy's Executive Council so as to constitute a Central Ministry of Communications, bringing together railways, roads, civil aviation and posts and telegraphs under one hand.[2] While this measure must go a great way towards bringing about some amount of co-operation amongst different transport systems, it is felt that unless inland and coastal water transport and ports are also brought under the portfolio of the same Minister thorough co-ordination in all directions will not be possible.

Working, traffic and rates problems.—The working, traffic and rates problems of motor vehicles in India are also

[1] Resolutions of the Transport Advisory Council Meeting held in January, 1935, as reported in the *Indian Roads and Transport Development Association Monthly News Letter* for January, 1935, Vol. IV. No.1.

[2] The Hon. Sir James Grigg's reply to Mr. F. E. James in the Legislative Assembly in March, 1935.

of considerable interest. The small units of motor transport have attracted a large number of owner-operators to the field and easy methods of financing on the hire-purchase system have encouraged multifarious ownership. Many of these owners are extremely unbusinesslike in so far as they maintain practically no record of their costs and earnings and do not have a proper idea of the needs for providing against depreciation. The existence of such a careless class of owner-operators has often prevented the systematic maintenance of standardised services or of a regular schedule of rates and fares in an area. Such a system necessarily leads to incalculable waste of efforts and loss of the economic resources of the community.

The speed, load and timing of motor services also need careful investigation and scientific guidance. The size of the vehicles, their loading conditions and the speed and timings of services have hitherto been mainly guided by engineering conditions and considerations for safety. The time has come when in addition to these the consideration of traffic and co-ordinated operation should also be taken into account. It is generally recognised that motor transport is more convenient and economical for short distance traffic within a range of about 3 to 50 miles, but instances are not rare in which motor buses are plying for distances ranging between 100 to 250 miles. A scientific investigation should be undertaken to prevent such long distance motor transport from creating unnecessary duplication of transport services.

One great difficulty in motor traffic has been the want of balance between up and down journeys in many places, particularly in hill sections. As a consequence the rating of the traffic has to be rather irregular and often variable between two directions and at different seasons. The carriage of small parcels and all classes of mails has, however, been greatly facilitated by the introduction of motor transport.

The rates and fares for motor transport in India have been determined more or less on intelligent guess-work, and they have been conditioned mainly by local circum-

stances. The one guiding principle that appears to have been generally followed is the consideration of obtaining maximum possible earnings from the traffic presented and in most cases there has been no proper control of the fares at all. Unlike the railways, motor transport has no legal obligations in this respect and the conditions of carriage as well as the classification have been largely determined by the individual carrier at his own sweet will. It is only on certain regular routes and on competing lines that some sort of uniformity has been brought about, but in most cases the rates and fares still continue to remain on an experimental basis, subject to alteration without notice. An important feature of motor rating is the virtual absence of classification and the fixation of rates more on the basis of space occupied than on weight or volume. The result of this has been that the motor car is drawing away from the railways the more paying class of traffic. This feature of motor traffic development will compel the railways to modify the basis of their rates structure for certain competing sections at least.

Amongst the miscellaneous issues arising out of motor transport development may be mentioned the problems of providing safety devices and for creating some suitable machinery for the control of accidents, overcrowding, etc. The questions of proper training of the staff and of testing their efficiency, as also of fixing their maximum hours of work and other conditions of employment, also require investigation. Further, with the growth of motor transport, the question of constructing motor bodies in this country and of manufacturing motor cars and parts has been engaging much attention during recent years.

Water transport in India

Inland transport.—While railways and roads have engaged considerable attention as affording the quickest means of transport in India, inland and coastal water transport also have played and are expected to play no small part in this field. The navigable rivers of India had for a very

long time served as the principal highway of commerce. In a pre-eminently agricultural country cheapness in the transport of bulky articles like grains, jute, cotton, etc., must be more in demand than speed, and consequently water transport must continue to engage considerable interest; and in any scheme of planning of Indian transport the waterways must receive their due share of attention. In certain parts of India, particularly in the United Provinces and the Punjab, considerable efforts are being directed towards construction and maintenance of irrigation canals. It is high time that some investigation be made into the possibilities of utilising these canals as feeders for the transport of agricultural products to the nearest railways or to the road centres.

For the development of inland water transport the State has played little or no part whatever in the past, and the bigger steamer companies have been mostly initiated by British enterprise with British capital. Of late some Indian companies have been floated, giving rise to various problems of competition, rate-cutting and undue discrimination. The interference of Government for preventing uneconomic rate war between different inland water carriers on the one hand and between these and other methods of transport on the other hand is urgently called for.[1]

Coastal and marine transport.—As regards coastal and marine transport in India the position, however, needs more careful study. Although India does not abound in many natural harbours, her long sea-board presents unique opportunities for cheap transportation of bulky commodities. Mr. S. N. Haji, some years ago, estimated that the passenger traffic on the coastal vessels of India was second only to that of the United States and the goods traffic also was well comparable with most of the progressive countries of the world.[2] The public in India have since become alive to the vital necessity of developing her maritime activities

[1] Mr. K. C. Neogy's resolution in the Assembly dated February 8, 1930, on the Bill to amend the Inland Steam Vessels Act. Also Indian Industrial Commission Report, para. 279.

[2] S. N. Haji, *Economics of Shipping*, Ch. XI.

and of the establishment of a properly constituted Indian mercantile marine. In response to public demand the Government of India appointed in 1923 the Indian Mercantile Marine Committee. The recommendations of that Committee were mainly as follows:—

(*a*) that suitable arrangements should be made for the training of Indians in marine engineering and in shipping, and that all vessels plying in the coastal service should be required to provide suitable training and employment facilities to Indian apprentices;

(*b*) that the coastal trade of India should be reserved for ships which are to arrange for virtual Indianisation as regards ownership and control. This was to be effected through a system of issue of licences or permits after examining whether a vessel is registered in India, owned and managed by Indians with predominant interests in the shares, and whether the officers and crews were Indians;

(*c*) and that the ship-building industry should be encouraged in Calcutta, preferably by an Indian company. Except with regard to the arrangement made for the training of Indians on the training ship *Dufferin*, the Government of India did not see their way to accept the other recommendations of the Committee.

In 1928 an important Bill that evoked considerable public interest and caused great agitation, both in this country as well as in Great Britain, was moved by Mr. S. N. Haji in the Assembly with a view to effect reservation of the coastal traffic. It was argued by the exponents of the Bill that the principle of reservation had been practically adopted by most of the progressive nations of the West, as well as by Japan, and there was no ground for refusing India the same privilege, particularly when it was likely to give good employment to a large number of the people and to provide new opportunities for our countrymen. On the other hand the Government, as well as the British mercantile community, who strenuously opposed

the Bill, urged that such a measure would amount to virtual expropriation of the capital of a large number of enterprising Britishers who had invested a good deal of capital in the business. This opposition took such a turn at a time when great political changes were under contemplation that considerable bad blood was created and the Bill had ultimately to be dropped. The Government of India, however, have tried during recent years to induce the strong British companies operating on the coast to co-operate, as far as practicable, with the Indian coastal steamer services which have recently come into existence.

Air transport in India

It now remains to study briefly the present position and the possibilities of aviation in India, particularly of commercial air transport. As has already been stated beforehand, India is a land of long distances with a variety of climatic and physical conditions. Her position, moreover, in relation to Great Britain and her colonies on the one hand, and to such progressive commercial countries like Japan and the United States on the other, provides additional features of no small interest for transport through the air.

It was in 1911 that the first non-official commercial aeroplane made its appearance in India when a French pilot, M. Piquet, travelled with 5,000 letters from Allahabad to Naini. Between 1911 and 1927 no advance, however, was made in regard to private or commercial aviation. Between 1927 and 1931 arrangements were made for constructing aerodromes and a few landing-stages at certain important places. In 1928 several flying clubs were established and between that date and 1934 eight flying clubs came into existence, including one in the Jodhpur State. The other clubs were at Delhi, Karachi, Bombay, Madras, Calcutta, Lucknow and Lahore. These flying clubs have been receiving considerable assistance from the State and they have arranged the training of quite a large number of Indians in the art of piloting and in aeroplane engineering. In 1929 the Croydon–Karachi air service was inaugurated

by the Imperial Airways, Ltd., under Government patronage. As a temporary measure of experiment the Government of India thereafter began to operate under their own management an air service between Delhi and Karachi, making use of the staff and the 'planes of the Imperial Airways. Between 1929 and 1931 such arrangement continued and after the expiry of the agreement with the Imperial Airways in 1931, the Government of India contemplated running a State service linking up the important cities of India. The world economic depression and the demands for retrenchment in the expenditure of the Government of India, however, stood in the way and the project of State air service had to be abandoned. The enlistment of private enterprise in the field of commercial transport had thereafter to be again resorted to. Public opinion in India had in the meantime become alive, as much to the need of commercial aviation as to the necessity of encouraging local enterprise in this direction. Messrs. Tata & Sons, Ltd., of Bombay, thereafter formed the first Indian company for the conduct of commercial aviation in India and established a regular service between Karachi and Madras, via Bombay. Another similar private concern, namely, the Indian Air Survey and Transport, Ltd., began, with the encouragement of the Government, to operate in Bengal, and undertook much difficult work of land survey in the Province. During this period one French and one Dutch air-mail service had also begun their operations across India towards Indo-China and the East Indies, and in 1933 the Indian Trans-Continental Airways, Ltd., began to carry mails and a limited amount of traffic between India and Australia. Two other companies, namely, Himalayan Air Transport and Survey, Ltd., and the Irrawaddy Flotilla and Airways, Ltd., came into being in 1934, with a view to organise air transport service between Hardwar and Badrinath, as also between Rangoon, Mandalay and Moulmien in Burma. As at present, a regular air service is being operated weekly and in some cases bi-weekly, and also daily, between Karachi and Delhi, Karachi and Madras via Bombay, Delhi and Bombay, Calcutta and Delhi via Allahabad, Calcutta and Dacca,

Calcutta and Rangoon via Chittagong and Akyab, and between Rangoon and Mandalay. Several other services are also under contemplation, and some important and extensive developments of a far-reaching character in the organisation of Empire Air Services are foreshadowed.

The increasing appreciation of the commercial importance of air transport in India is evidenced from the following figures of traffic. In 1930 the aeroplanes flying over India carried only 35 tons of goods and about 150 passengers. In 1934 the amount of freight conveyed increased to about 81 tons and the number of passengers rose to 954. In 1934 the number of aircraft arrivals at Indian air-ports was 364 and the value of general merchandise imported during the year amounted to Rs. 5,36,000, while the values of precious stones and of bullion and currency notes amounted to about Rs. 38, 78,000 and Rs. 1,67,000 respectively.

Simultaneously with such development the Government of India is trying to provide adequate encouragement for the training of Indians in the art of flying, pilotage and engineering.

In 1930 the number of aeroplanes registered in India was only 42 and the pilots holding certificates numbered 150. By 1934 these numbers had increased to 102 and 302 respectively. Every week commercial aeroplanes are covering nearly 13,000 miles on an average, and including the 'planes in use for transport across the borders of India the mileage will not be anything less than 20,000 per week.[1]

The future of transport.—The study of present conditions of transport in India cannot be complete without a reference to the developments in the postal, telegraph and telephone systems of the country, and also to broadcasting. India has been making great strides in these directions during the last few years and trunk telephone lines now connect most of the

[1] The figures are obtained from the Administration Report on the progress of civil aviation in India for 1934–35, and from an article on commercial air transport by Mr. F. Timms, Director of Civil aviation in India, contributed to the Silver Jubilee volume published by Mr. K. N. Chatterjee from Calcutta in June, 1935.

important cities of the country. The expansion of broadcasting has also been phenomenal and Government intend to introduce great improvements in this respect during the coming years. It is needless to state that while providing an important machine for political administration a properly developed system of telephone and of broadcasting will be of considerable help to commerce and industry of the country.

Transport has been described as the circulatory system of a country's activities; the foundation of commerce, of social well-being, and of the development of thought. Of no land is this more true than of India with its vast distances, teeming population and huge undeveloped areas.[1]

The contribution of transport to the cause of Indian trade and to the making of the Indian nation has been immeasurable. Barriers of ages have been broken, and time-worn practices and prejudices have been overcome. There still remains great scope for development and it is expected that with the inauguration of a new policy of planning in transport, and with the substitution of co-ordination instead of competitive and haphazard development, great advances will be achieved and considerable economy will be effected for the good of the community at large.

[1] Silver Jubilee Supplement to *The Statesman* dated May 5, 1935, p. 47.

CHAPTER XIV

AGRICULTURAL MARKETING

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Drawbacks of marketing. Isolation and want of staying power of the cultivator.—The marketing of agricultural produce is a difficult problem in all countries, because of the isolation of the peasant. Such isolation can be removed but partially by the development of communications and transport, as it is inherent in the occupation of agriculture, while it nourishes a characteristic system of itinerant brokers, carriers and intermediaries collecting the agricultural produce from the entire countryside. Further, in an agricultural country marketing and credit intimately depend on each other, the moneylender supplying credit from season to season with his eye on the agricultural produce. In India there are various types of itinerant dealers, while on account of the marked division of the agricultural time-table into two distinct operations and the uncertainty of rainfall, the moneylenders who keep men, cattle and crops alive have a far greater influence on the disposal of produce than elsewhere. Where there is an arranged succession of crops throughout the year, as in some parts of Eastern Bengal, the cultivator need not wait long for the repayment of loans. On the other hand, where the chief harvests are only two, the credit system is apt to become more exploitative as the cultivator has to wait for a longer period before he can dispose of his produce. Thus both the village moneylender and the grain-dealer become partners in an expensive system of credit and marketing, which diminishes the true income of the cultivator.

Bad Communications.—No doubt the variety of itinerant grain-dealers and carriers in India is due chiefly to unsatisfactory communications. Communications from the fields to the village, and from the village to the *mandi*, are often extremely poor and defective. Bad roads, lanes and tracks connecting villages with the markets not only add to the costs of transportation and aggravate the strain on bullocks and other pack animals, but also lead to the multiplication of small dealers and intermediaries. They also restrict markets by hindering cheap and rapid movement of agricultural produce. The cart tracks in the countryside are seldom maintained in good conditions for traffic. These run zigzag, often through fields, and after the rainy season may take a new course altogether. In the hill districts and outlying settlements in the forests or in the semi-deserts, the difficulty of communication is more serious, and the cultivator is often at the mercy of the local grain-dealers who alone can command enough animal power to undertake the transport of produce.

Agricultural produce from villages finds its way to the village marts on bullock and camel carts, on pack animals such as camels, ponies, buffaloes and donkeys, or on headloads. There was formerly a brisk country boat traffic in Northern India, especially along the Indus, Ganges and Jumna, and their tributaries. The river traffic has greatly declined in importance in the Punjab, United Provinces and Bihar, as also the transport of agricultural produce, "*bhusa*," etc., through the navigable canals. River transport, however, is still of considerable importance in Eastern Bengal and Assam, and the volume of water-borne trade is estimated to be the largest in the world in this region. The major portion of the jute crop is brought to Calcutta by water-ways and some of the steamer stations in Northern and Eastern Bengal are large and important trading markets. Among the South Indian rivers the Godavari and the Kistna still carry on a large volume of agricultural trade. The Buckingham Canal, which connects the Kistna delta with Madras and continues south for another sixty miles, is an important highway carrying merchandise the

total value of which is about Rs. 50 lakhs. Similarly the canals in the Godavari and the Kistna deltas, though not navigable all the year round, carry a considerable volume of trade. In the hill areas the pack-animals and head-loads are more common than elsewhere. In the dry and arid tracts only camel transport is possible. In the Punjab and the United Provinces, West, camel, donkey and cart are all used for grain. The camel is the cheapest because he costs so little to feed and can endure privations. But the camel cannot be used in the rainy season. Only camel and cart are possible for cotton owing to its bulk, and the camel, too, is not popular for this. Cotton brought in a cart arrives in better condition and fetches a higher price. On a camel it has to be bagged and is liable to be roughly handled.[1] Caravan traffic on camels still continues in North-west India and in Rajputana.[2] As transport animals, donkeys also play an important rôle in Northern India and ponies in the rest of the country, especially in the outlying jungle and hill tracts. It is estimated that at Amritsar nearly 50 per cent of cultivators and village beoparis use carts and 50 per cent use donkeys, while at Hapur 75 per cent use carts and 25 per cent donkeys. Motor transport has considerably increased in recent years and in some districts the lorry has come to stay, carrying not merely passengers but also vegetables and fruits to distant centres, which are not connected by railways. Motor vans loaded with

[1] Darling, "Marketing in Villages and Mandis," *Report of the Punjab Provincial Banking Enquiry Committee*, 1929–30, p. 195.

[2] Caravan traffic has often been mentioned in the *Jatakas*, some of which describe the risks and difficulties of the journeys. Such journeys were undertaken for long distances as, for instance, from Orissa to Taxilla and beyond to Central Asia. Deserts had also to be crossed, probably for reaching the Ran of Cutch which was then navigable. We read, for instance, in the *Vannupatha Jataka*, that five hundred bullock carts from Benares were crossing a desert (probably the Rajputana desert) at night and resting during the day-time. The caravans took shelter under the carts against the scorching sun and dust-storm. They were amply provided with fuel, oil, water, rice and other provisions. This caravan had a pilot who used to ascertain the direction by observing the stars, and indeed, it appears from other *Jatakas* that it was a practice of the times for all caravans to take such an expert, "*thala nimayaka*," "land-pilot," during their journeys and also volunteer police to protect themselves against robbers. After reaching the destination the caravan sold its merchandise and purchased articles which it later on sold in its own country at twice and even four times their value.

an assortment of fruits come from Srinagar and Rawalpindi as far as Cawnpore. Between Cawnpore and Calcutta there is also regular motor lorry goods traffic. Motor vans bring potatoes from the hill slopes to the plains in Kumaon and Assam, and the produce of plantations and gardens to distant sea-ports in the Northern Sirkars. Bad roads, lack of mechanics, inadequate number of petrol depôts and service stations, as well as the seasonal nature of the traffic, will, however, prevent the lorry from becoming an important means of rural transport everywhere. Interesting possibilities of transport development are represented by the recent tramway extension in Meerut and the proposal of installation of aerial ropeways in Bihar for bringing cane from the villages to the sugar factories.

Where the cultivators are more isolated, or the means of communications less developed, marketing is less organised. On the other hand, marketing is more efficient in areas which grow important money crops such as wheat, cotton, sugar-cane, hemp, oil-seeds, vegetables and fruits, and which possess better communications. The contrast between the organised markets at Lyallpur, Hapur, Amraoti and Hubli with the weekly bazaars and markets held at villages and towns would strike everyone. In outlying areas, as soon as the harvest is ready for disposal, the countryside becomes full of itinerant cartmen or owners of pack animals who collect the village produce. These markets may be classified as follows:

(1) Periodical markets in the rural areas. Throughout India custom has established bi-weekly, weekly or fortnightly markets in the country-side where the cultivators sell small quantities of agricultural produce and buy cloth, salt, kerosene oil, ornaments, etc. These periodical markets afford opportunities to small itinerant dealers for collecting the agricultural produce.

(2) Big fairs held on certain occasions of the year and associated with certain religious celebrations. These are also found all over India and tradition often determines specialisation in certain lines of business as, for instance, cattle fairs, or vast assemblages of pilgrims as in Hardwar,

Allahabad, Amraoti and Nasik. Mountain fairs in Garhwal still play the most important part in the distribution in India of trans-Himalayan products, and these fairs are occasions for social festivities and religious celebrations. One of the most important fairs in India and one of the biggest fairs in the world is the ancient "Harihar Chattra Mela," held at Sonepore on the right bank of the Gunduck close to its confluence with the Ganges, on the November full-moon day. It is the largest cattle and elephant market in India. In 1931, 46,490 heads of cattle, 725 elephants and 5,750 horses and ponies were offered for sale. About five lakhs of people flock, into the small village of Sonepore, during the mela every year.[1]

Types of itinerant middlemen.—The Banjaras are well-known in many parts of the Punjab and United Provinces. nomadic middlemen, who collect grains in the villages.[2] But sometimes, as in the Tarai and Bhabar, they manage to keep the Tharus, Bhoksas, and other agriculturists in permanent debt with a view to secure their rice crops at a favourable rate against their advances. They advance paddy seeds at sowing time by going from village to village, and receive payment in paddy amounting often to three or four times the amount of the advance. In the backwoods of the Central Provinces, as well as Rajputana, the Banjaras with their herds of bullocks collect grain for sale at the wholesale markets. The "ladvans" or "gariwallas," cart-men, as well as the banias with their pack bullocks, ponies or buffaloes also go about in the villages in many areas at the harvest season.

In Gonda and Bahraich districts, for instance, cartmen who have mostly their own capital bring grains from villages

[1] From an unpublished thesis on the Economics of the Sonepore Fair by one of my students, G. D. Law.

[2] The Banjaras are a tribe whose business it is to be carriers of grain. They are mentioned by Badaoni. They traverse the country conveying the grain, often from the greatest distances, in large bodies which resemble the march of an army. They encamp with regularity, never lodging in houses, are strongly armed, and ready to fight no contemptible battle in their own defence. The practice comes down from a remote antiquity and marks a stage of civilisation when merchants were obliged to depend on themselves for the means of their defence.

to the mandis and sell these to the arhatiyas. In the hills ponywalas, who are sometimes financed by grain merchants, transport grain from villages to the markets. Sometimes the village potter disposes of the cultivator's produce which he brings to the mandi on his donkeys. But he is said to be most skilful in deceiving the non-suspecting cultivator by false weighment. In the rice areas of Chhattisgarh in the Central Provinces the Telis and Chamars collect the produce in their carts from the villages for disposal in the markets.

The Village tola.—The village weighman often measures grains but sometimes the bania also uses his weights and does the weighing. Here and there again the village weighman brings samples, weighing a chattak or so, to the nearest mandi, and the arhatiyas offer their rates. The orders are placed with the weighman, who returns to the cultivator, takes delivery of the produce, brings it to the arhatiya and delivers to him. The weighman gets his dues from the cultivator, and even when the cultivator deals directly with the beopari or merchant in the mandi he gets his fees from both.

Periodical markets.—The well-to-do cultivators, however, keep carts and send their own produce either to the mandi or the periodical market. Periodical markets are held once or twice a week in important localities. In the north-west of the United Provinces about 30 per cent of the total produce is sold directly by the cultivators, in the smaller wheat mandis, the produce being then passed on to the larger mandis. In Lyallpur District 48 per cent of the wheat is disposed of in the mandis and 52 per cent in the villages to banias, *sahukars* and others. The proportion of produce sold in markets of course diminishes as cultivators are debt-ridden or carry on subsistence farming in tiny holdings. Even in Lyallpur as much as 23·9 per cent of the cultivators make no sales. In Attock District 98·6 per cent of the cultivators dispose of their surplus wheat to local banias who happen to be their *sahukars* also.

An interesting result of the Punjab Enquiry is that 60·3 per cent of the cultivators own their means of transport while 68·3 per cent of the traders have to hire their transport.[1] It has been similarly estimated in a village in Basti in the United Provinces that cartmen bring 75 per cent of the produce to the market, while the village banias and beoparis bring 25 per cent. For valuable crops like linseed, mustard, wheat, and sugar-cane the beopari becomes more evident. While the cartman's sphere of influence is confined mainly to the roadside the beopari would go everywhere, measure the produce of the cultivators, and either pay in cash or take the produce on credit from the cultivator. The beopari in his turn sells it to the arhatiya who forms the next link connecting the village with the mandi. Similarly the agents of large exporting firms also go about here and there collecting wheat, barley, cotton, groundnuts, and oil-seeds from the rural areas. Sann hemp is purchased by an English firm through beoparis in Partabgarh district; this firm carries on its export business on the spot from October to January.

A graphic representation (Fig. 1) of the more common steps in agricultural marketing will, perhaps, make the subject more clear. In actual practice, however, the functions sometimes overlap and encroach upon each other. Thus one individual or firm may, and often does, act in the double capacity of wholesale and commission agent.

Difference between organised and unorganised market. —Various factors determine both the number and type of intermediaries which handle the crops before final disposal. Generally speaking, in an agricultural area where there is some specialisation of crops marketing becomes more organised. Here the cultivator's choice of crops is governed less by custom or the immediate needs of his household and more by the prevailing prices in the distant markets. The customary routine in agriculture is abandoned, and

[1] S. Kartar Singh, *Finance and Marketing of Cultivators' Wheat in the Punjab*, pp. 18, 37 and 54.

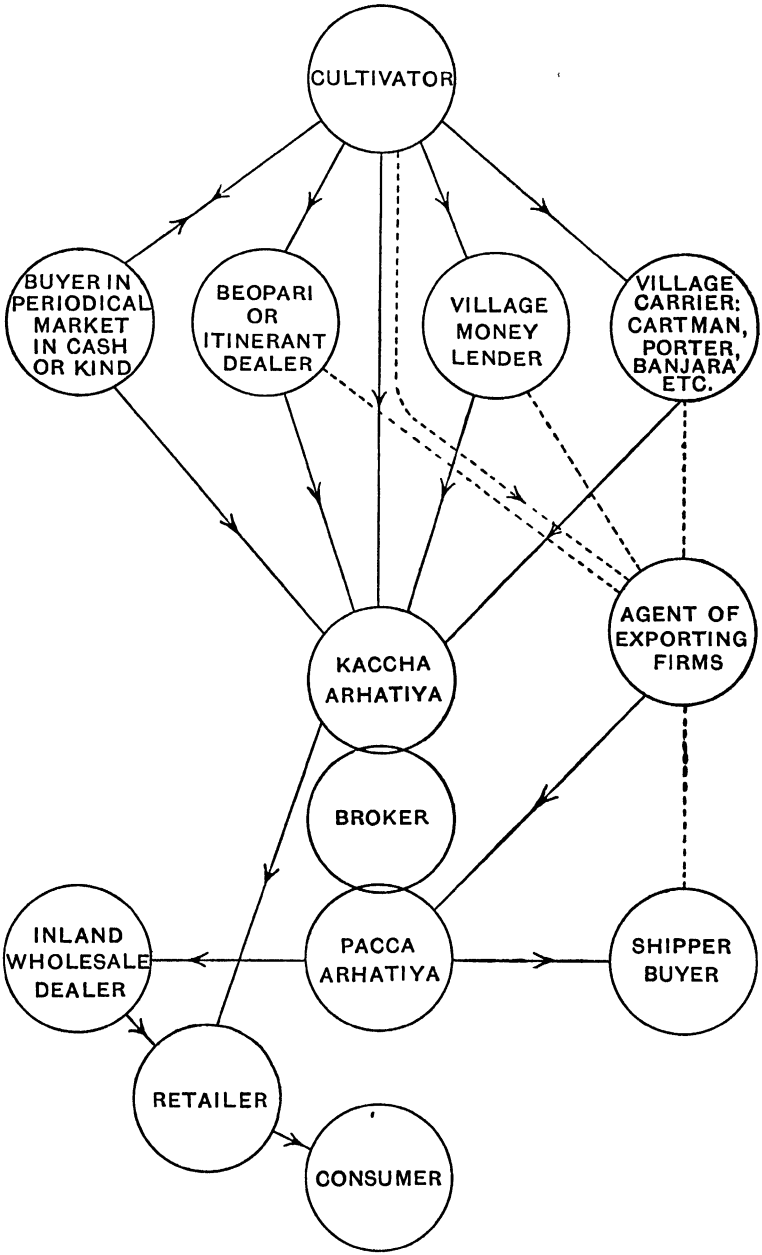


FIG. 1. Diagram illustrating Steps in agricultural marketing.

crops which bring remunerative prices are produced in addition to food grains, even in tiny holdings. The above tendency is especially evident in areas where improved roads and transport, canal irrigation, and rural industrialisation all combine to break up the ancient self-sufficient village economy. But elsewhere also, wherever valuable crops like wheat, cotton, sugar-cane and jute are largely grown, marketing shows a better integration. In all such areas the smaller mandis are fewer and a few but larger mandis take their place. (Fig. 2.) In these bigger mandis the wholesale arhatiya makes his appearance and facilitates grain transactions. He often supplies capital to the village bania or beopari on the stipulation that the produce of the neighbourhood would reach him regularly at harvest time. He also acts as a commission agent of shroffs and big exporting firms in the cities, thus forming an indispensable link in the chain of middlemen between the cultivator and the shipper-buyer. In the smaller mandi or even in a painth the arhatiya is found, but he is hardly a wholesale dealer, he is rather the primary distributor who simply passes on the produce to the bigger arhatiya in the larger mandi and often is financed by him.

This indirectly brings about some correspondence between the village and mandi prices. Yet the village beoparis and banias offer prices for produce at the threshing floors of the cultivators which are lower than those which prevail in the mandi at that time, of course including the incidental charges which they have to pay when they take the grains to the mandi, the cost of transport as well as their own profits covering trade risks.

Hypothecation and disposal of crops to moneylenders: (*a*) *The "Khandsali" System.*—Further, in all tracts which grow valuable crops the village mahajan also would try to combine effectively grain-dealing and moneylending because, on account of his seasonal or convenient advances to his clients, he can get the produce under kacha hisab more cheaply than the village beopari or the bania. Indeed,

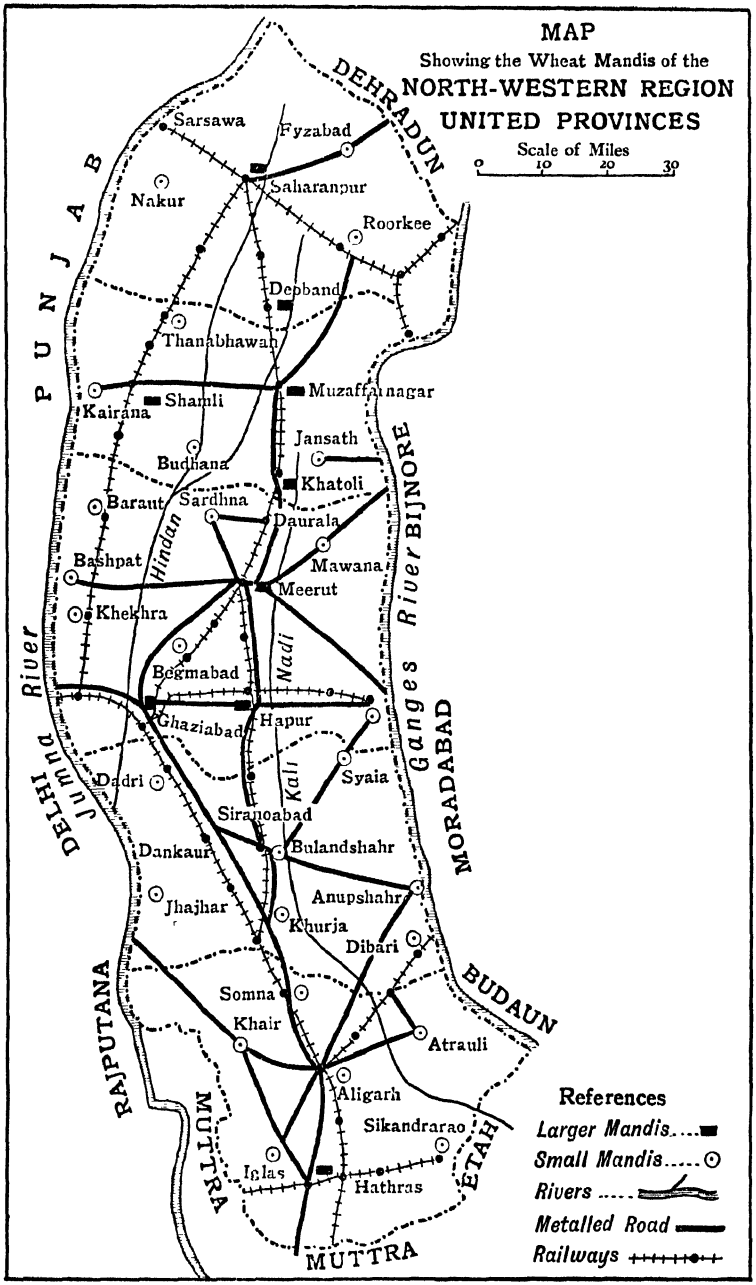

MAP
Showing the Wheat Mandis of the
NORTH-WESTERN REGION
UNITED PROVINCES
Scale of Miles
0 10 20 30
DEHRADUN
PUNJAB
Sarsawa
Fyzabad
Saharanpur
Nakur
Roorkee
Deoband
Thanabhawan
Muzaffarnagar
Shamli
Kairana
Jansath
Budhana
Khatoli
Baraut
Sardhna
Daurala
Bashpat
Hindan
Mawana
Meerut
BIJNORE
Ganges River
Khekhra
River
Nadi
Begmabad
Ghaziabad
Hapur
Jumna
DELHI
Kali
Syaia
Dadri
Sirsnoabad
MORADABAD
Dankaur
Bulandshahr
Anupshahr
Jhajhar
Khurja
Dibari
BUDAUN
Somna
Khair
Atrauli
RAJPUTANA
Aligarh
Sikandrarao
MUTTRA
Iglas
Hathras
ETAH
MUTTRA
References
Larger Mandis....
Small Mandis.....
Rivers .....
Metalled Road
Railways

FIG. 2.

the cane-growing areas in the United Provinces have brought into existence a distinctive type of mahajan called the khandsali, who advances loans many months before the sugar-cane crop is ripe on the stipulation that the sugar-cane juice will be sold to him at a particular rate settled in advance, which is usually very much lower than the prevailing market rate when the crop ripens. The costs incurred on crushing are borne by the cultivator who also pays the khandsali a rent for the machine he supplies.

(*b*) *In cotton or jute.*—But it is not merely in sugar-cane that the cultivator obtains much less than the market value of a highly priced crop. In the case of cotton, hemp, jute and oilseeds we often find that the bania or beopari by forward agreement, secures it at a very low price. In Assam, the Khasi beoparis often make advances of seed to the potato growers on condition that they will get one-third of the crop. Similarly for pepper, ginger, groundnut and pulses advances are made to the cultivators by beoparis in different parts of India. Generally speaking it is only the rice grower who does not take advances for repayment in crop, though in Bengal the custom of the cultivator obtaining advances from the pharia who secures not only jute or potatoes, but also rice at a low price is prevalent. In most commercial crops the local consumption of which is small and prices of which fluctuate with western marketing conditions, the system of forward agreement by the large exporting firms and agencies is well established.

(*c*) *In ghee.*—A similar system of advances by beoparis or banias is prevalent in many areas for the disposal of *ghee*. It may be briefly described as follows:—The arhatiyas lend money to the village *ghee*-dealers who in their turn advance small amounts to cultivators. The latter undertake to supply to the dealers a fixed amount of *ghee* during the season. Money is also advanced sometimes for the purchase of milch cattle. At Etawah the price settled for *ghee* is usually based on the price prevalent in Calcutta at that time, but whereas the Calcutta price is that for a maund of 40 seers, more or less the same price is offered in Etawah for a maund of 50 seers. Several market dues have to be

paid by the village dealer while certain deductions are also made for adulteration or for matha.

Open prices.—When the cane, cotton, groundnut and jute grower is advanced money against the valuation of a crop before it is harvested he is apt to ignore questions concerning grade and purity. Thus this method of agricultural financing in the end affects the quality of the produce, apart from the one-sided character of the transaction. It is, however, by no means true that the mahajan or beopari always succeeds in getting the cultivator into his grips and uses his advantage ruthlessly. The cultivators are shrewd enough to obtain information about prices prevailing in the mandi and calculate their transport and other charges, and the solvent among them would often dispose of their produce not to the village mahajan or beopari but directly at the mandi. In an organised market like that at Hapur we often find several cultivators from distant villages assembled in the morning at the shop of one of the kaccha arhatiya, where there are also present pacca arhatiyas or their brokers. The bargain is struck as a result of free competition between several buyers and the karda (allowance of waste due to dirt and adulteration of mixture) is settled through the intervention of the kaccha arhatiya. The palladari and weighing charges, doles for charity, etc., are known beforehand and are paid by the cultivator. Deducting all these charges the cultivator obtains under such circumstances a good price for his crop.

Lastly, when we come to an organised market the use of false weights and malpractice in weighment are reduced. The incidental charges here do not vary from arhat to arhat, while generally speaking such charges are simplified and reduced.

The Rôle of the Beopari.—Of all the parties in the grain transaction, whether it takes place in the rural or unorganised or in the urban markets, the most important is the village bania or beopari. His rôle, indeed, becomes more indispensable the greater the distance of the village from the

market. It is the beopari who, in fact, takes upon himself all trade risks; while his margin of profit, especially where there are other beoparis competing for the purchase of the village produce, is often just sufficient to cover the expenses of transport and marketing. His profits depend mostly upon the fluctuations of prices of crops, as well as upon certain economies in the disposal of the crops, which the cultivator dealing in small quantities cannot secure. The cultivator gains in that as soon as he has sold his produce to the beopari he absolves himself from all risks. The bania or beopari gains in so far as he handles large supplies from the whole area, and by experience has learnt when to stock and when to sell. Lastly, the beopari is often one of the shrewder cultivators who takes to trade after he has done his work on his fields, a solvent person who can afford to take risks which an ordinary cultivator cannot. If the small cultivator were to carry his produce to the small mandi himself he would run many risks. There may not be any immediate buyers, while the arhatiya may offer unattractive rates. Besides, he has to incur expenses of transport as well as expenses for lodging, food, etc. In the present unorganised system of credit and marketing the itinerant beopari is a necessity, and he should not be condemned offhand, just like the village mahajan, unless and until new and better marketing methods are brought to the door of every peasant.

Difference of prices between the large mandi and the country mandi.—But if the bania or the beopari is indispensable on account of the isolation of the cultivator and the small quantity of produce he has at his disposal, due to the smallness of his holding, he often exploits the ignorance as well as the financial straits of the peasant, like his compeer, the village mahajan. Further, there is but a limited number of buyers in the country market. Owing to all these circumstances the peasant is often unable to obtain a fair price either in his village or in the small mandi. In Lyallpur the difference between the market rates and the corresponding rates prevailing in the nearest villages has been

ascertained to vary between 4 annas as to 6 annas per maund in the case of wheat and Rs. 1/- in the case of cotton. In the country markets of Rohilkhand it has been found that if wheat sells in the large mandis at 8 seers per rupee or 80 annas a maund the cultivator who brings his grain to the village markets gets 9 seers per rupee or 71 annas per maund, a difference of 9 annas. Hemp sells in villages in district Benares for Rs. 5 per maund, but in the mandi it sells at Rs. 7/- per maund. Thus there is a difference of Rs. 1/4/-. In the district of Lucknow a local survey has revealed that the village dealer has ordinarily a margin of at least 12 per cent, owing to the difference in rates. The usual difference between the village and the city market rates in the case of valuable grains is 1 seer, while in the case of coarser grains, it is 2 seers per rupee. In some Punjab village markets from which information has been obtained the village dealer keeps a margin of 2 as to 8 as in the case of cotton.

In the Bengal villages the pharia, who is often financed by the aratdar, lends money to the cultivator who hypothecates his produce or he obtains it at a low price at harvest time, selling it when prices rise. At least 4 annas per maund of paddy represent the profits of the pharia who handles a large quantity of both clean and unhusked rice and possesses storage facilities. Aratdars, who can command larger capital and can store much larger quantities over a long period, make larger profits on fluctuations of prices by holding back the produce.[1]

Accurate data relating to the rates prevailing in the villages and small mandis which may be compared with those prevailing in the large distributing markets are not available, but it is evident that there is a large difference of prices between the large mandi and the small outlying mandi which cannot be accounted for by transport and other necessary charges and which is due to the cultivator's helplessness and inefficient marketing arrangement. That there are striking variations of prices even among the

[1] *Marketing of Agricultural Produce in Bengal*, Government Publication; and S. P. Bose, *Marketing of Rice at Bolpur*, Sankhya, April, 1936.

chief organised wheat markets of Northern India is shown by the following table.[1]

Wheat rates in important markets:—

	June.	*August.*
Lyallpur .	Rs. 2– 1– 9	Rs. 2– 0– 7
Amritsar .	,, 2– 4– 9½	,, 2– 2– 9
Hapur .	,, 2– 6– 8	,, 2– 6– 2½
Cawnpore .	,, 3– 1– 0	,, 3– 1– 6
Chandausi .	,, 3– 6– 0	,, 3– 7– 0
Karachi .	,, 1–13– 3½	,, 1–14– 4¾

But the seasonal variations of prices in the countryside are even greater than what the table suggests. Grain prices are highest just before the beginning of sowing, when the cultivator has no surplus produce to sell, and are the lowest in the middle of the harvesting season, or when the rent instalments are payable, the cultivators then being in great need of cash. Below are given the maximum and minimum prices of food grains casually selected from the markets:

	Minimum	*Maximum*
Wheat in the U.P.	Rs. 2– 8– 0 (May)	Rs. 3– 8– 0 (Oct.)
Rice in Bengal.....	,, 1– 4– 0 (Dec.)	,, 2– 0– 0 (April)

The rôles of the kaccha and the pacca arhatiya.—As the village bania or beopari links the village with the small mandi in the neighbourhood, the small mandi dealer is the link between the small mandi and the big organised market at some distance. The distinction between the kaccha arhatiya and pacca arhatiya which is found in some big markets will now be seen to be of great importance. The kaccha arhatiya acts as a commission agent for all sellers in the countryside including cultivators, village banias and beoparis and any other itinerant carriers. The small mandi-dealers also often dispose of their produce through him. The pacca arhatiya who specialises in wholesale transactions does not deal directly with the small cultivators or traders, but buys through the kaccha arhatiya. He is, in fact, the more substantial wholesale dealer, and it is to him rather than to his less substantial compeer,

[1] Wheat prices in India: Articles by Lobo-Prabhu and Hamid, *Agriculture and Livestock in India*, May, 1935.

the kaccha arhatiya, that the exporting firm or shroff of the bigger cities send their agents. In executing such business the pacca arhatiya has to buy through the kaccha arhatiya and, though his margin of profits in the transaction is thereby reduced, the big volume of his business and turnover of his capital yield him huge profits.

Further, both the pacca and kaccha arhatiyas in the chief wheat markets of Northern India are in intimate touch with the markets at Liverpool, and Hamburg and Chicago through telephonic connection, and thus the prices settled by the arhatiya, in consonance with world movement, ultimately govern the prices in the smaller mandis, and through these latter the prices in the distant villages. Similarly, in the case of cotton the prices of Bombay and New York regulate the broader movements of Indian cotton prices. The arhatiya, however, not only sells to the shipper-buyer or his agents on commission, but also to the small mandi-dealers and retailers for local consumption. In fact, he performs the absolutely essential function of acting as primary distributor of agricultural produce arriving at a market in cart lots. The arhatiya thus stands at the apex of the structure of Indian marketing; the small mandi-dealer is in the middle; while the village bania, beopari and carrier form the base of the system. It is because of the prominent position of the arhatiya in a mandi like Hapur, which is the biggest wheat market in the United Provinces that his forward contracts in the spirit of gambling and rash speculation react very unfavourably upon trade conditions in this Province. We shall, however, consider the subject of grain speculation later on.

[1] **Forward transactions.**—Whether the cultivator himself, or the village bania, beopari or any other itinerant trader undertakes distribution, the agricultural produce, as soon as it reaches the wholesale mandi having some connection with outside markets, is treated in some measure as liquid asset. Thus forward transactions in kothas and khattis take place in Hapur, Ghaziabad and Hathras, and the same kotha or khatti may change a hundred hands when prices

fluctuate without delivery of the produce, but only with reference to the actual weight and number of such kothas and khattis. Thus the transactions resemble, to some extent, those undertaken in the West on the production of elevator or granary receipts.

Acceptability of produce as security for advances by shroffs and banks.—It is thus that the wealth produced in the Indian villages may be exchanged, with the machinery of modern finance, for goods and services of Europe and America. To turn now to the system of financing of the movement of produce from the cultivator's threshing floor to the ship-yard of the ports of India, we have seen that the village bania, beopari or carrier represents usually the last link in the chain of intermediaries between the cultivator and the shipper-buyer. He is usually his own capitalist, but sometimes obtains his supply of capital from the arhatiya and the latter in his turn from the shroffs or the joint stock banks, who advance him money against produce left with them or accept hundis drawn by the latter. The arhatiya, again, may enter into an arrangement with the shroff for the discounting of the hundis payable after a fixed period. (Usance bills.) Or, again, the joint stock banks may provide finance for the movement of crops to distant consuming centres by discounting the mudatti hundis as well as by purchasing the darshani hundis of arhatiyas, the latter generally representing actual consignments of produce despatched to these places. The usual practice is that the railway receipt (bilti) is endorsed in the name of the bank along with a darshani hundi (demand draft) drawn by the arhatiya against the ordering firm. The arhatiyas generally consign the railway receipt to their own name, thus avoiding any risk arising out of the financial condition of the real consignee, who on accepting the hundi, obtains the delivery receipt endorsed by the bank and thus secures actual delivery of the produce for his own go-down. Thus when the produce is sent to the exporting ports, the joint stock banks finance such movement by purchasing freely drafts drawn on port towns by the

pacca arhatiyas and shroffs, or local joint stock banks. When the merchants cannot furnish the security which may be acceptable for accommodation by the banks they often resort to banks through shroffs. Thus we have in port towns the Marwaris, Bhatias, and Multanis who do a large amount of bill-broking business indispensable for banks and dealers alike. The accommodation of hundis by shroffs and joint stock banks, as well as their transfer from arhatiya to arhatiya, enable them to pay in cash for the constant stream of agricultural produce which pours in from the countryside during the harvest months.

A hundi drawn in such big markets like those at Amritsar, Hapur and Ghaziabad has obtained currency in most of the wheat markets and towns of Northern India. But for the village bania and beopari it is yet a thing apart. Gradually the beoparis will come under the ambit of this machinery of agricultural finance, and perhaps the local joint stock banks might help a great deal in strengthening the credit of both arhatiyas and beoparis in the countryside by having an approved list for the purposes of endorsement of hundis much in the same manner as the joint stock banks do in the Presidency towns. This will enable the hundis to reach distant and outlying mandis, and will further bridge the gulf between the mandi and the village market and mobilise agriculture credit. Credit both in the big as well as the small mandis may be cheapened by the establishment of warehouses which will increase the acceptability of the underlying produce as security for advances by the banks. We shall consider the subject of storage later on.

Dealings in futures.—The agriculturist in an outlying area suffers a great deal from the fluctuation of prices in the nearest market. Thus in all agricultural countries, besides the distributors, we find a class of traders who specialise in undertaking commercial risks and whose transactions are in accord with the seasonal and world movement of prices. Their business tends to make daily market prices correspond to the seasonal prices, and the seasonal prices

correspond to the seasonal supply. In the United Provinces this function is undertaken chiefly by the pacca arhatiyas through transactions known as *badni ka sauda*. At Hapur, Ghaziabad, Meerut, Muzaffarnagar, Deoband, Shamli, Secundrabad, Daukaur, Hathras, or Agra large dealings in futures take place and each market speculates in its chief produce. Thus wheat futures are dealt in the marts in Meerut district; wheat, cotton, barley and bajra chiefly in Hathras, and cotton, cotton seeds, gram and bajra at Agra. Such transactions take place chiefly in terms of khattis or sacks or again in terms of maunds or khandis (in the case of cotton). A very large percentage of these badni saudas is settled by dealing in differences, *i.e.*, the amount by which the value of the sauda rises or falls. Not merely is there no actual delivery of goods, but a very small amount paid as cover may suffice for a large transaction. There are different conventions in different markets relating to the time and methods of settlement, the charges the dealers have to incur as well as the percentage of the cover to the amount of the transactions. The Chambers of Commerce established in many of these markets are now endeavouring to regularise these conventions in the form of rules and bye-laws. All the merchants in the different markets have, however, not yet been enlisted and a good many transactions undertaken by non-members take place outside their jurisdiction. Members, as well as non-members, often indulge in unauthorised transactions such as 'taiji' ka sauda (put option), 'mandi' ka sauda (call option), and nazarana (double option). And their effects upon prices are often very different from those produced by the seasoned speculator who deals in future after a due consideration of the present stock, the tendency of demand and seasonal supply, and the town in the outside markets generally.

No doubt amateurish and rampant speculation, or deliberate tampering with the market by expert speculators, produce unnatural and undesirable fluctuations in grain prices; and the danger is aggravated when there is a convention, for instance, that the delivery of the future is

confined to a specified stock in the local market. All this certainly calls for some kind of legislation, specially in times of agricultural scarcity. For if the wheat markets of India are to expand and make their impress felt upon other wheat markets outside, these must be organised on a rational basis. Speculation is found in all big agricultural markets and has often called for regulation. Regulation is also necessary here in order that neither expert speculators who tamper, nor amateurish speculators who dabble under the influence of astrologers, may be able to exercise an unwholesome influence upon the movements of prices. Amateurish dabbling with the jute and cotton markets has been a craze in Calcutta and Bombay, and has brought some discredit upon the Indian mercantile community. In Calcutta the "futures" are called *baras*, and there are separate *baras* for jute, hessian, share, linseed and cotton. In most *baras* both the buyer and seller must rest content with paying or receiving differences, and the operations, which sometimes degenerate into gambling, are carried on at different times through different bodies such as the Bhitar-Bazar and Phatka market.[1]

In some cases we find exporting firms dumping agricultural produce to facilitate purchase at lower prices. Thus in Rae-Bareli, the charge levelled against the leading exporting firm is that it shatters prices with a travelling load of 10,000 maunds of grain, which is dumped in the area in which prices are steady, to lower them *ad lib*, and then, after effecting purchases, the prices are forced up again. The well-known evils of cornering and dumping are practised in a novel form.[2]

Practical defects of marketing.—Another field in which legislation seems to be essential is the elimination of various

[1] For wheat speculation see *Organisation of Wheat Trade in the U.P.*, by Tiryugi Prasad, one of my students, who undertook the investigation at my instance; for Calcutta see H. Sinha, "Marketing of Jute in Calcutta," *Indian Journal of Economics*, Vol. IX, part 3.

[2] Cornering in hay is mentioned in the *Jataka*, 1, 121. Kautilya, in his *Artha Sastra*, refers to traders who unite in causing rise and fall in the values of articles and live by making profits per cent in panas and kumbhas (measures of grain).

practical defects of marketing. Briefly speaking, these may be grouped under (*a*) the use of a variety of local or regional weights or measures; (*b*) levy of a variety of incidental charges and imposts; (*c*) false weighment; (*d*) settlement of prices in secrecy by tardy and astute bargaining; (*e*) absence of grading of produce.

(*a*) *Variety of Local Weights and Measures.*—The confusing variety of weights and measures in India has attracted the attention of the Government for some years. The Weights and Measures Committee recommended standardisation in 1913-14, but its recommendations have not been given effect to. Recently the Royal Agricultural Commission dealt with this matter. The Royal Agricultural Commission realised the obstructions to All-India legislation presented by the force of local trade custom and local tradition, which is probably more powerful in this than in almost any other respect, and recommended that the Government of India should again undertake an investigation of the subject and lay down general principles to which the Provincial Governments should adhere, so far as this is possible without undue interference with local trade customs.

All Provincial Governments should institute enquiries as regards weights and standards of measurement which are used in different areas for all kinds of grain transactions and payment in kind, with a view to introduce standard weights and measures. In many areas the weight used for rural transactions is different from that used in mandi and it is the cultivator who suffers. Thus in Benares district, for instance, the cultivator sells, in his village commodities, by a seer of Rs. 84 weight, while in the mandi the weight used is of a seer of Rs. 75. District boards, local boards, village *panchayats*, and municipalities may be required by legislation to provide standard weights as well as weighing facilities. All weighment would carry the seal of authority, and transactions in terms of any other weights would cease to carry legal recognition. In the Central Provinces a most valuable piece of legislation was passed in 1928 laying down units of weights and measures

and empowering the Provincial Government to secure standardisation by notifying areas for the purposes of this Act. There is already a tendency for local transactions carried on with local measures to approximate to some extent to the transactions of bigger markets in terms of their standard weights, and any action taken by the Provincial Governments, at this stage, in the matter will accelerate the change of local trade customs and do much to facilitate marketing.

(*b*) *Variety of Incidental Charges.*—A multiplicity of incidental marketing charges is also a serious and characteristic drawback. It is only in the bigger mandis that the arhatiyas levy uniform charges upon cultivators, and even here these would be different from the charges which the beoparis have to pay, for the simple reason that the beoparis visit the mandi oftener, and the arhatiya at the same time is more anxious to secure their custom. Further, the division of incidental charges for various items is also different in different arhats, leaving a good deal of uncertainty in the minds of the cultivators and beoparis, when they are confronted on their way to the mandi by the agents of several arhatiyas as to whose total charges will be the smallest. We have some interesting evidence as regards these charges both in organised and country markets. We here give a comparison of the charges per cent paid by sellers of wheat in the mandis at Lyallpur, Hapur, Ghaziabad, Hathras, Agra and Cawnpore on the one hand and a country market in Partabgarh District on the other.

(I) *Items.*	*Lyallpur*			*Ferozepur*		
	Rs.	As.	P.	Rs.	As.	P.
Commission	0	12	6	1	9	0
Weighment	0	3	9	0	10	0
Palladari (paid to the palladar who fills the seals and does other miscellaneous work)	0	3	9	0	0	0
Brokerage	0	1	3	0	0	0
Shagirdi (for Agent's apprentices)	0	1	3	0	0	0
Miscellaneous charges in kind	0	13	6	0	15	6
Dharmao (for religion)	0	1	3	0	2	0
Gaushala	0	0	3	0	0	0
Total	2	5	6	3	4	6

(II) *Hapur.*

Items.	Rs.	As.	P.
Weighment	1	4	0
Charity	0	10	0
Wages	0	2	6
Filling Charges	0	0	6
Bag allowances	0	3	0
Karda (dust, dirt, etc.)	0	5	0
Total	2	9	0

(III) *Ghaziabad.*

Items.	*Charges.*		
Octroi	0	8	0
Weighment	0	10	0
Charity	0	1	0
Extra Weight	0	10	0
Dane	0	10	0
Bag allowances	0	8	0
Karda	0	5	0
Total	4	3	0

(IV)

	Hathras			*Agra*			*Cawnpore*		
	Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
1. Octroi	0	9	0	1	5	0	0	8	0
2. Tulai	1	11	0	1	9	0	0	2	0
3. Palladari	1	4	0	1	4	0	0	0	0
4. Brokerage	0	5	0	0	5	0	0	5	3
5. Shah girdi	0	4	0	0	0	0	0	0	0
6. Goshala	0	1	0	0	0	0	0	1	3
7. Ramlila	0	0	0	0	0	3	0	0	0
8. Miscellaneous	0	1	0	0	0	6	0	0	0
	4	3	3	4	8	9[1]	1	0	6
9. Arath	0	10	0	0	10	0[2]	1	9	0

(V)

A country market in Partabgarh district.

Jhari for the Raja	6 chhataks in 3 maunds.
Weighman's charges	3 pies per rupee.
For weighment in kind	1 seer to 1½ seer in 4 maunds.
Dharamshala	2 Chhataks.
Piau	1 „
Sweeper	1 „

These charges for a load worth Rs. 100 come to Rs. 2/13/–

[1] Paid by seller. [2] Paid by the purchaser.

A further comparison of the incidental charges that a cultivator pays when he markets himself or through an

intermediary who disposes in his turn in a small country market or a larger local mandi will be of interest.

Marketing expenses for Rs. 100 *worth of wheat under different modes of disposal:—*

	Ghaziabad.			*Hapur.*		
	Rs.	As.	P.	Rs.	As.	P.
Cultivator himself . .	4	3	0	2	9	0
Through a village beopari .	7	11	0	5	1	0
Through a small mandi .	9	14	0	8	12	0
Through a village beopari who sells in lump in a small mandi	12	6	0	11	4	0

Middlemen's costs and margins (*Hapur*) *per Rs.* 100 *worth of grain.*

	Rs.	As.	P.
1. Wholesale in the larger market .	2	9	0
2. Wholesale in the country market	6	14	0
3. The village buyer (beopari or bania)	2	8	0
4. Transport charges from a village at a distance of 15 miles from the larger market	5	4	0
Total	17	3	0

Thus for the agricultural produce to reach from the field to the larger mandi marketing costs and margin will be, roughly, 20 per cent. For each maund of wheat (selling at Rs. 4/8/- in the larger mandi) 11 annas and 8 pies, or 16·6 per cent, represent the marketing cost and middleman's margin. For a distance of 10 to 15 miles transport charges are roughly Rs. 2/8/- per cart-load of 16 maunds in the wheat markets of the United Provinces. In the wheat markets of the Punjab the charges are 2·25 pies per maund per mile, or Rs. 1/14/- per cart-load.

Middlemen's and commission charges, as well as high transport costs and freight charges, are responsible for keeping village and central market prices far apart. These markets are mostly within a fifteen mile radius from the villages. In Bengal the transport charges are roughly Rs. 2/- for 15 miles per cart-load of 16 maunds of paddy. The other marketing charges are dhalta at the rate of $2\frac{1}{2}$ seers of paddy per load of 1 maund; aratdari 1 anna and iswarbritti for religious festivals, 3 pies per maund.

Rice mills charge a lower dhalta, 1½ seers per maund, and do not charge aratdari. The dhalta charges are as a rule paid by the cultivator to the pharia. The whole charge works out to 2½ annas per maund of paddy selling at Rs. 2/- or Rs. 7/13/- per cent. In the Punjab colony markets a 12 mile radius represents the limits within which agricultural produce flows easily to a market centre. Beyond this, difficulties of transport virtually compel the grower to sell his produce in his own village[1]. The Co-operative Commission shops charge from about Re. 1/- to Rs. 1/4/- per cent only. In the wholesale wheat markets in Northern India the average charges may be taken as Rs. 2/8/-. In Agra and Hathras, however, the marketing charges are about Rs. 4/8/-. Thus by co-operative marketing more than one-fourth of the charges could be saved.

(*c*) *False weighment and the cover system.*—Deception in weighing by the arhatiya's tola, on the one hand, and clever and ingenious adulteration by the beopari and the cultivator on the other are practised in some form or other, and in fact the purchaser and the seller try to outwit each other in a game that becomes unfair to both. Lastly, both the merchants as well as cultivators in the outlying areas know little about seasonal or day to day variations of the prices of different food-grains, and often depend upon their mother-wit in the settlement of prices. In many mandis the dalal, or broker who intervenes, uses secret signs to prevent the cultivator or beopari from following the course of a long-drawn-out astute bargaining.

(*d*) *Settlement of prices in secrecy.*—In many markets the market rate is settled by the brokers striking their bargains with the arhatiyas in secrecy, indicating their bids by taking the arhatiya's hand under a cloth and making hidden signs with their fingers. "The system of secret bidding," Darling observes, "works well enough so long as brokers go round in groups, for then the accepted bid is declared in the presence of all, but with a single broker there is the possibility of collusion between broker and agent." Auctions have, on

[1] *Report of the Punjab Provincial Banking Enquiry Committee*, pp. 198–207.

the whole, superior advantages to the cover system and are adopted in many markets. But sometimes the intending buyers do not come together and auctions may proceed simultaneously at different places in the same market. Sometimes, again, the arhatiya puts to auction simultaneously superior and inferior produce.

(*e*) *Absence of grading of produce.*—In most markets there is no attempt to grade the produce. In the busy season, when the markets are congested with produce, both arhatiyas and buyers do not differentiate one kind of grain from another, and in fact there is a tendency for buyers to pay a flat rate for good and bad quality alike. This has affected unfavourably the reputation of the Indian produce in foreign markets.

Regulated general markets.—All these are hardly in consonance with good marketing. In every Province it is desirable to establish regulated markets on the Berar model, which alone can cope with the various defects and drawbacks of present methods of marketing. In the Bombay Presidency the Bombay Cotton Markets Act, passed in 1927, established regulated cotton markets. Separate cotton or wheat markets are not suitable for the United Provinces, for instance, as in most of the present mandis trade in wheat, cotton, barley, sugar-cane, or oil-seeds is carried on. What are wanted in most Provinces are regulated general markets. As recommended by the Royal Agricultural Commission the initial expenditure on land and warehouses incurred in starting such regulated markets should be met from a loan from provincial revenues. If an act for the establishment and better regulation of markets were in operation complaints of the cultivators as regards incorrect weighment, disputes as regards the quality of the produce after prices are settled, and arhat charges would not be possible. Gradually public opinion would be educated and the advantages of such markets realised and the demand for them created. The market committee would consist of representatives of cultivators, landlords and traders, and officers of the Agricultural and Co-operative Department. It would arrange for

the sale of agricultural produce by open bidding with due regard to quality and purity, frame regulations for the control of middlemen, publish market practices, deal with cases of fraudulent weighment, unauthorised deduction or any other deception and thus ensure to the cultivator the benefits of better prices and accurate weights. The Royal Agricultural Commission have approved of this system and recommend its introduction in various parts of India. The details of management of these regulated markets have been fully discussed by the Royal Commission.

The Chambers of Commerce, already established in some of our bigger mandis, might also help a great deal in introducing standard weights and measures throughout the neighbourhood, regularising and publishing arhat charges and practices, punishing deception and grading the agricultural produce. Government might depute an agricultural expert or experts to these Chambers in order to do the grading work, which, more than any other thing, will contribute to the eminence and popularity of the mandis outside.

Co-operative marketing.—The regulated markets will seek to remedy, rather than prevent, the evils. Something more than regulation is necessary for the improvement of the marketing organisation of the Province. The line of improvement is clearly indicated by the introduction of co-operative marketing societies. In Bombay and Bengal a considerable number of co-operative sale societies have been at work, giving the benefit of good prices and their grading and weights to the cultivators.[1] In the Punjab 19 co-operative commission shops have also been selling the produce of the members. Throughout India the success of co-operative credit is jeopardised to a large extent by the absence of organised marketing. One co-operative agency might materially help another, and the sooner we recognise this the better. Thus the credit society may materially benefit from the sale society by having its own dues recovered directly through the latter, which also

[1] Recently co-operative marketing of sugar-cane has begun with great promise in Gorakhpur district, where a co-operative Marketing Board dealing with about 150 villages has been established at Kasia.

will receive the highest price of the produce and, in addition, may give a good premium to the cultivator. Where agriculture is largely based on subsistence, and the produce of undersized holdings relatively small, a co-operative sale society is an indispensable support to the credit society.

For the same reason the Irish model of the General Purposes Society seems here more suitable than a sale society dealing with one crop such as cotton or wheat. On the whole, it appears that a multiple sale society, dealing in all the crops of the cultivator, seems better adapted to our conditions. But such societies which sell produce in general are most likely to succeed in the form of sale unions. Experience alone can show whether in future legislation similar to that in some agricultural countries in Europe is necessary, compelling the peasants to deal with the co-operative sale society or making it illegal for produce to be transported which does not bear any certificate as regards weight, quality, and price.

Methods of storage.—But whether marketing is carried on in an organised manner through co-operative organisation, or whether each cultivator or middleman acts for himself, any improvement in marketing methods must await developments in methods of storage. At present the cultivator has little to store, and what he stores is meant for his subsistence, and not for sale. In fact, it is because agriculture is not based upon commerce that methods of storage in the country are so primitive. The cultivator stores grain in huge earthen cylinders, in pots and sacks, in mud houses under a covering of bhusa or on the second storey of his house, or underground in khattis or pits, which are found mainly in the western districts, where the water level is not high. Underground storage is risky, as white ants and fungi cause damage in spite of the fact that the pits are lined with straw. In the larger markets agricultural produce is stored in kothas and khattis and may be sold several times before they are finally emptied. The langot or parcha serves the purpose of the granary receipt of the West. Thus large advances are offered by shroffs and joint stock

banks against the produce held in the kothas and khattis till their contents are sold for consumption or export. The following figures give rough estimates of the total storage capacity available in different village mandis of the Punjab in 1931: Fazilka 500,000 maunds; Lyallpur and Ferozepur 400,000 maunds each. In Hapur the amount of wheat stored is about 800,000 maunds. The major portion of the produce comes into the market during the short period of three summer months when these are thronged with cultivators, middlemen, retail dealers, agents from exporting firms and from mills, as well as speculators.

Difficulties of improvement.—Improvement of storage methods is difficult, partly because of expense and the small quantity of grains which are stored, and partly for climatic reasons. In the market, too, grain is not stored for long. Even in the bigger mandis we hardly find wheat, for instance, stored in bags or stocked in khattis for more than eight months. Stocks are relatively low as compared with markets in the West, and though grain stored in khattis, kothas, and bank go-downs, is used as security for obtaining credit from banks and shroffs, this holds good only for the the bigger mandis. No doubt as our agriculture is gradually transformed and becomes based on sale, better storage will be found indispensable. Such storages or warehouses with stocks held over for quite a long period must be far better built than the present kothas or khattis, and their hypothecation to banks granting advances on their security will be much more common than at present.

Government and private warehouses.—Government initiative and assistance are necessary in the building of proper warehouses, which ought to be constructed at the more important mandis and railway stations. Warehousing should be conducted by the Government at important railway stations where there is already a large traffic in agricultural produce, while private licensed warehouses, independent of both buyer and seller and conducted on the lines of the American system, should also be established

in the mandis and at the outset given every possible assistance by the Government. A beginning could be made in selected places by the market committees themselves acting as warehouse-keepers, as some committees in Berar and in some places in Central Provinces have already constructed go-downs for the produce dealt with in their markets.[1]

Recent changes in marketing methods.—It is difficult to gauge the present tendencies in agricultural marketing and finance with reference to the services rendered by the various grades and kinds of intermediaries living wholly or partially on the agricultural income.[2] No doubt with better roads and modes of transport and improved organisation, there will be fewer middlemen than at present who would appropriate a portion of the meagre profits of small holders. Thus the arathiya will gradually supersede the village beopari, carrier or bania, and the shroff or the exporting firm will supersede the arathiya, or again, the cultivators themselves, by co-operative organisation, may abolish, as they are doing in some countries in the West, the entire chain of middlemen, village buyers, brokers, arathiyas, as well as the urban shroffs, who are now indispensable in agricultural marketing.

Some of these changes are going on under the exigencies of modern trade and finance, although they are more evident in the big trade and industrial centres than in the country towns and markets. Thus the solvent cultivators are to some extent bringing their crops to the market on their own carts, ponies or other conveyances or through hired camels, and in some cases, are looking to the arathiya rather than to the village beopari or moneylender for their finance if they need any. The development of co-operative marketing among cotton, cane and groundnut growers also eliminates superfluous intermediaries, reduces the

[1] *Report of the Central Provinces Banking Enquiry Committee*, p. 204.
[2] See my Introduction to B. Bhargavá: *Agricultural Marketing*, and the chapter on the "Report of the Provincial Banking Enquiry Committee, U.P.," to which I furnished materials as a member.

difference between village and market prices and enables the cultivators to retain a larger margin of profits.

In the same manner large buyers, who themselves are shippers overseas, are now developing a system of dealing direct with the cultivator, cutting out the middlemen. Their own representatives come into direct touch with the cultivators. Rice mills, sugar and groundnut factories are establishing themselves in the rural areas and also dealing directly with the agriculturists, offering fair prices to ensure the supply of their produce. Marketing charges are eliminated when the cultivators bring their produce straight to the mills, whilst higgling is also reduced. With the usurpation of the functions of the village mahajan and beopari by the arathiya, or by the co-operative sale society, the organisation of trade and finance will be simplified. Further, when the exporters are in touch with the actual growers a reduction of the excessive number of middlemen will be possible. Similarly, when the joint stock banks and co-operative societies lend money directly to grain-dealers against the security of the agricultural produce to an increasing extent, the business of the shroff and the bania as links between the bank and the grain-dealers and cultivators will be reduced.

It is doubtful whether such tendencies can dominate every part of the country to a large extent. In the present conditions of communications and transport in the countryside, the beopari is an indispensable link between the village and the grain market. The cultivators deal in small quantities; the grains are of diverse varieties; their sales are not regular and they do not know in what grade their produce falls. Both their isolation and preoccupation with the daily routine of their business prevent them from following market conditions, and, even if they have information about market prices, they do not know what their local prices should be. Further, the credit of a small cultivator is also small and precarious, and he must depend upon the village mahajan, a local man who knows his solvency, for the necessary capital to carry on his agricultural operations. The village mahajan and beopari are also small men,

who depend on borrowed capital, and look to the arathiya for their finance. Joint stock banks are still few in number, at all events in rural areas; whilst the co-operative movement, which is at present concerned with the primary function of organising credit, has on the whole helped the cultivator very little in the disposal of agricultural produce. Thus the chain of middlemen for years to come will be an essential feature in the rural economy—their principal function being the collection and distribution of produce and the adjustment of supply to demand from locality to locality and from season to season.

Yet the present system of marketing takes from consumers and cultivators, in costs and profits combined, altogether unreasonable margins or differences between cultivator and consumer prices. In many of the big markets there is an excessive number of middlemen which needlessly reduces the volume of business for each concern in retailing, processing, local assembling or other activity. Keen competition among them makes the grading of produce impossible. Also, on account of the lack of co-ordination among middlemen, the storing of products economically cannot be developed in a manner which may prevent violent seasonal fluctuations of prices.

Thus co-ordinated action, as a means of efficiently distributing agricultural produce, is extremely necessary. Without such co-ordination the seasonal and local fluctuations of prices will continue with their evil effects upon cultivators and consumers as well as middlemen.

The plan of such organisation may be visualised as follows: The present haphazard methods of marketing will gradually be superseded by organisation on the commodity basis. An integrated system of marketing, whether of the private exchange type or the co-operative federation type, can alone have the necessary supply and demand information as well as the adequate distributing connections which local middlemen cannot possess. Without these the problems of country-wide marketing cannot be adequately solved. Organisation alone can also make possible the existence of establishments like wheat elevators, cotton, jute, wool, hemp

and potato warehouses, fruit-packing plants, fruit-drying factories and dairies, which may be maintained locally to provide such services as assembling, grading, packing, processing, and to some extent storing and financing.

Marketing federations have developed in Denmark, New Zealand, Canada, the United States and other parts of the world, and a change in the machinery of marketing for agriculture in the directions of consolidation and co-ordination is also inevitable in our country. As agriculture becomes more commercialised it will be broken up into small parts on both the producing and the consuming side, and there will be seen for each marketing system local units, a central distributing exchange, and the volume of sale by districts or regions.

None of the important steps in the marketing process can be eliminated. But what may be done is the consolidation of middlemen or the telescoping of a series of private dealers, each of whom has been playing his part in the movement of agricultural produce to the consumer by a co-operative organisation. Meanwhile all old methods of marketing need not be condemned wholesale, but attempts should be made by practical adjustment and re-adjustment to assimilate these into the newer conditions of trade and finance.

CHAPTER XV

THE DEPRESSION

By S. N. Sen Gupta, M.A.

The World Crisis.—For the last six years, since September, 1929, the world has been suffering from one of the worst depressions ever recorded. No country has been spared, whether agricultural or industrial. Though since the beginning of 1934 there have been some signs of recovery in certain directions, it is still doubtful whether there will be a complete recovery in the course of the next few years. The crisis has rightly been interpreted as a challenge to the modern economic organisation, and it cannot be said that it has very creditably withstood it. It is possible that within our lifetime the organisation and distribution of production will have to be modified extensively in order that they may be better capable of withstanding crises like this.

In a sense, the present depression is a legacy of the War. The post-war boom following the War during 1920–24 was only superficial, and when reaction came it unfortunately coincided with the downward swing of a business cycle. The financial débacle of September, 1931, when Great Britain went off the Gold Standard with other countries following in its wake, the world already overburdened with restrictions, became divided into two currency areas, and the chance of an early recovery was destroyed. A further block in the way of recovery was created by the U.S.A. in February, 1934, when it suddenly devaluated the dollar. In an already unhealthy world, these financial confusions have only contributed towards the increase of suffering for the world as a whole.

India was drawn into the muddle mainly because of her position in the world as an exporter. America and many

European countries were financially ruined by the Wall Street crisis of 1929. India's exports to these countries were seriously affected, and hence the wholesale prices of her chief products were seriously reduced. At the same time, the prices of those commodities of which India is not the chief producer fell along with world prices. Prices of competing commodities also naturally fell in sympathy. In course of time the retail prices, and ultimately the harvest prices, were also affected to an equal extent. By an all-round fall in purchasing power, a vicious circle has been created and all the prices are simultaneously moving downwards in close company.

The Indian producer is not directly affected by world conditions because agriculture in India is not carried on as a commercial business. But no less than 70 per cent of the agriculturists are heavily indebted, and their creditors are the sowcars and mahajans who generally also carry on business as exporters or as importers' agents. These mahajans and sowcars are directly or indirectly sensitive to the influence of world factors on the export market, and when they are in want of money they have only to put pressure on their debtors, who in order to meet their obligations have to sell their produce at whatever price they can obtain. When we further note that very often these creditors are the sole purchasers of their produce, it is easy to see why harvest prices fall even more than wholesale prices. The agriculturist, with his weak bargaining power and poor resources, is all the world over the worst sufferer.

Whatever be the effects of the world depression which started in the autumn of 1929, it appears that the prices of the primary commodities had been slowly falling since the beginning of 1926, so that even if there were no crisis in 1929, it is likely that India would have suffered from a mild agricultural depression which would have been at its worst in 1930 or 1931. As it is, the world depression has aggravated the situation. But for it we should have been well on the way towards recovery by 1933, and, further, the fall in the prices would not have been so disastrous.

Statistics of Production.—Production is no measure of activity in the case of agriculture, especially in India where virtually the same area is cropped every year so that the production is practically independent of the price obtained.[1] In other countries agriculture shows the peculiarity that even with fall in prices farmers produce more in order to keep up their incomes. In India this is not possible, because, for want of capital and land, more cannot be produced. On the other hand the cultivator will not produce less so long as the price obtained is above the money cost of production for he is not concerned about the real cost. Restriction of production will in most cases mean monetary loss to the farmer. While acreage remains constant, so also does the yield per acre.[2]

[1] This refers to total production, and not to the production of particular crops, especially the commercial crops. In fact, it has been found that annual percentage variations in acreage (A) and in deflated Prices (P) are connected roughly, by the equations given below, with their respective correlation coefficient (r):—

Cotton:	$A = 1{\cdot}656 + 0{\cdot}261\,P$;	$r = +0{\cdot}6$
Linseed:	$A = 4{\cdot}2 + 0{\cdot}57\,P$;	$r = +0{\cdot}57$
Groundnut:	$A = 12{\cdot}2 + 0{\cdot}45\,P$;	$r = +0{\cdot}52$

Sinha and others, "Indian Cultivators' Response to Prices," *Sankhyā*, 1, 2 and 3, pp. 155–65.

The equations relate to the period 1900–29, in the case of cotton, 1900–28 in the case of linseed and 1901–25 in the case of groundnut. The form of the equation is not, according to the writer, satisfactory, as it might lead one to suppose that even if there is no change in price ($P = 0$), acreage would change considerably. For Jute, Guha Thakurta obtains the equation $A = {\cdot}11 - {\cdot}58\,P + {\cdot}93\,P^1$, where P^1 refers to percentage change in the old price index. The Multiple Correlation Coefficient, $R = 0{\cdot}83$. The period referred to is 1912–31. (*Indian Economist*, February 18, 1935). The objection pointed out above holds good here also. Such equations are to be interpreted as descriptions and not as casual relations. Hence, for example, any argument for and against restriction schemes should not be based, as has been done by some, on such an equation alone. *Cf.* Fisher, *Statistical Methods*, 3rd edit., p. 156.

[2] In spite of extensive crop-cutting experiments, the yield statistics in India are not reliable. The Government of Bihar and Orissa have decided not to publish the statistics until a more suitable technique can be adopted.

The low yield of Indian crops will be illustrated by the following figures taken from the *Statistical Year Book of the League of Nations*:

A *Quintals per hectare* (average 1921–25).

	Wheat		*Rice*
Egypt	17·7	Spain	58·7
Canada	11·3	Italy	42·0
U.S.A.	9·2	Japan	33·4
India	7·6	Argentine	23·7
		U.S.A.	19·5
		India	14·8

The following table gives the area under crops in British India during the years 1928–29 to 1931–32.[1]

Area under crops in British India (000 acres).

	Food-crops.	*Non-food crops.*	*Total.*
1928–29	200,269	51,189	251,458
1929–30	200,218	49,839	250,057
1930–31	202,706	48,067	250,773
1931–32	205,014	46,547	251,471

In the case of non-food crops there has been an appreciable fall in production but this has been more than made up by increase under food crops. The fall in the former case is due to the fact that our commercial crops are mainly consumed outside India, so that the area has decreased owing to diminution in foreign demand. At the same time, in the case of jute at least, the fall in price has been such that the price has become lower than even the money cost of production.[2]

In view of this constancy of production it is not possible to say whether there is any cycle in agricultural production in India. Even a cycle in agricultural prices, if there is one, cannot be clearly established, because the periodical revision of our currency system alone is enough to shroud the effects of any such cycle.

The tendency of the commodity prices to fall was noticeable as early as 1926 in other countries also.[3] As a matter of fact, during 1925–29, the production of cereals increased by 6 per cent, and of raw materials by 20 per cent, and were it not for the cheap credit policy of the Federal Reserve Board and for the valorisation schemes, the downward movement of prices would have begun earlier. The depression has become so acute because of the reaction. In 1929

[1] Though this article is being written in June, 1935, later figures are not available in India. Apparently Government does not think it necessary that statistics should be published before people lose interest in them.

[2] *Bengal Jute Enquiry Committee Report.*

[3] Fall in wholesale prices (1925–9):
Canada 7 per cent.
U.S.A. 7·5 per cent.
U.K. (1924–9) 13 per cent.
India (1924–9) 16 per cent. In the U.K. the deflationary policy was partly responsible for the fall.

the stocks became too heavy[1], and the rise in the rate of interest was followed naturally by a dislocation of the entire produce market. India has suffered because the supply is inelastic while the demand is not so. Some commodities are principally produced for export[2] and the world depression affected the prices of these commodities first.

General Index Number of Wholesale Prices.—It is not possible to point to a particular month to show the start of the depression. The individual commodity prices were falling

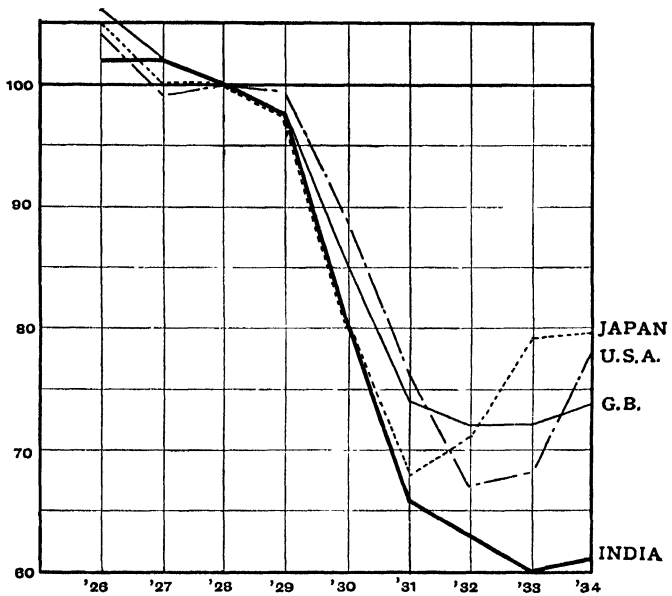


CHART 1

Index Number of wholesale prices (Calcutta) 1928 = 100

NOTE: Fall of prices since 1926

Indian Index moves exactly as the Japanese till 1931. The effect of depreciation of Yen and Sterling clear after 1931. So also is the effect of the New Deal in U.S.A. after 1932. India has suffered much more than other countries. Since 1931 the movement in Indian Index is roughly parallel G.B. index

[1] World Stocks:

	Wheat	*Sugar*	*Cotton* (m. bales)
(Million quintals) 1925	114	37	5635
1929	233	57	7234

[2] Proportion of total production exported:

Cotton (1927–28	70·5	Linseed (1929)	67·0
Raw Jute (1927–28)	34·9	Groundnut (1929)	26·0
Burma Rice (1933)	34·0		

since 1926. Secondly, prices fall not merely as a result of actual changes in supply and demand conditions but also in anticipation of such changes. Thirdly, it is not possible to ignore the seasonal factor. For this reason we have used only annual figures.

The index numbers of wholesale prices (1928 = 100) Japan, U.S.A., U.K., (G.B.,) and India have been plotted in chart. Up to 1931, the Indian index is almost identical with the Japanese index, after which, due to the linking of the rupee with sterling, it has been moving more or less parallel to the U.K. (G.B.,) index. The effects of the depreciation of the yen (since 1931) and of the New Deal in America (since 1932) are clearly shown in the chart. Up to 1931, all the indices show parallel movements. Thus from the effects of the depression on wholesale prices we may conclude that the intensity of the depression in our own country is mainly, if not solely, due to external causes.

Prices of raw materials and manufactured products.—The agriculturist is, however, very little concerned with the index number of wholesale prices as a whole. He is more concerned with the prices of what he purchases with his products. Hence an index number of raw materials and another of manufactured products would be necessary, for it is principally manufactured products which the agriculturist obtains in exchange for raw materials. The ratio between the two will show us the barter terms of exchange between agricultural and manufactured products and also the relative incidence of the depression on producers of raw materials and of manufactured goods. In India we have no such indices but three indices have been constructed by *us*, from the available sources,[1] namely,

(1) Index number of prices of raw materials,

(2) Index number of prices of raw jute and cotton,

(3) Index number of prices of manufactured jute and cotton.

The index numbers on the basis 1928–29 = 100, are as follows[2]:—

[1] From the series published in the *Indian Trade Journal.*

[2] See Chart 4.

	1929–30	1930–1	1931–2	1932–3	1933–4	1934–5
(1)	96	74	56	53	50	52
(2)	92	60	49	49	44	42
(3)	99	77	68	66	44	65

The ratio of (1) to (3) gives us the barter terms referred to above. For comparison, we have the ratios between the index numbers of the price level of farm products to that of other products in U.S.A.[1]

Thus we get the barter terms (1928 = 100):

	1929–30	1930–1	1931–2	1932–3	1933–4	1934–5
India	91	78	72	74	69	65
U.S.A.	100	90	75	59	64	..

It appears, therefore, that compared with the U.S.A. the Indian agriculturist, so far as his share in the manufactured products is concerned, was in a worse position up to 1931 and was relatively worse hit by the depression than his American brother. Since then the depreciation of the rupee in India has prevented the ratio from falling further, while in the U.S.A. the effects of the New Deal are apparent.

India's export trade.—India's export trade principally consists of raw products so that the course of her exports provides an index of great importance to the study of the incidence of depression on the agriculturist. The variation in the value of India's exports ultimately means the variation in the purchasing power in the hands of the agriculturist, though the extents of the two may be different. At the same time, the variation in the volume of her exports means a variation in the available supply of raw materials which may seriously affect their prices. There is no index of the physical volume or quantum of exports. It is not difficult to construct one, and a rough index may be obtained by dividing the aggregate value of our exports by the index number of prices of exported commodities.[2]

During a depression, the trade in raw materials is much less affected than that in manufactured products. Because of this, India's foreign trade has suffered much less than

[1] See Chart 4 (p. 343).

[2] We have used the mean of the two successive December indices for the general index.

that of the world as a whole, both as to volume and value. Thus, though the prices of our primary commodities have moved in a line with the world prices, our country has suffered less as a whole than the manufacturing countries.

Value of international trade (1929 = 100)

	World[1]			India		
	Imports	*Exports*	*Total*	*Imports*	*Exports*	*Total*
1930	82	80	81	69	71	70
1931	59	57	58	53	50	51
1932	39	39	39	55	43	48
1933	35	35	35	48	47	48
1934	..	..	..	55	48	51

Quantum of export trade (1929 = 100)

	India	*U.S.*	*U.K.*
1930	85	83	82
1931	80	68	63
1932	75	53	63
1933	85	53	64

A fall of 15 to 20 per cent in the volume of our export trade is, as will be more fully shown later, enough to produce a crisis in our commodity market.

The relatively superior position of India as regards export trade, especially after 1931, is no doubt due, to a large extent, to the linking of the rupee with sterling. Since 1932, a new factor has entered, namely the Ottawa Agreement. But so far as we can judge, there is no evidence that the Agreement has operated to our benefit. It is no doubt difficult to disentangle the separate effects due to the Agreement, because there are signs of general improvement in the situation since 1933 and it is not possible to say how far the improvement which can be noticed is due to general factors and how far it is due to the Ottawa Pact.

Statistics relating to Prices.—Where production is carried on at a more or less uniform level, except with regard to commercial crops such as jute or cotton, the only direct measure of the incidence of depression is price statistics. The more direct measure, namely variation in the purchasing power in the hand of the agriculturists, will be, except to the

[1] Principal countries.

extent of his consumption, proportional to the prices obtained for his products.

We have to distinguish between three types of price statistics: the wholesale prices, the retail prices and the harvest prices.[1] It is with the last that the agriculturist is directly concerned. In a well-organised commodity market these three prices are more or less inter-related, especially where competition is free and there is no restriction on movement of crops. Unfortunately, in India no such close relationship can be discovered. This may be due to two causes. The market is not well organised and competition is not free. The available Government statistics at the same time, except those relating to wholesale prices, are not very reliable. Data for such statistics are rather carelessly collected and in most cases no attention seems to be paid to uniformity of quality. For these reasons we have not used the harvest prices in what follows.

Wholesale and Retail Prices in India.—In the following table are given the wholesale prices in Calcutta of cereals, pulses, oil-seeds, raw jute and raw cotton. They have been compiled from the *Indian Trade Journal* and are given as indices, the base year being 1928.

Indices of wholesale prices (Calcutta)[2]
(1928 = 100)

	Cereals	*Pulses*	*Oil-seeds*	*Other food articles*	*Raw Jute*	*Raw Cotton*
1926	105	95	94	105	120	88
1927	105	99	100	107	93	100
1928	100	100	100	100	100	100
1929	94	97	109	103	95	88
1930	75	76	90	88	63	55
1931	59	57	58	71	49	50
1932	51	59	54	64	45	55
1933	50	55	51	58	41	48
1934	52	55	66	63	40	44

[1] Harvest prices are given in the *Agricultural Statistics of British India*. The local variation is so great that any generalisation on the basis of these prices is not possible. Retail prices of food crops are given in the *Indian Trade Journal*. As to the reliability of these statistics, *cf.* the *Bowley-Robertson Report*, pp. 43–48.

[2] Chart 2 (p. 336).

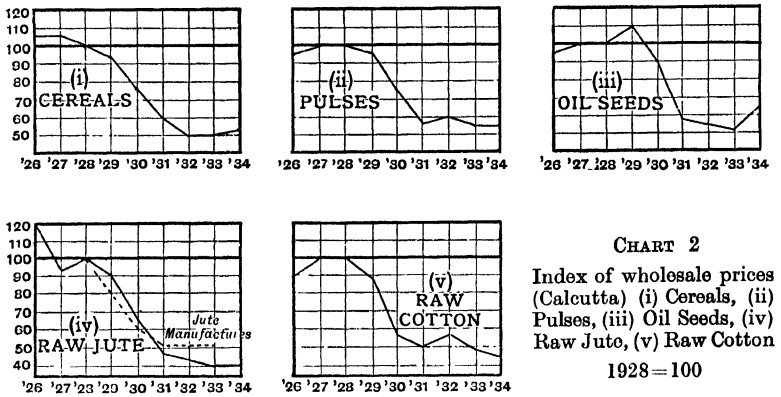


CHART 2

Index of wholesale prices (Calcutta) (i) Cereals, (ii) Pulses, (iii) Oil Seeds, (iv) Raw Jute, (v) Raw Cotton

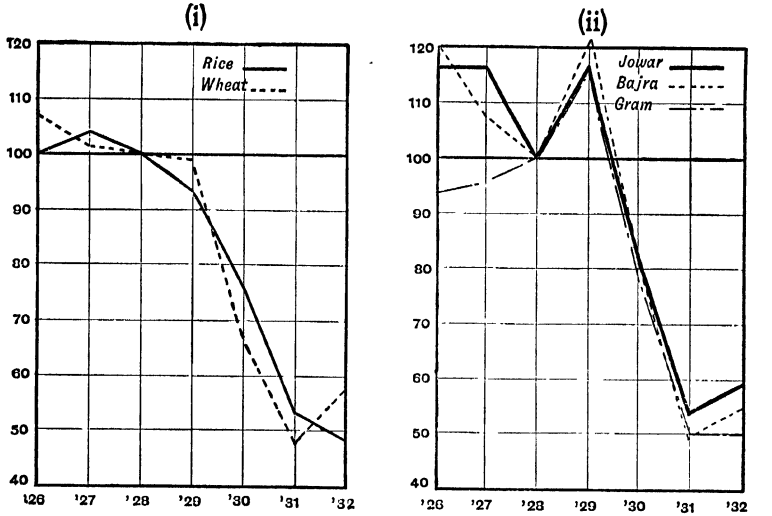
1928 = 100

It will be seen that in the case of cereals and oil-seeds the prices began to decline as early as 1927. "Other food articles" show a similar fall except for a temporary rise in 1929. Raw cotton fell from 1927. The case of raw jute is also the same, except that there was a sudden decline in 1927, which, as we shall find, was due to a record crop in that year. In every case, therefore, we notice a general tendency of the prices to fall much earlier than 1929, though it was from that year that the fall was precipitous.

The same conclusion is obtained when we examine the retail prices.[1] The prices of wheat, *bajra* and *jowar* have been falling since 1926, with the exception that during 1929 the prices of *bajra* and *jowar* suddenly shot up, probably owing to local causes. The price of rice, too, has been falling since 1927. Only gram prices began to fall from 1930. In the case of retail prices, it must be noted that the variation from market to market is considerable. We have used the index numbers given in the *Statistical Abstract* after converting it to the base 1928 = 100. The original indices refer to 1873 as the base year.

The provincial averages of the retail prices of food-grains were compiled from the official figures. The results are given in Chart 3B. Except during 1931–32 the provincial prices of rice moved in harmony. The price of wheat rose in 1932 in the United Provinces, Central Provinces and the

[1] Charts 3A and 3B (pp. 337, 338).



The rise in price of wheat after 1931 is due to the tariff

The rise in price since 1931 is due to the tariff on wheat. Note the irregular movement before 1929

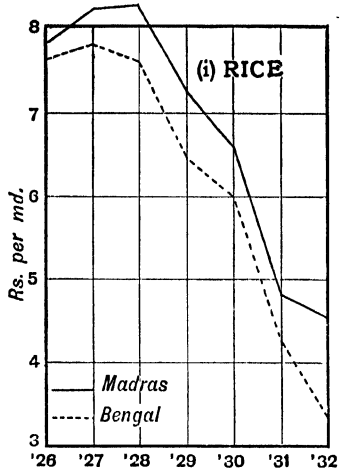
CHART 3A

Index number of retail prices (1928 = 100) (i) Rice, wheat, (ii) Jowar, bajra, gram

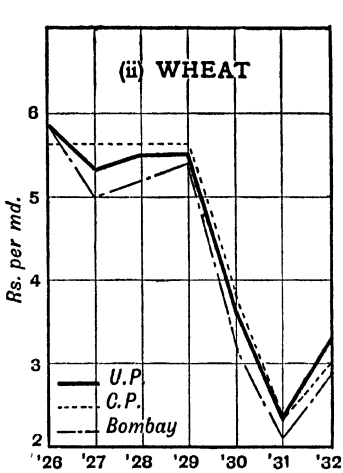
Punjab, and the movements have been very similar in all the three Provinces since 1932. The rise in 1932 may be due to the import tariff. The prices of *jowar* and *bajra* in the different Provinces before 1929 moved so differently that we may perhaps conclude that their markets are more or less local. As between the different Provinces the price has differed by as much as Rs. 2 per *maund*.

As I remarked before, the harvest prices, as given in the *Agricultural Statistics for British India*, cannot be depended upon. At any rate, we have failed to deduce from them any general tendency whatsoever.

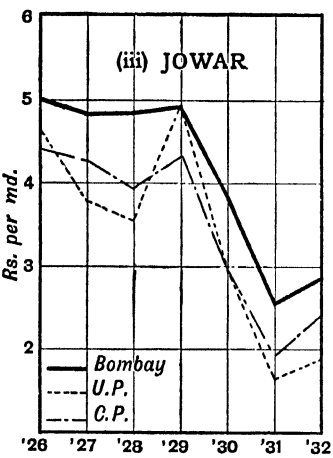
The contention that a mild agricultural depression set in as early as 1927 is thus amply borne out by official statistics, imperfect as they are. That depression was, however, not peculiar to our country but was world-wide in character. The origin of the crisis of 1929 may be traced at least partially to the prevailing agricultural malaise, which is no doubt responsible to a great extent for the terrible suffering that has followed.



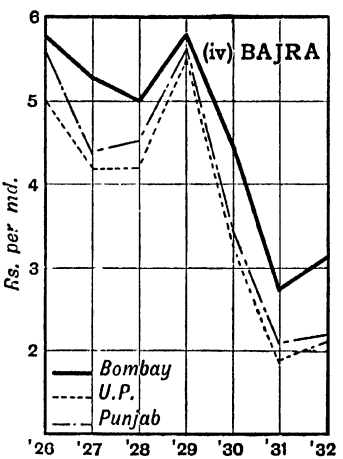
Price in Bihar and Bengal are almost identical, especially since 1928



The rise since 1931 is probably due to the tariff



The irregular movement before 1929 shows that the crop commands only local markets. The rise since 1931 must be due to the rise in the price of wheat.



Note the similarity of movement to that of wheat and jowar prices. The local character of markets is brought out by the separation of the lines.

CHART 3B

Retail price of food grains. (i) Rice, (ii) wheat, (iii) jowar, (iv) bajra

In the following sections I have discussed the extent of this suffering on the basis of some statistics relating to the general economic position of Indian cultivators.

Agricultural income and purchasing power.—An estimate of the fall in the value of agricultural production has been given in the *Review of Trade* for the more important Provinces. To estimate the fall in the purchasing power of the agricultural community we have to make allowance for the proportion of the food crops consumed by the community. As regards the fall in the value[1] of agricultural production, we get the following estimate:—

	Value 1928–29 *Rs. crores*	*Percentage fall between* 1928–29 *and* 1932–33
Madras . .	180·78	45·2
Bombay .	120·52	30·5
Bengal .	232·59	61·5
U.P. . .	140·52	35·3
Punjab .	76·78	36·7
C.P. . .	68·77	48·5

An attempt was made to deduce the proportion of food crops retained for consumption by the agriculturist. Assuming that the number of persons dependent on each earner is constant, that half of the agricultural labourers are paid in kind and that the amount of food crops consumed per head is the same, the purchasing power of the agricultural community was obtained as follows on the basis of the proportion of population directly dependent on agriculture:[2]

	Purchasing power 1928–29 *Rs. crores.*	*Percentage fall between* 1928–29 and 1932–33
Bengal .	146·9	61·2
Bombay .	94·8	30·7
C.P. . .	49·6	51·5
Madras .	131·4	44·7
Punjab .	50·1	34·8
U.P. . .	77·3	31·7
British India	550·1	44·5

[1] Average yield per acreage harvest price.

[2] Proportion of population directly depending on agriculture:

Bengal	49·6	Madras	40·0
Bombay	35·3	Punjab	44·0
C.P.	40·0	U.P.	57·8
British India	50·2		

That is, we arrived at the same proportionate fall as before. This is due to the peculiar relations existing between the proportion of food crops to non-food crops and the price-level of food crops to that of non-food crops.

From the above tables, it appears that Bengal is by far the worst sufferer among the Provinces.

Arrears of land revenue.—Other statistics showing the incidence of the depression are those relating to the proportion of land revenue in arrears. Only estates directly under the Government have been considered, in order to avoid complications.

(1) *Percentage of arrears to current demand.*

	1926–7	1927–8	1928–9	1929–30	1930–1	1931–2	1932–3
Punjab (Fixed land revenues)	4·9	6·6	12·2	21·8	41·5	35·0	23·8

(2) *Percentage of current collection to current demand.*

	Bengal (Govt. Khas mahals)	*Bengal ('Wards', attached and trust estates)*	*Bihar and Orissa*	*Central Provinces*
1926–7	85·4	63·3	89·3	72·5
1927–8	82·4	51·2	86·0	69·2
1928–9	82·4	51·4	88·1	59·4
1929–30	71·1	51·4	87·7	62·4
1930–1	47·5	53·3	78·3	58·5
1931–2	38·9	47·6	73·3	49·3
1932–3	31·2	45·2	68·5	38·0
1933–4	27·2	41·3	61·5	..

In the Punjab, the ratio has been rising since 1930–31. A portion of the rise is, however, due to remissions. The second table shows the unequal incidence in the different Provinces. The sudden fall in 1930–31 in Bengal and the very low collection in 1933–34 are to be noticed. There seems to have been no improvement whatsoever in recent years. Bihar and Orissa is comparatively better off but the fall in the Central Provinces has also been very rapid since 1931–32. It is interesting to note that "'Wards' and other estates" consistently show a better state of affairs than the purely "Khas" estates since 1930–31.

Debt statistics of the primary agricultural co-operative Societies.—We shall now consider the debt statistics of the

primary agricultural co-operative societies. We should remember that these relate to the more well-to-do section of the agricultural population. Again, as regards loan policy the Provinces do not appear to work on the same principles. Thirdly, the Provinces have not all responded equally to the co-operative movement. The number of societies, their members as well as working capital per member, vary very widely from Province to Province. The relevant statistics will be found in the *Co-operative Movement in British India*. We shall here deal with the proportion of loan overdue to total loan due to individuals. We have, however, to remember that as the annual loan made has been drastically reduced since the depression, the increase in the ratio of loan overdue does not sufficiently represent the acuteness of the situation. As regards debt per head, we must note that a reduction of this does not necessarily mean reduction of distress, because in the first place the reduction is mainly due to contraction of loan facilities and, secondly, the burden of debt is not represented absolutely by the amount of debt.

How far annual loan has been reduced in the various Provinces will appear from the following table which gives the annual loan in 1932–33 as percentage of that in 1928–29.

Madras	36·6	Bihar and Orissa	40·8	C.P.	50·0
Bombay	39·3	U.P.	47·5	British	
Bengal	23·0	Punjab	35·0	India	33·1

The proportion of loan overdue to loan due will give us a fair idea as to the dangerous plight of the co-operative societies in British India. It will be seen that the situation in Bengal is particularly serious, in spite of Government assurance to the contrary. It will also be seen that even in 1928–29 the situation was not at all sound.

	Proportion of loan overdue	
	1928–29	1932–33
Madras . .	26·6	59·0
Bombay . .	31·3	49·1
Bengal . .	34·4	80·8
B. & O. . .	11·5	58·5
U.P. . . .	37·8	68·8
Punjab . .	6·5	6·2
C.P. . . .	35·4	74·6
British India .	24·0	46·6

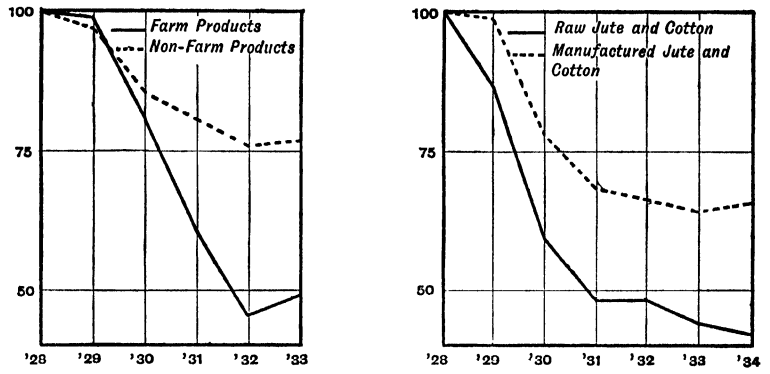
The loan per member has in some cases become less in 1932–33 than it was in 1928–29, due to rationing of loans or for want of security, but when we take account of change in the purchasing power of money, it appears that the burden of loan has increased by a considerable amount. Even then we do not get a correct impression of the burden unless we consider the debt in relation to the income or surplus left. As it is the figures are enough to show how dangerously the agriculturist is burdened with debt. The ordinary agriculturist is far worse off, as we shall find presently. The agricultural labourers will have little or no debt, yet it is probably these who are suffering most often from actual starvation.

	Loan per member.			
	Loan in 1928–29	*Loan in* 1932–33	*do corrected for change in the purchasing power of money*	*do. as p.c. of loan in* 1928–29
	(Rs.)	(Rs.)	(Rs.)	
Madras .	80	71·5	117	146
Bombay .	94	116	190	202
Bengal .	71	82·5	135	190
Bihar and Orissa	86	77	126	147
U.P. . .	65	64·5	105·5	162
Punjab .	129	121	198	153
C.P. . .	231	240	394	171
British India	97	97	159	164

The high figure for Central Provinces and the percentage rise for Bombay are noteworthy.

Course of Commodity Prices.—We now proceed to consider the statistical position of our chief commercial crops, namely cotton, jute and oilseeds. In case of cotton, the principal factors affecting the price are (1) the world supply; (2) the price of American cotton; and (3) the purchase of cotton by Japan. Production of cotton in India and consumption by Indian mills are factors of comparatively minor importance. Jute being a monopoly crop, the principal factors affecting its price are production and consumption by Indian and foreign mills. The last factor evidently is a function of foreign demand for jute manufactures which is in itself a matter of considerable complexity. More proximately, the harvest

price of jute will be found to be very closely associated with the stock-in-hand at the Indian mills. In the case of oilseeds we have to take into account the production in the alternative sources, especially in the Argentine, and also general industrial conditions in Europe where the oilseeds are mainly consumed.



(i) Prices of farm and non-farm products

U.S.A.

(ii) Prices of raw and manufactured jute and cotton

INDIA

CHART 4

(*a*) **Cotton.**—India exports rather more than half of the raw cotton she produces. The price of cotton, however, is determined in the world market, where the American supply is the most important factor. As a matter of fact, it may be stated as a general rule that the price of Indian cotton is determined principally with reference to that of U.S.A. supply[1] so that the fortune of thousands of cotton growers in India is bound up with that of American producers and speculators. But over and above these the domestic causes have to be considered as well. Thus in 1928–29 the fall in the price of Indian cotton was due both to a comparatively large crop and also to a fall in the consumption of Indian mills, resulting from one of the worst cotton mills strikes in India. During the next year American cotton deteriorated in quality, and owing to the stock exchange crisis the price of American cotton fell disastrously. Indian cotton price fell in sympathy and would have fallen further were it not

[1] See, for instance, Guha Thakurta in the *Indian Economist*.

for the fact that on account of the inferior quality of American cotton, Indian cotton supplanted it in some foreign markets. In 1930–31 America had a record crop and the price fell[1] to such a low level that American prices became less than Indian, with the result that during that year and the next two years, India's export of cotton fell, her cotton market was dislocated and what is peculiar, India actually imported a large quantity of American cotton.[2] The comparatively high price of Indian cotton during this period was due to short crop, small stock and the tariff imposed on cotton goods. In 1933–34, India's export increased though the price did not improve. This was due to the restriction scheme introduced in America under the New Deal, which strengthened the price of American cotton to the advantage of Indian cotton in foreign markets. Our exports would have been much greater had it not been for the Japanese boycott (called off in January, 1934). In 1934–35 our exports have increased further mainly due to increased purchases by Japan[3] and Lancashire.[4]

It will thus appear that the price of Indian cotton is mainly influenced by the price and production of American cotton. So long as we principally produce for export this is inevitable, since compared with India, the U.S.A. is much more important as a producer of cotton.

[1] Price per quintal:

	New Orleans.	*Broach*
Dec. 1930	110	92
,, 1931	70	73
,, 1932	67	72

During these years the accumulated stock of American cotton was also very heavy as compared with previous years:

Stock of American cotton (000 *bales*).

1929	4919
1930	6889
1931	9264
1932	13229
1933	11814

[2] *World Production and Prices*, p. 33.

	Rs. lakhs.
1930–31	83
1931–32	223·6
1932–33	384·6

[3] *Cf.* the Indo-Japanese Trade Agreement.

[4] This is directly the effect of the Mody-Lees pact.

The statistical position of Indian cotton may be easily seen from the following tables (see also Chart 5):—

	Production (000 *bales*)[1]			*Export* (*India*) (000 *bales*) [1]
	India	*U.S.A.*	*Egypt*	
1928–29	5720	14478	1943	3712
1929–30	5234	14828	2113	4070
1930–31	5224	13932	2001	3926
1931–32	4025	17096	1574	2369
1932–33	4656	13002	1227	2063
1933–34	4940	13047	2123	2740[2]

Indian Export (Rs. 000)

	U.K.	*Japan*
1930–31	30,007	209,931
1931–32	15,395	110,466
1932–33	16,085	111,231
1933–34	33,730	105,253
1934–35	34,182	210,830

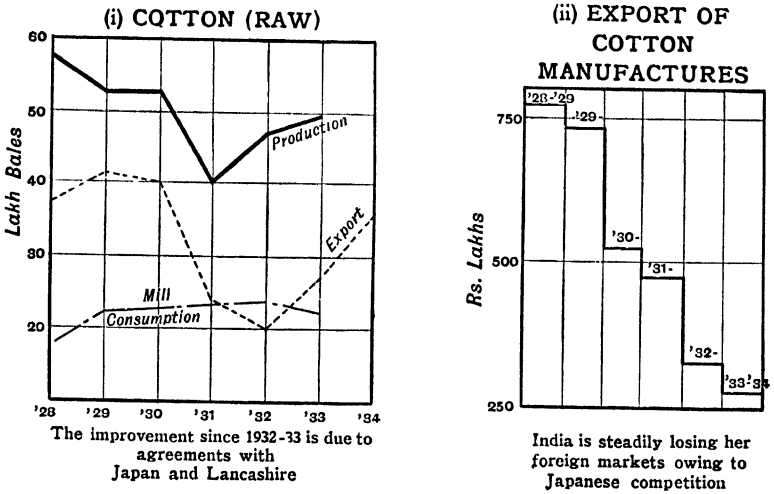


CHART 5

Statistical position of Indian cotton.

(*b*) **Jute.**—The prosperity of Bengal depends almost entirely on the prosperity of her jute growers. No less than 13 per cent of the total cultivated area of Bengal is under jute. In some areas of East Bengal many farmers grow jute alone, purchasing their food from others. For this reason

[1] Bale = 400 lb. in India and = 500 lb. in U.S.A.
[2] 1934–35: 3456 thousand bales.

the price of paddy in the interior often moves parallel to the price of jute. The cost of production of jute has been variously estimated but it is agreed that the present price of jute is decidedly even below its cost of production.[1] Still, it is not surprising as to why jute continues to be grown, even at a loss. The want of a substitute is no doubt a reason. If rice were sown instead, it is possible that the price of rice would fall to an uneconomic level. The cultivator produces jute mainly for the benefit of his creditor or an aratdar from whom he has taken advance. So long as the cash outlay is lower than the market price the cultivator will produce anything which will bring him a cash income. This he needs not only to make his domestic purchases but also to meet his inelastic debt charges.

The only reliable statistics relating to jute are those published by the Indian Jute Mills Association.[2] It is well known that the Government forecast cannot be depended upon for accuracy. As a matter of fact the forecasted production is often found to be consistently lower than even the actual consumption as given in the I.J.M.A. Report.

The following table gives the statistics on which the ensuing paragraphs are based (see also Chart 6):

(100,000 Bales)

	Govt. Forecast	*Mill purchase*	*Export*	*Total consumption*[3]
	(1)	(2)	(3)	(4)
1926–27	108·9	74·4	44·5	123·9
1927–28	102·3	61·6	44·9	111·5
1928–29	99·2	55·6	44·3	104·8
1929–30	97·7	59·6	44·5	109·1
1930–31	112·3	62·3	34·3	101·5
1931–32	55·7	30·0	30·5	65·6
1932–33	71·0	47·3	35·7	88·0

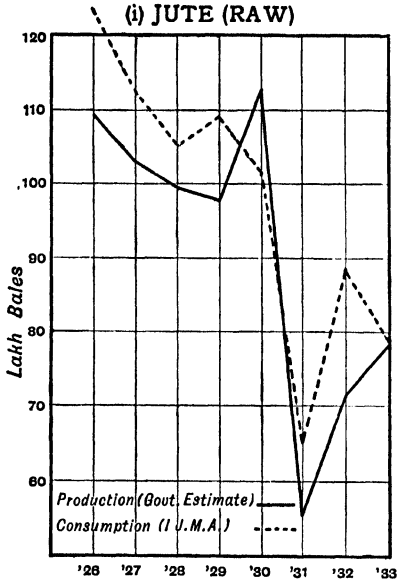
Of our total production,[4] roughly 40 per cent is exported, the percentage being 43 during 1933–34. The rest is almost wholly consumed by the local mills.

[1] See *Jute Enquiry Committee Report*, special note by the Hon. Mr. Azizul Huque.

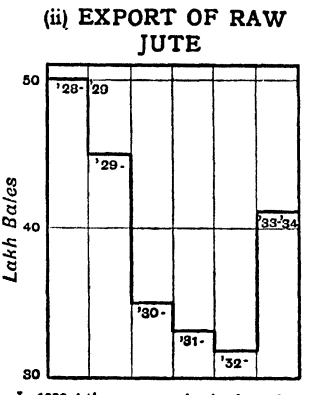
[2] Statistics given in the *Jute Enquiry Committee Report* and in the *Review of Trade* are not always consistent.

[3] (4) = (2) + (3) + 500,000 bales estimated as internal consumption.

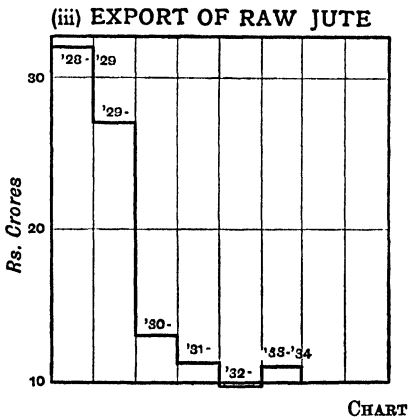
[4] Which is taken here to be roughly equal to the total consumption in column 4.



The Government estimate is so inaccurate that it is even lower than the amount consumed



In 1933-4 there was a rise in the volume of exports but no appreciable rise in value, thus showing that the price obtained fell considerably



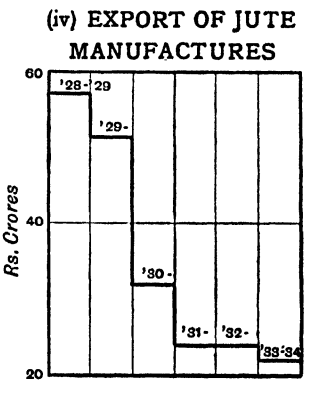


CHART 6

(i) Production of raw jute (Government estimate): Consumption (Indian Jute Mills Association): (ii, iii) export of raw jute: (iv) export of jute manufactures

We have no information as to the stock in hand of foreign manufacturers. As regards stock in the hand of Indian mills, a rough estimate may be made on the basis of that in 1925–26 when the mills carried about six months' consumption, *i.e.*,

about 27 lakh bales. The variation of this amount year by year is easily obtained by adding to it the difference between mill purchase and consumption. On this basis we obtain the following figures (lakh bales):

1926–27	27–28	28–29	29–30	30–31	31–32	32–33
48	53	50	47	65	53	58

The official forecast of the yield is usually lower than the actual by about 10 to 15 per cent. An addition of 11 lakh bales to the Government forecast will give us a yield reasonably close to the actual, except for 1930–31, for which year the Government figure seems to be particularly inaccurate. The forecast for 1933–34, however, has been found to be quite accurate, as judged by this standard.

The harvest price for 1932 was about 40 per cent of the 1928 price, whereas the average export price of manufactures, obtained by dividing the total value of export by the quantity exported, fell by 50 per cent. The difference is clearly due to the weak bargaining power of the producer.

On the whole the price of raw jute reflected the supply and demand conditions. A record crop in 1926 was followed by a sudden drop in price in June which continued until July. During the next year for two months the price rose, due to an unexpected foreign demand, but relapsed as the supply was still excessive and the stock was heavy. In 1928 the output declined, due to short crop propaganda by the Congress and unfavourable weather conditions. From April, 1929, however, the price began to fall, a contributory cause being depression in the sugar and grain trade, but the decline became more marked from September when the world crisis began to be felt. In 1930–31 a bumper crop and a record stock were followed by a further fall in price, which the short crop of 1931–32 could not improve. The stock has now declined considerably but unless the production decreases we cannot expect any improvement in the prices. Recently the Government of Bengal has started a propaganda for voluntary restriction—following the Majority Report of the Jute Enquiry Committee.

(*c*) **Oil-seeds, wheat, rice and other food grains.**—As regards oil-seeds, due to the export of a large proportion of the production (especially of linseed and groundnut), world conditions have affected their prices very greatly. The year 1929–30 was a prosperous year for India because the Argentine crop failed. Since then West African competition and cheap supply from the Argentine have almost ruined our foreign market. Recently the export of linseed has revived due to the Ottawa Preference, this being the only case in which the benefit of the Ottawa Pact is undisputed.

Before 1925 India was an exporter of wheat. From 1928 India imported wheat[1] on a considerable scale, until a duty of Rs. 40 per ton was levied on imported wheat from March, 1931. It is therefore easily seen that the price of wheat in India closely follows the price of wheat in the world market. The fall in price here has been as sharp as

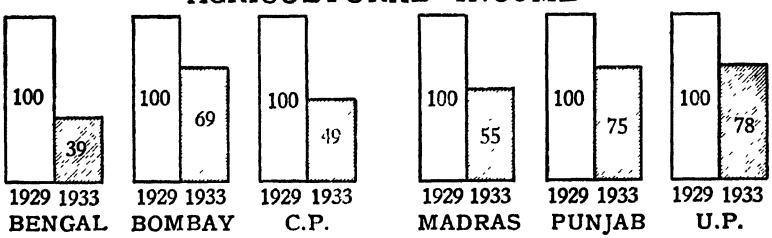


CHART 7
Fall in agricultural income

elsewhere and the effect of huge accumulation of stocks is as much felt here as in Manitoba. Since 1932 we have been virtually cut off from the world wheat market and as a consequence the Indian price is at a comparatively higher level than Canadian or Australian prices.

The price of rice has been falling since 1927. This is also due to external circumstances. The main reasons are competition from Siam and Indo-China and cessation of exports

[1] In spite of the bumper crop in 1930–31, wheat was imported as Australian wheat was cheaper at the ports, due to high railway freight in India. Recently the railway rates to Karachi and Calcutta have been reduced at the intercession of the Government.

to Japan and China. We have also lost our Philippine market, while American, Italian and Spanish rice is ousting our product from Central Europe. Even now cheap Siam rice is finding a ready market at Chittagong. Other reasons are the substitution of rice by low-priced wheat, and the gradual diminution of purchasing power due to fall in the price of linseed, cotton and jute.

The decline in the price of other food grains hardly needs to be explained. It is enough to state that the fall is in sympathy with rice and wheat prices. That a considerable substitution takes place at the margin will perhaps be undisputed. The sporadic rise in the prices of Bajra and Jowar in 1929–30 must have been due to local causes. Since then the fall in the prices of these two are parallel to that in the price of wheat, as will be seen from the Chart 3b, p. 338.[1]

Adjustments in agriculture, trade and credit.—We have thus shown that our agricultural prices have been falling steadily since 1927. This may be due to general over-production (*e.g.*, wheat, cotton) and accumulation of stock (jute) or to foreign competition which again might be due to local over-production (rice) or to economic nationalism. If we take a longer view it will appear that the break in prices has been due to the unhealthy boom that followed the War. The effect of the boom was superficial and merely served to hide the instability of the present economic structure. Speculation in the commodity market kept up the prices and when the bubble burst the entire price structure broke down with consequences known to everybody. In every country, including our own, the agriculturists have been the worst sufferers. Their income has dwindled but not their expenditure in the same pro-

[1] From Sinha's Equation relating to wheat prices in the U.P. we may get an idea as to the extent to which the price of wheat is affected by a change in the price of other crops and vice versa. His equation is $p = 0{\cdot}824 - 0{\cdot}217x + 0{\cdot}83p$, which shows that a fall of 1 per cent in the price of "other crops" is associated with a fall of 1·19 per cent in the price of wheat. We say "associated" and not "caused by" for reasons referred to in *Sankhyá*, I, 2 and 3, p. 169. In the following equation,

p = percentage change in price of wheat.
x = do. in production of wheat.
p^1 = do. in price level of other crops.

portion. They contracted fresh debts when and so long as there were people to lend to them. With the fall in prices, however, the only security they can offer, *viz.*, land, has fallen in value, and unless the creditor has his eye on the holding, money-lending has ceased to be a profitable business.

The preceding sections are, we believe, enough to show the serious plight to which our agricultural community has been reduced as a result of the world-wide depression. We have shown that, statistically, the situation was bad enough even in 1926. The world crisis has over-taxed the

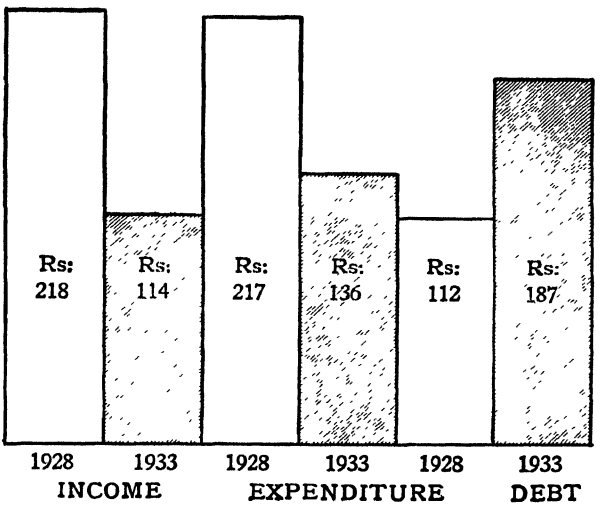


CHART 8

Income, expenditure and debt per family.
Bengal Economic Enquiry
(Khas Cash-Paying Tenants)

endurance of India's agricultural organisation. We have shown that with regard to our chief commercial crops, prices are determined more or less by our rivals in production. The capture of foreign markets by our competitors and the policy of economic nationalism have both contributed to our distress. So long as we have to produce for export we must either produce cheaper than others or perish. As yet we see no hope that we shall be able

in the near future to outrun others in productive efficiency.

The Indian producer is thus faced with many difficult problems, some solution of which must be found sooner or later.

As regards food grains, we produce or can still produce all we require, and, as in the case of wheat so also in the case of rice, the only way to escape from the effects of over-production elsewhere is to impose heavy duties on imports or to cut ourselves off from the world market in some other manner. or restriction of crop.

Our commercial crops are chiefly grown for export. Hence it is necessary not only to forecast correctly the demand for our products, especially in the foreign markets, but also, if necessary, to adjust our production in order that the price may not sag, due to Indian factors. If any restrictions be decided upon, we must find out suitable substitute crops which the agriculturist may profitably grow. This is no easy task, because in India most agricultural produce is grown in abundance and the increased production of a crop may, instead of helping the grower, ruin him altogether. Clearly, therefore, we need an efficient body of economists to study foreign demands for our staple products, a central authority to control our foreign trade and an able body of administrators to persuade producers to adjust production to a suitable level and to grow substitute crops where necessary.

Coming to the consideration of foreign markets, it appears that a scheme of preferential duties alone is not likely to go far in a world in which every country is, as a producer, the rival of every other country. While the quota system ensures a minimum demand, preferential duties ensure practically nothing so long as costs of production are not uniform. It appears, therefore, that a system of quotas combined with preferential duties is preferable to a system of preferential duties alone. This may be the main reason why the Ottawa Agreement has not been to our advantage, while both the Indo-Japanese Agreement and the Mody-Lees Pact have substantially helped our cotton growers. A jute pact on similar lines may not be inappropriate at this moment.

As regards the prices of the exportable articles, we know that here the trend is determined in the world market and all we can do is to ensure that Indian factors are so adjusted as to operate against any tendency for the prices to fall.

The other problems that await solution are those relating to the organisation of rural credit. We may point out at the outset that a continued success of any scheme of rural credit organisation is ultimately bound up with the increased prosperity of the agricultural community. In this sense the problem is secondary to the assurance of markets for our products.

As regards the provision of future credit, a separate department of the Reserve Bank has been created to deal with the problem, but unless the prices of our products increase, no credit organisation will be able to operate efficiently for a long time. From this point of view even the much extolled Co-operative Movement cannot be said to have any great inherent strength of its own.

CHAPTER XVI

THE PROBLEM OF PROTECTION

By H. L. Dey, M.A., D.Sc.

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Claims of protection in comparison with those of other aids to economic progress.—The problem of protection is primarily a part of the general economic problem. And the economic problem for any society arises from the fact that while its ends are many and various, the time and the means at its disposal are limited. The essence of the economic problem for a society, therefore, consists in finding out which, among the several alternative uses to which the time and the means at its disposal can be put, will be the most economical or least wasteful way of achieving some given ends.[1] If this view is accepted, then, clearly, our task on the present occasion will be to find answers to four related questions: First, what are the ends of economic policy in India? Second, what are the means at the disposal of the people of India for the realisation of those given ends? Third, which will be the most economical among the possible alternative methods of employing these means to realise the given ends? And fourth, what is the place of protection among these alternative methods?

Now the means at our disposal are a limited amount of time, say, 10, 20, 30 or 40 years, and a limited amount of labour and enterprise and of material resources such as land and capital. That is to say that the means at our disposal to achieve the given ends are a limited part of our present National Income and Capital, which can be and

[1] *Cf.* L. Robbins, *The Nature and Significance of Economic Science*, Ch. I.

will have to be put to many groups of alternative or competitive uses of different degrees of urgency, such as defence, administration, education, public health, economic development, etc. Therefore, if we are to have a rational basis for our economic policy, it should consist largely in the choice of a series of ends in order of urgency and a corresponding series of means in order of economy or inexpensiveness. In the present state of our knowledge, it is unfortunately not possible to measure the relative urgency of ends or the relative economy of means in exact quantitative terms, such as is done in the theory of value with the aid of the apparatus of demand schedules and supply schedules. Nevertheless, some useful indication of the relationship between urgent ends and scarce means can be given by citing a few relevant and significant facts. First of all, we have to remember the limitation of our present national income which, on the basis of an average *per capita* income of Rs. 50 to Rs. 75 per annum, can be approximately put at between Rs. 17·50 crores and Rs. 26·25 crores. Some further idea of the depth of poverty may be gathered from the fact that the average *per capita* taxation in 1926–29 was Rs. 4 in India as against Rs. 200 in the United Kingdom. In consequence of this low *per capita* taxation (which may be taken as an index of low taxable capacity), India occupies a distressingly low place in the scale of education, public health and all other things which constitute both means and ends of economic progress. In 1931, the percentage of literacy among persons aged five and over was 9·5, 15·6 among males and 2·9 among females. It therefore follows that if India is to achieve the same degree of economic efficiency (not to say cultural progress) as the great nations of the world, her expenditure on national education must be increased to a very considerable extent in order to impart literacy to the entire population. In 1931 the total expenditure on education in India from all sources was Rs. 28·31 crores, and expenditure per head of the population was one-tenth of one rupee or less than twopence. The spread of literacy among the entire population and its improvement to a modest standard

of effectiveness must, therefore, involve an increase of expenditure to double or even treble the present figure.

Let us now take the state of public health. It need hardly be emphasised that there is a close connection between public health and economic efficiency. "A low standard of health, and the prevalence of epidemic diseases, accompanied by a high death-rate, necessarily entail heavy expenditure upon the birth, rearing and support of many individuals who are eventually cut off by preventable diseases and illness before, or soon after, they have attained an age at which they can contribute to the income of the community, and on the support of the sick, permanently disabled or prematurely aged."[1] In the same connection we may also quote the estimate of loss given by the All-India Conference of Medical Research Workers in 1926. According to this body of experts, the number of deaths resulting from preventable diseases is five to six millions, the number of working days lost by each person is a fortnight to three weeks, the wastage of efficiency about 50 per cent, and the economic loss several hundreds of crores of rupees every year. It is, therefore, clear that any expenditure on the improvement of public health, by restricting waste and enhancing productivity, will increase the wealth and taxable capacity of the people, and will thus be financially remunerative in the highest degree. But the present scale of expenditure on medical aid and public health in the different Provinces is exceedingly low, ranging from 2·32 annas to 7·87 annas (2 to 7 pence) per head per annum.[2] Consequently, we must considerably increase the scale of expenditure on medical aid and public health before we can expect to rear up a healthy and efficient working population, which is itself one of the most essential factors of economic development.

If we turn to a consideration of the present state of agriculture and its potentialities, the same urgency of vast improvements involving a large expenditure becomes apparent. In 1931, the total number of actual workers in

[1] Anstey, *The Economic Development of India*, 2nd Edition, p. 66.
[2] *Simon Commission's Report*, Vol. II, p. 233.

India was 154 millions, of which 102 millions, or 66 per cent were engaged in agriculture and only 1·4 millions or ·9 per cent in factories. Even on the most optimistic supposition that we could so accelerate the pace of industrial development as to double our manufacturing production in ten years, the total number of factory workers could thereby be raised only to 2 per cent of the aggregate working population. It therefore follows that agriculture is and must long remain the most overwhelmingly dominant industry of India. But it is well known that this most important industry of India suffers at the present day from an exceedingly low productivity, absence of cheap financial facilities, and lack of efficient and up-to-date marketing organisation. It is equally well known that the productivity and profitableness of Indian agriculture can be very considerably increased by systematically applying the results of scientific research to the different aspects of the problem of production and marketing, which, again, is ultimately a question of elaborate and expensive national organisation. But the case for devoting a large part of the national income towards the scientific development of agriculture rests also on two other additional important grounds. First, agriculture throughout the whole world has been passing through a great crisis due to the technological improvements of the last four or five decades, and consequently, the agricultural industry of each country has to struggle hard to survive the keen international competition that has been called into existence. Secondly, it is only a flourishing agricultural industry, enlarging the income of about 70 per cent of the population of the country, that can furnish the solid basis of a large, secure and expansive market for the products of our factories.

By exactly the same process of reasoning, a strong case can also be made out for a simultaneous development of banking and transport facilities.

To be sure, India is a country of limited present income but very large potential wealth. To realise these immense potentialities of national wealth and income, many complementary factors must be developed side by side. The most

important among these complementary factors of economic progress are education, public health, agriculture, transport and banking, as well as industrial development. Again, the leeway to be made up in each of these departments is so great that, for many years to come, each would call for a large expenditure of the national income. Moreover, it is important to bear in mind that none of the factors can claim intrinsic superiority over the others in point of wealth-creating capacity. Each must be regarded as co-equal and co-ordinate with the others as a contributory factor to the enrichment of the national character, growth of capital resources, enlargement of the sources of public revenues, and achievements of military power. There is a deep-rooted notion owing its origin to the nationalist writers of the nineteenth century that all these attributes are the exclusive virtues of industrial development and that, therefore, no cost should be regarded as too great for a rapid and many-sided industrial development. But, if the chain of arguments developed in these pages is sound, then this notion must be regarded as altogether superficial and misleading. It is, therefore, clear that there should be a judicious distribution of that part of the national income which can reasonably be devoted to developmental purposes. Each of the complementary factors of economic progress must receive a share of the national income commensurate with its size and qualitative importance.[1] And since this national income is an absolutely low one at present, the *per capita* income in many cases being insufficient to ensure even a tolerable existence, the outlay on the development of each of these factors must necessarily be small for the time being.[2] If, on the other hand, through the ignorance or deliberate neglect of the considerations urged in the foregoing paragraphs, a disproportionately large part of the national income is spent on a policy of indiscriminate and all-round protection in order to achieve a recklessly rapid industrial development, the country will be committing the great blunder of

[1] See Dey, *The Indian Tariff Problem*, pp. 26–29.

[2] People who, as in India, are living in a state of under-consumption cannot very much be expected to sacrifice the present for the future, because there is hardly any margin of present income to be so sacrificed.

attempting to become wealthy through extravagant wastage of its limited resources.

Advantages of protection offset by disadvantages from fresh taxation and retrenchment.—The conflict that is involved in a policy of protection may also be viewed as a conflict between industrial development on the one hand and a rising standard of living on the other. Just as industrial development on sound lines, by ultimately increasing the national dividend, can contribute towards a rise in the standard of living, exactly in the same way rationalisation of agriculture, spread of education, and organisation of medical aid and public health services can assist in improving the standard of living in the truest sense of the term. A great improvement in the standard of living is the end, and all these are the means. It therefore follows that if, in the pursuit of industrial development by means of protective duties, we impose an unduly heavy sacrifice on the consumers and neglect the development of all other means for the increase of wealth and welfare, we should be running the risk of sacrificing the end for the means. Hence, it is essential to see that a proper balance and harmony is established between the claim of protection on one side and that of such other complementary policies as are calculated to improve the standard of living on the other.

And finally, one other allied problem which arises in a system of protective duties is that of making drastic readjustments in the domain of taxation. It is a commonplace that, for a while, protective duties are also revenue duties. But when they begin to be effective in stimulating the expansion of domestic output, correspondingly reducing the importation of foreign goods, the revenue from customs duties begins to fall off. On the other hand, while the protected industries are growing into adultness, there is a transitional period during which other sources of revenue such as the taxes on income, stamps, consumption, etc., have not become sufficiently productive so as to make up the loss due to the shrinkage of the customs revenues. Consequently, there emerges the problem of restoring

budgetary equilibrium either by cutting down expenditure or by increasing the pressure of taxation on the existing sources, or by tapping new sources, or by a combination of all these methods. The problem becomes all the more acute in a period of depression, because, on the one hand, a depression accelerates the growth of the protective system both in extent and height; on the other, it creates a tendency to the shrinkage or at any rate to the stationariness of the yield of revenue from other sources such as consumption taxes, income tax, and land revenue. And this is what has happened in India in the recent period of unstable equilibrium in its finances (1931–35). Thus, for example, the revenues from the protective duties on sugar have dwindled from Rs. 10·79 crores in 1930–31 to Rs. 4·72 crores in 1933–34, cotton piece-goods from Rs. 5·84 crores in 1929–30 to Rs. 4·72 crores in 1933–34, steel from Rs. 3·25 crores in 1927–28 to Rs. 0·85 crore in 1933–34, and matches from Rs. 1·54 crores in 1922–23 to Rs. 0·29 crore in 1933–34. While these high protective duties were producing smaller and smaller revenues, the yield of other taxes either showed a decline or at best a stationariness. Thus, for instance, in the period 1928–34 the yield of land revenue remained stagnant at Rs. 33 crores, income tax at Rs. 17 crores, excise revenues dropped off from Rs. 20·41 crores to Rs. 15·31 crores, and stamps from Rs. 13·73 crores to Rs. 12·65 crores.

In these circumstances, the Government of India have endeavoured to make up the loss of customs revenue due to the shrinkage in the volume of imports by levying additional revenue duties on the imports and countervailing excise duties on the domestic production as, for example, in the cases of steel, sugar, and matches. And, in view of the growing expenditure of the Government, it is likely that for many years to come this will remain the usual method of making up the loss of revenue consequent on the increasing effectiveness of protection.

The most common method of protecting the industries of a country is to levy duties on the competing imports. When such duties are levied, the effect almost invariably

is to raise the price of the imports and that of the corresponding products of the protected indigenous industries by the full, or nearly by the full, extent of the duties.[1] But while the consumers' payment of the additional price for imports goes as customs revenue to the coffers of the Government, the corresponding payment of the additional price for indigenous products remains with the producers. The effect, therefore, is, as it were, to tax the consumers of the indigenous products in order to pay the amount so realised as a bounty to the producers of the protected goods. It thus follows that, whatever else may or may not be the effects of protective duties, their effect as taxes can never be denied or escaped. It is only because this effect is produced in an indirect and obscure way that protective duties, unlike other taxes, are not generally opposed by the common citizen. Had this aspect of protective duties been made clear to him through the necessary instruction, as had been done in England, for instance, during the period 1860–1930, he would beyond doubt have become critical of them.

Balance of gain to producers and loss to the consumers.— Some idea of the burden of protective duties on the consumers and of the corresponding gain to the producers will be realised if we consider a few concrete cases. Let us take the case of the protective duties on cotton piece-goods in the years 1930–31 and 1931–32, when the general rate of duty was 20 per cent and 25 per cent respectively. To avoid complications, let us ignore the 25 per cent surcharge on the general rates during the period October, 1931, to March, 1932. Then, with certain legitimate assumptions, it is estimated that the burden of these duties amounted

[1] There are only two possible cases where the import duty may not raise the price: First, when the duty-levying country is such that some of its products are indispensable to the foreigner and that it is the only market for the foreigner's products. In this case the duty falls on the foreigner and the domestic price does not rise. Second, when the import duty is ineffective in the sense that the domestic prices are lower than the prices of the imports even without the duty, because the domestic producer is more efficient than the foreign producer. But these exceptions are merely formal; they rarely, if ever, occur in real life.

to Rs. 25·35 crores per annum, out of which the share of the mill-owners' gain amounted to Rs. 14·3 crores, that of the hand-loom weavers Rs. 7·35 crores, and the customs revenue of the Government Rs. 3·7 crores.[1] Further, the mill-owners' share was equivalent to over 83 per cent of the entire Income-tax revenue, or 183 per cent of the Salt-tax revenue, or 50 per cent of the aggregate educational expenditure of India (1930–31). In relation to the capital resources of the country, it may be pointed out that this mill-owners' gain was equal to 56 per cent of the aggregate paid-up capital of all the registered joint-stock banks and loan companies, and worked out to 36 per cent of the aggregate paid-up capital of all the cotton mills of British India and Indian States.[2]

The corresponding estimate of the gain of producers at the expense of the consumers entailed by the import duty on sugar in 1933–34 is estimated at Rs. 8·95 crores. (The surcharge is included in this case.)

Incidentally, it should be noted that this great burden has been imposed at a time when the ryot cannot sell his crops or can sell them at an extremely unremunerative price; when the landlord, unable to collect his rent and pay his land revenue, is having his estates sold up by auction; when the moneylender cannot realise his interest or principal and cannot make his ends meet; when the professional classes and the middle-class youths are suffering from acute unemployment; and when many of the Provincial Governments cannot collect sufficient revenue to maintain the budgetary equilibrium. Thus, a burden which might perhaps be permitted in a normal period has become positively intolerable in the period of the worst economic depression recorded in modern history.

It is thus clear that protective duties via higher prices effect a transfer of wealth from the consumers to the producers. And since the majority of the consumers are poor and the producers as a rule are rich, and since a rupee has

[1] For the method of estimating, see Dey, *The Indian Tariff Problem*, pp. 83–90.

[2] For the figures, see the *Statistical Abstract for British India*, Eleventh Issue, and the *Indian Year-Book*, 1933.

a greater marginal utility for the poor man than for the rich man,[1] protective duties serve to aggravate the existing inequalities of wealth in the community and thus to lead away from the point of aggregate maximum satisfaction.

Effects on the real income of the nation.—Protective duties are also responsible for reducing the size of the National Dividend, because, by encouraging some industries and discouraging others, they interfere with the free movement of land, labour, capital and enterprise and thus lead away from the most advantageous employment of the factors of production. Of course, if and when the protective duties have become completely successful and new industries endowed with comparative advantages have been enabled to grow and become independent of protection, the size of the National Dividend is likely to become greater than what it is now or was before the introduction of protection. But as long as the duties are in effective existence, it continues to be smaller than it would have been in the absence of such duties.

There are certain misconceptions on this subject which, due to the persistence of false propaganda, have become so deep-rooted in the popular mind that over 150 years of the teaching of political economy have failed to dispel them. Thus, to take a recent example, Sir T. Vijayaraghavachari, then Vice-President of the Imperial Council of Agricultural Research in India, addressing the Deccan Agriculturists' Association at Poona on the 8th of August, 1935, stated that the stimulus of protective duties had increased the production of sugar in India to 600,000 tons, and that this meant that the sum of Rs. 12·5 crores as the price of sugar had been retained in the country instead of going abroad.[2] Evidently, the idea he wanted to convey to the public in this instance was that the protection of the sugar industry had served to increase the National Income by Rs. 12·5 crores, and that, therefore, protection had been amply justified. But it is one of the established principles

[1] As Professor Lionel Robbins rightly points out, this is not a deduction from the Laws of Economics but a convention or maxim of social reconstruction. See Robbins, *op. cit.*, pp. 120–26.

[2] As reported in the *Statesman*, Calcutta, August 10, 1935.

of economics, known to the students of our undergraduate classes, that exports pay for imports and that ultimately the payments owed abroad by a country are equal to the payments owing to it from abroad. It, therefore, follows that if we reduce the purchase of sugar from Java, she, too, in her turn, must reduce the purchase of gunny bags and rice from us. Further, if our action has reduced the production of sugar in Java, she must have utilised the land, labour, capital and organising ability released thereby in the production of more rice, tea, coffee, etc., which compete with our products in neutral markets. In this way, both by analysis and statistical data, it can be abundantly proved that the process by which the Indian people are said to have been able to save the sum of Rs. 12·5 crores on the imports of sugar must also have been the process by which the producers of rice, of jute and gunny bags, and of tea and coffee have lost at least an equivalent amount directly or indirectly. If it is true that this sum has been distributed among the cultivators of sugar-cane, the owners, workers and supervisors of sugar factories, and various transport agencies, it is equally true that the cultivators, supervisors, merchants, factory owners and transport agencies, who had been employed in the export trade which has thus been destroyed, have lost an equivalent amount of money. Nay more. Since the industries and trades that have now been displaced were presumably more profitable than the newly created industries and trades under the régime of protection, it is quite probable that the country has given up the more productive lines and adopted the less productive ones. Therefore, for the duration of protection at any rate, the real income of the nation is smaller than it would have been in the absence of protection.[1]

Effects on the distribution of wealth.—But, apart from this arbitrary and often unfair redistribution of the national income, protection creates other evils of an equally serious

[1] This case has been selected for the purpose of exposition, because it is a typical case. It shows how great untruths can often be passed as wonderful truths among the uninstructed and gullible public.

nature. The industries that are protected or are stimulated by protection acquire a sort of vested interest—an established right, as it were, to a disproportionate share of the national income at the expense of all the other industries and trades that are not so protected. As the tariff history of every country in the world shows, once the Government has granted this privilege of protection to a group of industries, which are thereby enabled to attract new capital, labour and enterprise, it becomes almost impossible to withdraw it, because any attempt to do so would be resisted, first, on the plea of breach of faith in that the investors had been led to invest their capital in these industries in the expectation of continued protection, and secondly, by all the resources of propaganda and political log-rolling. And since a protective tariff is the easiest legalised means of causing a vast transfer of wealth from the rest of the community to the owners and organisers of protected industries, the tremendous power of self-interest urges them to employ all the devices of publicity to mould mass opinion and to exploit all the technique of political management to influence legislation in favour of protection. Consequently, whatever the theory of protection may be, in practice it becomes the privilege of those who are already financially strong. Tariffs thus become a standing temptation to political corruption.[1]

Danger of protected industries organising political pressure.—Secondly, tariffs have a tendency to create trusts and cartels. This tendency is specially noticeable in the case of those industries where the economies of mass production are particularly great. Because production, to be economical, has to be organised on a gigantic scale, the entire business tends to be concentrated in a few large units. When external

[1] See Sir Arthur Salter's article on "Economic Nationalism" in *Foreign Affairs*, October, 1932. "Whatever the loss involved to the community as a whole by a new tariff, it usually carries a substantial advantage for the particular industry protected. The industry organises pressure because it finds that pays. Collectively, members of a representative assembly are judge; individually they become advocates. Log-rolling is the consequence, and the national tariff that emerges is not an expression of national policy, wise or foolish, but the sum of competitive or corruptly concerted pressures."

competition is shut out by means of high tariffs, it becomes easy and even tempting for the few business houses to cartellise or combine in some form or other. Sometimes the situation becomes such that one single firm succeeds in acquiring a dominant position over the entire market by cajoling or bullying or even forcing the few rival units to yield or amalgamate. And the position thus secured gives the opportunity to earn enormous profits by exacting a high price in the domestic market effectively sheltered by tariffs against foreign competition. Such was the case, for example, with the steel, sugar-refining and copper-mining industries of the United States of America.[1] It is interesting to note that the tendency to price discrimination, which is one of the characteristics of monopolies, has also been recently seen to be at work with the Indian iron and steel industry.[2] Thus it comes about that protective tariffs, which are introduced avowedly as a means of saving the weak and struggling industries from the disastrous effects of foreign competition, end by becoming the instrument of exploitation of the consumers by the producers of the protected goods, which in the majority of cases turns out to be the exploitation of the poorer by the richer sections of the community.[3]

Case for discriminating protection : its principles and technique. —We have seen that protection as a method of industrial development is an expensive method. While it lasts it reduces the size of the national dividend and aggravates the inequalities of wealth in the community by transferring income from the consumers to the producers, which in substance is the same thing as transferring wealth from the poorer to the richer sections. Its essence consists in com-

[1] See A. Taussig, *Some Aspects of the Tariff Question*, Chs. VII, IX and XII.

[2] See the *Report of the Tariff Board on the Iron and Steel Industry*, 1934, pp. 138–44.

[3] Read the article on "Free Trade—its Moral Advantages," by Oswald Garrison Villard, in the *Nation* (New York), September, 1931. As the writer forcibly puts it: "Create great and protected vested interests and they have you by the throat. You suddenly find that they are your master and not you theirs. That has been the story of Germany and the U.S.A. and all other protected countries."

pelling the consumers to buy dearer where they had been free to buy cheaper, in order artificially to stimulate the growth of certain industries and discourage that of others. The ground on which this redistribution of the national dividend for the time being may be permitted, and the sacrifice of purchasing power by the consumers for the sake of the producers may be justified, is that the industries so encouraged, though unable to develop unaided on account of strong foreign competition, contain in themselves the potentialities of such a vast increase in wealth, that the loss sustained by the consumers through higher prices will be more than compensated later on, when these industries have grown strong and vigorous. And the compensation will be received in the shape of lower prices for those very commodities which the public are having to buy at higher prices now. But this is not the point. The real point of protection is that the post-protection prices of these protected indigenous commodities should even be lower than those of the competing foreign goods, so that the sacrifices made by the consumers now, by having to buy comparatively dearer indigenous goods, will be amply compensated by their being able in future to buy those very indigenous goods comparatively cheaper.

This is the best part of the theory of protection that has been developed during the last hundred years. This is the famous "infant industries argument." But theory is one thing, its practice is quite another. Competent judges like Marshall and Taussig have shown how protection in practice diverges widely from theory and how it ends by becoming an instrument of exploitation of the consumers by a few strong and well organised producers. Hence, in order that a policy of protection may be so executed as to serve its true purpose of increasing the national dividend and improving the standard of living in the long run, it is essential to adopt some appropriate guiding principles and administrative technique. India is entitled to the credit of being the first country in the world to attempt this novel and exceedingly difficult task of enunciating certain principles and devising an elaborate technique, which are collectively

called "discriminating protection." In spite of certain shortcomings to be noted later on, it may be claimed with fairness that these principles and technique constitute the best practicable method of giving effect to the theory of protection. Hence, it would be useful to give here a brief account of the system of discriminating protection as practised in India.

A small Tariff Board is an integral part of the system. It consists of an official with administrative experience, an economist and a non-official. All the three members are appointed by the Government of India at their discretion, as a rule from year to year. In special cases, *e.g.*, in the case of the cotton textile industry enquiries of 1926 and 1935, *ad hoc* Tariff Boards are appointed. Any industry which is a candidate for protection must, in the first instance, submit its case to the Government of India. If the Government of India find that the case has some foundation, they refer it to the Tariff Board to conduct an elaborate enquiry and to give its findings on certain special points relevant to the question of protection.

The Board issues a questionnaire and invites the views of all persons or firms interested in the enquiry, either as producers or consumers or traders. Representative persons are also orally examined in public. On a careful examination of the data so collected the Board draws up the Report and submits it to the Government. The Government of India in their turn subject the Report to a searching scrutiny and publish the Report together with their own conclusions. In many cases, it should be noted, the recommendations of the Board have been negative; in others, the Government have rejected its recommendations. In those few cases which are approved both by the Tariff Board and the Government of India, the necessary Bill is introduced in the Legislature, where it is discussed, amended, or rejected, clause by clause, till ultimately it emerges as an Act of the Legislature.[1]

[1] In this connexion, it may also be noted that this one-thing-at-a-time method of tariff enquiry is an effective safeguard against the danger of concerted pressure on the part of many industries united by the bond of mutual tariff concessions, a danger which is almost unavoidable if protective tariffs are considered in the mass as in the United States, for example.

The Tariff Board, therefore, is obviously the pivot of the whole system. It is the main business of the Tariff Board to interpret and apply the principles of discriminating protection, as laid down by the Fiscal Commission, to the concrete cases that are referred to it by the Government of India. The main objective of these principles is the selection of the industries to be protected in such a way that, in the long run, they can be reasonably expected to be able to produce and sell goods cheaper than the competing imports and that their adequate protection should not impose too heavy a burden on the limited resources of the community. In other words, the industries to be selected for protection must be such that they contain great potential advantages in respect of raw materials, labour supply, power and market, on account of which, in the long run, they can hold out good prospects of becoming sufficiently efficient from the point of view of comparative costs and of offering their products at comparatively cheaper prices. The principal apparatus usually employed in the enquiry is a rigorous and searching analysis of the data of comparative costs. If it be found that the items of domestic costs are lower than those of foreign costs in certain respects, or that the difference between the two is not a very wide one, then there is a good *prima facie* case for protection. Where the data of comparative costs are absent or inconclusive, guidance is sought in general considerations such as the extent of the home market, quality of the raw material, etc.

Beyond these there are other considerations which are regarded as strengthening the case for protection. Thus, for instance, if an industry, which is judged suitable for protection from the point of view of comparative costs, is also found to be technically subject to the law of increasing return, or a key industry, or one important from the military point of view, the case for its protection becomes exceptionally strong indeed.

The policy of discriminating protection was officially accepted in 1923 and the Tariff Board appointed in 1924. During the last 11 years many industries have come forward as candidates for protection. But so exacting is the test

of fitness required by the Board that so far only eight industries, three of them of major importance, have been able to pass. A far larger number, including the coal, petroleum and glass-making industries, have been turned down. The same caution is observed in fixing the period of protection. Except in two or three cases, the maximum period of protection has been limited to seven years. In not a few instances, especially in the early days of the experiment, the period was limited to three years. It is also worthy of note that in some cases protection has been withdrawn temporarily or finally, or reduced substantially.[1]

These, then, are the guiding principles and the administrative technique of discriminating protection as practised in India. To those who are acquainted with the tariff literature of other countries such as the United States, Canada, Australia, France and Germany, it must be clear that the system of discriminating protection as devised and administered in India represents the best tariff-making practice so far attempted in any part of the world.[2]

But this is not to say that there are not dangerous ambiguities in the so-called principles or that there is no room for improvement in the administrative technique. The Indian experiment on protection so far has been, no doubt, carried out in somewhat favourable circumstances. But these circumstances have been largely accidental in that both the policy and its administration are under the control of an irresponsible Executive, which is itself directly and indirectly dominated by the Government of another country that has considerable and sometimes even predominant vested interests in India. And, under the new Constitution, although some of these external checks will continue to operate, the Executive will be representative of and responsible to the Legislature, while the extension of the franchise will increase the influence of the general public. Conse-

[1] Protection was temporarily withdrawn from steel wire and wire nails in 1927–32; it was finally withdrawn from various chemicals except magnesium chloride in 1933; and it was substantially reduced in the case of a large variety of steel products under the Act of 1934.

[2] For a comparison of the Indian System with that of other countries, see the chapter on "Tariff-making in Practice," in the book, *Tariffs—The Case Examined*, edited by Beveridge.

quently, there is a strong probability that, as in other countries, the fiscal legislation of India will tend to be largely swayed by powerful mass opinions. In order to safeguard against this probable danger, it will be necessary to improve the procedure of tariff-making in this country. What are the present defects and how can the necessary improvements be effected? This is the question which we shall now attempt to answer.

Future of protection.—We have stressed in the earlier sections of this chapter that the policy of protection should be regarded as only a part of a co-ordinated and comprehensive programme of economic and social reconstruction in this country. Every intelligent and wise individual, by an unconscious application of the Law of Equi-marginal Utility, endeavours to effect a judicious distribution of his expenditure so as to have the maximum satisfaction for his system of wants. Similarly, a nation, too, can achieve the maximum amount of economic and social progress if only it distributes its limited resources among the different items of developmental programme in order of urgency and importance. The first step in the formulation of a sound policy of protection, therefore, is the adoption of a comprehensive plan of national reconstruction, which should embrace all-round economic development as well as education and public health. But, before the ends of such a plan can be objectively defined, we should require to form an estimate of the means at our disposal on the basis of a large mass of relevant economic and statistical data to be collected by a small body of experts, who would also indicate the advantages and limitations of the different alternative programmes of reconstruction. When this essential preliminary work has been done, it will then be for the Legislature to adopt a suitable programme and formulate an appropriate national policy. It is only by such a procedure that a policy of protection can be placed in the proper perspective of a complete programme of national progress. For, if we were to follow the traditional procedure of having the Legislature to formulate a policy of protection in complete isolation from the rest of the

national programme or in complete ignorance of the objective limitations imposed by the resources at our disposal, we should be running the risk of promoting lop-sided development and paying dearly for the blunder.

When the Legislature has so laid down the limits of a policy of protection, the Tariff Board should decide between the rival claims of the different industries and also determine the limits of protection that can be granted to each of the several industries selected as suitable for encouragement in this way. History of tariff-making all the world over does not record a single instance in which this has been done. And yet this is the only logical procedure which can ensure economy of expenditure. For if it be true that the national resources are limited and that these limited resources have to be distributed among many urgent items of development, then it follows that we can economically apply only a fraction of the current national dividend to the single item of industrial development through protection. The procedure suggested here is exactly the same as if followed in framing the budgets of a modern Government. And, indeed, since in both cases the problem is one of a judicious distribution of tax revenues for the several departments of national service, and since the technique of public expenditure has been evolved through centuries of experience, it is legitimate to expect that the ends of economy will be served best by the adoption of the normal budgetary procedure in respect of tariff administration.

As an integral part of the procedure suggested above, it is also essential that in every case of the grant of protection, the Tariff Board should endeavour to arrive at an estimate of the direct and indirect burdens imposed thereby. One of the immediate effects of almost every protective tariff is a rise in the price of the commodity protected. And whether the commodity is a raw material, or a crude or finished product, in the majority of cases the burden of the higher price falls ultimately on the consumer. A tariff has also its indirect effects on other industries. While a tariff makes a direct and powerful appeal to the sentiment of nationalism and thereby enjoys considerable popularity, its evil effects

as a form of regressive taxation are indirect and obscure and therefore hardly ever realised by the general public. Consequently, unlike other taxes, it does not rouse any high degree of popular opposition. But in order to ensure that the approval of a protective tariff should be based on a complete awareness of its good as well as bad effects, it is essential that the direct and indirect costs of such a tariff should be ascertained and correctly and clearly stated. The existing procedure of the Tariff Board is sadly defective in this respect. Except in a couple of instances, it has never attempted any estimate of the direct and indirect burden of the protective duties it has recommended. And this must be counted as a serious omission on its part. For it is obviously one of the most important duties of an expert body like the Tariff Board to find all the relevant facts and to interpret their full significance, so that the tariff-making authority may know the exact limits within which the policy must be circumscribed. And in fact, in nearly all cases of enquiry by the Tariff Board, one of the terms of reference laid down by the Government is that the Board, in framing its proposals, should, among other things, pay due regard to the interests of the consumers. But, what chance is there of any regard at all being paid to the interests of the consumers when even the direct burden of the proposed duties on them is not estimated? In every case, while the Board is at considerable pains to state the future advantages that are likely to accrue from a policy of protection, it has never stopped to analyse the present costs with any degree of clarity and precision. It is not suggested that the task is not an exceedingly difficult and complicated one. But, since such an estimate of the costs involved is a logical corollary of a policy of discriminating protection, it follows that this particular task should form an important part of the duties of the Tariff Board.

The problem of estimating the costs of protection would, of course, be simplified if we could adopt a system of bounties instead of import duties as the method of protection. In that case, protection could be administered exactly in the same way as the other departments of the Government,

such as, for example, those of education and medical aid. And since both protective duties and bounties involve the taxation of the people, there is no sound reason why a system of bounties should not be adopted. Moreover, a system of bounties can be administered with a far greater degree of discrimination and judgment than can a system of protective duties. For, in the first place, the revenues needed for the grant of bounties can be raised without the great injustice of the regressiveness of the protective duties. Secondly, the cost of a bounty being direct and definite, its administration is likely to be carried out with the utmost caution and vigilance, which is unavoidably absent to a large extent in the case of protective duties. If, therefore, it is thought desirable that the nation should know the exact costs of protection and knowingly should be prepared to pay the bill, there should be no insuperable obstacles to the adoption of a system of bounties in preference to that of duties.[1]

A rational policy of protection should also require that in every case of protection the Tariff Board should visualise and state the time-limits within which the protected industry would be expected to become efficient enough to dispense with protection. In the absence of such time-limits, there would be no effective safeguard against the natural reluctance of industries to effect drastic reorganisation so as to achieve the maximum economy in the minimum time. Although we have had the policy of protection in this country for over 10 years now, in not a single major instance has the Tariff Board been able or willing to indicate such time-limits. On the other hand, cases are not rare in which the Board has appeared to be inclined to the view that such time-limits need not be considered. In the case of the sugar industry, for instance, where protection was proposed for a period of 15 years, the Board seemed to contemplate that, even after the expiry of this long period, protection for the industry could legitimately be extended for a further indefinite period.[2] In such circumstances it would be idle

[1] *Cf.* Dey, *The Indian Tariff Problem*, pp. 40—41.

[2] *Cf.* Dey, *op. cit.*, p. 281, and also the *Report of the Tariff Board on the Sugar Industry*, 1931, pp. 65–77.

to expect that those who are responsible for the industry concerned would make any great effort to achieve rapid progress in efficiency. Again, when protection is granted without any time-limits, the industry concerned acquires, as it were, an established claim to protection for an indefinite period, and the burden of proof that the protection should be withdrawn falls on the tariff-recommending or tariff-making body, and it is difficult to prove it. On the other hand, if time-limits are laid down, the cancellation of protection should become almost automatic and the burden of proof that it should not be cancelled would fall on the industry concerned. And this will be a clear tactical advantage from the point of view of the community.

In this connection reference should also be made to a highly relevant question, which is consistently ignored or evaded in all cases of the application of the so-called principle of protection to young industries. In these cases it is tacitly assumed that while the native cost of production will become lower and lower, the corresponding foreign cost of production will remain more or less what it is now, so that the margin of difference between the two will be gradually reduced and ultimately eliminated. But is it not at least equally likely that, while the native industry has been achieving greater and greater efficiency and thus reducing costs, a similar process will be at work with the foreign industry as well? In the case of the sugar industry, for instance, while the native producers are endeavouring to achieve economies through better management and organisation, can it be legitimately assumed that the Javanese sugar industry, which has been so far a marvel of scientific achievements and economic efficiency, will, in the meanwhile, in a fit of generosity just rest on its laurels in order that its Indian rival can overtake it? Exactly similar questions arise with reference to the Indian steel and cotton industries as well. And if the basic assumption referred to above were unwarrantable, then the whole case for protection would fall to the ground.

A further improvement in the procedure will be for the Tariff Board to make an annual review of the progress of every industry under protection. This need not be an elaborate process like the original enquiry into the case for protection. But it must clearly state the facts and the tendencies in regard to the comparative costs of production. Such an annual review is calculated to act as an effective safeguard against stagnation. It will also help the Tariff Board to meet abnormal changes in costs and prices by making prompt adjustments in the rates of duty. Moreover, it will very considerably economise the labours of the Board on the occasion of the periodical enquiry for the purpose of tariff revision, which is at present so extraordinarily slow, tedious and time-consuming a process that by the time the report is out its data will have changed. And finally, what is equally important, it will serve to enable the general public to take an intelligent and unflagging interest in the tariff question.

It is clear that the functions of the Tariff Board as envisaged in these pages would be of a most weighty and complicated character. To be able to discharge these functions in an able and satisfactory manner, the Tariff Board must, therefore, be composed of persons of the highest standing and ability. Between them they must combine skill and training in the analysis of the most complex economic phenomena with unquestionable integrity of character and freedom from political or sectional bias. It is also necessary that they should represent the technical, commercial and administrative knowledge of some of the major industries of the country, as well as a thorough acquaintance with the problems of labour. And the chairman, in particular, must be a person of great competence in the art of weighing and sifting of evidence.

In order to secure the services of persons with these rare qualifications, and also to provide an adequate safeguard against their falling a victim to any kind of temptation, it is essential that the Members of the Tariff Board, like the Judges of the High Courts, should enjoy complete freedom from political control, a long or permanent tenure of office,

and comparatively high salaries.[1] And, since the administration of protective tariffs is invested with high economic significance on the one hand and peculiar political dangers on the other, it would be a wise and economically advantageous policy for the nation to pay a good price for a really competent and impartial Board.

[1] *Cf.* Mr. Baldwin's views on this question as reported in *The Times*, July 18, 1931, quoted in Beveridge's *Tariffs*, *op. cit.*, p. 203.

CHAPTER XVII

THE OTTAWA PACT

By B. N. Adarkar, B.A. (*Cantab.*)

General considerations for estimating the benefits of preference.—Never before has a commercial transaction been the subject of a more mordant criticism in this country than the Ottawa Agreement. Much of the criticism has been uninformed and unscientific and has consisted of such clap-traps as, for example, the assertion made by many a speaker on the Assembly floor that the Ottawa Agreement caused a loss of 20 crores to us. There is no logical basis for such an exact statistical computation of the loss or benefit resulting from so far-reaching and many-sided a commercial arrangement. In fact, few of the politicians who killed the Agreement by their habitual invectives seemed to have tried to grapple with the issue and to unravel its statistical mysteries. In pressing for a root and branch termination of the Ottawa Agreement instead of an attempt to examine, revise and re-define its scope, they merely acted as mouthpieces of a mob opinion. The skein of trade statistics is of such a complicated nature that in the hands of anybody who does not know how to pick up its threads, it is bound to get jumbled. If any example is required of such a gross mishandling of statistics, it will be found in the Note issued by the Federation of Indian Chambers of Commerce on the working of the Ottawa Agreement.

It is necessary to emphasise here at the start of the discussion that we do not consider the Ottawa Agreement to be a magic cure for our economic ills. Ottawa, like the pact concluded by us with Japan, is only a *pis aller* in a pressing situation. The world is seized with a spirit of panic, and countries in Europe, instead of seeking to expand

their trade, are, like firms tottering on the verge of bankruptcy, trying to retain their solvency by bringing their purchases within their sales. The same spirit of panic masquerades in another, apparently better, form of national self-sufficiency. It is our firm belief that no lasting recovery can be achieved till this panic is abated, till the nations of the world steady their nerves and open their gates for a freer and more liberal intercourse. In so far as the Ottawa Agreement liberated international trade as between the members of the British Empire, it strengthened the forces of recovery; but in so far as it sought to achieve this by raising duties against foreigners it merely reinforced the various factors which are hindering the expansion of international trade. One of our first recommendations, therefore, regarding the revision of the Agreement, will be so to alter its provisions as to give preference to Empire products more by a removal or reduction of duties than by an increase in them against foreign products.

Let us now examine the working of the Agreement during the last three years. As regards exports, it must be first noted that the Agreement could not be of much use to a few of the important articles in our export trade, like cotton and jute manufactures, because most of our principal markets for them lie outside the Empire. But this is not a sufficient condemnation of the Ottawa Agreement, because it cannot be shown that as a result of the preferential arrangement our exports of these articles to other countries have fallen. While the total exports of raw cotton have increased from 423,000 tons in 1931–32 to 626,000 tons in 1934–35, those of jute manufacturers have varied between Rs. 21 and Rs. 22 crores during the last four years. Nor can it be said that the Ottawa Agreement has diverted our attention from important markets outside the Empire.

The Indo-Japanese Trade Convention of July, 1934, is sufficient evidence of the strenuous efforts made by official agencies after the Ottawa Agreement to retain the external market for Indian cotton. During the first year which elapsed since this Convention was signed our cotton exports to Japan showed an increase in quantity of nearly 85 per

cent. There is, besides, a vast category of articles coming within the range of the preferential tariff for which the United Kingdom does constitute our biggest single customer in the world market. With regard to these it is impossible to make a general statement as to the success or failure of the Ottawa Agreement; because all of them cannot be said to have equally benefited from the preferential arrangement. In order to arrive at a correct perspective it is necessary to arrange the different groups of articles in this category according to the degree of benefit they have derived.

Classification of exports in accordance with the degree of benefits derived from the Pact.—A preference can be said to be of the highest value when the total exports of the commodity concerned have increased or a possible fall in them has been averted or mitigated, and when this has come about by an increase in the percentage share of India in the import trade of the United Kingdom and an increase in the percentage share of the United Kingdom in the export trade of India in that commodity. If the total exports increase as a result of the United Kingdom taking the commodity in bigger quantities from all countries in the same old proportion, then the increase is to be attributed to the enlargement of a market and not to the preference. If, further, the increase in total exports is not accompanied by an increase in the United Kingdom's share in our export trade, then it means that our trade with other countries is growing more rapidly than our trade with the United Kingdom, and hence the preference cannot get the greater share in the credit for the increase in total exports. Nor can we rely on a mere increase in the percentage share of India in the import trade of the United Kingdom or an increase in the percentage share of the United Kingdom in the export trade of India, because both may have been achieved at the expense of our exports to other countries, so that the only outcome of the preference may have been a diversion of trade and no net expansion.

The first group.—The group in whose case all these three conditions are satisfied, *viz.*, an increase in total exports, an increase in the relative share of India in the import trade of the United Kingdom and an increase in the relative share of the United Kingdom in the export trade of India, is the group to which preference can be said to be of the highest value. Next in order of importance will be groups which satisfy any two of these conditions, such as the first and the second, the first and the third or the second and the third. Some such method of classification is vital to a clear understanding of the available data. Much of the confusion in the popular discussions on this subject has been due to a failure to classify the different commodities involved by taking all the relevant statistics together; the tendency has very often been to concentrate on any one set of figures and to be satisfied with such conclusions as it may yield. The two official reports on the working of the Ottawa Agreement would have become much easier to digest for a plain reader if their authors had classified the preferential articles according to some simple and easily intelligible principles.

Quite a long series of articles covered by the Ottawa Agreement fall in the first group; the principal articles among them being raw cotton, linseed, woollen carpets and rugs, tanned hides and skins, paraffin wax, teakwood, bran and pollard and rice meal and dust, pulses, manures and bones, etc., etc. In the case of these commodities there has been a net expansion of trade which has been achieved at the expense of other competitors in the United Kingdom and which can be logically attributed to preference.

In the case of raw cotton, the United Kingdom actually doubled its purchases of Indian produce between 1932 and 1934. Our linseed exports, which have considerably expanded in the last three years, are being consumed in increased proportions by the United Kingdom, its share in the export having risen from 12 per cent in 1932–33 to 47 per cent in 1933–34 and 41 per cent in 1934–35. The Committee of the Federation of Chambers of Commerce merely concentrate their attention on the figures of 1933–34

and 1934–35, which lead them to the conclusion that Indian linseed could not face competition with the Argentine linseed in the British market in spite of the preference. The fact is that our exports increased from 72,000 tons in 1932–33 to 379,000 tons in 1933–34 and though they receded in 1934–35 still they remained as high as 238,200 tons in that year. While we supplied only 2 per cent of the British demand in 1932, we were able to capture as much as 53 per cent of it in 1933 and 76 per cent in 1934. As a result of this stimulus, the cultivation of linseed occupied in 1934–35 the widest area in the previous seven years. There has been a considerable increase in the exports of woollen carpets and rugs since 1932–33, mainly because we now supply 65 per cent of the British market as compared to 42 per cent in 1932.

Teakwood has done very well in the last three years under the influence of the preferential tariff; we sent 73 per cent of our exports to the United Kingdom in 1934–35 as compared with 67 per cent in 1933–34 and our share in the British market has risen progressively from 73 per cent in 1931 to 90 per cent in 1934. The Federation Committee seems to have deliberately quoted only the aggregate figures relating to all kinds of hardwoods, thereby suppressing the fact that the exports of teakwood alone have considerably expanded since 1932–33. The Committee's conclusion is that our share in the British imports of all kinds of woods and timbers is insignificant. It would have been fair to add that there are no important exports from India in any kind of hardwood other than teakwood to any country whatsoever. A preference can legitimately be expected to encourage only the existing exports; it cannot by itself add new items to our export trade.

Three important articles which could be included in the first group till recently have now to be excluded. The first is lead which, having experienced an all-round increase till 1933–34, suffered an all-round decline in 1934–35. Similarly, groundnut oil, to which preference had unquestionably been of great use till 1933–34, suffered heavily in 1934–35 on account of a sudden collapse in the world

demand. In the case of steel bars, the exports rose from 23,000 tons in 1932–33 to 46,000 tons in 1933–34. When the Iron and Steel Agreement came into force in 1933, the share of the United Kingdom jumped from 9,000 tons in 1931–32 to 41,000 tons in 1933–34. Since last year the Agreement as regards steel has been discontinued as having served its purpose.

The second group.—The cases of pig iron and castor oil, which fall in the second group, show the way in which some critics of the Ottawa Agreement shift their ground to prove the failure of the Agreement. At one time the failure is sought to be proved by pointing to the decline in the share of India in the import trade of the United Kingdom, and at another, when there is no such decline, by emphasising the fall in the relative share of the United Kingdom in the export trade of India. In the case of these commodities there has been such a fall, though their total exports have increased, which shows that, so far as these commodities are concerned, our trade with other countries is growing more rapidly than our trade with the United Kingdom.

But this by itself is not enough to prove the failure of the Agreement. The fall in the United Kingdom's share in our pig-iron trade is due to the fact that the total imports of pig iron into the United Kingdom have fallen heavily since 1931. In other words, the United Kingdom market for foreign pig iron has contracted. But, at the same time, mainly as a result of preference, our share in these smaller imports of the United Kingdom has increased from 16·5 per cent in 1931 to 86·6 per cent in 1933 and 87·6 per cent in 1934. Preference has thus enabled India to enlarge her share in a falling market. In the absence of preference our exports to the United Kingdom would have at least fallen in the proportion in which the total imports into the United Kingdom fell between 1931 and 1934. Viewed in this light, the beneficial effect of the Agreement as regards iron appears almost self-evident.

The Federation Committee, however, have arrived at a different conclusion regarding pig iron. They say, "There

has been no material advantage for India in the United Kingdom market as a result of the preference." They safely avoid any reference to the position in 1932–35; probably because while it suits them to observe, "Indian exports advanced by 40,000 tons in 1934–35 as compared to the 1933–34 position," it is rather inconvenient to say that they increased by 199,000 tons in 1934–35 as compared to 1932–33, the share of the United Kingdom increasing by 23,000 tons according to the Indian figures and 27,000 tons according to the English figures.

As regards castor oil, the Committee observe, "While India's exports to the United Kingdom diminished by 18 per cent in two years, her exports to foreign countries increased both absolutely and relatively by a corresponding 18 per cent." The Committee take this to be a sufficient proof of the failure of the preference on castor oil. All that it shows is that our other customers are taking relatively more from us than the United Kingdom. So far as the United Kingdom is concerned, the preference has enabled us to increase our share in that market from 63·6 per cent in 1931 to 71·2 per cent in 1932, 86·1 per cent in 1933 and 90 per cent in 1934.

In the case of articles the competitive position of which has become highly precarious, the maintenance of a market is quite as important as expansion. This fact is too often forgotten in most criticisms of the Ottawa Agreement. Our coffee, for example, is in keen competition with the Costa Rican variety, our jute manufactures with Continental products, Indian hemp with the European hemp, myrobalans with other tanning substances and lac with synthetic substitutes. There has been an increase in the total exports of hemp, lac and myrobalans during the Ottawa period, our exports to the United Kingdom having increased and all these articles having maintained their position in that market relatively to other competing articles. As regards jute manufactures, although our total exports, and exports to the United Kingdom, are steady, still as a result of the preference, our share in the United Kingdom market has increased from 79 per cent in 1931 to 99·5 per cent in 1934.

The difficulties of our coffee trade are extremely complex, and yet it has been able to keep up its share in the British market between 7 and 9 per cent.

The third group.—This brings us to the third group consisting of articles which have experienced a fall in their total exports mainly as a result of a fall in their exports to countries other than the United Kingdom. As regards the United Kingdom there has been an improvement both in respect of the importance of that country in our export trade and our competitive position in the import trade of that country. Such articles are rice, groundnut, castor seed and goatskins. It cannot be said that the Agreement has been of no benefit to these articles, just because there has been a fall in their exports to other countries. The fall is not due to the Agreement but to the operation of various other factors, such as a fall in the world demand, an increase in tariffs and other restrictions, or a stiffening of competition. The theory that retaliation is the sole cause of the fall is now being fast discredited, it being proved that the tariffs in foreign countries are applicable to all countries in varying measure. The exports of these articles had a tendency to fall independently of the Ottawa Agreement, but the working of the Agreement has considerably mitigated this tendency by stimulating our exports to the United Kingdom and by strengthening our competitive position in that market.

The Federation Committee have made a free use of the "retaliation" argument without trying to prove it. Almost in every case where there is an increase in our exports to the United Kingdom, they have attempted to minimise its importance by pointing to the reduction in our exports to some country or other. In the case of hides and skins the Committee emphasise the cessation of our exports to the U.S.A., but admit this to have taken place four years ago, *i.e.*, long before the Ottawa Agreement came into existence. In the case of rice meal and dust, the loss of market in Germany is set off against the gains made in the United Kingdom without mentioning that there is a net increase in exports.

The reduction in our exports of rice is not due to retaliation but to the decisive preference shown in China for the superior quality coming from Siam and French Indo-China and the competition of the Italian and Spanish varieties in the Continental markets. Our trade in oilseeds has received a great setback on account of the recent clearing agreement between Germany and the Argentine and the decision taken by France to reserve a certain share of her imports to her own colonies by means of a quota system. In a single year 1934–35, our exports of groundnuts to countries other than the United Kingdom fell by 116,000 tons. The United Kingdom mitigated this huge fall by increasing its off-take by as much as 81,000 tons, so that our total exports fell only by the remaining 35,000 tons. It is no wonder if, in the short period of a year, our trade with the United Kingdom was unable to make up a heavy deficit like this in its entirety and the Agreement cannot be said to have been a failure on that ground. Our share in the British imports of this article has been 59 per cent in 1932–33, 53 per cent in 1933–34 and 64 per cent in 1934–35. If quantities are considered, it would be found that our total exports of groundnuts and exports to non-Empire countries have actually increased in quantity in 1934–35 as compared with 1932–33, though they have fallen in value. They have of course, fallen both in quantity and value as compared with 1933–34, but the percentage fall is much smaller in quantity than in value.

The Federation Committee's observations on this subject are based on inaccurate information. "Though India regained her market in the United Kingdom to the extent of 36 lakhs, she lost during the same period her trade with non-Empire countries to the extent of Rs. 121 lakhs." Both these figures seem doubtful. The United Kingdom has increased its purchases by much more than Rs. 36 lakhs in 1934–35 as compared with 1932–33. While the official figure for the exports of groundnuts in 1934–35 is 174·9 lakhs, the figure quoted in the Note is Rs. 97·8 lakhs only.

Similar misleading statements are made about castor seed also. After referring to the heavy fall in our exports

of this commodity in recent years, on account of the restrictions imposed by Continental countries, the Committee remark, "The United Kingdom's share, in spite of preference, is showing a corresponding decrease." The fact is that the relative share of the United Kingdom in our exports, which was 23·3 per cent in 1929–30 and 26·6 per cent in 1932–33 rose to 33·3 per cent in 1933–34 and 30 per cent in 1934–35. Logically, the effectiveness or otherwise of a preference has to be judged by comparing the figures of the last two or three years with those of 1932–33. Our share in the British imports of castor seed, moreover, has advanced from 80 per cent in 1931–32 to 91 per cent in 1934–35.

It is evident from the examples of groundnuts and castor seed how it is wrong to measure the success of the Ottawa Agreement on such a superficial consideration as an increase or decrease in total exports. On account of its compensatory effect, a preference can be valuable even when there is a decrease in total exports.

The fourth group.—Finally, we come to the fourth group, comprising articles which have derived little or no benefit from the Ottawa Agreement. These are wheat, cotton yarn, other cotton manufactures, spices, tobacco, sandalwood, magnesite, linseed oil, etc., etc. As regards the last named commodity the Federation Committee observe, "Although the United Kingdom increased her imports from 7,000 tons in 1933 to 33,000 tons in 1934, India scarcely contributed anything towards it." The Committee discreetly omits the fact that there was an abnormal fall in the British imports of linseed oil in 1933, their normal size being never of the order of 7,000 tons. They were 37,000 tons in 1931 and 26,000 tons in 1932. There was, therefore, nothing remarkable in the United Kingdom importing 33,000 tons in 1934; nor is it surprising that India did not contribute anything towards it, because our markets for linseed oil have always been outside the Empire.

It should be clear from these examples how the same statistics can be used to support widely different conclusions. We have so far devoted our attention mainly

to the Note issued by the Federation of Indian Chambers, because, for one thing, we have in it a handy conspectus of most of the popular fallacies about the Ottawa Agreement, and secondly, we see that many of the Assembly members whom the Congress leaders had rallied on the final occasion appeared to have taken their cue from this Note. It would not have been necessary to take such propaganda writing seriously but for the far-reaching effect it has had on the public opinion on the subject. The Assembly debates on this question supplied the unthinking majority, which is mainly swayed by newspaper headlines, with such convenient observations as, for example, the famous discovery of the Congress Party Leader that we have lost 20 crores' worth of trade on account of the Ottawa Agreement. The figure of 20 crores is only the difference between the value of our trade with other countries in 1931–32 and that in 1934–35, and it is absurd to say that the reduction of our trade since 1931–32 was due entirely to the operation of the Ottawa Agreement.

The fact is that, so far as the preferential group of articles is concerned, there has been an actual fall in the total imports of the United Kingdom since 1931–32. They amounted to £488 million in 1934 as compared with £625 million in 1931—a fall of 22 per cent. In spite of this fall, exports of these articles from India to the United Kingdom increased from £29 million in 1931–32 to £31 million in 1934–35, an increase of 7·5 per cent. Thus so far as the preferential commodities are concerned, it is not true to say that we have increased our sales in a widening market; we have rather increased them in a contracting market. Though this fact by itself does not prove the success of the Agreement, it does not at any rate justify the contention that the expansion in our exports had no connection with it.

Changes in the import trade.—We will now consider briefly the import side of the Ottawa Agreement. It has been argued that as a result of the preference the country is being flooded with British imports and that the rise in the duty against foreign goods which it involved has adversely affected our

cost of living. It must be admitted that in recent years our imports have shown a marked rising tendency, but it is more an indication of a steady recovery in this country than of anything else. Moreover, so far as the imports from the United Kingdom are concerned, preference has only reinforced the effects of several other factors which were already in operation, such as the enormous exports of gold and the general recovery in purchasing power, which have stimulated imports from all countries including the United Kingdom. Between 1931–32 and 1934–35, imports of preferential articles from countries other than the United Kingdom increased by 18 per cent. Even in the absence of preference our imports from the United Kingdom would have shared in this increase. Since, moreover, the import trade of India has revealed an exactly opposite tendency to the import trade of the United Kingdom, it may be reasonable to presume that preference was of greater importance to the Indian exports than to the British exports.

The effect of the Ottawa Agreement on the prices of imports has not yet been systematically analysed. It is necessary, first, to have a clear understanding of the way in which an arrangement of this nature can possibly affect prices. It is well-known that the Agreement was responsible for a considerable diversion of trade in favour of the United Kingdom. This diversion was brought about partly by a reduction of duties in favour of the United Kingdom and partly by an increase in them against foreign suppliers. There should, therefore, be a rise in the domestic prices of imports only if the United Kingdom was unable to satisfy the whole demand without a disproportionate rise in the cost of production, and the people in this country were compelled to obtain their imports from foreign countries by paying the duties, or if the United Kingdom raised the prices of its exports by taking advantage of the duties against its competitors.

The fall in import prices.—A comparative study of price statistics since 1932 would show that so far from there having been a rise in prices of imports as a result of the Ottawa

Agreement, there has been a steady decline in them. This, indeed, is in remarkable contrast with the prices of our principal exports which have shown a rising tendency during the last two years. It seems that although Great Britain has been able to expand her exports to India as a result of the preferences, she has not been able to obtain any material price advantage in the Indian market.

For this there may be several reasons. Perhaps the most important among them is the general tendency of prices of manufactured articles to adjust themselves to those of raw materials. Indeed, the great disparity between these two sets of prices has been one of the most serious obstacles to the revival of world trade, and it is a happy sign that the tendency is now reversed.

While in December, 1932, the index number of exported articles (which are mainly raw materials) registered a fall of 47 per cent as compared with September, 1929, that for imported articles showed a fall of 25 per cent only. Since then the fall in raw material prices has been arrested while the declining tendency of the prices of imported articles has been further accentuated, there being a rise of 4 per cent in the former and a further fall of 17 per cent in the latter in March, 1935, as compared with December, 1931.

This improvement in the "barter terms of trade" is a favourable feature of our international trade in the last two years; because it means that we are obtaining a larger quantity of imports for a given quantity of exports. There is, indeed, nothing alarming in an increase in imports from the point of view of the consumer, provided the increase takes place at a lower price level while the prices of exports remain unchanged or change for the better. Indeed the improvement in the terms of trade may appear to be still greater, if we consider the huge exports of gold that have taken place along with the merchandise exports and also the phenomenal rise in the price of gold.

Thus, India has escaped the possible unfavourable effects of the Ottawa Agreement on the cost of imports. The fall in import prices may be partly due to the depreciation of some of the principal currencies of the world. One of the

major events in the currency history of 1934–35 was the devaluation of the Belgian currency by 28 per cent. Both the franc and the lire have exhibited considerable weakness during the last two years and the notorious depreciation of the Japanese yen still remains a factor to be reckoned with.

It must be admitted, however, that the Ottawa Agreement also has made an important contribution to this fall in import prices. In the first place, there was a tremendous stiffening of competition between the United Kingdom and other foreign suppliers in the Indian market as a result of the imposition of a preferential tariff. One has merely to cast a glance through the voluminous pages of the second *Report on the Ottawa Agreement and the Review of Trade in* 1934–5 to be convinced of this indisputable fact.

Great Britain has to contend with such formidable rivals in the Indian market as Japan and the United States, who are in no sense inferior to her in industrial efficiency. A study of prices in the last two years leads to the conclusion that a price of advantage cannot be secured merely by raising tariffs; because tariffs only serve to intensify competition in these days of keen commercial rivalry. The consumer, therefore, need have no apprehensions on this score.

Throughout the years 1934–35 most Japanese and American products were falling in price. In order to meet British competition the Japanese went on lowering their prices of articles of apparel, chemicals, drugs and medicines, carriages and carts (especially bicycles), cutlery, lead, brushes, hardware, earthenware and porcelain, electrical instruments and apparatus; and so did the Americans their prices of mineral oil, boots and shoes, domestic refrigerators, hardware, toilet requisites, etc. Continental countries like Germany and Belgium also entered this competition. In the case of some of these products preference was granted by raising the duties already levied on them, which makes the fall in their prices all the more remarkable.

The fall in prices of some of these articles may be partially due to a rise in productive efficiency. Since it is difficult to

get accurate statistics of costs, we are unable to judge how far the fall in the prices of British products was really due to this cause. Still the fact remains that Britain was able to capture a larger share of the Indian market under the preferential tariff without requiring a rise in prices.

Under the various heads in which increases in British imports have been most conspicuous, such as vehicles (especially motor cars), metals and ores, rubber manufactures, cement, cutlery, instruments and appliances, oils (except vegetable non-essential oils), oil-cloth and floor-cloth, soap, painters' materials and perfumed spirit, prices have either remained steady or fallen below the pre-Ottawa level. In the case of articles like motor cars, the reduction in price may confidently be attributed to an increase in productive efficiency.

In the present state of knowledge, it is practically impossible to disentangle the effects of preferences from the general changes of monetary or industrial character taking place in the world at large. The success or failure of the Ottawa Agreement cannot, therefore, be judged merely by reference to price statistics. Nevertheless, so far as the effect of the Agreement on the cost of imports is concerned, it may safely be concluded from the available information that the apprehensions entertained in this country about prices of imports have not been justified and that the interests of the Indian consumer have so far not been prejudicially affected.

The revision of the Pact.—In pursuance of the Assembly resolution the Government of India has already given notice to the British Board of Trade (on May 13, 1936), for the termination of the Ottawa Agreement. The Agreement will, therefore, cease to have effect from November 13, 1936. If the foregoing analysis of the working of the Agreement is correct, it clearly indicates the desirability of renewing the Agreement in a revised form. From this point of view it would have been a much wiser step to appoint a body of impartial investigators to examine and report on the possible ways in which the Agreement could be profitably revised.

As we have already indicated above, the promoters of the Ottawa Agreement ought to have tried to achieve their object more by a removal or reduction of inter-Imperial tariffs than by an increase in the tariffs against foreign goods. It may be that circumstances in 1932 were abnormal and that it was perhaps necessary for the preservation of domestic stability to curtail imports. But there has been a considerable change in the situation since then; industry and trade, having touched their nadir in those years, are now acquiring a slow but steady upward momentum. Nevertheless, recovery cannot be a real, living force till the atmosphere is clear of all prejudices and nervousness, till international trade is liberated once for all from the countless restrictive measures which are strangling it at present. The Ottawa Agreement is to be welcomed mainly as a means to freer trade within the British Empire; half the benefit of free trade is wiped out if it is accompanied by an increase in tariffs against foreign countries.

Viewed in this light, the alternative of bilateral agreements which is suggested in the Assembly resolution on the Ottawa Pact needs a careful investigation. To a superficial observer the Assembly resolution would appear to imply that in the place of a single agreement with the United Kingdom which either excludes or discriminates against foreign goods, the Assembly desires Government to conclude similar agreements with a number of other foreign countries which are also important customers for our goods. Some of our business men may also be misled into thinking that, like Ottawa, such bilateral agreements would enable Government to secure a mutual reduction of tariffs.

Such a view is incorrect for two or three reasons. In the first place, so far as a country like Germany is concerned, the only kind of bilateral agreement that is possible is a compensation or clearing agreement, which does not merely secure a mutual reduction of duties but aims at equalising imports and exports. Since our trade with these countries normally shows a balance in our favour, the only effect of concluding such agreements would be to wipe out the favourable balance. It is needless to emphasise how

important it is for a debtor country like India to have a favourable balance of trade in order to be able to meet our external obligations. Besides, it would be impossible for us to sell more to Germany without giving her an enlarged share in our market at the expense of the United Kingdom. But in that case a reduction in our imports from the United Kingdom will also be accompanied by a reduction in our exports to that country and our agreements with other countries will have achieved only a diversion of trade from certain to uncertain channels without any net gain.

Another vital argument against bilateral agreements is that it would be impossible to enter into them without abandoning the most-favoured-nation clause. No country will care to negotiate for a tariff concession in these days of rivalry, if the benefit of it is going to be automatically extended to several other countries under the operation of the most-favoured-nation clause. Already international trade is handicapped by numerous restrictions and it is surprising how some economists who deplore this fact propose to put it further into the strait-jacket of bilateral agreements. There is at least some hope for a gradual reduction of tariffs if nations realise the value of the most-favoured-nation principle. It may be noted that colonial preferences such as are involved in the Ottawa Agreement are recognised as a necessary exception to the principle.

Judging from the latest figures, it seems that the downward tendency in our trade with continental countries which was noticeable since 1932–33 is now arrested and that our exports are showing substantial increases. While, for example, our exports to Germany amounted to Rs. 6·98 crores for the whole year 1934–35, their value for the first ten months only of the year 1935–36 was Rs. 6·34 crores. Our exports to France which were Rs. 5·29 crores in 1934–35 amounted to Rs. 5·18 crores in the first ten months of 1935–36.

It is unnecessary to discuss here in detail which preferences require revision. The negotiations between the Indian and British Governments may, perhaps, result in the

appointment of an expert Committee and the question will then be carefully investigated. It goes without saying that the articles which we have mentioned above as having derived no benefit from the Ottawa Agreement should necessarily be excluded from its scope. The present rate of preference on coffee is found to be inadequate and should be reconsidered if Indian coffee is to hold its own against foreign competitors in the British market

Now that the Legislative Assembly has sealed the fate of the Ottawa Agreement, it may appear that in going into such a detailed discussion of the subject we have merely flogged a dead horse. While even a *post-mortem* scrutiny of this kind has its uses, it should be clear on a deeper reflection that it may still be possible to renew the Agreement, given the necessary goodwill and, above all, the will to understand things in a truly scientific perspective.

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