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INDIA'S
TEEMING MILLIONS

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INDIA'S TEEMING MILLIONS

A Contribution to the study of the Indian Population Problem

by

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TO THE MEMORY

OF MY SON

BINNU (VINEY KUMAR)

and

HIS MOTHER

SNEHLATA DEVI

and

SISTER

SAFIA

all of whom died in the

Quetta Earthquake (May 31, 1935)

and also

TO THE MEMORY

OF OUR DAUGHTER

ANURADHA

(Born July 7, 1937, died July 30, 1938)

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PREFACE

INDIA and the world are passing through one of the most critical periods of human history and the future is extremely uncertain and obscure. It is possible that the storms which are raging and brewing may work all the havoc of which they are capable and mankind may take long in recovering from their disastrous effects. And yet no one who can understand the signs of the times and realize the possibilities which are inherent in them, can help feeling thrilled by the prospect of events taking a turn for the better and opening a new and glorious chapter for the happiness, freedom and progress of mankind.

India, if these hopes are realized, cannot but have an important place in the new scheme of things. Her own problems are extremely complicated and beset with enormous difficulties, but since her destiny is indissolubly linked with that of the world, her onward march to the goal of national freedom and self-realization can be speeded up only by being a member of a new world order based upon justice, freedom and co-operation. To the uncertainties due to a baffling world situation are added the uncertainties of an equally baffling internal situation. At present the presages are cheering and the nation seems to be progressing with rapid strides. But it would be wrong to be unduly complacent on that account and assume that our future is assured. The forces of reaction are still strong and in a position to offer formidable opposition to our national efforts. Though it is possible that world factors may frustrate these designs, it is also possible that the alliance of these forces with similar forces elsewhere may prove too strong for us and that the day of our hopes will not dawn for a long time. The possibility of these forces being dissipated owing to their internal conflicts is there,

but at present the future is more than ever a gamble. Long-term expectations are therefore an act of faith—a matter of believing where we cannot know.

At a time such as the present the study of a problem like that of population which must, in the nature of things, be based on long views, presents very serious difficulties. This problem is essentially one of the future. Appraisal of the various elements involved in it requires long-range speculation for which, in existing circumstances, we cannot have any dependable data. In India the difficulties are greater because such materials as are available are extremely unreliable. The present, by common consent, is too dismal for words, its only redeeming feature being our growing awareness of its true character and of the necessity of staking our all to change it. But the present cannot be projected into the future and an estimate of the latter based upon the former.

In spite of these difficulties, study of this important problem of our country has been undertaken in this book, because I am convinced that it is one of the major and urgent problems of our national life and merits serious consideration on the part of the thoughtful section of our nation. Even on a most optimistic view of our future, the problem presents enormous difficulties in the task of national reconstruction, but if we temper our faith with a vivid appreciation of the facts of to-day, we are bound to realize the gravity of the situation as it exists and is developing and also the necessity of taking action to bring it under control. The gods may be good to us and our difficulties melt away. Even then we will find that our Teeming Millions will be a challenge to our material, moral and mental resources which we shall not find it easy to meet.

But if our struggle for freedom is, as is more likely, to have its ups and downs and the immediate future requires concen-

tration of efforts on acquiring the mastery of our house, we would do well to realize that the increase in our numbers which is taking place is going to increase our difficulties and make the ultimate task of the renovation of our people more taxing and strenuous.

The population problem is important and has to be dealt with immediately; but only a Neo-Malthusian propagandist, without understanding of its essentials, can maintain that for its solution all that is necessary is to adopt and popularize birth control on a national scale. The population problem, I have made it fairly clear in this book, is the problem of the re-making of a derelict people. Its solution depends upon a complete and radical reconstruction of our entire national life, but the point which is important is that the reconstruction required by the needs of the situation cannot be carried out without making the control of population an integral part of the whole scheme of reconstruction. The limitations of our resources and powers make it more and not less necessary to address ourselves to its solution with earnestness and energy. It is hoped that this book will contribute in some measure to the understanding of the essentials of the problem and also to the already increasing realization that we cannot afford to drift in the matter of population.

In conclusion, I have to express my grateful thanks to Horace and Eileen Palmer—even more especially to the latter—who have taken infinite pains over the typescript and the proofs. My wife—Anasuya Waglé—has prepared the Index and has had to endure all the annoyance and inconvenience which must be the lot of a professor-cum-author's wife. She has done the work and accepted her lot very cheerfully and well, and I owe her my warm appreciation for having done so.

GYAN CHAND.

Patna College Quarters,
February, 1939.

REFERENCES

The following books have already been written on the Population Problem of India.

P. K. WATTAL . *The Population Problem of India.*
BRIJ NARAIN . *The Population of India.*
B. T. RANADIV . *The Population Problem of India.*
D. G. KARVE . *Poverty and Population in India.*
R. K. MUKERJEE *Food Planning for Four Hundred Millions.*

It does not seem to be necessary to give references to the literature on World Population or Population Theory. The books which I have found helpful are referred to in the text and footnotes. In spite of my appreciation of the work that has already been done on the subject, I felt that the point of view from which the book has been written needed to be expressed. I need hardly add that if I had not felt that the difference of approach, emphasis and treatment justified its publication, the book would not have been written.

Footnote : For the convenience of non-Indian readers, it may be explained that one lac equals 100,000 and one crore equals ten millions. One rupee equals one shilling and sixpence sterling.

Chapter I

TEEMING MILLIONS

THE increase and size of population in India has increasingly become a matter of serious concern and the expectation that at the next census in 1941 India will have the largest population in the world raises problems which in their magnitude and urgency can easily be compared with any other problem of our national life. The apprehension created by the rate of growth of Indian population is for the present confined only to the special students of the problem, but a growing number of people are becoming aware of its gravity and the need of doing something to alleviate the present position. All over the world the interest in the population problem is also growing and though in the Western countries the prospect of the decline of population in the near future has received a great deal of prominence of late, so far as the world as a whole is concerned, it is being realized more and more that a rational control of population on a national and international scale is as much a political as an economic necessity. The dense population of this country and other countries in South and East Asia creates a situation of great interest and importance from the international standpoint and is held by well-informed students of the subject to be a source of serious instability and weakness for the world as a whole.

In India the force of events and the growth of a new outlook on national and world affairs have made it abundantly clear that world factors have an important bearing on all problems of our national life. At a time when insane, militant nationalism threatens to disrupt the world economy, isolation in national affairs is in favour everywhere, but among the factors which make the policy not only harmful but also futile is the present size of world population for the maintenance of which international exchange and, therefore, a large measure of international co-operation are absolutely essential.

It appears as if the enormous burden of re-armament and

the inevitable smash which will follow make it unnecessary to look far ahead and study the working of the forces which take time in producing their full effects. But as we cannot live our lives on the assumption that the civilized part of humanity is on the point of committing suicide, we have to take it that madness of persons in authority will be worked off without doing irretrievable damage to the material and moral life of the world, and international factors will in due course assert themselves and re-arrange the relations of the peoples of different countries on a more rational and co-operative basis. All problems of our national life—and population problems among them—have to be studied with reference to the background of world economy which, in spite of the stress set up by isolationist tendencies, is a vital factor in the life of all nations.

The wider aspect of the population problem has to be constantly borne in mind in the study of its various aspects. It will be considered in its proper place in this book and its bearing kept in view all along in the treatment of the different issues. But in India it is not merely the rate at which our population is growing which is and ought to be a matter of serious concern. The absolute size of our population is a matter of even greater concern, for even if by some social miracle we can arrest the future growth of our population, the multitudes, for whom India is the only place to live in, will remain a problem the solution of which will tax our intellectual and economic resources to the utmost. The task of providing for one-fifth of the total population of the world and raising it from its present level of existence to a position under which at least the very minimum of civilized life may be assured to all, has to be our immediate concern and will in practice be baffling in the extreme.

The abject poverty of our people is referred to so often by all who write or speak on India that it has become a stock phrase in the literature relating to the economic and social conditions of our people. But we have to appreciate fully and vividly the reality of the stark fact of our national life in order to realise clearly its profound significance for the future of our people and the world. It is held by a large and

influential section of the public opinion in this country that the poverty of our masses is increasing at a progressive rate and they are much worse off now than they were, say fifty years ago. Owing to the want of comparable statistics it is almost impossible to ascertain the truth or otherwise of their views. But even if it can be ascertained, it has practically no value, apart from the political aspect of the matter, for it hardly matters whether the average income of the Indian people is a little less or more than what it was a few decades ago. What does matter is that they are now on the verge of blank despair and almost super-human efforts are necessary to create conditions favourable for an improvement in their position material enough to make the prospect re-assuring in any sense of the word. If it is admitted—and it cannot be questioned—that the vast bulk of our people are in a desperate plight, the fact that there are so many of them assumes a most sinister aspect and creates for us a task which is as colossal as it is imperative.

The study of population has, in almost every country, become a question on which, for reasons more or less exiguous, partisan views are pre-dominant. The students of the subject know how the fact that Malthus first formulated his views on population to refute those of his contemporary socialists has exercised a most unfortunate influence on the whole trend of thought on the subject since his times. The persistent danger of over-population has been one of the postulates of economic science and the lack of foresight in marriage and procreation has been regarded as the besetting sin of the masses to which has been attributed their poverty and all other economic ills. A large number of otherwise beneficent measures of reform have been blocked or delayed and their benefits discounted in advance owing to the belief that any mitigation of economic pressure would only accelerate the growth of population.

The socialists, on the other hand, have denied that population has anything to do with the economic distress of the masses, and have, of course, pinned their faith on the measures of social change advocated by them. From their point of view over-population is only a bogey invented by the property-owning classes or the economists, whose writings

appear to them to have been written only to vindicate the existing economic system, to keep themselves in power and the workers in their places. The charge may contain an element of exaggeration as does the condemnation of economists by H. G. Wells, according to whom the former " have produced a literature 10,000 times as bulky, dreary and foolish as all the outpourings of medieval schoolmen," but the lack of imaginative sympathy which the economists have so often displayed and sophistries in which they have indulged can, with considerable justification, be cited as evidence of their inability to appreciate and deal with some of the more fundamental issues of economic life.

The socialists have, however, failed to rise above the polemics of the subject and a tradition of socialist thought has been built up according to which discussion of the population problem is considered an irrelevant intrusion in all economic and social speculations. They have their views on methods and aims, ultimate and immediate, of establishing socialist republics with entirely new standards of thought and conduct and new institutions for economic and political administration, but none whatsoever on the size and quality of population. They fondly cherish the illusion that once socialism is established the need for regulating the size of population and improving its quality will simply cease to exist. Even in Russia, where as the Webbs have told us, a new civilization is in the making, the need for regulating the growth of population is regarded by the men in authority there as a sign of morbidity for which there can be no place in what to them is an absolutely sound social economy. And yet one would think that believing as the Russians do in planning, in conscious economic control of the entire economic life, a rational control of population would appear to them inevitable under any system of planned economy.

Traditions, once they harden into dogmas, die hard and the socialist tradition, which has grown up and is being maintained owing to the exigencies of their struggle against odds, will continue to influence the thought and policy of the socialists. But, we have to realise that from a wider standpoint the supreme importance of the human factor which the socialists rightly stress, increases the necessity for making population

a subject of careful study. According to them man is the only agent and object of production. That is the real meaning of the theory that labour is the sole source and measure of value. That being so, it naturally follows that the amount of labour available and its quality are the cardinal facts of economic life and whether we have a dictatorship of the capitalists or the proletariat or a classless society in which all contradictions have been resolved, the number of workers and the quality of the stuff they are made of cannot but be a matter of vital concern to the community. A fundamental change in the economic system will give a new social setting to economic relations and their meaning, but it cannot change the very substance of economic life, it cannot make it a matter of indifference whether there are too many men or too few and whether the stuff of which they are made comes up to the standards rendered necessary by the organic needs of a social system.

The controversy between the orthodox economists and their socialist critics as to the causes of poverty and its remedies has, therefore, no bearing on the essentials of the population problem, though, of course, it will make all the difference for practical purposes whether we start with one premise or the other for dealing with an objective situation. The point which matters most, however, is that every society, whatever its structure or animating purpose, must take due cognizance of the relation of its population not merely with its economic resources but with the totality of its corporate existence, the purposes which it seeks to fulfil and the methods which it chooses to adopt to realise them. There is no way by which the problem of ensuring the proper adjustment of population to social ends and needs can be circumvented. It is possible to adopt the policy of drift and let the fortuitous course of events determine the shape and trend of things. Drift has been the rule throughout the ages all the world over, and ruthless necessity rather than deliberate choice has been the master of man in the matter of population. But the socialists have set the fashion of proposing to make rational collective choice a ***sine qua non*** of social policy and they cannot, if they are to be consistent or logical, adopt the policy of ***laissez-faire*** with regard to population, its quantity and quality. Planning

for a country must mean planning of the size and composition of its population.

In India the divergence of opinion on the question of population has been determined by reasons which are analogous to but not identical with those referred to in the two preceding paragraphs. The point at issue has been the question of Indian poverty and the parties to the dispute have been the apologists and the critics of British rule in India. The apologists and the critics have, for obvious reasons, been drawn from the ranks of officials and leaders of radical political opinion respectively and they have been primarily concerned to justify or denounce British rule in their country from the economic standpoint. From the one point of view the British rule has been an economic blessing and from the other a curse. The former, i.e. the apologists, maintain that the British have assumed their onerous responsibility of governing the country as trustees of the dumb, voiceless millions, have given them conditions favourable for prosperity and have by State enterprise in several important spheres, developed what are really key industries to initiate and accelerate the economic progress of this country. Their efforts have been effective in the selected spheres and the people, on the whole, are better off than they were before the advent of British rule. They are, it is admitted, by the advocates of this view, still very poor. The vast majority of them are living on the barest margin of subsistence, they have practically no reserve of wealth or staying power to draw upon and their economic position is far too precarious to make it possible for anyone genuinely interested in them to view their present position and prospects with complacency or equanimity.

But it is urged that if, in spite of the marvellous results which the British Government has to its credit by what it has achieved through its railway, irrigation or forest policy, and, of course, through the establishment of a strong and just government which India had been without for centuries, the condition of the people is bad and even pathetic and must, in view of the wide currency of subversive ideas, also be regarded as dangerous, it is due to the stupendousness of the problem which they had to face and their inability to make any serious headway against

an evil social heritage. The good that the British have done has been almost undone by the traditions, outlook and social system of the people who, among other things, have, by a long spell of unbroken peace that they have enjoyed, been placed in a position to multiply recklessly and, therefore, render nugatory the benefits which beneficent Providence has conferred upon them through its chosen agents—the British Power in India. The root cause of poverty of the Indian people —from this point of view—is their own past which finds one of its most characteristic expressions in their tendency to take no heed of the future while they satisfy a primeval urge of life. It is the official view that the poor in India are the cause of their own poverty.

The assumption underlying the argument of the above paragraph has been urged as a reason for opposition to a number of measures of economic reform for which a good case could be made on the grounds of justice or progress. Should the small land-revenue payers be granted relief from a burden which, judged from any tenets of fiscal equity, is beyond their paying capacity, and, therefore, unfair ? Should the salt-tax be remitted or reduced ? Should the tenants be granted greater security than they possess at present or helped in their unequal strength against the landlords who, besides owning the land—their only instrument of production—have the whole economic system on their side owing to the excessive dependence of the people on agriculture ? Should outlets be found within or outside the country for people living in the most densely populated parts of India ? The answer may be in the affirmative in all these cases and the measures suggested necessary and even just from the absolute standpoint. But of what avail will they be in the face of the torrential increase of numbers ? Whatever relief is granted to the people by fiscal or economic measures will only further stimulate the growth of population and the people will be no better off by their introduction after a short period of the temporary abatement of the pressure under which they have to live and the country will be fuller and much worse off owing to the necessity of having to provide for a larger population. The argument is capable of being used against all measures of economic amelioration of the

people for whatever improvement is made in their economic conditions will, on this hypothesis, only serve to evoke a greater increase of population and, therefore, be of very doubtful value from the ultimate standpoint.

A full analysis of all the implications of this argument under consideration is not at all necessary. It is cited here as an illustration of the lengths to which the view that the poverty of the Indian people is their own fault can be and has been carried.

The line of least resistance for the Indian nationalist, when confronted with this argument, is to deny altogether its validity and this line they have adopted. The British rule in India, from this standpoint, is an unmixed evil and its most damning proof is the grinding poverty of the people. They have been reduced to this position by the fact that the British rule in India has been established and is being maintained for the exploitation of the resources and people of this country in the interest of Great Britain ; and its direct and inevitable result is the utter destitution of the masses. The Government has, by following an oppressive land-revenue policy, by the destruction of Indian handicrafts and depriving India for decades of the right of fostering indigenous enterprise, by imposing protective duties, by giving foreign interests every encouragement and assistance to acquire a stranglehold over the Indian economic life, by setting up an inordinately high scale of salaries for higher civil and military servants mostly of European birth and domicile, by permitting the drain of India's wealth over a long period for the payment of charges in England and, more than any other factor, by using political authority to create an atmosphere of frustration and lack of self-confidence for the people of this country, made India a country of half-starved millions and the need for her economic regeneration the strongest argument for winning complete political freedom.

Poverty of the people, has, according to this view, no connection whatsoever with the population of the country and its rate of growth. The fault lies with the system under which the people have to live and not the people themselves. The issue of population is raised by the apologists for British rule in

order to cover the sins of the Government and has no bearing at all on the solution of India's economic problem. She has her domestic problems to which she will address herself when she has won her political freedom, but to give prominence to them cannot but be a source of distraction for the national cause at this stage of our political development. It is, according to this view, very doubtful whether the population problem is one of our urgent or important national problems ; but even if it is, it can wait until we are in a position to deal with it by becoming complete masters of our own destiny.

Population has thus become a political issue in this country. Essentially the cleavage of opinion is the same here as in every country. Is the poverty of the people intrinsic or extrinsic ? Does its remedy require a change of the system or of the people ? For speculative purposes it is possible to simplify the issue, and, on the assumption that environment is the most important single factor in the making of man, postulate the necessity of a change of system as the essential condition of a change in the life of a people. But for practical purposes the issue is clear cut. Population is either merely a side issue and hardly worthy of serious consideration or an urgent national problem which must be solved if we are to make any progress. The two ways of looking at the problem involve not merely a difference of opinion but also a fundamental difference of interests, and therefore, have a significance which makes it a part of social and political antagonisms. It is not merely an economic problem that has to be faced and solved. The issue brings us up against the central difficulty of life which has been a cardinal historical factor through the ages.

In the remaking of life are we to start with its subjective or objective element ? Both must, of course, be involved in any change that matters, and the ultimate result must, howsoever we start, be new life and a new way of life, but the process of attaining it will be different according as our choice falls upon the one or the other.

Population, according to the above view, though an objective fact of the economic and social situation, really presents problems which go to the very foundations of the whole social structure. Population is the resultant of two factors. It has

to be admitted that in the past man has been, in the matter of population, in the grip of forces which have in a large measure been independent of him and even now their power, though not over-mastering everywhere, is almost as great as ever in most countries. Man is and always has been dependent upon and conditioned by his material and biological equipment, and though the application of science to the production of wealth has given man much greater power than before to increase his material resources at will, the limits set by nature cannot be ignored and have to be reckoned with in all human calculation.

As regards the biological factors, man has not been and is not his own master. Sex which, the psycho-analysts tell us, is much more than a physiological appetite, is not only a powerful instinct but a deep-rooted and far-reaching fact of our whole being which cannot be thwarted without causing a serious hurt to the individual and society. Reproduction, being a function of sex, is interwoven with the whole fabric of our social life and fecundity or the power of reproduction is for man a fact of nature, to master which it is not enough to use mechanical and chemical contraceptives. For that it is necessary to bring into play all the resources of intelligence and scientific enquiry in order to throw light on what is one of the most obscure and fear-haunted regions of human life and to make use of the knowledge so acquired to introduce the necessary social re-adjustments. It is neither possible nor necessary to deal at any length with this aspect of the subject in this book. But population and sex are and must remain closely related facts and any change of attitude or conduct in respect of the latter must profoundly affect the former. Conventions, taboos, standards regulating it are one of the most important elements in the social heritage of every country and affect and are affected by the changes in population.

There has been a tendency lately to exaggerate the influence of sex, but it is nevertheless a sphere of life in which rational action is necessary in order to place our social relation on a healthy and sound basis. The close relation which exists between sex and population is one of the most conclusive reasons for regarding the latter as a problem of life as a whole and not merely of economic life.

Teeming Millions

In spite of the over-riding nature of the forces which determine population, it is, and must be, a question of man's reaction to his environments; and that reaction is not determined entirely or even mainly by his search for food. Life has, of course, to be sustained by nutrition which only food can give; but even in the most primitive or backward communities, in which life is a grim struggle against very heavy odds, the growth of population depends upon the interplay of factors which go to make their tradition or social heritage. Their life may be mean and brutish but they have their social standards and institutions in the making of which can be discerned an attempt at a semi-conscious adjustment to their surroundings and evolution of a social purpose. Among the civilized communities the process of adjustment becomes more and more self-conscious; and as a civilization is inconceivable without an all pervasive unity of aim and purpose, the more civilized a community is, the more necessary it is to understand its vital processes in terms of its ethos, its whole corporate being. Its population, being a vital process of the life of a community is, as a matter of course, profoundly influenced by the nature and significance of its civilization. A civilized community which is fully self-conscious in its entirety and details has never existed because no community has attained perfection or fulfilled itself.

Communities, like individuals, become set and lose the capacity for continuous re-adjustment without which their growth is arrested and common life broken into fragments. But every civilization has its high-water mark at which it realizes its inherent purpose more fully than before and after, and even in its rise and decline there is ebb and flow of its underlying unity which gives to its existence the meaning which it has as a distinctive entity. Population of a community is its response to its environments and its size and quality are determined by the nature of that response. The amount of food available, or in modern communities their relative economic position with reference to other communities, is an important limiting factor, and their fecundity and common heredity condition the growth of population and its composition. But population is not merely their resultant. It is what it is,

owing to the working of the entire community, of all the factors which are the main-springs of its life and functions.

The argument may seem to have taken a somewhat abstract turn in the above paragraphs, but it is not so. The outlook of a people, their attitude towards the problems of their existence and progress, their political and economic organization, their network of social relations, the institutions of marriage and family, the position of women in their social and economic life, their capacity to visualize the future and willingness to make sacrifices for it and their contacts and conflicts with other people, are all, it will be readily admitted, of fundamental importance for determining their numbers and social efficiency.

The general framework of population is determined by the relative fertility or sterility of the land or, in the more advanced communities, by the total economic output and the operation of the biological factors. But within it work factors, seen and unseen—the latter being not the less important for being off the horizon of the common eye—which are really the motive power of the life of a people and determine its essential purpose. Population is the outcome of their working; and though its problems have not been an object of self-conscious activity to any considerable extent in any country or any period of history, it is nevertheless a social phenomenon in the sense of being the product of the articulated life of a community, for population of a country is its people as a functional entity for the purpose of their common and continuous existence.

There ought not to be any disposition to question this view if the significance of some of the events of recent and current history is borne in mind. Hitler and Mussolini are, for example, anxious to put a stop to the decline of the birth rate and reversing the tendency which has been at work in Western countries by putting a premium on large families. Their policy is inspired by their over-weening nationalistic ambitions, but the latter involve a determination on their part to establish certain values, to set a new impress on the culture of the countries whose destinies they seem, at least for the time being, to have in the hollow of their hands. For them the increase of numbers, at which they are aiming, is their challenge to cosmopolitanism, pacifism, the whole attitude toward sex

and its co-related problems, economic liberalism and communism and the view that women have also a civic right and duty to take their place in the organized life of the community outside the limited sphere of home and family. They would rather urge their people to tighten their belts and put up with the privations due to the necessity of having a larger population to provide for than contemplate the prospect of the ascendancy of the social ideals and institutions odious to them and to what they regard as the genius of the race. Population is to them a problem of upholding and perpetuating the principles of life which are their verities and, therefore, have to be dominant factors of the whole social economy.

Personalities like Hitler and Mussolini and the situation which they have created are, it is true, not at all typical of the course of history ; and it is not known whether they are merely a flash in the pan, or the architects of the future of the two countries which to-day occupy a key position in world politics. But the strands which make up their population policy are a striking contemporary illustration of the way the population of every age and every country is and must be their response to the challenge of circumstances and situations. If the challenge is too severe, it is possible for a country to go under or give way to despair, but under circumstances, favourable and unfavourable, it has to choose or has chosen for it the quantity or quality of its population and the choice expresses or is determined by the whole milieu of a community's organic life.

The necessity for laying stress on the above aspect of population arises not because there is any antithesis between the economic theory and the view that population is the function of a community's total life, but because in practice generally the whole issue is unduly narrowed and resolved into a relation between numbers and the minimum amount of food needed for subsistence or per-capita production of wealth. There is it may be repeated, no denying the fact that a country has to come to terms with nature, whether bountiful or niggardly and the bargain which it strikes must be a limitation which it cannot transcend for the ordering of its life. But to make population merely a question of numbers versus food or wealth is not only to assume that man lives by bread alone but also to

disregard the obvious but all-important fact that population, which is only another word for a nation in its distributive aspect, has to be made a subject of study from a comprehensive standpoint. A census is now generally taken to mean a demographic survey and though in undertaking it, it is possible to be exclusive and let its operations be determined by one particular object like the calculation of the value and volume of production, the survey must, when it is intended to bring to light the general trend of underlying social forces in their broad sweep towards the unknown future, be a study of all the factors at work, and therefore, all-inclusive without becoming a rambling, purposeless, ineffective enquiry. A demographic survey must be a picture of all the significant facts of the life of a people and show in bold relief those features which make every generation a living link between the past and the future.

What has been said above is intended to make it clear that it is not right that the study of population should be limited by the points of view represented by the advocates and the opponents of the present economic order or the supporters and the critics of the British rule in India. The socialist movement has made rapid strides in India in the last few years, but it will, unless world events come to its help—as well they may—remain a movement contending against the growing cohesion of forces fighting for the maintenance of the existing rights and privileges. But owing to the increasing intensification of the struggle for political freedom it is not unlikely that the reactionaries in politics and economics will find it to their interest to stress further their view that the poverty and misery of our masses is due to over-population. If this happens, the study of our population problem will suffer owing to over-population being used as an argument against economic changes rendered inevitable by the urgent needs of our national life and the force of the world situation.

It should, however, be possible for those who can look through and beyond the dust raised by these controversies to see that, if and when they are successfully settled, the social and economic reconstruction of the country will have to be taken in hand. The attainment of political freedom or the inception of a new social order, whatever that may mean or come to, must

only be a prelude to the initiation of a programme of extensive and intensive national reconstruction; and when the real business of not only setting our house in order but re-ordering of our national household is undertaken, we will have to face the problem of our enormous population—our teeming millions. How should we provide for our 380 millions or more? The actual number will, of course, depend upon the time at which we become masters of our destiny and develop the will to put through a scheme of national regeneration. The magnitude of the task will be and is our population problem. We will have to examine the position to see whether our numbers are an asset or a liability, a source of national strength or of weakness, in the light of our available resources and the goal which we may set before us as the objective of our concerted efforts. The rate at which our population is growing or will continue to grow and the price that we have to pay to secure it, will have a very important bearing on the whole problem, for that will determine as to whether we are adding to our assets or our liabilities, making our position progressively better or worse. It is extremely short-sighted to refuse to take into account this aspect of our situation owing to the exigencies of political or social strategy. The problem exists and cannot be solved merely by denying that it is there.

Our existing population is a fact which we have to take for granted. Its material reduction is impossible unless our country is visited by calamities involving a loss of life far exceeding anything that we have experience of even in this death-ridden country. In any scheme of national reconstruction our present population is, therefore, to be taken as our stock which has more or less to be kept intact. The nation being a going concern, it is possible, if its stock is too large, to reduce it by making its incomings less than its outgoings—by reducing its birth rate below its death rate. But it is almost certain that there is no chance of that happening in India. The progress of public hygiene and sanitation has so far been so slow in this country as to have produced hardly any impression on our mortality, but it is possible to quicken it to such an extent as to make our present state of public health an evil memory of the past. That end will, if it is to

be achieved, require vigour and organization, which can be created only by the nation's determination to have what will amount to a new birth ; but even if that does not happen India will, as a rule, continue to have a surplus of births over deaths and its immense population continue to grow.

The problem of providing for our existing numbers, therefore, will have to be attacked from the other end, i.e. by the development of material and moral resources. But when we embark upon the latter task in right earnest, we will be brought up not only against the inertia of masses, the accumulated deposits of a dead past, the difficulties created by a baffling world situation, but also the sheer weight of numbers. The extent to which we are made aware of the magnitude of our task will, of course, depend upon the level to which this huge mass has to be raised. The plane at which our people are living now being almost abysmal in its low depths, the task will truly be colossal in its magnitude ; and then we will wake up to the fact that the Colossus across our path is the fact of which we speak generally with an assured air of self-importance, the fact that we are one-fifth of the human race.

Is India over-populated ? is a question which is too often answered in terms which leave out of account the imperative necessity for making India a country fit for men to live in. At present it is not. We might have a great past, but our tiresome reiteration of this fact arises from what is really an inferiority complex or, to use the phrase which Mahatma Gandhi has made current, our slave mentality. This psychological factor is an all-embracing, insidious fact of our national life and makes it impossible for us to face up to the facts of our present existence. It is not only our acquiescence in our political subjection and inability to make the necessary effort to end it which are a clear indication of its undermining influence on our national calibre. But the fact that we seek to escape from reality by romantic notions about our past and our future is also due to our search for compensations for our utter want, poverty of life and absence of a unifying purpose. Finding ourselves without a place under the sun, we either recite the sins of our rulers or give way to the tendency to look before and after and pine for what is not. We have of late become

more self-reliant and are learning to be more critical of ourselves. But the present is too depressing to make it possible for us to rise above the disheartening facts and the result is our ineptitude in face of a task which is almost super-human in as much as it calls for an earnest effort to make a clean sweep of all survivals for which there is no use.

The answer to the questions as to whether we are or are not too many, therefore, depends upon the choice of the end and the means by which we propose to attain it. We may not be too many and be able even to afford to increase our numbers if we are content with our present sordid existence (which is sordid not merely because we are poor but because our poverty deprives life of its beauty, dignity and meaning) or propose to mitigate it to the extent of making our future not very different from our present. But if we want to change our common life out of recognition and make India a country where elements of health, efficiency and culture are to be taken for granted and life released for creative purposes, we have to analyze the present position with regard to our population by standards suggested by our vision of the India that is to be the goal of our collective efforts. We have to examine whether, within the limits set by our circumstances and the changes that may be taken to be in sight owing to their being within the range of practical politics, we can make our existing population, i.e. people, a nation which has the wherewithal to rise to a height that is to be the minimum of our new life. India, like every other country, cannot have a millennium and solve the problem of evil and all that it connotes ; but she ought to aim at a standard that may, humanly speaking, give our people freedom from the tyranny of an enervating struggle for existence, and, therefore, freedom for full and all-sided development.

The problem of population is, from this point of view, not specifically an Indian problem. It is a problem which every country has to face and solve. It involves, by the very method of approach suggested in these preliminary observations, a positive attitude towards it, and an assumption that rational control of population is an essential condition of rational living. The control of population need not necessarily mean its

restriction, but it does mean its regulation, conscious adjustment to a set purpose and to the circumstances under which it is to be realized.

The positive attitude towards population cannot be made a governing factor of life without the re-orientation of the whole social outlook, for mankind has everywhere accepted population as an act of God—a manifestation of the Purpose which lies at the heart of things, it being assumed man can interfere with it only at his own peril. This deterministic attitude has been and is still the dominant dogma of men in authority. But a change is coming; and the general decline of the birth rate in the West and the measures for the sterilization of the unfit adopted in some countries are evidence of a new point of view which has still to produce its full effects. The decline in birth rate, though due to the adoption of voluntary measures of control, has been more an incidental result than an effective measure of public regulation. Owing to the fact that in the matter of population we are concerned with at once the most intimate facts of personal life and the most fundamental social forces of far-reaching importance, public regulation presents difficulties all its own; but in spite of them we have to change and rationalize the premises of thought and conduct if we are to attain any measure of success in making population a subject of self-conscious activity on a social scale, and this has to be done all the world over.

World state, however, being still a dream of the future, in spite of its being a dire need of the present, the problem of conscious re-adjustment of population cannot, apart from its magnitude and complexity, be dealt with as a world problem. In each country it has to be handled as a national problem, and the world factors are to be considered in so far as they impinge upon the working of its national life. India is and must remain an integral part of world economy which is a fact even though world Government is non-existent and cannot be established in the present sorry state of things. In the analysis and discussion of the Indian problem it will be necessary to consider the relevant world factors and their bearing on its solution. 'India' like Russia, to quote the words which G. B. Shaw once used for the latter, is "a big enough handful . . . to

tackle without taking on the rest of the world as well." It is, as a matter of fact, too big for any single writer, for the Indian problem of population is the problem of re-making the whole Indian nation. But India is a country of teeming millions and they are wretched and racked by hunger and despair. Their position has to be retrieved if they are not to be driven from blank despair to maddening desperation. This book is intended to be a contribution to the study of their present position and prospects, for our teeming millions are both an opportunity and a standing menace. To avert the latter and use the former, it is necessary to seek knowledge and wisdom before and not after the event.

Chapter II

THE GENERAL THEORY

WEYLAND, a contemporary critic, was of opinion that Malthus' book was the point from which every later investigation must start. This view of Weyland, though not his criticism of Malthus' theory, has been endorsed by later generations and Malthus has become the starting point for all discussions of the theories of population. It is not necessary for the purpose in hand to undertake a review of the various elements of the population theories of Malthus or of the development and present position of the population theory in general, for this book is not intended to be merely an academic dissertation on the population problem of our country. Its main purpose being an examination of the present position in India and future prospects from the standpoint of constructive, national policy, a detailed analysis of the theory, past and present, does not fall within the scope of this book.

Every policy, however, in order to carry conviction and obtain the necessary measure of general support, must have its own guiding principles and be based on a clear statement of the issues and their suggested solutions. If this is to be done, it is a matter of real importance to give a brief account of the cardinal points of the theory of population and their bearing on the Indian problem.

The application of the theory to Indian conditions must, of course, be dealt with when the facts relating to population have been set forth in orderly sequence and their implications examined, but a general statement of the theory itself can be attempted in this chapter and will be in its place, coming as it does after the preliminary observations contained in the introductory chapter.

Starting with Malthus, the kernel of his theory lies in the disparity between the rates of growth of population and the means of subsistence. The rates were taken to be unequal because the potential growth of population knows no limits and

that of the means of subsistence is subject to real limitations owing to the supply of land being absolutely limited. This view rests on the assumption that the sex passion is imperious and must be satisfied; and as its satisfaction is, unless interfered with by the use of "improper acts," by which Malthus meant the use of contraceptives, accompanied by the conception and birth of new life, the rate at which population can grow is enormous. The fact that population does not actually grow at its full potential rate is due to lack of the means of subsistence, which cannot possibly keep pace with the increase of population. The tendency, therefore, is for population to outstrip food supply, but it is kept in check by the inability of life to sustain itself without food. The result is vice, misery and war, the so-called positive checks on population. They are brought into operation because of the intolerable pressure of population on the means of subsistence, and their existence all through the ages is entirely due to the lack of prudence on the part of men in their sex relations and is a conclusive proof of the tendency of population to grow faster than food.

Malthus formulated his views in an argument against the Utopian proposals of his contemporary visionaries and regarded all schemes which were calculated to relieve parents of the responsibility of maintaining their children as anti-social owing to the removal of the only check on the free indulgence of the sexual impulse and, therefore, on the growth of population. He was definitely against the community of goods and all other socialistic proposals because of the dread of overpopulation. This gave his argument a turn which has, as pointed out in the last chapter, made population a party issue between the advocates and the antagonists of the present economic order and exercised a most baneful influence on the whole trend of discussions of population problems since the time of Malthus. Children have been a charge on the private resources of parents almost everywhere and always; but the fact has not had a sufficiently deterrent effect on their tendency to have children when they could not provide for them. If it had had that effect, it would have been neither necessary for Malthus to become "the best abused man of the age," nor

possible for him to blaze a new trail in the history of human thought.

Where Malthus was, however, right, was that he pointed out that misery due to over-population could be mitigated, if not remedied, by the adoption of preventive checks. The latter course would, in his opinion, render positive checks unnecessary, which amounted to saying that man need not suffer owing to excess of numbers if he takes measures against the excess coming into being. That was his important contribution to the development of population theory and practice—in spite of the fact that the preventive check proposed by himself is woefully inadequate and cannot have at all the result which he had in view. The one preventive check which he proposed was moral restraint, by which he meant not abstinence in marital relations but merely postponement of marriage without resorting to illicit sex relations.

A rise in the age of the parents, particularly of the mother, is known to reduce fecundity and, therefore, moral restraint, in the Malthusian sense, can be a preventive check on population up to a point. But marriage in normal cases can be postponed only by a few years; late marriages, in spite of the consequent reduction of the capacity for reproduction, can only provide a meagre relief from the evils of excessive population. Men continue to possess procreative powers up to a fairly advanced age and women, even if married at the age of twenty-five, during the rest of their child-bearing period are generally capable of producing a sufficiently large number of children to make a very rapid increase of population possible and create all the problems of the excess of numbers.

But though late marriages are no solution of the problems of population, Malthus' view that suffering due to over-population can be prevented by conscious effort is a contribution of very real importance. It implies, in the first place, that among the factors which determine human well-being, population has an important place of its own and, therefore, it is necessary, if man is to be master of his own fate, to seek conscious re-adjustment between population and economic resources. Population may continue to grow, be stationary or decline, but whatever happens must be the result of choice and not

necessity. Man's impotence in face of the changes of population is an indisputable fact of human history. He has accepted population, as he has accepted all other stupendous facts of nature, passively and without any disposition to acquire mastery over them. Crude practices like infanticide, abortion and even restrictions on marriage, which have been very widely adopted, indicate only a collective reflex action and not a positive and conscious effort to regulate numbers. The general attitude has been that, the birth of children being ordained by Providence, population has to be taken as a given fact in a spirit of faith or resignation. Either it has been assumed that the children would not be born unless they were well provided for or, if they are born and do not bring happiness either to themselves or to the community, that must be in some mysterious way good for them and the rest of mankind. This view makes any desire to control population both impious and impertinent, which would raise the ire of the gods or God whose wisdom is doubted and power defied by these misguided attempts at the regulation of numbers.

Malthus was a clergyman and took some pains to reconcile his views on population with his Christian faith in the beneficence of Divinity. To him it seemed a benevolent dispensation that too great an increase of numbers should produce disease and death and thereby become a " beacon to others to avoid splitting on the same rock." From that standpoint the problem of population becomes a part of the problem of good and evil. Without raising any metaphysical issue, it is necessary to repeat that the assumption that population can and has to be controlled is a very great stride in the progress of man, for it involves mastery over himself and his circumstances and is a reiteration of the faith which underlies every great adventure in the domain of thought and action—the faith that life is insurgent and can fulfil itself by the will to power which is, at its highest and best, the will to live. It is, if one may use the phrase which expresses the scientific mysticism of modern psychology and biology, the life force creating itself at will, impelled by an urge to self-conscious activity.

This abstract touch may seem an irrelevance, but even if it is, the fact remains that artificial sterilization of marriage is,

in the words of G. B. Shaw, the greatest revolution of the 19th century; and sterilization is sterilization even though it is achieved by the perfectly " proper " act of moral restraint. It is the will not to have any unwanted children, not to make new life a source of misery to itself or embarrassment to the rest of the community. As children cannot choose to be born, and life is continuous, the decision whether children ought or ought not to be born has to be made by their parents, and the latter have to base the decision on rational grounds, among which the economic prospects of the new generation are and must remain one of the most decisive considerations. Malthus in stressing the necessity for and the possibility of making population a subject of conscious choice and deliberate control on economic grounds opened a new vista of thought and action and set into motion forces which are more far-reaching in their effects than he could have anticipated.

Malthus raised his Devil, that is popularised his fear of over-population, on the basis of such knowledge as he possessed of human history and of inductions from common observation of the facts of life, which led him to the conclusion that man has enormous power of multiplication. Since his time biology has become an independent and positive science and has contributed greatly to our understanding of the inherent elements of life; one of the conclusions which it has established beyond any shadow of doubt is that though the rate at which living organisms multiply varies, absolutely speaking the rate at which the growth of their number can take place is far in excess of the available sustenance and the balance between the two has to be secured by nature by methods which correspond to the positive and preventive checks of Malthus. But for the high rate of mortality in the lower stages of life the number of living creatures would become excessive in a very short time, and though as we ascend in the scale of life, the rate of growth decreases, it remains high enough even in the case of the most slowly multiplying organisms to make their unchecked multiplication a seriously disturbing factor in the economy of nature.

By a process of natural selection the undue preponderance of any one particular form of life is prevented and its potential

power of growth not allowed to have an injurious effect on the balanced budget of life. In the case of man it has been calculated that a single couple can by an annual rate of growth of 1 per cent., produce in two thousand years almost the total population of the world to-day ; the fact that man is known to have existed for a million years on this planet and is capable of increasing much faster than at the rate of 1 per cent. per annum is a very simple but absolutely convincing proof of his population having been held in check by a process of selection in which the operation of nature has been supplemented and modified by the influence of tradition. Malthus expounded his theory almost by the light of intuition born of pondering the well-known facts of life ; but since then the fundamental principle of Malthus has been reinforced by the teachings of biology and become a more illuminating truth on that account.

In the case of man, however, another very important factor has to be taken into account ; and that is his inveterate tendency to experiment with his whole life including, of course, economic life. This tendency makes population a varying magnitude from the standpoint of the ends of life and the methods by which they are or should be achieved. A change of social policy or principles, and a corresponding or independent change of technique, shifts the centre of gravity of the whole social system and renders a change in the quantity or quality of population not only desirable but necessary. In purely economic terms, the change in the size and composition of population necessitated by changes in economic ends and means has lately been emphasized by what is called the Optimum Theory of Population.

According to this theory the criterion as to whether an increase or decrease of population is or is not in the interest of the community is taken to be its effect on the average income of a people. If an increase of population means a larger income per head, the increase is supposed to be called for and socially desirable ; while if the reverse effect is produced by a small addition to population, it is to be assumed that the point of maximum productivity and, therefore, of the maximum per-capita income has already been reached and passed, and

further increase of population will consequently increase social liabilities more than assets.

The authors of this theory have claimed that it is a great improvement upon the Malthusian theory as it, unlike the latter, emphasizes the importance of co-operation as a factor of production and makes population not merely a passive result but also a contributory cause of the state of economic well-being. In other words, progress is, according to this view, not always retarded but at times accelerated by the growth of population. Malthus' theory was interpreted to mean that even when the growth of population is accompanied by an improvement in the economic conditions of the people the improvement cannot be due to the growth of population, and a slackening of the rate of population must invariably be good for the community. Apart from the question whether this interpretation is or is not fair to Malthus, it is quite obvious that in itself the view is certainly mistaken and the growth of population has been and can be a distinctly beneficial influence in the affairs of man. Want is a great impulsive social force and the want created by the pressure of population has not only been the making of individuals but also of nations.

A case in point is the growth of the British Empire. It has often been pointed out that an achievement like the British Empire would have been impossible if the British had, in response to the growing difficulties in their own country, stayed at home and discussed birth control instead of staking out new territories for themselves. But, besides the advantages accruing from growing population owing to its stimulating effect on individual and collective enterprise and in providing new scope and opportunities for its exercise, the growth of population enables a country to realise the benefits of more efficient organization and provide amenities which would be unattainable under conditions of sparse population. In some cases new inventions may themselves be directly attributed to the pressure of population, but in almost all cases their full use is impossible unless a country is fully developed and has means of communication, financial institutions and, what is even more important, large and expanding markets, advantages which do not follow the growth of population as a matter of

course but are undoubtedly conditioned by it. The U.S.A. owe the measure of progress and prosperity which they have achieved, as much to the increase of population from 8 millions about a century ago to its present figure of over 120 millions as to its enormous natural resources and the remarkable enterprise of their people. It is therefore wrong to maintain that increase of population is always a hindrance and handicap to economic progress and never a real help and source of strength. A certain size of population is an essential condition for initiating and maintaining a specific standard of prosperity under a given set of economic and social conditions, which is only another way of saying that a people must be numerous enough to turn their own inherent possibilities and those of the circumstances under which they are living to the best account and reap the benefits of a fully developed economic organization. Man being both the agent and object of production, it is to his interest to ensure that his numbers do not fall short of the minimum necessary for the fullest utilization of productive resources.

To be of any real use, however, the idea of optimum must indicate how and where the line is to be drawn between a population numerous enough to develop fully the resources of a country and one too numerous for the purpose ; that is, it should suggest a criterion by which the state of over-population in a country can be ascertained with a fair amount of assurance, so as to lay the basis of a wise population policy. This, unfortunately, cannot be done, for the optimum is not and cannot be fixed. Under the changing conditions of to-day, while economic changes are in progress all the time, the prosperity of a country reacts very quickly to the impact of internal and external forces ; and whether the population of a country should be larger or smaller, if the best results are to be achieved in the sphere of production, is a matter which depends upon the interplay of so many factors as to make a clear statement of the issue exceedingly difficult, if not almost impossible. Changes in the technique of production have, of course, an important bearing on the question of population and every labour-saving device can be made an argument for a country's ability to get along with a smaller population, and every

improvement in organization which makes it possible for a country to realize the advantage of mass production and eliminate waste may be taken to point to the same conclusion. But as mechanized mass production is impossible without wide markets, increase of population is the necessary condition of these improvements and cannot be regarded as superfluous because of them.

And, moreover, the fact that progress in the efficiency of production and, therefore, the increase of wealth can be urged as a reason for the reduction of population bears its paradoxical character on its face and suggests the obvious necessity of so organizing economic life as to make every measure of improvement in production a means of raising the level of the economic well-being of the people and not using it to their detriment by reducing opportunities of finding work and maintaining the growing population. But every change in productive arts affects the size of population which is desirable from the purely economic standpoint, and as such changes are increasing in numbers and importance, the correct adjustment between population and the productive apparatus of the community is becoming a matter which it is not at all easy to predict with any amount of certainty.

The difficulties of formulating population policies on the basis of such anticipations increase owing to the fact that they have to cover a long range if they are to serve any useful purpose. The population of a country cannot be changed in a short period, for any increase or decrease in the birth or death rates, which, apart from immigration and emigration, are the only method of affecting population, cannot possibly produce results which will keep pace with rapid changes in the methods and organization of production. Emigration and immigration on a large scale as a means of readjustment being very exceptional, they cannot be the normal method of changing population, and as the death rate in a progressive community will show only a downward tendency, the sole method by which the size of population can be varied in response to changes in production is a change in the birth rate. And as such changes take a generation to produce their full effects on population, any conscious change which is intended to be a measure of

readjustment of population must be based on an extremely far-sighted study of the economic prospects of the country concerned if such a change is to fit the facts of economic life. So far as short periods are concerned, if there is an excess or deficiency of population owing to economic changes, the fact has to be faced with stoic indifference, for the defect cannot be remedied by changes in population, though it may to a certain extent be mitigated by judicious economic policies. Long-range policies however, can and ought to involve a change in population; and if the change is to be deliberate, it must be made in the light of the underlying trend of economic life. Unfortunately, forecasts of the future cannot but be highly speculative owing to the difficulty of ascertaining in advance the nature of the forces at work and assigning to each its relative weight and importance, and the impossibility of making due allowance for entirely unexpected developments which may upset all previous calculations.

Forecasts of the future are rendered the more difficult owing to the importance of world factors in the economic life of every country. World markets are important for every country, for the whole network of international economic relations is a limiting factor which can only be ignored by countries which aim at economic isolation and for whom it is possible to realize that aim. Such countries being practically non-existent, the economic prosperity and prospects of every country are very largely determined by events which may occur in very remote parts of the world but have a bearing on the ability of its people to live in economic security and comfort. As Sir Josiah Stamp* put it in a recent address, " A community cannot have an optimal point independent of all others. An agricultural invention in the Antipodes, a stable government in a Central American State may affect the point of maximum return for the most parochial Central European Statelet." As a matter of fact, at present the solution of the population of the world collectively and each country individually depends upon the issue of the struggle which is now going on between the antagonistic forces of world economy and militant nationalism. If the economic life of the world is broken into

* *Eugenics Review*, Vol. XXVI, 2, July 1934.

fragments by national egotism, there will be very few countries of the world which will not feel the pressure of population owing, not to the want of means of subsistence, but to the collapse of an organization the increasing efficacy of which has become an essential element in the economic life of every country.

Great Britain, whose economic edifice has been reared upon the growth of her international trade and whose five-fold increase of population in the last century was rendered possible by such growth, is the most striking illustration of the important bearing of world factors on the problem of population. But every country in the world is more or less in the same position, and the question whether it can or cannot afford an increase of population depends as much on the future of world economics as upon its own resources and their development. Owing to the diverse character of the forces at work and the uncertainty created by them the whole economic outlook for the world is very obscure and the limit up to which a country can increase its population without producing adverse economic conditions, or a decrease in the income per head, if the latter is to be taken as the index of economic well-being, cannot be defined even theoretically.

The difficulty of giving a precise significance to the concept of optimum population is further increased by its intimate connection with the social structure of a country, for the number of people which a country can support depends to a not inconsiderable extent upon the distribution of wealth, its effect on the economic life of a country and the view which is taken of its equity or otherwise. The extreme economic contrasts which exist in almost every country have a profound effect on the industrial structure, for the industries which can thrive under particular conditions depend upon the distribution of the purchasing power of the people, and its re-distribution cannot but increase the markets for some industries or decrease them for others. The definition of the optimum, therefore, presupposes a particular scheme of distribution of wealth and carries with it the assumption that it is likely to remain unchanged for a long time.

But if the very assumption on which it rests is called into

question, a change in it advocated and the view that a change is necessary gains increasing support, a position is created which makes all economic life unstable and the future of population even more speculative than it otherwise would be, and renders it all the more difficult to state what the population of a country should be from the optimal standpoint. A change in the distribution of wealth not only alters the market for different commodities, and, therefore, affects the relative position of different industries, but has far-reaching effects on economic incentives and thereby changes the motive power of economic life. Distribution and production of wealth being two co-related social facts, the amount of wealth available for use is determined by the method of sharing it and its effect on economic effort and enterprise.

The air is thick with cries for the re-distribution of wealth as an essential part of radical economic and social reconstruction. Russia, where communism has been fully established and a large margin of economic equality achieved, represents the one extreme. The avowed purpose of the system is to demonstrate that it has in itself the possibilities of a much fuller development of economic resources than is attainable under any other system and to realize this end by securing economic emancipation for the masses. Whether the system will in the long run be able to make good its claim to surpass the competitive system in productive efficiency, is a question which only the future can settle ; but in the short period of ten years it has set a pace of economic development, which, if sustained, will form a new epoch in the economic history of the world ; even now it makes the case for communism plausible, if not convincing. But whatever be the future of communism in Russia, the point which is relevant for our argument is that its establishment in that country has a most important bearing on its population problem and is fundamental so far as the limit of the desirable growth of population is concerned. Whether the population of Russia should continue to grow at the rate of more than a million and a half a year depends upon the soundness of communism and the prospect of its stability.

Communists believe that the whole world will sooner or later become Socialist, a consummation which fills a few with hope

and many with fear ; the belief in its inevitability on the part of the Communists only calls forth from others the determination to combat and quell it, which has already borne fruit in Italy and Germany and created tension of varying degrees all over the world. The ascendancy of Fascism in the two countries in which it has become dominant, is a proof neither of its ultimate success nor of that of the system to which it is a counterblast but of the fact that the hour of destiny has struck and the world has come to the parting of the ways. It may be that we are, as almost seems obvious, on the verge of a disaster which will overwhelm the world and make nothing inevitable except the necessity of making an entirely fresh start in the adventure of man on this small planet of ours. But if the worst does not happen—and we must live in the hope that it will not—it will be necessary for every country and the world as a whole to reorganize its whole life, including the most important component under the existing circumstances, its economic life, and to do so with a clear understanding of the principles and methods of reorganization. The choice of the ends and means which has become so urgent involves the choice of a population policy, and the latter will be determined by the former. The views we are to adopt towards the existing population and whether we should act on the assumption that it is in excess or insufficient, must be entirely determined by what we want to do with our economic life and how we want to do it. The production of wealth and, therefore, the income per head, if we retain for our argument this criterion of optimum population, will vary according to the aim and methods of social change which we have in view.

It is not superfluous to say that owing to the absence of any agreement as to the aims and methods of economic reorganization, it is not possible to state positively what the optimum population of a country should be ; the discovery of reliable tests of over or under-population remains and must therefore remain an unsolved problem on account of the extreme uncertainty of the future. Whether the problem will always be insoluble or not, the view of Karl Marx that there is no fixed law of population, and each age and society has a law of population of its own, acquires a significance which may not

be the same as that which he attached to it but makes it wrong to speak of the principle of population as if one could lay down a universal law true of all times and places. According to him, to quote his own words, " there is a law of population peculiar to the capitalistic mode of production, and in fact every special historic mode of production has its own special laws of population, historically valid within its own limits."

His view is a part of his whole philosophy of life and was urged to strengthen his case against capitalism, but his inference that an " abstract law of population exists for plants and animals alone " is only a recognition of the importance of social factors in the growth of population. The biological possibility of an increase of population is unlimited and will always remain so, but when we are dealing with the considerations which are of primary importance for the population policy of a country, we have not only to emphasize the fact that population is capable of very rapid growth, but also the necessity of regulating it with reference to the social structure of a community, assuming of course, that the need for conscious regulation is taken for granted. The optimum theory of population, which is regarded by its exponents as the modern theory of population, has been of service inasmuch as the search for tests of the optimum has revealed both the necessity of taking up a relative standpoint in the study of population problems and the futility of statements which imply that there is some absolute law of population. The tests for over-population have not yet been discovered, but attempts to arrive at them have been fruitful and brought the realization that population is essentially a problem of dynamic economic life and cannot be solved or even dealt with on static assumptions.

The above conclusion does not, however, imply that the danger of over-population has passed away. At a time when we are suffering from what has been called the pinch of plenty it does seem out of accord with the facts of life to speak of the pressure of population on the means of subsistence. Where is the pressure, it may well be asked, when wheat is being burnt, cotton ploughed down, coffee dumped into the sea and all-round restriction of cultivation and production advocated as the one feasible method of economic recovery ? We are, as

a matter of fact, told that the age of scarcity is gone and has given place to the age of abundance, and we must revise our economic theories and think in terms of abundance and not of scarcity.

The population problem at a time when the world is oppressed by what looks like over-production, is likely to appear somewhat of an abstraction if it is conceived as a problem of adequacy or otherwise of material resources. In a country like India where millions upon millions are suffering from chronic semi-starvation, the deficiency, excess or untimeliness of rainfall is a matter for profound concern and is enough to upset the precarious balance of national economy. The argument that the problem of production has already been solved, has not even the merit of being specious, and is certainly not conclusive.

Even in the most wealthy countries of the world there is widespread economic distress in times of prosperity and their problem of production has an important bearing on that of population. The waste of productive resources, of which the Great Depression has given such a striking demonstration, is still continuing and gives point to the consideration that what is needed is not population control but production control with a view to using the available wealth to the greatest advantage. But production control is limited by the limitation of the economic system and the present political situation of the world. If the world were one economic unit and its resources could be used for the good of mankind, it might be possible to treat population as a secondary problem and concentrate on the development of resources. But the world is not an economic unit and in the existing circumstances it cannot become an economic unit. And as regards fuller utilization of the productive resources of every country on a national basis, in spite of the growing recognition of the necessity of concerted social action as a measure of economic development, the prospect of each country being able to make the most of its material and human resources is not at all hopeful owing to two reasons.

One of them has been referred to already, and that is that the co-operation between different countries which is an essential condition of the success of concerted action has become a

more remote possibility than ever. The other is that effective economic co-ordination, which is admitted to be absolutely necessary for the fullest development of the resources of every country, is hindered by the conflict of interests which makes it impossible to introduce the political, social and economic changes rendered necessary by the pressing need for re-adjustments. If the limitations of the present economic system prevent the most fruitful utilization of existing resources, and any change in the economic system is impeded by the existence of organized interests or the ineptitude of men, the fact must be regarded as setting a limit to the increase of population.

It is no use exulting in our abundance if we are not in a position to utilize it to our advantage, or if the situation is such that every effort to release the productive energy of man is inhibited by existing economic institutions and relations. Difficulties due to the inability of man to rise to his opportunities are more real obstacles to the increase of wealth itself and, therefore, of population than the scarcity of wealth or the limits set to its increase by the want of natural resources. As savages must remain poor even in the most fertile and richly-endowed territories, so must civilized men accept the consequence of their folly in not using their knowledge, skill and experience owing to their inability to rise above their own interests for the common good of all. In present circumstances it is not the means of subsistence that set a limit to the growth of population but the flagrant shortcomings of our economic organization. In other words man is not only limited by nature but also by his own limitations and at present the latter are the more important of the two so far as the question of population is concerned.

The points discussed in this chapter are based on the assumption that population is primarily an economic question and what matters is whether there is enough wealth to support the existing population and additions to it by the excess of births over deaths. " The produce which Nature returns to the work of man is her effective demand for population " is the Malthusian view in Marshall's words. The optimum theory stresses the fact that this return is not independent of

population, and under certain circumstances the increase of population can, by making increase of wealth possible, be its own demand. The concept of the maximum return per head as the test of the optimum population is more definite than Nature's return to man's efforts ; and though the quest for the optimum has turned out to be a real will-o'-the-wisp, the acceptance of the test itself makes economic considerations the decisive factor in the population problem. The answer to the question whether more or less population is desirable is taken to depend upon the effects of the increase or decrease of the existing population, increase being justified if men will on that account be better off and decrease being called for if they will be worse off. But better off and worse off are relative terms and imply either comparison with the prevailing standard before the change of population or with some standard which is held to be desirable for a people and which will be affected for better or for worse by a change in their numbers.

It has been maintained by Professor Robbins that theoretically a community with a millionaire standard might be over-populated in an economic sense if the elimination of one millionaire increased the per-capita return to the rest. But a theory which makes the maintenance of a millionaire standard the test of the excess or deficiency of population can be of no practical use to any community, and the deterioration of economic condition owing to increase of numbers need not be a matter of concern anywhere if the point at which the process begins is somewhat near the millionaire standard. The community in question can contemplate its growing over-population with perfect equanimity if it has risen to the summit of the millionaire standard and can decline from it for an indefinite length of time before it regards over-population as a real evil. But as no nation has ever attained that fabulous height of prosperity and none is even likely to aim at it, what really matters is not the return per-capita itself, but the standard which can be maintained on it, the point at issue being not whether a community will be better or worse off but whether it will, either because or in spite of the change of its population, be able to live up to the standard which commends itself to it as its national minimum.

The standard which a community will accept as the norm of its social policy, if it has a conscious policy at all, must be the outcome of the interaction of all the factors on which its collective existence depends. According to Malthus, the provision of the minimum of subsistence is the essential condition of the growth of population. That, of course, it is, for without it life itself becomes extinct and there can be no possibility of increase of population. Malthus wrote at a time when the standard of living of the English masses was not much higher than the barest minimum of existence and its maintenance was a matter of great difficulty. Even now, in poor countries like India and China, life being such a hard and unremitting struggle, the attainment of the minimum of subsistence is a pre-eminently desirable goal of population policy. But life on that level is brutish life—not merely because the community is poor in material resources but because it is impoverished by its constant, increasing efforts to stave off the danger of death. The struggle is enervating and affords neither scope nor incentive for a life of culture and refinement. It robs life of cheer, hope and self-respect and makes sheer sustenance the all-absorbing object of existence. In spite of the submergence of a vast majority of our people and people in so many other countries below even what is called "fodder minimum," that level is obviously not, and ought not to be, the regulating principle of a population policy. Man is not made to live at that level—or at any rate ascent from that level gives life its meaning and purpose and must be the object of man's mastery over himself and his environment.

If the minimum of subsistence is one extreme, the millionaire standard is the other and the latter, even it were attainable, is as undesirable as the former. So much of it is pure vanity and a great deal more of it not only superfluous but also gross and vulgar. It is not only the expression of the inordinate craving for things that do not matter but also a negation of a great deal that makes life worth living. Between the two extremes a mean has to be found, and what it will be must be determined by life's values—by our ethical standards. The maximum return per head cannot be our guide in the matter, for the economic efforts necessary to produce it might

involve conditions incompatible with the social conception of life. The advocates of individualism and socialism both urge the claims of their system on the grounds of productive efficiency, but if one involves extreme economic inequality, predatory tradition in production and "lazy, pretentious ones," to use H. G. Wells' words, in consumption, and the other, in spite of less glaring disparities in the distribution of wealth, an amount of regimentation such as to entail sacrifice of individuality, both may be equally unacceptable owing to their not being in harmony with life's essential purpose.

The well-known saying of Adam Smith that security is better than opulence suggests the obvious conclusion that opulence is not the highest good of life and there are ends other than security which also have precedence over it. The choice between losing one's soul and gaining the whole world presents itself in the life of nations as it does in that of individuals, but if considerations which are implicit in it seem too remote from the issues of population to be relevant to them, it should be obvious that once the necessity for rising above the subsistence minimum is taken for granted, the choice of any other minimum cannot but be determined by considerations of well-being in which the non-economic elements must be as important as the economic.

The argument of the preceding paragraph is not a re-hash of the Mammon versus God argument but a statement that the standard of living of a people is not merely a matter of necessaries, comforts and luxuries but also carries with it the conception as to how life ought to be lived. The standard is a social phenomenon and expresses a scale of values based on collective experience. The increase or decrease of population, its desirability or otherwise, must be related to its effect on the standard of living of a people—the standard which they want to attain and maintain, and the return per head is an important consideration because it is an essential condition of the attainment and the maintenance of the standard. But what matters is not the return itself, but its disposal and the plane on which life is lived as a result thereof. Marshall distinguishes between the standard of living and the standard of life, and the latter is taken to mean more the standard of activities than the standard of wants, rather the standard of activities adjusted to wants,

which is only another way of saying that the quality of wants and the way they are met are more important than their number or the amount of expenditure incurred to satisfy them. Both the quality of wants and the way they are satisfied must not only be influenced but largely determined by the view of what is desirable from the social standpoint ; the customary standard of living which is assigned such an important rôle in all writings on population, is only a concrete embodiment of the view and crystallizes the general consent in respect of the substance and manner of living.

The more civilized a community becomes, the greater is the importance of conscious thought in the choice of the standard ; the law of equal-marginal utility, according to which the relative merits of the different methods of consumption are analyzed, compared and rated with a view to making money go as far as possible, is the process of choice at work in actual practice, the value of this being increased by making it as rational as possible. A community which is alive to the purpose which it sets before itself and is animated by devotion to it, will seek to make it the guiding principle in the life of its members and the choice of its number will depend upon whether they are a help or a hindrance in the realization of the purpose. Hitler and Mussolini are against birth control owing to their faith in war as a beneficent situation. They want a large population because they want more soldiers and exhort their people to " tighten their belts " to put up with all economic privations which may be necessary owing to their passion for preparations for war. Peace is a higher ideal than war, and at present the glorification of war is utter madness owing to the imminent danger of wholesale destruction which the present deadly instruments of war make a certainty of the immediate future. But what is wrong is the ideal presented and not the view that population should be determined by it. A country is perfectly right in having a lower income per head, and, therefore a lower standard of living if thereby it can have the satisfaction of being true to its chosen purpose. The lower standard of living being the result of its conscious choice becomes a higher standard of life and contributes towards the making of the nation. Plain living and high thinking need not

be the ascetic ideal that they are often taken to be. They may be—they ought to be—a means by which the necessaries of health, efficiency, individual and social, and the surplus by which a full and varied life—life of thought, action and social contacts—is made possible. Population, therefore, is not a question of the relation of numbers to the amount of food or the income per head, but of the adjustment of numbers to a social purpose. It is a problem in social ethics, a problem of the standard which the community wants its numbers to live for and live up to.

As test-tube babies exist only in phantasy and not in fact, the adjustment of numbers, though social in its intent and effect, can only be made through intelligent action on the part of individuals. The action of the individuals in this sphere affects the most intimate part of their life and must necessarily involve a corresponding attitude towards sex, marriage, family, and the status and function of women. The view that population ought to be a matter of conscious control is itself a revolution in thought and is, as already stated, in contradiction to the view held by religious people all over the world that any suggestion of such control is a vote of non-confidence in the Deity. But even more important than the contradiction is its challenge to the whole social code which governs sex, family and the place and position of women in society. The issue between self-control and birth control, which the view raises so pointedly, cannot be settled without premising a specific view as to the purpose and function of sex in the economy of life ; the discussion raises a host of other considerations relating to the social significance of the family, the emancipation of women, in fact everything which has any bearing on the continuity and improvement of the race. These considerations strengthen the conclusion that, though economic factors are and must remain important in the determination of population, population is not merely an economic question and cannot be discussed purely on economic assumptions.

One non-economic aspect of the problem which has become a major issue since Malthus, is the eugenic aspect of population. Since the dawn of history, mankind has been aware of qualitative differences between different races and different sections

of the community. The empirical knowledge that certain strains are good and ought to be fostered and others not desirable and therefore to be eliminated, accounts for the development of a large number of marriage customs, restrictions, taboos and prohibitions. This knowledge, not being scientific and having been acquired under conditions, which have given pre-eminence to prejudice as a formative factor of opinion, has given us a mass of practices which are of a very mixed value. But heredity, being a fact of life, must be duly considered in all discussions of population, and a social policy with regard to it definitely formulated with a view to making use of such knowledge as we have to conserve and improve the quality of the race.

Biology has recently made very rapid progress and the applied aspect of it, known as eugenics, has won for itself a large number of ardent votaries. Flushed with a sense of new insight into the working of life, they have shown a disposition to overlook the limitation of their knowledge and advocate policies unwarranted by the facts of history or the available data on the subject. Economic differences have been magnified by them into differences of heredity and the pursuit of scientific studies greatly prejudiced by class bias. But in spite of the errors and exaggerations of indiscriminating advocates of eugenic measures, this infant science has a great future and is of importance from the standpoint of population. Hitler and his excesses notwithstanding, selective breeding should be the basis of all intelligent population policies and when our knowledge has advanced much farther than it actually has, conscious control of population will depend as much on considerations of quality as of numbers. But even at present eugenic considerations are of value in forming a balanced view of population and must be taken into account in the discussion of practical policies.

This brief review of the development and present position of population theory may now be concluded with one or two general observations. The present position of the theory owing to the course of development which it has followed, makes it very difficult to state it in the form of clear-cut formulas. The Malthusian view, that population increases in geometrical

ratio or rather that it can increase at that rate in a short time if it is not checked, has, as already stated, been more than vindicated by the contributions which biology has made to our knowledge of life. That the growth of population, though not necessarily constant, can be enormous, does not however settle the issue. Its growth has never taken place " at top speed," and though this has been due to an instinctive adoption of restrictive practices plus the waste of life, any large-scale use of contraceptives and a fair possibility of their being used on a much larger scale changes the nature of the problem. Should population be checked at all ; if so, to what extent and with what objective ? The problem being essentially social cannot be solved by individuals on their own initiative and by consideration of their own convenience. That parents should not have more children that they can properly bring up seems a simple proposition ; but its simplicity is only apparent, for the search for tests of propriety raises almost baffling issues. The standard of living to which the parents are used has no authentic value from the social standpoint ; in bringing up children the parents are really agents of society and are entitled to aid and guidance in the discharge of their obligation.

Malthus held " that at Nature's mighty feast there is no vacant cover for a man who is born into a world already possessed if he cannot get subsistence from the parents on whom he has a just demand and if the society do not want his labour." But parents, though in a way responsible for the birth of children, are neither responsible for the way the world is possessed nor for the conditions which determine society's demand for labour ; further, if the view is accepted that subsistence is not all that children are born for, the question whether there is a vacant cover or not for a new-born child assumes a significance which cannot be limited by what the parents can do for it.

The problem of population, in one word, is the problem of the whole life of a people. It is complicated but nevertheless important and, in most countries, urgent. The absence of clear-cut formulas is at present a source of confusion of thought and practice and is likely to be the cause of divided counsels in the future. But the problem has to be faced. The world

to-day is suffering from anarchy owing to lack of organization and conflict of values. Anarchy has to give way to order, and organization based on a general measure of agreement as to fundamentals of life has to be developed and established. A general measure of agreement can either be imposed or evolved; and even when imposed it has, if it is to endure, to become an essential part of the living tradition of the people.

In India, as everywhere, everything is in a state of flux and the future obscure and unpredictable. In the changed and changing circumstances population must cease to be a matter of unconscious or compulsory adjustment and become a subject for conscious and creative social policy. There is much that is not clear in our knowledge of population; the methods by which a social policy with regard to it can be shaped and put into effect cannot be at all easily discovered or applied; moreover, owing to changes in the ideals and technique of life, the vital elements of the theory of population have become more or less essentially speculative. But in spite of uncertainties due to all these causes, we have to think out our population problems and take action according to our understanding and knowledge. Whatever else may or may not be justified, there is no justification for complacency or inaction. In India, as we shall see later, the facts of the situation make intelligent action a matter of urgent necessity. Let us, however, first know the facts and try to understand their meaning.

Chapter III

GROWTH OF POPULATION

" But this argument of over-population is deserving of further notice. The problem to-day all over the world is not one of lack of food or lack of other essentials, but actually lack of mouths to feed, or, to put it differently, lack of capacity to buy food, etc., for those who are in need. Even in India, considered apart, there is no lack of food, and though the population has gone up, the food supply has increased and can increase more, proportionately, than the population. Then again, the much advertised increase of population in India has been (except in the last decade) at a much lower rate than in most Western countries. It is true that in future the difference will be greater for various forces are tending to lessen and stop population increase in Western countries. But limiting factors are likely to check population increase in India also."

Jawaharlal Nehru in his Autobiography.

THE view expressed in the above paragraph is worthy of serious consideration for, apart from being the view of a great public leader who is exercizing a growing influence over the minds of our people, it contains three statements which raise vital points. Two of these, viz. that at present the world is suffering more from abundance of goods than from scarcity, and that limiting factors are likely to check population increase in India also, will be considered in later chapters, but in this chapter it is necessary to examine the third, which is that the " much advertised " increase of population in India has been much lower than in most Western countries. For this purpose it is necessary first to state the facts.

The figures of the increase of population in India since 1872, the year in which the first census was taken, have received considerable publicity, but it is necessary to give them here. The figures are as follows :—

TABLE 1

	Millions
1872	206·2
1881	253·9
1891	287·3
1901	294·3
1911	315·2
1921	318·9
1931	352·9

This means that in the 59 years preceding the last census the population of India increased by 146·6 millions, but as of this an increase of 59 millions is known to be due to the inclusion of new areas and the improvement of method, the real increase of population during this period is 87·6 millions which gives a rate of 30·7 per cent. The rate of increase in the different decennial period is tabulated below :—

TABLE 2

1872–81	1·5
1881–91	9·6
1891–01	1·4
1901–11	6·4
1911–21	1·2
1921–31	10·6

That the increase is not greater than the increase in other countries is clearly borne out by the growth of population in some of the more important countries of Europe, the U.S.A, and Japan, the figures for which are given in the following table :—

TABLE 3

Growth of population between 1870 and 1930

	1870 (Millions)	1930 (Millions)	Rate per cent.
Europe	307·65 (including Russia)	505·7	64
Europe	222·45 (excluding Russia)	307	56
Germany	40·85	64·85	60
Italy	26·65	41·1	63
Spain	16·33	23·58	44
England & Wales	22·8	39·89	77
France	36·8	41·8	14
Russia	75·2	161·00	115
Denmark	1·79	3·55	100
U.S.A.	50·00	123·6	125
Japan	30·00	64·7	113

The following table gives average increase rates in percentages for Europe, North-Western Europe and India for the same period :—

TABLE 4

	Europe	N. W. Europe	India
1870–80	0·831	0·977	0·137
1880–90	0·901	0·811	0·903
1890–1900	0·992	1·105	0·145
1900–10	1·114	1·106	0·627
1910–20	0·219	0·272	0·114
1920–30	1·025	0·635	1·015
1870–1930	0·847	0·817	0·487

These figures speak for themselves. Jawaharlal Nehru is right. The growth of population in India in the last sixty years has been nothing like the growth of population in the most important countries of the world. Compared with the increase of 30 per cent. in India, the increase in Europe has been 60 per cent. and in Europe without Russia, the area with which India is generally compared, 56 per cent. The growth of population in the U.S.A. has been the greatest, but in that country immigration, during the 19th and the first quarter of the 20th century, accounts for the very rapid growth of population that has taken place. The U.S.A. has gained 34 millions in population since 1820 by the influx of immigrants from Europe, but that fact also shows that the actual increase of the population of Europeans has been much greater than is shown by the above table for besides the loss of 34 millions to the U.S.A. it has lost another 19 millions to other countries since 1820.

It has been estimated that since 1650 the population of the white races has increased from 100 millions to 750 millions and if Moreland's estimate of India's population in 1606, the year of Akbar's death, is to be accepted as approximately correct, the increase of population in India in about the same period is less than half the increase of the Europeans. It is interesting to note that during the same period the world population is estimated as having increased from 545 millions to 2,012 millions which shows again a more rapid rate of increase than the growth of our population and of course indicates, to quote Carr-Saunders' words, that " the white peoples have had a disproportionate share of the world's increase." The estimates

of population in the beginning and the middle of the 19th century are more or less intelligent guesses, but taking them for what they are, it is clear that in the last four centuries the increase of population in India is no greater than the increase of population in the world as a whole, and is much less than the increase of the white races.

But reverting to Tables 3 and 4, which give more dependable figures, we see that France is the only country in which the increase of population has been less than its increase in India. The increase of 77, 60 and 63 per cent. for England, Germany and Italy respectively represents a more or less normal growth of population in the Western countries during this period, and though since 1875 the increasing use of contraceptives has led to the progressive decrease of the birth rate in the countries of North-Western Europe, the improvement in sanitation and the adoption of preventive public health measures have also reduced the death rate, and more than made up for the declining birth rate.

The decade 1910–20 was exceptional owing to the effects of the war factors but the post-war decade has created an entirely new situation and the likelihood of the population of the countries of Western Europe not even being able to maintain itself has to be reckoned with and is exercizing the minds of the students of the subject. The measures which have been taken to reverse the decline of the birth rate have not been effective so far, and in spite of the publicity which they have received and the vigour with which they are being pursued, the resistance of the human factor is likely to prove itself to be a stronger force than the high-pressure propaganda of the authoritarian governments. But whatever the future may be, it is clear that the increase of our population in the last sixty years has been less than half of the increase in the European countries taken as a whole and we cannot be regarded or regard ourselves as specially prolific people.

The view that our dire poverty is in a large measure due to the growth of our population is not borne out by the facts. During a period of rapid development of economic resources and a rising tide of prosperity in other countries, which the growth of population has not only not adversely affected but is partly

responsible for, India's position has become relatively, if not absolutely, worse. The fact that this change has taken place in spite of the comparatively low rate of the increase of population in our country is its own commentary. It shows that over-population is not the major cause of India's poverty and the latter cannot be mitigated or abolished merely by slowing the rate of the growth of population or even by replacing it by a declining population. India's poverty is a complex of many elements and cannot be remedied without a radical reconstruction of our whole economic and social life. The view that it is entirely or mainly due to the working of the population factor shows a complete lack of the right perspective.

In economic controversies the disputants are generally monists, i.e. they attribute the results which give rise to the controversies to one particular cause, the removal of which appears to them the only way out. Allowance has, therefore, to be made for the element of exaggeration in the statements often made about the causal connection between our population and poverty; but there is no doubt that the increase of population in India has been " much advertised " because it is supposed to contain in itself the explanation of the extreme economic backwardness of our people in spite of the otherwise favourable conditions of economic progress created by the establishment of British rule in India. It is not necessary to introduce here a discussion of the record of British rule in India, but if India is a country, to quote another passage from Jawaharlal's autobiography, whose " people are poor beyond compare, short-lived and incapable of resisting disease and epidemics, illiteracy rampant, vast areas devoid of all sanitary or medical provision, unemployment on a prodigious scale, both among the middle classes and the masses " the fact, whatever its cause, is not primarily or mainly due to the growth of our population. That, of course, does not mean that the growth is justified by our economic position or prospects, but that if there had been even slower growth than has actually taken place, the economic position of our people would have, by contrast with that of the more progressive countries of the world, appeared what it actually is—utterly dismal and depressing.

Does that, therefore, mean that India has no population

problem ? Is the growth of population a matter of secondary importance or comparative indifference ? Would a more rapid growth of population have been desirable or should it be welcomed now ? Answers to these questions must necessarily wait till the position has been more fully analysed or reviewed. But it must be stated here that the conclusions implied in any of the posers referred to above do not necessarily follow.

Even if the poverty of our people, for which appalling is the only appropriate adjective in spite of the frequency with which it is used, is to be attributed either to our political subjection or the organic defects of our social and economic life or both, it is not to be assumed that we can take the increase of numbers and the conditions associated with it as a matter for complacency or one which can be left to look after itself if we have the right vision and the will to work for it. Population will, on a careful consideration of the whole position, be found to be a most important factor which will both condition and limit our efforts for the introduction of what must be a new order for there can be very little in common between things as they are or what they must become if our country is to cease to be, to use Jawaharlal's words once again, " a servile state "—servile as much owing to our prodigious follies as to foreign domination.

The line of argument, must, however, be cut short here for it belongs more properly to a much later portion of the book. It is now necessary to give figures of the growth of population for the more important constituent units of our large country and make such brief comments as may be necessary for a preliminary elucidation of the position with regard to the growth of population. The size of our country and the diversity of conditions prevailing in it are at once an argument for avoiding unduly wide generalizations and too detailed studies of our population problem. Our object must, of course, be an understanding of the position in the country as a whole, which, however, cannot be acquired without our forming an estimate of the relative importance of the factors at work in different parts of the country. In this chapter and the next we have to confine ourselves to the growth of population and compare the position in each important province or state with that of the country as a whole.

Bengal.

Taking the provinces in the order of their population, Bengal, which is not only the most densely populated province of India but also one of the most densely populated parts of the world, has a population history which has some points of special interest. The following table gives the figures of the growth of population.

TABLE 5

Year	Total population	Population of British territory	Increase per cent.
1881	37·02	36·32	—
1891	39·81	39·10	7·6
1901	42·89	42·15	7·8
1911	46·32	45·50	7·9
1921	47·59	46·70	2·7
1931	51·09	50·15	7·3
1881–1931	—	—	38·0

The figures in column 2 include the population of three states, which are included in Bengal for census purposes. Of them the population of one, viz., Cooch-Behar, has been declining while that of the other two, viz. Sikkim and Trippura, has been rapidly increasing; but since the total population of all the three in 1931 was less than 2·5 millions and increased by ·28 millions since 1881, they are, relatively speaking, not important for our purpose.

Taking, therefore, the figures of columns 3 and 4 we find that since 1881 there has been a total increase of 13·83 millions and 38 per cent. in the population of Bengal. During the same period the real increase of the population of the country as a whole has been 30·7 per cent. which shows that Bengal has, during the fifty years since 1881, more than held its own in respect of population. The increase in Bengal has been greater than in the country as a whole. Of the total increase of population in India since 1881, Bengal accounts for nearly one-sixth (13·83 millions out of the total of 87·6 millions) and when we take into account the fact that the area of Bengal is only 4·4 per cent. of the total area of India including Burma, or 5·1

per cent. if Burma is excluded, and the density of population per square mile in Bengal has increased from 450 to 616 compared with the increase from 147 to 195 for the country as a whole, it becomes clear that Bengal is not only the most densely populated province of India but has become progressively more and more so in the five decades since 1881.

The same conclusion is borne out if we compare the figures in Table 2 with Table 5, for except in the first and the last decade of the period, Bengal has maintained a rate of increase much in excess of the rate for the whole country and in the two decades in which the rate has been lower, the difference is two and three per cent. and the absolute increase in Bengal is much greater than in any other part of the country.

Another point of interest with regard to Bengal is that the increase of population in those parts of the Province, which are already most densely populated, has been much greater than in the rest of Bengal. Over 17 millions or more than one-third of the population of Bengal live in 13·7 per cent. of the total area and 55·1 per cent. in 29·7 per cent. Of this area the increase in East Bengal in general and Dacca Division in particular, has been far in excess of the general increase in the Province. The comparative position is indicated by the following table.

TABLE 6

	Mean Density per square mile						Increase per cent. since 1881
	1881	1891	1901	1911	1921	1931	
Bengal	430	484	521	563	578	616	30·7
East Bengal	405	463	513	577	625	638	57·5
West Bengal	534	555	595	611	581	618	15·7
North Bengal	444	463	489	528	538	550	23·9
Central Bengal	470	489	515	541	543	566	20·5

East Bengal comprises Dacca Division, Chittagong Division and Trippura State. The Trippura State has a mean density of 93 per square mile and Chittagong Division 534, but if we take Dacca Division whose mean density is 935 and compare the increase in the table below :—

TABLE 7

	Mean Density per square mile						Increase per cent.
	1881	1891	1901	1911	1921	1931	
Dacca Division	586	662	726	809	866	935	59·5

we find that the increase in this division has been greater than in East Bengal. If the process is carried a step further, we find that Mymensingh—one of the four districts of Dacca Division and with a population greater than that of any other district of India and greater than a large number of countries—shows a density of 1,265 and an increase of over 68 per cent. since 1881. Mymensingh had a mean density of 752 in 1881, which is greater than the present density of England and Wales (685), but in spite of being almost entirely a rural area and having had no development of any importance except the increase in the value and importance of jute, its density per square mile has increased to 1,265. The increase has taken place in spite of a net emigration since 1921 of over 500,000 persons to Assam from Bengal, a considerable proportion of whom belong to this district.

The progressive increase of population in the most densely populated parts of the country is a very significant fact which is true not only of Bengal but also of some other parts of the country. Its bearing on our population problem will have to be discussed later, but here it is necessary merely to state that, contrary to the generally accepted view, the growth of population in Bengal makes it difficult to measure the pressure of population by its density per square mile. A density of 752 for a rural area would be considered high in any country, but the fact that in Mymensingh it has increased from that figure to 1,265 in 1931—an increase of over 68 per cent. in fifty years—shows an increase of population which, unless it is accompanied by proportionate development of economic resources, can only mean a deterioration in the standard of living of the people.

There are five possible ways in which the strain of a growing population in the most densely populated tracts like Bengal

can be relieved. They are, extension of cultivation, increase in agricultural produce by improvements in the methods of cultivation, relative rise of agricultural prices, industrialization and emigration. Whether any of these factors has, by itself or in combination with the others, been at work to afford the necessary relief, need not be considered here; but the fact that the population of the country has been growing rapidly just in those parts, which were already supporting an unduly large population, creates a presumption in favour of the view that economic, social and biological factors have all combined to make the struggle for existence harder and more enervating in these parts. The average number of acres per person in the rural areas of Bengal is only 1·113 acres and it was 1·52 in 1871. This one fact, if its significance is properly and adequately appreciated, is enough to make the spatial limitations subject to which the growth of population has taken place in Bengal a vivid reality.

United Provinces.

The U.P. being the second largest province in point of population, comes next in the order which has been adopted for analysing the facts of the present position. The most outstanding characteristic of the U.P. is the slow growth of its population. The figures of the growth of population since 1881 are :—

TABLE 8

1 Year	2 U.P.	3 British territory	4 Inter-censal percentage variations
1881	44·87	43·77	—
1891	47·68	46·50	+6·2*
1901	48·47	47·31	+1·7
1911	47·99	46·80	−1·1
1921	45·50	45·37	−3·1
1931	49·61	48·40	+6·7

*A certain proportion of this increase was due to better enumeration and the real increase has been estimated at 5·3 per cent.

Since 1881 the population of the U.P. has increased only by 10·6 per cent. If the above table is compared with Table 2, which gives the rates of variation for the country as a whole, the relative position of the U.P. will become clear. In the period during which the population of the country has increased by 30·7 per cent. the population of these provinces has increased only by 10·6 per cent. The U.P. had a lead of 7·85 millions over Bengal in 1881 which was decreased in every decade until 1921 when Bengal replaced the U.P. (*vide* Table 5) as the province with the largest population in the country; and in 1931 Bengal's population was in excess of that of the U.P. by 1½ millions. The increase of population in the other provinces also indicates that this province is far behind them in this respect. The following figures are relevant to this point :—

TABLE 9

Table showing the percentage growth of population in the different provinces since 1881

Bengal	.. .. ..	38 per cent.
Bombay	.. .. ..	32 ,,
Punjab	.. .. ..	37 ,,
Madras	.. .. ..	51·6 ,,
C.P.	.. .. ..	35 ,,
B. & O.	.. .. ..	26 ,,
U. P.	.. .. ..	10·6 ,,

Increase of population in the U.P. has not only been much slower than in the other Provinces, but over a large area population has actually decreased since 1881. In nine districts and the Rampur State, which comprise an area of over 18,000 square miles, or roughly 16 per cent. of the area of the Province, the population has decreased since 1881. In eleven other districts, which cover an area of over 20,000 square miles, or about 18 per cent. of the Province, the increase of population since 1881 has been less than 5 per cent., that is less than half the provincial average.

In the census reports of the Province the occurrence of famines and the outbreak of epidemics like malaria, plague and influenza are held responsible for the unfavourable position

of this province in respect of the growth of population. The famine of 1897* caused heavy mortality but during the decade ending 1901 the country as a whole was visited by severe famines and the mortality in some other provinces was even heavier than in the U.P. To malaria and plague is attributed the decrease of population in the next decade. But though this Province suffered a loss of population by plague of over 1¼ millions, the intensity of the plague was as great if not greater in some other Provinces. The total recorded mortality by plague during this decade was 6·5 millions, of which over one-third was in the Punjab alone.

In the following decade the decrease of population in the U.P. was even greater and was accounted for by the heavy incidence of mortality caused by influenza. The U.P. was one of the worst sufferers among the Provinces owing to the havoc caused by this terrible epidemic, and the reported loss of life amounted to over 2 millions, but the Punjab, the C.P. and Bombay suffered even more, their death rate per *mille* owing to influenza being 45·4, 66·4 and 54·9 respectively, compared with 43·4 of the U.P.

The fact of slow increase of population in the U.P. cannot therefore be explained by this province being specially exposed to the risk of the loss of life due to famines or epidemics, and though the discussion of the extent to which the country as a whole and the different Provinces are over-populated must be deferred at this stage, the presumption suggested by the facts given above seems to be that in the U.P. the struggle for existence is getting even harder than in other parts of the country; and though an increase of population may occur, when agricultural or health conditions are favourable, the conditions of life in general do not justify additions to the population of the Province.

Another point of interest, which has to be mentioned, is that in the U.P., as in Bengal, the increase of population, instead of varying inversely to the density of population has, taking the Province as a whole, varied directly to the latter. Of the total increase of population of 4·63 millions in the U.P., the four

* Area affected was 300,000 square miles and population nearly 70 millions.

districts of Gorakhpur, Basti, Gonda and Bahraich, which together constitute what in the Census Reports is called the natural division, Sub-Himalayan East, account for 2·81 millions or over 60 per cent. The area of the division is 12,834 square miles or 10·72 per cent. of the total area of the Province, its population is nearly 17 per cent. and density 651 per square mile. The density of the division is lower than that of the neighbouring one, Indo Gangetic Plain, East, whose density is 753. The population of the latter is only 1·6 per cent. above the 1881 level, but the density of Sub-Himalayan East, is well above the provincial average of 456 and the density of Gorakhpur, the most important district of the Division, is 755. The population of this division has, during 50 years—1881–1931—increased by 31 per cent. which is, as stated above, over 60 per cent. of the total increase in the Province.

There is a tract of low density in which the percentage increase of population has been greater. The division is called Himalayan West, in which are included the districts of Dehra Dun, Naini Tal, Almora, Gharwal and the Tehri Gharwal State, and has a density of 109 only. Its population has, in the same period, increased by nearly 33 per cent., but the total increase amounts to ·46 millions or less than 10 per cent. of the increase of population of the whole Province.

There are three other districts, viz., Meerut, Buland Shahr and Sitapur, which show an increase of population of over 20 per cent. since 1881. Their density is 691, 595 and 520 per square mile respectively. With regard to the Province as a whole, it can therefore be stated that the general tendency at work has been for the population to increase more rapidly in the parts which are already very thickly populated. It is not necessary to say more on this point. The fact is important and will have to be considered in the general discussion of the problem.

Madras.

The population of Madras, which ranks third in point of population, has been growing rapidly. Since 1881 its population has increased by 51·6 per cent. Increase in the inter-censal periods is given in the following table :—

Growth of Population

TABLE 10

Year	Madras	British territory	Increase
1881	—	31·17	—
1891	36·06	35·64	15·7
1901	38·65	38·23	7·2
1911	41·87	41·40	8·3
1921	42·79	42·32	2·2
1931	47·19	46·74	10·4

A comparison with Tables 5 and 8 will show how the difference between the population of Bengal and the U.P. on the one hand and that of Madras on the other has been reduced in every decennial period. In 1881 the population of Bengal and the U.P. exceeded that of Madras by 5.89 and 13·70 millions respectively, which margins were reduced to 2·96 and 2·42 millions in 1931. Madras records the highest percentage increase amongst the provinces of India since 1881 and the total increase since that year is 15·57 millions, which is greater than that of Bengal and nearly 18 per cent. of the increase (87·6 millions) of the country as a whole.

The population of Madras is more evenly distributed. The Agency and Deccan tracts are thinly populated and have a low density, but the other four natural divisions, three on the east coast and the fourth on the west, are, with the exception of a few districts, more densely populated. Increase of population since 1891* has been greatest in East Coast North, which contains very densely populated districts like Vizagapatam, Godavari East, and Godavari West. The population of this division has been increased by 38 per cent. since 1891, of East Coast Central by 34·7 per cent., and of West Coast by 33·5 per cent. East Coast South, which is also in parts very densely populated, shows a slower increase of population than the province as a whole or the other natural divisions except Agency. Increase in this division has, since 1891, been 23·2

* For Madras 1891 is taken as the base year but it does not affect the points under reference.

per cent. and in the last inter-censal period only 4·7 per cent. Tanjore, which is one of the six districts included in this division, is the least progressive district in point of population. It has a density of 638 per square mile, which is only next to that of Godavari East (the most densely populated district of the Province). The latter has increased only by 6·9 per cent. since 1891. But taking the Province as a whole the tendency has been, to quote from the *Madras Census Report* for 1921, "for the more densely populated portions of the Province to increase their numbers."

Increase of density since 1921 has been greater just in those districts which were carrying a very large population compared to their area. East Godavari, which has a density of 660, has increased by 82 since 1921, Malabar (density 610) by 75 and Godavari West (density 518) by 73. Tanjore is again to be excepted, its density having increased only by 15 per square mile compared with the increase referred to above or that of 31 for the Province. Taking the seven most densely populated districts the same tendency is shown by the figures of the increase of density since 1891. The figures are given in the following table :—

TABLE 11

	Density in 1891	Density in 1931	Increase since 1891
East Godavari ..	463	660	197
Tanjore	597	638	41
Malabar	457	610	153
South Arcot.. ..	465	583	108
Chingleput	389	535	146
Vizagapatam ..	425	534	109
West Godavari ..	324	518	196
Province	328	251	77

The six districts, which were the most densely populated districts in 1931, occupied the same position in 1891, only the 7th position of Chittoor in 1891 has been taken by West Godavari in 1931. Among the six districts themselves there

has been inter-change of position and the unprogressive character of Tanjore's population has again been brought out by the above table. But the general tendency of population to increase more rapidly in the densely populated districts of the Province is borne out by these figures.

Behar & Orissa

Behar & Orissa have, for the purpose of this study, to be treated as one unit in spite of the separation of Orissa since 1936. The new province of Orissa consists of the area included in Behar & Orissa, and a portion of Madras, and as comparative figures for the newly constituted province are not available, it is convenient to take the census figures of the joint provinces as a basis of our discussion. The growth of population in Behar & Orissa is tabulated below :—

TABLE 12

	Behar and Orissa	Percentage variations	British territory population in millions	Percentage variations
1881	33·39	—	30·98	—
1891	35·89	7·5	32·86	6·0
1901	36·55	1·8	32·23	−1·6
1911	38·42	5·1	34·48	6·9
1921	37·95	−1·2	33·99	−1·4
1931	42·32	11·2	37·67	10·8

As the population of the States included in Behar & Orissa is more than 10 per cent. of the total population, the percentages of variation are given for the province and the British Territory separately. The total population of Behar & Orissa has, since 1881, increased by 26·2 per cent. and of the British Territory by 21·5 per cent. The increase of population since 1881 has been 8·93 millions and during 1921–31, 4·37, or nearly 50 per cent. That fact, even more than the higher rate of increase in 1921–31, indicates the importance of the last census period from the point of view of population.

Behar & Orissa has, for census purposes, been divided into

four natural divisions, viz., North Behar, South Behar, Chhota Nagpur Plateau and Orissa. These divisions show very wide variations in the rate at which their population has increased since 1881. The rates are as follows :—

TABLE 13

Division	Per cent. increase since 1881	Density in 1881	Density in 1931	Increase
North Behar	16·9	599	699	100
South Behar	9·2	517	565	48
Orissa ..	15·8	441	512	71
Chhota Nagpur	62·1	134	217	83
Province ..	26·8	299	379	80

The percentage variations can be misleading if the basic figures vary very widely. Hundred per cent. increase in the population of a district whose population at the beginning was only 100,000 may, for example, relatively speaking be not as important as 25 per cent. increase of another tract which had a population of 10,000,000 and, therefore, comparison of absolute increase of population in the different natural divisions and their proportion to the total increase would give a better idea of their contribution to the total population of the Province. The total increase of population in Behar & Orissa, since 1881, has been 8·93 millions, of which Chhota Nagpur Plateau accounts for 5·05 millions, or 59·4 per cent. The proportionate increase in the other natural divisions of North Behar, South Behar and Orissa has been 24·8, 9·2 and 6·6 respectively.

The relative positions of the different natural divisions is not affected by adopting this method of comparison, but the latter makes it clear that the contributions of South Behar and Orissa have been relatively small and that North Behar, though densely populated in 1881, accounts for an increase of nearly one-fourth of the total population of the Province. But the most striking fact of the growth of population in Behar & Orissa is that nearly three-fifths of the increase has taken place in the sparsely populated tract of Chhota Nagpur. Of

this province it is true that population has grown in inverse ratio to the density of population per square mile. This is true of the Province as a whole in spite of the fact that in the other three natural divisions the order of increase of population and density is the same.

The general conclusion seems to be warranted that in respect of the growth of population the more thickly populated tracts of the Province are lagging behind the Province as a whole. The conclusion is further borne out by taking the most densely populated districts of Muzaffarpur, Darbhanga, Saran and Patna, and comparing their position in respect of population. They were in 1881, as they are now, the most densely populated districts of the Province. The population of these four districts was 28 per cent. of the total provincial population in 1881, but has been reduced to 22 per cent. in 1931, and their total population has increased only by 1·18 millions, or nearly 13 per cent. of the provincial increase of 8·93 millions. The population of Chhota Nagpur, which is less than one-fourth as thickly populated as these districts, has increased in the same period from 27 per cent. of the provincial total in 1881 to 34 per cent. in 1931 and the total increase of the plateau has, as already stated, been 59 per cent.

Bombay.

The figures of the growth of population in the Bombay Presidency, which is sixth in order of population, do not call for any comment. The figures are :—

TABLE 14

Year	Bombay, population in millions	Percentage variations	British territory, population in millions	Percentage variations
1881	19·96		16·48	
1891	22·95	14	18·86	14
1901	22·13	3·6	18·53	1·3
1911	23·55	6	19·65	5
1921	23·15	−·15	19·25	−2
1931	26·34	10	21·87	13·9

Since 1881 the population of the Presidency has increased by about 32 per cent., which is a little above the average increase for the country as a whole.

As between the different natural divisions the following table illustrates their relative position :—

TABLE 15

	Percentage increase of population since 1881	Density in 1931	Absolute increase since 1881 in millions	Percentage of the total increase since 1881.
Sindh ..	68	84	1·5	27
Gujerat ..	12	316	·4	7
Deccan ..	30	192	2·6	49
Konkan ..	29	330	1·0	17

Though the percentage increase in Sindh is greater than in the other three divisions, Deccan accounts for nearly half the total increase of population in this province. The two most thickly populated divisions of Bombay are Konkan and Gujerat. The density of population of Konkan (including Bombay City and Bombay Suburban District) per square mile of cultivable area is 538. There is a marked difference between the increase of population in the two divisions and that of the Province as a whole. Gujerat, which in 1881 contained 16 per cent. of the total population, has contributed only 7 per cent. of the absolute increase in the Province since 1881 and Konkan's population in the rural districts has increased only by 13 per cent. compared with 32 per cent. in the Province. Kaira, a district of Gujerat, is the most thickly populated district of the Province and since 1881 has lost 9 per cent of its population.

There is clear evidence that the most thickly populated tracts of the Province are losing ground in respect of population, which may be taken to indicate that the pressure of population on the soil in these areas is exceedingly heavy. Another point which is worth mentioning is that of the total increase of population of 6·4 millions in Bombay, the increase in the last

census decade having been 3·2 millions, or 50 per cent. This fact not only shows that the contribution of the last decade to the increase of population has been very much above the average but the whole position needs to be reviewed with great care with a view to assessing the possibilities of a relative increase of population and development of resources in the near future.

Punjab.

The exclusion of West India State Agency from the Bombay Presidency, which since 1924 has been constituted into a separate census unit, gives the Punjab the fifth position in order of population. The increase of population in the Province since 1881 is given in the following table :—

TABLE 16

Year	Population in millions	Percentage variations since 1881	British territory, population in millions
1881	20·80		16·93
		10·2	
1891	22·91		18·65
		6·3	
1901	24·37		19·94
		−2·4	
1911	23·79		19·57
		5·6	
1921	25·10		20·65
		13·3	
1931	28·49		23·58

The most outstanding feature of the economic position of the Punjab and, therefore, of its population has been the extension of irrigation to tracts which were practically uncultivable, but which now have become some of the most prosperous districts of the Province and have provided an outlet for the population of the more thickly congested districts of the Province. Among them the districts of Lyallpur, Shahpur, Jhang, Montgomery, Multan and the Bhawalpur

State are the most important and all of them are included in the natural divisions called the North West Dry Area. The increase of population in these areas since 1881 has been 3·25 millions, which is 42 per cent. of the absolute increase of 9·68 millions in the Province. The increase of population in North West Dry Area since 1881 has been 115 per cent., as compared with 37 per cent. of the Province, but even more remarkable is the increase in the districts referred to above and the Bhawalpur State. The following table shows how rapidly the population of this area has increased :—

TABLE 17

	Percentage increase since 1881
Lyallpur	2038·8
Shahpur	114·1
Jhang	70·2
Montgomery	187·0
Multan	111·5
Bhawalpur State	71·7

Though the inrush of immigrants into these areas, except the Bhawalpur State which has been opened up recently, has abated, even now they continue to provide relief from the pressure of population in other parts of the Province, and of the total increase of cultivated area in 1921–31 of 1,170,000 acres the five districts in the above table and the district of Mianwali, which too has been greatly benefited by the extension of irrigation, account for an increase of 1,130,000 acres. Migration from the Lahore and Jullundur divisions to the colonies still continues and contributes to the large increase of population which is taking place in these districts.

Though the centre of gravity of population in the Punjab is shifting westwards, the eastern and central districts continue to be, as they have been since 1881, the most densely populated parts of the Province. Jullundur, Sialkot, Amritsar, Gurdaspur, Hoshiarpur have the greatest density of population per square mile of cultivable area. The rural density in these districts is 528 compared with 209 for the Province, or nearly 2½ times as much. These districts contain a population of 21 per cent. of the total population in the British territory,

but absolute increase of their population has since 1881 been ·75 millions, or about 11 per cent. of the total increase of population (6·64 millions) in the British territory, which again seems to indicate the severity of the pressure in these districts. There are some sparsely populated districts like Dera-Ghazi-Khan and Muzaffargarh, which in spite of the fact that they have a density much below the average of the Province, are showing signs of suffering from severe strain of over-population. The extension of cultivation owing to the remarkable development of canal irrigation in the Punjab has gone a long way in mitigating the pressure of population, but the present position and future outlook of the Province are not at all reassuring and its population problem also requires careful consideration.

C.P. & Berar.

The remaining three major Provinces of British India have one point in common and that is that they have a low density of population. Among them the Central Provinces and Berar have a population history of their own, one or two points of which require special mention. The following table gives figures of the growth of population since 1881 :—

TABLE 18

Year	C.P. & Berar, population in millions	Percentage variations	British territory, population in millions	Percentage variations
1881	13·33	—	11·94	—
1891	14·76	10·7	13·04	9·2
1901	13·60	−7·9	11·97	−9·5
1911	16·03	17·9	13·92	12·5
1921	15·97	−0·3	13·91	−0·08
1931	17·97	12·6	15·05	8·2

There are fifteen States, most of them small, in the Province which are more or less sparsely populated. Their density is 80 to the square mile against 138 of the Province. Their area is 24 per cent. of the area of the Province and population 13 per cent. of the total provincial population. But in the five census

periods since 1881 they account for an absolute increase of population of 1·10 millions out of the total provincial increase of 4·68 millions, or nearly 24 per cent. The fact that the population of the British districts has, during this period, increased by 26 per cent. against 35 of the whole Province and in every decade the variations of the former compare unfavourably with that of the latter, is again due to the population of the States having increased more rapidly than that of the British territory. Population of the States since 1881 has increased from 1·39 to 2·49 millions, or by 77 per cent. ; and as nearly three-fourths of the increase has taken place since 1891, the margin of error owing to defective enumeration in the figures of increase since 1881 is comparatively negligible.

The most densely populated natural division of the Province, which is called Maratha Plain Division and consists of Berar and the Nagpur division, contains 39 per cent. of the total population of the Province, but accounts for only 33 per cent. of the total increase since 1881. In this division, the population of the districts of Amraoti, Akola and Baldana, which have a density of 201, 214 and 204 per square mile respectively, has increased by 21·4, 19·6 and 18·6 per cent. respectively. These are the cotton growing districts and are, in spite of the ups and downs of their economic fortune, among the most prosperous districts of the Province. But these districts and the natural divisions, in which they are included, show signs of being near the limits of the capacity of expansion of population. The increase of population in another natural division, viz. the Nerbudda Natural division, has been very much below the average. Its population has increased by 9·3 per cent. since 1881 as against 35 per cent. for the Province. This division contains five British districts and one State and with the exception of three districts, Jubbulpore, Hoshangabad and Nimar, the population has actually decreased since 1881 in the other three areas. The population of this division is 16 per cent. of the provincial population, but it accounts for only 6 per cent. of the total increase of provincial population in this Province. Absolute increase in this division has been 29 lacs, of which the district of Nimar has contributed 21 lacs. A number of factors are responsible for the rapid growth of population (increase of

83·9 per cent. since 1881) in the Nimar district, but if this district is excluded, the Nerbudda Valley division has a practically stagnant rural population. The little increase that has taken place in this division is due to the growth of the second largest city of the Province, Jubbulpore, whose population has, on account of its industrial growth, increased by 64 per cent. since 1881.

The *C.P. Census Reports* refer to the room for the extension of cultivated areas which exists in many tracts of the Province as an outlet for its growing population. In every province a considerable proportion of cultivated land is shown as uncultivated and the fact has an important bearing on the population problem. But considerable areas "shown as cultivable are," according to the Census Report of 1931, "of negligible value for agricultural purposes."* The sparsely populated portions of the Province have, as stated above, in the past absorbed a large proportion of the growth of population. But in 1921–31 there has been a distinct slackening of the growth of the population in these tracts and there seems to be every reason to adopt a more critical attitude with regard to the population situation in this Province in spite of its low density of population.

Assam.

Assam has got about the same density as the C.P. but its population history since 1881 is very different. The figures of the increase are :—

TABLE 19

Year	Assam, population in millions	British territory, population in millions	Percentage variations	Actual variations
1881	5·12	4·81	—	—
1891	5·47	5·36	6·8	9·2
1901	6·12	5·73	11·8	5·9
1911	7·06	6·58	15·2	14·6
1921	7·99	7·46	13·2	12·8
1931	9·25†	8·62	15·7	15·6

* The *C.P. Census Report* for 1931, p. 63.

† Population of the Manipur and Khasi States is 10 per cent. of the provincial total and they account for 8 per cent. of the total increase of population.

The population of Assam has, according to census figures, increased by over 80 per cent. since 1881. In the first two decades, owing to the exclusion of certain areas and faulty enumeration, there was a considerable divergence between the actual and census variations, but even if allowance is made for that fact the increase of population in Assam has been very much greater than in the other Provinces.

The most important cause of this remarkable increase has been the excess of immigration over emigration. It is estimated that 2·17 million persons, or 23·5 per cent. of the total population in Assam, are of foreign extraction. The two most important causes of the balance of migration being very much in favour of Assam are the importation of labour for the tea industry and the settlement of the immigrants from East Bengal, mainly the Mymensingh district, in the empty spaces of the northern portion of Assam. Since 1881 the population of the Brahmaputra valley has increased by 2·42 millions against a provincial increase of 4.12 millions or nearly 60 per cent. The two districts which show the largest increase of population in 1921–31, are Nowgong and Kamrup (these percentages are 41·3 and 27·9 respectively) and that is due, in a very large measure, to the influx of settlers from East Bengal into these districts. The district of Goalpara, the population of which has increased by over 91 per cent. since 1901, also owes the expansion of its population largely to the immigration of settlers from Mymensingh. The tea industry, owing to the fluctuations of its economic condition, was not an important factor in immigration during the period 1921–31 ; but as nearly 65 per cent. of the non-indigenous population has been attracted by the demand for labour on tea plantations, the importance of the industry as a factor in the growth of population is obvious.

Sylhet is the most thickly populated district of the Province, having a density of 497 against 137 for the Province. This district contained 38 per cent. of the provincial population in 1881 but accounts for an increase of 75 lacs out of the total increase of 41·18 lacs for the Province, or nearly 17 per cent. The pressure of population is leading to emigration from this district to the Brahmaputra valley and the conditions prevailing there are similar to the conditions in Bengal in respect of

population. Assam is generally regarded as the Province whose potential resources are in excess of its needs and which, therefore, can afford relief to some of the more thickly populated tracts of India. It has in the past received a large number of immigrants from Bengal, Behar and the U.P., but it is not certain whether it will continue to absorb immigrants on the scale on which it has done in view of the fact that most of its open spaces have already been filled up and its own increase of population is considerable and will have to be provided for.

The North-West Frontier Province.

The North-West Frontier Province, including the tribal areas, has a population of 4·89 millions and an area of 36,000 square miles, but as the population of the tribal areas is a matter of estimate, we can discuss the population of only the five settled districts with any amount of assurance. These districts have an area of 13.5 thousand square miles and a population of 2·4 millions. The density of population in the N.W.F.P. is only 29 to the square mile, but in the five districts it is 179. But the density of population per square mile of cultivated area is 907 in the Hazara district and 739 in the Peshawar district, and as these districts between themselves contain nearly 68 per cent. of the total population of the Province, the pressure of population on the land in this Province is easily comparable with the pressure in the other Provinces. As the accuracy of the available figures for the period before 1891 is open to serious question, only figures of the four census periods are given below :—

TABLE 20

Year	N.W.F.P. population in millions	Percentage variations
1891	1·86	—
1901	2·04	9·9
1911	2·20	7·6
1921	2.25	2·5
1931	2·42	7·5

In the four decades the population has increased by 21·5 per cent. The population of Hazara and Peshawar during this

period has increased by 4·17 lacs out of a total increase of 5·60 lacs, or by nearly 75 per cent. Hazara has the advantage of high and constant rainfall and Peshawar has an effective system of canal irrigation which provides an assured supply of water for nearly one-third of its cultivated area. The area irrigated from State canals in the Province has increased considerably since 1901 and has, presumably by creating conditions of security, contributed to the economic development of the Province, but the cultivated area has practically remained stationary since 1901, which shows that there is hardly any room for the extension of cultivation.

The N.W.F.P. is a highly subsidized province. It not only receives a subsidy of Rs. 1·05 crore from the central exchequer, but the concentration of troops here on account of its strategic importance and the frequent expenditure on various military operations necessitated by ever-recurring tribal warfare are an important element in the economic life of the Province and responsible in a large measure for whatever economic progress it has achieved in the last thirty or forty years. This is an insecure basis for future development and it is unlikely that the increase in this adventitious source of assistance will keep pace with the growth of its population. The Province must rely more and more on its own resources for supporting the increase of population and the inelasticity of those resources in the past points to the urgent need of taking stock of the existing situation.

Minor Provinces.

It is not necessary to analyze the population figures of the minor provinces of Baluchistan, Coorg, Ajmere-Marwara, Andamans and Delhi. The total population of these five administrations in 1931 was only 1·27 millions and the only significant fact which is worth mentioning is that among them Baluchistan, which in area is almost as large as Assam, has a population of less than half a million and its density per square mile is only 9. The population of this province has increased by 21 per cent. since 1901, the absolute increase of population is small and as it is mostly a desert tract, the scope for further growth of population is very limited.

Chapter IV

GROWTH OF POPULATION—INDIAN STATES

The Indian States

The population figures of some of the Indian States have been included in those of the Provinces and been briefly commented upon in a few cases, but the relative importance of the States so included is small. The Indian States, taken together, had a population of 81·31 millions in 1931 or a little less than one-fourth of the total population of the country. The Indian States comprise more than 560 separate units and owing to the utter lack of homegeneity in respect of area, population and all other conditions, it cannot serve any good purpose to offer any observations on the growth of their population. Since 1881, according to the Census figures, the population has increased by 46 per cent., but as the figures of a number of States, before 1901, were merely estimates and therefore unreliable, the comparison of variations in the States as a whole and British India need not be made.

In 1921–31 the population of the States increased by 12·8 per cent. as against 10 per cent. in the Provinces; and as the standard of accuracy in the last census was uniform and high all over the country, the more rapid increase of population in the States may be taken as an index of a tendency, the continuance of which has an interest from the point of view of the future. But as stated above, the diversity of conditions in the States makes collective generalization with regard to them of very little value. Some of the bigger States, however, have taken their own census and a large number of small ones have been grouped together for census purposes; and as some of them are, in respect of area and population, comparable to the Provinces and others have a population history with some interesting features from the general standpoint, brief comments on the growth of population in the States, for which separate census reports are available are likely to be useful.

Hyderabad.

These States have a total population of 55 millions and of them the most important is the Hyderabad State. The latter is, as is well-known, the largest Indian State. In area it is almost as large as Behar & Orissa and has a population of 14·43 millions which is nearly equal to the population of Burma and is only 5 per cent. less than the combined population of Mysore, Travancore and Jamu and Kashmir—the three States which come after Hyderabad in order of population.

The increase of population since 1881 is given in the following table :—

TABLE 21

Year	Population in millions	Percentage variations
1881	9·84	—
1891	11·53	17·2
1901	11·14	−3·4
1911	13·37	20·0
1921	12·47	−6·8
1931	14·36	15·8

The figures of the first two decades contain a larger margin of error than those of the latter decades, but as it is not possible to make a definite allowance for it, we have to take the figures as they are. If the percentage variations of Hyderabad are compared with the corresponding figures for the country as a whole (*vide* Table 2) it will be found that the variations are sympathetic, but the Hyderabad variations go further both in the case of increase and decrease and the increase in the 1921–31 period is above the rate of increase in most Provinces. The increase of population since 1881 is 46·6 per cent. which again is very much above the figures for the country as a whole.

The most striking fact about the growth of population in Hyderabad, however, is the marked difference between the two divisions of the State known as Telangana and Marathwara. These divisions are linguistic. The eastern part of the State is Telugu by language and the western, though partly Marathi,

and partly Kanarese, is known as Marathwara. These divisions are equal, not in point of area but in point of population. Telangana has a population of 7·55 millions as against 6·88 of Marathwara. Their relative positions in 1881 were just the reverse of what they are now and their population was 4·46 and 5·38 millions respectively. This is the result of Marathwara having lost ground in every census decade either because its gain was smaller or loss greater and the net effect has been that since 1881 the population of Telangana increased by 69·4 per cent. and of Marathwara by 28 per cent.

Though the divisions are based on language, the latter, of course, had nothing to do with the difference in the rates at which their population has increased. The density of population in Telangana in 1931 was 182 to the square mile and in Marathwara 167, but the difference between the density per square mile of cultivated area of the two divisions is much greater. In Telangana the density per square mile of cultivated area exceeds 350 in six districts out of eight and in Marathwara, which also comprises eight districts, the highest density per square mile of cultivated area is 337. That fact, of course, shows that the area of highest density is also the area of the more rapid increase of population. This result is attributed to the fact that Telangana has the advantage of having all the important irrigation works in the State within its area and also because it receives more regular and copious rainfall. But the fact that in the western districts not only famine but also epidemics like plague and influenza have caused greater mortality since 1881, seems to point to their population being subjected to a severe strain of existence. The Census Superintendents have, as a matter of fact, stated that the population in Marathwara has almost reached the limit of its resources, which may possibly be true of Hyderabad State itself, for the increase of 15·8 per cent. in 1921–31, though not unprecedented, shows a very rapid rate of increase of population which cannot possibly be maintained for any length of time without producing undesirable social results.

Mysore.

Mysore is the second largest populous State and its population

has increased continuously since 1881. The figures and rates of increase are as follows :—

TABLE 22

Year	Population in millions	Percentage variations
1881	4·18	—
1891	4·94	18·1
1901	5·53	12·1
1911	5·80	4·1
1921	5·97	3·0
1931	6·55	9·7

The population of Mysore has increased by 56·6 per cent. since 1881 and though in 1921–31 the rate of increase is lower than that of the country as a whole, the State has in the five census decades maintained an annual rate of growth of 1·13 per cent. which is much above the national average for the period. Mysore is a progressive state and has a creditable record of development and progress, but the rate of growth maintained by it since 1881 is not a matter of unmixed satisfaction and the need for the adoption of preventive measures has been recognized by the State.*

The growth of population has, however, been uneven and the three districts of Hassan, Kadur and Shimoga, which are known as Mahnad country, show an increase of population much below the State average. This area is hilly, forest-clad, unhealthy and relatively unfertile. The population of these districts has increased only by 19 per cent. since 1881 and there are ten taluqas in this division whose population has actually decreased since 1881. These districts have an area of nearly one-third of the total area of the State and present a problem which, in spite of the special measures taken by the State, still defies solution. The plain division of the State, which is known as Maidan, also shows variations in the rate at which the population has increased in the various districts, but taken as

* *Vide* page 341, Chapter XII.

a whole is responsible for nine-tenths of the increase of population of Mysore since 1881.

Travancore.

The Travancore State, though smaller in area than a number of British districts and also than eighteen Indian States, is third in order of population among the States. The population history of this State is remarkable in many respects. Its population and density have doubled themselves since 1875—the year in which the first regular census was taken. The rate of increase has progressively increased in every decade and even in the decades 1891–1901 and 1911–21 in which the growth of population in the country as a whole was low and several Provinces and States suffered a decline, this State recorded a higher rate of increase of population than the 1921–31 rate for the country as a whole, which, as already remarked, is unprecedented.

Travancore is not only the most thickly populated region of India, but is also among the most thickly populated regions of the world. The average density of Travancore is 668 and more than 61 per cent. of its population is living in an area whose density to the square mile is 1,050 and over. Nearly half the area of the State is hilly and covered with forests and it is the other half which has to support nearly 95 per cent. of its teeming population. In this highly congested region of India, population has been able to maintain in the period 1921–31 a rate of growth which if continued will mean that its population will be doubled again in the next thirty years. These facts make the growth of population in Travancore truly remarkable and a subject of special interest for the student of our population problem. The following table (page 76) gives the figures of population and the rates of increase since 1881.

As the Census Superintendent is of the opinion that the population of 1891 and 1921 were under-enumerated, the columns 3 and 5 give population deduced by him at those censuses and their variations. The figures in the latter columns may be more accurate but do not affect the general argument. The total population of Travancore has increased by 112 per cent. since 1881. The average annual rate of increase from

TABLE 23

Year	Population in millions (actual)	Population in millions (deduced)	Per cent. increase in Col. 2	Per cent. increase in Col. 3
1881	2·40	2·40	—	—
1891	2·56	2·64	6·5	10·10
1901	2·95	2·95	15·4	11·8
1911	3·43	3·43	16·2	16·2
1921	4·00	4·08	16·8	19·1
1931	5·10	5·10	27·2	24·8

1881 to 1921 has been 1·74 per cent. and in 1921–31 2·44 per cent. The population has, as remarked above, increased at an accelerated rate at every census and even in the decades in which the country's population was very adversely affected by calamities like famine, plague and influenza, Travancore has gone on adding to its number without impairing in the least the capacity for growth of its people.

The rate of increase is the more remarkable for the fact that it is almost entirely due to the excess of births over deaths. Travancore generally gains by migration, but it has been estimated that since 1891 the balance of migration in its favour is only 2·7 per cent.; and even if allowance is made for the fact, the net increase of population due to natural factors since that year comes to 90 per cent. The causes of this unparalleled increase of population cannot be ascertained without undertaking a more extensive enquiry into the population history of Travancore than is possible in this book. Travancore has certain economic advantages which are favourable to the growth of population, but they taken together afford only a superficial explanation of the rapid growth that has actually taken place. The fact, however, that in the most densely populated part of India, which like the country as a whole is predominantly agricultural, such an increase has been possible is a challenging fact and confirms the conclusion derived from the analysis of population figures in Provinces like Bengal and Behar, that in some of the most densely populated rural regions

of India there is a direct co-relation between the density and growth of population.

In Travancore there are three natural divisions. They are called Lowland, Midland and Highland. Their names are expressive and no further description of their features need be given except that Lowland is a narrow coastal strip, the people of which supplement their income by fishing, trade and commerce and coir-rope making. Agriculture, however, is by far the most important occupation even in this division and almost all the available land is under cultivation. The following table gives the rate of increase of population and the increase in density in their natural divisions :—

TABLE 24

Variations in relation to density since 1881

1	2	3	4	5	6	7	8	9	10	11	12	13
Divisions	Percentage of increase					Per cent. increase since 1881	Mean density per square mile					
	1881–91	1891–01	1901–11	1911–21	1921–31		1881	1891	1901	1911	1921	1931
Lowland	5·2	14·3	13·2	15·0	24·2	94·6	896	942	1078	1220	1403	1743
Midland	7·5	15·9	18·2	17·4	27·3	120·4	405	435	505	596	700	2892
Highland	13·2	24·4	30·2	32·2	54·8	275·0	22	25	31	40	53	82

From the columns 2 to 7, which give the proportionate increase of population since 1881, it would appear that the growth of population has varied in inverse ratio to the density and the increase has led to a more even distribution of the pressure of population. But the real pressure is better gauged by the absolute increase of density and the fact, that in 1931 Lowland, Midland and Highland were supporting 857, 487 and 60 persons per square mile more than fifty years before, is more significant than the figures of proportionate increase given in column 7. Since 1881 the population of Travancore has increased by 2·69 millions and Lowland, Midland and Highland have contributed to this increase in proportion of 43·32, 46·59 and ·09. The Midland tract accounts for a slightly higher increase than Lowland. As the area of the latter is almost half that of the former (1,371 and 2,707 square miles res-

pectively) its relative importance from the point of view of the growth of population can be better judged by the fact that with an area, which is 18 per cent. of the total area of the State, in Lowland the increase in density in 1931 was 310 persons more to the square mile than in the other two divisions. The density of 892 in Midland itself signifies a very heavy pressure of population and the fact that over 61 per cent. of the population is living in an area with a density of 1,050 and over, and the proportion of the population living at that level of density has increased by 14 per cent. in 1921–31, is an index of the extent to which the more densely parts of Travancore are growing in population. The State, it may be repeated, has shown a capacity for growth of population which gives it a place of special distinction in the recent population history of India.

Cochin.

Cochin is a very small State, both in area and in population, but a paragraph or two may be devoted to stating its more important population facts, firstly, because they are available in separate Reports but more because of the homogeneity of Travancore and Cochin in respect of conditions which determine the growth of population. The growth of population since 1881 is given below :—

TABLE 25

Year	Population in millions	Percentage increase
1881	0·60	—
1891	0·72	20·4
1901	0·81	12·3
1911	0·92	13·1
1921	0·98	6·6
1931	1·20	23·4

The increase of population in the period 1881–91 is exaggerated owing to short counting in 1881, but the extent of error is not definitely known. According to the Census Report there was under-enumeration also in 1921 and the actual

increase of population is 19 per cent. as against the recorded increase of 23·4. Compared with Travancore there have been greater fluctuations in the rate of increase in the various decades, but even if we leave out 1881–91, there has been an increase of 80 per cent. since 1891 which, though 10 per cent. less than the increase in Travancore, is greater than the increase in most other census units of India and is almost entirely due to the excess of births over deaths.

The population of Cochin is also very unevenly distributed. One-third of its population lives in one-eighth of its area which has a density of 2,200 to the square mile. This area, as in the case of Travancore, is a sea-board. The remaining seven-eighths of the area is covered with forest and has a density of 623. The population of two taluqas of Cochin, Kanayannu and Cranganur, both of which have a density of over 2,000, has increased by 442 and 381 per square mile respectively in 1921–31 as against 152 for the State as a whole; the increase of density of these two taluqas and the State since 1881 has been 1,170, 1,190 and 406 respectively, which again shows that the increase in these two densely populated tracts has been much greater than in the rest of the State. The population of Cochin is not increasing as fast as that of Travancore, but for its size and the narrow coastal area its increase is very rapid indeed. Taken together, Travancore and Cochin constitute a region in which population is not only most dense but is also increasing at a rate far in excess of the rate at which the population of the country as a whole is increasing.

Jamu & Kashmir.

The area of Jamu and Kashmir is larger than that of the Hyderabad State, but its population is nearly one-fourth of the population of the latter. This, however, is misleading as three-fourths of the State is very sparsely populated and is not capable of supporting a much larger population. This area comprises the arid, unfertile and poorly endowed frontier tracts of Ladakh and Gilgit. It contains less than one-twelfth of the total population of the State and has a density of 5 to the square mile. If this area is excluded, this State is, in point of population and density, comparable with the other Indian

States. The total population of the State is 3·65 millions but excluding the frontier tracts, it is 3·34 millions, which is nearly equally divided between the two divisions of the Jamu and Kashmir valleys.

The density of the population in the State is 43 to the square mile, but if the frontier tracts are again excluded, its density in the other two divisions comes to 160·5 per square mile. The bulk of the population of this State depends upon an area of about 21,000 square miles. The area of the two valleys—Jamu and Kashmir—which comprise the tract, is 12,378 and 8,539 square miles respectively. But only 16·9 per cent. of the Jamu Valley and 18·7 of the Kashmir Valley are cultivable. The area actually cultivated in these tracts is 81 and 77·2 per cent. of the cultivable area, which indicates the concentration of population in the limited area available for cultivation and also there is hardly any room for the extension of cultivation.

The population figures of Jamu and Kashmir before 1891 are unreliable and the increase of population since 1891 is as follows :—

TABLE 26

Year	Population in millions	Percentage increase
1891	2·54	—
1901	2·90	12·0
1911	3·16	8·7
1921	3·32	5·1
1931	3·65	9·8

Enumeration in 1891 was defective and the actual increase in 1901 was less than the recorded one, but as the margin of error cannot be definitely stated, the 1891 figures have to be made a basis of comparison with the population at successive censuses. The population of the State since 1891 has increased by 43·3 per cent. This rate of increase, which is above the national average, has to be regarded as unsatisfactory when the physical features and economic resources of the State are taken into account. In its forests and minerals, the State has

potential sources of wealth which can be greatly developed; and as this development cannot take place without much greater enterprise on the part of the State authorities than they have shown so far, the rate of increase of population since 1891 is not a matter on which the State can congratulate itself.

Of the two valleys the Kashmir Valley has a greater density. Its density is 183 to the square mile as against 131 of the Jamu Valley. The population of the Kashmir Valley is only slightly less than that of the Jamu Valley, but the former has been gaining ground at every census, the rates of increase since 1891 of the two being 65 and 25 per cent. respectively. The difference in the rates of the two valleys is due to the difference in their economic resources and possibly due to ethnic factors. The Kashmir Valley accounts for more than 56 per cent. of the total increase of population since 1891 in the Jamu and Kashmir State, but it is, as remarked above, doubtful whether the rate of growth maintained in the past can be considered desirable in itself. The sordid poverty of the people of the Kashmir Valley is as striking as the superb beauty of its physical features and it will only make the contrast more glaring if the rate of growth of population maintained in the past is continued.

Gwalior.

Gwalior and Baroda have one point in common and that is that their population in 1931 was only slightly larger than in 1881. The population of Gwalior has increased by 14 per cent. since 1881, but if we take 1891 as our base year, its population has increased by only ·05 per cent. This is due to the fact that though the population of the State has increased by 14·6 per cent. since 1901, the increase has been just large enough to make up for the loss of population in 1891–01, which, as in so many Provinces and States of India was due to the great famine of 1899–01. The following table gives the relevant figures:—

Density of population in the State is 134 per square mile, but more than half of its area is uncultivable and only 33 per cent. cultivated. The 'cultivable' area, which is not cultivated, is almost barren and the room for expansion of population is small. But as the area of the State is large as compared to its

TABLE 27

Year	Population in millions	Percentage variations
1881	3·09	—
1891	3·51	13·9
1901	3·07	−12·7
1911	3·23	5·3
1921	3·19	−1·3
1931	3·52	10·3

population, it is sparsely populated. More than 56 per cent. of its population lives in an area with a density of less than 150 per square mile and another 38 per cent. in an area with a density of 150 to 300. The increase of population since 1921 is more or less evenly distributed. Increase in the hilly area has been 17·2 per cent., but as this region contains less than 4 per cent. of the total population, its relative importance is small. It is hardly necessary to offer any further comment. The fact that in 1931 the State has only been able to get back to the 1891 position is its own commentary.

Baroda.

The Baroda State is well-known for the various progressive measures which have been adopted by its ruler; but it is one of the least progressive census units in India in point of population and its comparative stagnation is due to the working of natural factors. The famine of 1899 and 1900 involved a loss of life which reduced the population of 1901 by nearly one-fifth and if the increase of population due to the balance of migration in 1921–31 were excluded, the population of the State in 1931 would be less than the 1891 population by about 4 per cent. Since 1881 the population of Baroda has increased by 11·95 per cent. but as before 1891 the standard of accuracy of course was below normal, the 1891 figures are a better basis of comparison. Since 1891 the population of Baroda has increased by only 1·1 per cent., but as stated above if an allowance is made for net gain of the State by migration, its population in 1931 was below the peak level of 1891. In

1921–31 the population has increased by 14·9 per cent., but as 40 per cent. of this increase is due to migration, the increase due to the excess of births over deaths is only 9·4 per cent.

Baroda has a density per square mile of 299 but in this State, as elsewhere, the density is not uniform. The differences in density per square mile and per square mile of cultivated area and percentage variations are given below—

TABLE 28

	Density per square mile	Density per square mile of cultivated area	Percentage variations since 1891
Baroda	298	378	1·1
Central Gujerat ..	426	504	0·9
Kathiawar ..	151	188	13·6
North Gujerat ..	329	377	—8·1
South Gujerat ..	223	377	26·6

The increase of population in South Gujerat and Kathiawar is, in a large measure, due to the balance of migration in their favour and its decrease in North Gujerat is also partly accounted for by the balance being against that tract. Central Gujerat gained nearly 68,000 persons by migration in 1921–31 which is more than half the total gain of the State in this decade. But this division suffered very severely from famine of 1899 and 1900 and in spite of being the most prosperous and otherwise favoured region of this State, it has been able to regain the lost ground only through the favourable balance of migration in 1921–31. The fact, however, that the more thickly-populated parts of the State are regions of slowly growing or declining population shows the severity of its pressure. Nearly 80 per cent. of the cultivable area of the State and 87·44 and 83·93 per cent. respectively of Central and North Gujerat is already under cultivation, and, as these two tracts contain 72 per cent. of the population of the State, the position in respect of population is not at all satisfactory.

The more important facts with regard to the population of Baroda having already been stated and commented upon, all

that is now necessary is that the figures of growth of population since 1881 be given. They are tabulated below :—

TABLE 29

Year	Population in millions	Percentage variations
1881	2·18	—
1891	2·41	10·69
1901	1·95	−19·15
1911	2·03	4·1
1921	2·12	4·6
1931	2·44	14·9

This table is given at the end of the paragraph dealing with the population position in Baroda in order that the bearing of the figures contained in it may be appreciated with reference to the facts in the preceding paragraphs.

State Agencies.

There are three State Agencies which comprise an area of over 200,000 square miles and whose total population in 1931 was over 21 millions. They are separate census units. Some of the States included in these Agencies are large and their population is of fair size ; but most of them are small, both in point of area and population and owing to the diversity of their physical features, social and political conditions, it is not possible to give a detailed analysis of the facts of their population. Among them the Central India Agency presents the greatest amount of diversity in every respect. There are three big States in this Agency—Rewa, Indore and Bhopal—which together occupy 57 per cent. of the total area of the Agency and account for 55 per cent. of its population. Besides these there are 59 other administrative units exercising autonomous powers in varying degrees, the smallest of which has an area of five square miles and a population of 1,114. Central India, being a geographical expression, not only cannot be dealt with as a unit for population studies, but is also lacking in compactness and capacity for unified action. Territories of the

various States are scattered and by inter-lacing make a pattern of very great complexity. Density of population in the Agency is 129 per square mile and varies from 74 to 198. Central India is, according to the Indian standard, not at all densely populated. " Nowhere is there," according to the Census Superintendent, " any great pressure of population." It is a backward area, and is lacking in communication, but the most outstanding characteristic of this region is that its economic progress is impeded by, to use the words of the Census Report, " fragmentation of sovereignties." The existence of so many petty States, each jealous of its rights but not at all alive to its duties, and incapable, on account of the smallness of its size and resources, of introducing any progressive measures of development is a greater hindrance in the way of its economic progress than any natural limitation of resources. Life in this area is, as much as in most other parts of India, if not more, a continuous, unremitting struggle for bare existence, the mitigation of which is prevented by the crazy pattern of its political organisations. As there is no near prospect of any political merger being effected in this area and, owing to its isolation from the rest of the country, the stimulus of the forces at work in the country at large is not felt, economic stagnation and a growing population make the outlook for the people of Central India even more unpromising than elsewhere in the country. Under these conditions the growth of population cannot but be a source of weakness.

As the figures of censuses before 1901 are unreliable we have to use the figures of 1901 and the three later censuses to show the extent to which the population of Central India has increased. The figures are as follows :—

TABLE 30

Year	Population in millions	Percentage variations
1901	5·44	—
1911	6·18	12·8
1921	6·00	−2·1
1931	6·63	10·5

Since 1901 the population of Central India has increased by 22 per cent. If the Agency is divided both in respect of area and population into two almost equal parts, West and East, it is found that there is a disparity between the rates at which their population has grown. Since 1901 the East has increased its population by 10 per cent. and the West by 35 per cent. In 1921–31 the difference between the two was not as large, but was considerable, the rates being 8·7 and 12·2 respectively. In the case of some States it is possible to compare the population of 1931 with that of 1891. Since 1891 the eastern half of the Agency has suffered a net loss of population and in 1931 it was 3 per cent. less than in the former year. The population of Bhopal, the third largest State in the Agency, was 24 per cent. less in 1931 than in 1891 due to the fact that in 1891–01 the famine caused an enormous loss of life of nearly 30 per cent. of the population of Bhopal. Central India as a whole suffered severely from that affliction and if the 1891 figures were available for the Agency as a whole, the growth of 22 per cent. since 1901 would appear as a process of recovery and not of growth and even then not of complete recovery, since the set-back of 1891–01. Of the 15 States in the two sub-divisions of East—the Bundlekhund and Baghelkund Agencies—which comprise half the area and contain 47 per cent. of the population of Central India, all except two—Rewa and Baoni—show a decline of population since 1891 varying from 3·7 to 17·8 per cent. The increase of population in Rewa and Baoni in 1891–1931 was 5·8 and 3·7 per cent. respectively. Indore, the third largest State of Central India, shows an increase of 45 per cent. since 1901, but if the loss of over 20 per cent. in 1891–01 is allowed for, the increase since 1891 is reduced to 15·5 per cent., which, though large for Central India, is exceptional. There may be, as the Census Superintendent says, no sign of hunger for land in Central India, but the comparison of the 1931 figures with the available ones of 1891 indicates clearly that the lack of land hunger is not due to the fact that the people of Central India are well provided for. Their existence is precarious and the possibility of their being able to create for themselves conditions of security and progress is for reasons referred to above very remote.

Growth of Population—Indian States

Rajputana comprises 21 States and the Abu district. The States vary in size and population. The three largest are Jaipur, Marwar and Mewar, which together account for 49 per cent. of the area and 57 per cent. of the population. The population of these States is 2·63, 2·12 and 1·57 millions respectively. The population of the other 18 States varies from 54,000 to nearly a million. There are two very small Statelets—Kushalgarh and Lawa—with a population of 35,564 and 2,790 respectively. There are however only six States, including the three referred to above, which have a population of over 500,000. It is not necessary to add that the States whose population is less than half a million are not and cannot be efficient units for administrative purposes. The census of 1901 was the first census for which a fair standard of accuracy is claimed, but the figures for 1881 and 1891 are available and a comparison of the population figures of 1931 with those of 1881 shows that the 1931 population was less than the 1891 population by nearly a million or by nearly 8 per cent. The result is also due to the havoc caused by the famine of 1899–1901 and also partly to the influenza epidemic of 1918. In all the Rajputana States except three, the population in 1931 was less than in 1891, and in nine it was less in 1931 than even in 1881. The population of these States has increased by 1·38 millions since 1901, but as the increase in 1921–31 was 1·39 millions, the last decade more than accounts for all the increase that has taken place since 1901. Taken as a whole, Rajputana shows an increase of 9·3 per cent. which is more than neutralized by a loss of over 20 per cent. in 1891–1901.

In 1921–31 the population of Rajputana increased by 14·2 per cent., variations ranging from a decrease of 1·9 per cent. in the Bharatpur State to an increase of 41·9 per cent. in Bikaner. Bharatpur has the unenviable distinction of having declined in population in every decade since 1881 and in 1931 its population was nearly one-fourth less than fifty years before. The abnormal increase in Bikaner, which is the highest in India, was due to the influx of immigrants caused by the extension of irrigation in the northern portion of the State. Alwar, Bharatpur and Dholpur are the three most thickly populated States of Rajputana and in these three States taken together

the population has increased by 4·5 per cent. as against 15·8 per cent. in the other States. The density per square mile in these States is 238, 247 and 207 as against 87 of Rajputana. Bharatpur, in spite of the continuous decrease of its population, is still the most densely populated State in Rajputana, but its density has decreased by 80 per square mile since 1881. The Rajputana States are not as unfavourably situated from the standpoint of development as those of Central India, but their possibilities are more limited and rulers of these States owing to their inexpansive resources and unprogressive outlook are not in a position to do much for their people. The growth of the population since 1881 is given in the following table :—

TABLE 31

Year	Population in millions	Percentage variations
1881	10·10	—
1891	12·15	20·6
1901	9·84	−20·5
1911	10·51	6·9
1921	9·83	−6·5
1931	11·92	14·5

In 1881 and 1891 the population of certain parts of Rajputana, particularly those inhabited by the aboriginal tribes, could not be enumerated and had to be estimated. It is, however, more likely that it was under- rather than over-estimated.

The third Agency area, whose population figures have to be given and commented upon, is West India State Agency. This Agency comprises a large number of States, but even among the 31 largest States, there are six whose area is less than 100 square miles and population less than 10,000. The total population of the Agency is 3·99 millions but the four biggest States—Cutch, Junagadh, Nawanagar and Bhavanagar—account for nearly two-thirds of the population and more than one-half of the area. " Large parts of the Agency " to quote from the Census Report, " lie in a tract which is nearly rainless or has poor, sandy and salty soil." The average density of the Agency is 113 per square mile and though there are a few States

with a density of over 200, the bulk of the population lives in sparsely populated regions. The variations since 1881 are given in the following table :—

TABLE 32

Year	Population in millions	Percentage variations
1881	3·43	—
1891	3·96	15·0
1901	3·28	—17·0
1911	3·52	7·0
1921	3·54	5·0
1931	4·00	13·0

The population of the Agency has risen by 17 per cent. since 1881, but it will be observed that until 1921 it was below the 1891 mark and even in 1931 it was only slightly above it. That is again due to the loss of life in 1891–1901 caused by the great famine. The Agency is, as remarked above, a very unfavoured part of the country and if to its natural limitations are added the limitations arising out of its numerous political divisions and the lack of capacity and inclination on the part of those who are in authority to initiate and develop progressive policies, the wonder is not that its population in 1931 was about the same as in 1891, but that it has grown since 1901 by nearly 22 per cent. Any increase of population in this area can only add to the insecurity and strain of existence of its people.

This general review of the increase of population in the country as a whole and in its different parts does not lend itself easily to being made a subject of general observations. The one observation which, however, suggests itself, is that the variations of population in India are subject to wide fluctuation owing to our being exposed to risks like the occurrence of famines and the outbreak of epidemics. The one per cent. annual growth of population maintained in 1921–31 and probably continued since then is due to our good luck. There are tracts like Rajputana and Central India Agency which have not yet recovered from the disastrous famine of 1899–1901 and plague and influenza have left their mark on the age

composition of our population and its size which, if the country is not visited by similar epidemics in the next two decades, will still take another generation to be wiped off completely. Our good fortune since 1921 may be a matter of accident or may indicate some real improvement in the vital conditions of our people ; but knowing as we do how very unsatisfactory is the state of health in most parts of the country, it would be premature to assume that our liability to such risks has appreciably decreased. As a people we have very small reserves to draw upon, and though the population of the country has increased by over 30 per cent. in the last 70 years, it is not certain whether this rate of increase can be regarded as normal. Abnormal occurrences are really normal in this country and the fact is an index of the extreme instability of our whole national existence.

The fact that the increase of population has, during the censused period, been the greatest in those parts which at its beginning were and still are the more densely populated parts of the country has been referred to a number of times in this and the preceding chapter. Its explanation is not contained in the facts given in these chapters and what it is can only be a matter for speculation. These parts are in a way the most favoured regions of the country. Their soil is fertile, rainfall sufficient and less liable to failure and other conditions are favourable for agriculture. Some of them have been centres of dense population for centuries, but the fact that there the population has been growing more rapidly than in the other parts of the country may be taken to indicate the increase of pressure there and the lack of capacity of the other parts to permit or absorb a corresponding growth of population. The uneven distribution of population which is such an outstanding characteristic of the country as a whole points not only to the severity of population pressure but also the difficulty of re-distributing it more evenly. The most promising parts of the country are occupied by a swarming population and in them the saturation point, even at the prevailing miserable standard of living, has to all appearances been reached. The other parts of the country cannot afford any relief to them. The co-relation between the density of population and its growth is a

process of natural selection which reveals the cramping conditions under which the bulk of our population have to live.

In further support of the above point, in Table 33, the distribution of population in India, the three most densely populated Provinces and one Indian State is given.

TABLE 33

Density of population for India, Bengal, U.P., Behar & Orissa and Travancore State

	Under 150		150–300		300–450		450–600		600 and over	
	Area.	Pop.	Area.	Pop.	Area.	Pop.	Area.	Pop.	Area.	Pop.
India	57·17	17·5	22·1	23·4	8·3	15·3	5·5	14·3	6·4	29·5
Bengal ...	15·2	1·0	5·5	2·2	18·2	3·9	18·4	15·4	42·7	70·1
U.P.	14·9	3·1	13·7	6·3	16·3	13·9	30·9	35·5	24·2	41·2
Behar & Orissa	20·5	6·0	31·3	13·3	20·9	20·5	8·1	11·0	19·2	44·2
Travancore State	14·7	2·1	25·6	7·2	12·2	7·0	—	—	47·5	83·0

It is worth noticing that in all the areas carrying a population of 600 or more to the square mile the proportion of population is in excess and in some cases far in excess of the proportion of area. Estimates as to the limit of desirable density vary but probably an average density of 250 per square mile in an area like the Indo-Gangetic plain would be accepted as the limit if excessive pressure on the land is to be avoided. In the country as a whole nearly three-fifths of the population of the country is crowded in one-fifth of the area. The distribution of the population in the country is very uneven, but even in the most densely populated parts of the country, there are marked variations in the density; and these most densely populated parts are responsible for greater absolute increase of population in almost all cases and even the proportionate increase has in many cases been greater than the general rate of increase. The Lowland of Travancore had in 1881 the density of 896 to the square mile which increased to 1,743 in 1931. In 1881 it would have appeared that the tract was already over-populated and no rural area could be expected to support a greater density and yet in 1931 a square mile in the same tract was supporting double the population of half a century ago. The Census Superintendent of every one of the census units mentioned in Table 33 expresses his amazement at the fact that in almost purely rural areas the density of population should be as great

as it is. That is amazing, but what is even more so is the fact that just in these areas the population has been increasing more rapidly and their contribution to the increase of population of the country is the greatest. The fact, as stated above, illustrates the natural difficulty of re-distributing the population of the country.

It is necessary to know the rates or proportionate increase of population, but for a country whose development has been slow and in which there are serious difficulties in the way of the acceleration of the rate of development, the absolute increase of population is a better measure of the increase of its responsibilities than the rate of increase. The fact that in India in 1931 there were 87·6 million more mouths to be fed than in 1881 is, from this point of view, more significant than that the population of India during the period increased by over 30 per cent. Even if the rate of increase in the current decade remains the same as in 1921–31, the fact that in 1941 we will have nearly 35 to 40 million persons added to our population and the latter will be somewhere near 395 millions are matters of greater serious import than the rate at which the population has been growing. When the task of supporting the existing population involves all the strain which we are experiencing, it is the total addition to our national responsibilities which is a matter for serious concern. In our present state of national development the increase of population as large as the population of so many important European States* cannot but handicap us in our work of national re-construction. This aspect of the matter is worthy of careful consideration and is generally overlooked in our pre-occupation with the rate of births, deaths and increase of population.

These general observations are tentative and it is necessary to examine the position in greater detail before their implications can be fully understood. It is, therefore, necessary to turn to the discussion of the factors upon which the increase of population depends. The next three chapters are devoted to the study of the working of these factors.

* In 1931 the population of France, Italy, and England & Wales was 41·2, 41·2 and 40·0 millions, respectively. If our population in 1941 increases by nearly 40 millions, it will mean that we shall incur the liability of maintaining a population almost as large as that of each of these three Great Powers in 1931.

Chapter V

BIRTHS AND DEATHS

THE growth of population depends upon the surplus of births over deaths and of immigration over emigration. Migration is relatively unimportant, and is almost a negligible factor in India. If the number of foreigners in India is deducted from the number of Indians outside India we have about $1\frac{3}{4}$ million Indians living outside the country and in 1921–31 India lost nearly a million persons by migration. The really important factors which determine the growth of population in this country, are the Birth and Death Rates. Of the two, the death rate is by far the more important. The birth rate, as we shall see, has had its variations depending on a number of circumstances, some of which are rather obscure, but variations in the death rate have been much wider and exercized much greater influence over our population. That is so because though both the birth and death rates are independent in the sense that we have done and are doing very little to control them, yet owing to the fact that our conditions of life make it easy for death-dealing agencies to do their work and the lack of economic and physiological reserves makes it impossible for us to protect ourselves against their destructive power when they increase the virulence or intensity of their attacks, the rate at which our population has grown has been determined more by variations of the death rate than those of the birth rate. The latter compared with the former, can, more or less, be taken as a constant factor. In the three decades 1891–1901, 1901–11 and 1911–21, during which our population has decreased in some parts of the country and increased very slowly in the rest, mortality caused by famine, plague and influenza has been responsible for the rate at which the population has varied in this period. In the two decades 1881–91 and 1921–31, the relative freedom of the country from epidemics and famines accounts for there being periods of a rapid growth of population. The normal death rate in India

is high, but as the occurrence of enormous loss of life due to epidemics and famines is also a normal feature of the life of our people, the death rate is, as remarked above, the decisive factor in the growth of population in India.

The fact that ours is a death-ridden country is well known, but its full significance is not correctly appreciated. There are different theories of the relation of the birth and death rates. According to one, the high birth rate is nature's method of ensuring the continuance of the race and is regarded as an incident of the high death rate. According to another, it is the other way round, and it is held that the high death rate is a natural consequence of the high birth rate and the former cannot be reduced unless it is preceded by the reduction of the latter. The theories are interesting and have an important bearing on our population problem. They will be discussed a little later in Chapter VII, but even if we adopt the view generally held that our high death rate is the result of the ignorance and poverty of our people and the failure of the State to take adequate preventive and remedial measures against disease—factors which are all, it is assumed, independent of the pressure of population—it is obvious that changes in the death rate are and will be of primary importance in determining our population. If, in the last 50 or 60 years, a progressive decrease in the death rate had taken place, or if in the next twenty years, we can get the better of death-dealing agencies and reduce the death rate to half of what it is now, we should be confronted with a situation the gravity of which cannot be under-estimated. The appalling loss of life that is and probably will for some time remain normal in this country, is an unmixed evil, and the paramount importance of reducing it has to be taken for granted ; but whatever measure of success we can achieve in our struggle against death, it will make the task of mitigating the sordid poverty of our people proportionately the greater unless, of course, other changes take place at the same time. The high death rate is a most wasteful and inhuman method of keeping the balance between births and deaths, but its decisive importance as a determinant factor of population in India makes it necessary for us to realize that a material reduction of the death rate will bring to the fore the

necessity of introducing or strengthening the other balancing factors.

Before we examine the more speculative aspects of the relation of the birth and death rates, it is necessary to state the facts. Vital statistics in India are notoriously inaccurate.* According to the *Census Report* of 1931 the defect in vital statistics has been estimated at about 20 per cent.† This it appears, is an under-estimate. If the accuracy of vital statistics is to be measured by comparison of the excess of births over deaths, with the difference between population at two successive censuses, it would appear that the defect of vital statistics is much larger than 20 per cent. Table 34 gives

TABLE 34

Variations between census figures and Vital Statistics

	1911 Increase + or decrease − of population since 1901		1921 Increase + or decrease − of population since 1911		1931 Increase + or decrease − of population since 1921	
	Natural Population	Actual Population	Natural Population	Actual Population	Natural Population	Actual Population
Assam ..	+687,950	+775,801	+1,523,984	+930,389	+892,464	+1,163,123
Bengal ..	+3,098,714	+3,312,532	+1,440,248	+1,286,820	+3,787,656	+3,411,695
Behar & Orissa	+1,758,037	+1,239,761	−407,725	−473,435	+3,343,122	+3,682,158
Bombay ..	not available	+1,110,801	−453,631	−337,004	+2,709,477	+2,587,404
C.P. & Berar	+1,864,142	+1,944,856	+178,892	−53,650	+1,646,032	+1,594,963
Madras ..	+3,310,729	+3,175,750	+1,206,293	+923.995	+3,798,759	+4,421,122
N.-W. F. P.	+194,508	+155,399	+1,252,349	+1,257,449	+206,308	+173,736
Punjab ..	−182,334	−355,383	+1,350,104	+1,401,498	+3,099,356	+2,895,374
U.P. ..	−608,451	−509,738	−1,350,510	−1,503,412	+3,102,582	+3,033,694
Baroda State	+63,289	+80,106	+70,261	+93,724	+207,992	+316,485
Cochin State	+117,519	+106,085	+73,547	+60,970	+198,180	+255,936
Hyderabad	+2,286,616	+2,233,534	−787,611	−902,906	+1,888,290	+1,964,378
Mysore ..	+268,074	+266,794	+133,573	+172,699	+571,662	+578,410
Travancore	+479,213	+476,818	+561,768	+577,087	+1,051,485	+1,089,911

* Agency for reporting vital occurrences in rural areas is, as is well known, the village Chaukidar—the watchman—who gets Rs 4 p.m., has to perform a multitude of duties for the government and is its sole representative in a majority of the villages. That the agency is unreliable is no wonder for the Chaukidar is not only ill-paid and generally illiterate but has to attend to a large number of duties, including the personal needs of the officers on tour, and has to collect information from the people who are under no obligation to give it to him and do not and cannot appreciate the necessity for it. And yet, with all his shortcomings, his reports are known to be less inaccurate than those of the urban agencies responsible for the collection and submission of vital statistics. Attempts have been made to improve the vital statistics of India, but there is no prospect of their becoming reliable unless India has got an adequate nation-wide public health service charged with the duty of collecting vital statistics.

† *The Census Report*, 1931, para. 76, p. 91.

the two sets of figures for the three censuses since 1911. Differences of population shown by the vital statistics are compared with the differences of figures of natural population,* where available. A reference to the Table will make it clear that the disparities between the two are large and vital statistics are defective in a large number of cases, the defect varying from 6 to 90 per cent. and in some cases the increase or decrease of population shown by vital statistics is greater than that shown by census figures but in a few cases there is a close correspondence between the two.

It has, however, to be pointed out that even in cases in which the two seem to tally, the correctness of vital statistics cannot be taken for granted. As the error in records of births and deaths cancel each other, it is possible for the records of vital occurrences, even when they are inaccurate, to give results which may approximate to the censused population if the inaccuracies are nearly equal and therefore of a compensatory character. The defects of vital statistics show that the birth and death statistics are in error in varying degrees, the error in the records of births being in most cases greater than in those of deaths.

The Census Superintendents have themselves tried to measure the degrees of error in the registration of births and deaths. The extent of error in Bengal was estimated in 1921 at 26 to 29 per cent. for male deaths and 28 to 29 per cent. for females and omission of births was taken to be one to two per cent. higher in both cases. In 1931 the birth and death rates for 1921–31 were deduced from census figures and compared with them the reported rates of births and deaths were found to be in defect by 50 and 40 per cent. respectively. In Assam the estimate of the Superintendent, which was admittedly conservative, was that the defect in the vital statistics in that Province was at least 30 per cent.† In

* Natural population is distinguished from actual population and is calculated by adding the figures of emigration and deducting those of immigration from the figures of actual population at a census. Natural population thus calculated and the population of the last census plus or minus the balance of births and deaths should, if both census figures and vital statistics are correct, be the same. In India the accuracy of the census figures being much greater than that of the vital statistics the disparity between the two can be taken as a measure of the margin of error in the vital statistics.

† *The Assam Census Report*, 1931.

Madras, which claims a higher standard of accuracy for its registration than the other Provinces, exhaustive investigation proved that the real birth rate was in excess of the reported figures by about 45 per cent.* The progressive States of Mysore, Travancore and Baroda show errors of the same order in their vital statistics. In Mysore† it is admitted that 50 per cent. of deaths and an even larger proportion of births go unreported. In Travancore‡ the margin of error in births and deaths was estimated at nearly 50 per cent. the calculated birth and death rates being 41·5 and 20 per thousand compared with the reported rates of 20·4 and 11·1 per thousand respectively. In Baroda,§ vital statistics have been estimated to be in defect by 32·24 per cent. in the case of births and 32·8 per cent. in the case of deaths.

In the actuarial report for 1911 a table is given of the birth and death rates of the various Provinces for the period 1881–1911 deduced from the Census figures. The table is reproduced below :—

TABLE 35

Province	Birth Rate			Death Rate		
	1881–91.	1891–01.	1901–11.	1881–91.	1891–01.	1901–11.
Bengal	52·9	43·9	56·0	38·9	38·9	48·7
Bombay	50·3	43·9	50·8	45·9	45·9	45·6
Madras	51·3	44·8	47·2	38·1	38·1	38·7
Punjab	46·8	47·1	52·9	37·0	40·3	47·2
U. P.	45·1	44·7	47·7	38·6	43·4	47·1

These deduced rates are also only approximations and the rates for the third decade were calculated by methods different from that which was used for the first two decades, but there is no doubt about it that the deduced rates are nearer the truth than the reported rates. The following table gives the

* *The Madras Census Report*, 1931, para. 16, p. 26.
† *The Mysore Census Report*, 1931, pp. 106 and 107.
‡ *The Travancore Census Report*, 1931, pp. 32 and 33.
§ *The Baroda Census Report*, 1931, pp. 31 and 51.

birth and death rates for the period 1901–1911 according to vital statistics.

TABLE 36

Birth Rate and Death Rate for the period 1901–1911 (according to vital statistics).

Province	Birth Rate 1901–11.	Death Rate 1901–11.
Bengal	37·6	29·7
Bombay	33·4	34·6
Madras	30·8	23·2
Punjab	41·2	44·0
U. P.	41·4	39·3

The comparison of the two tables cannot be made the basis for calculating precisely the margin of error in the vital statistics of the various Provinces, but they do point to the conclusion that the margin is large and certainly more than 20 per cent. and probably nearer 33 than 20 per cent.

The necessity of pointing out the magnitude of error in our vital statistics, even though it is not possible to define it, has arisen because, in spite of the well-known fact that they are very defective, the writers who compare the Indian birth and death rates with those of foreign countries do not point out that high as the reported rates in India are, the real rates are very much higher. Mr. D. G. Karve, for example, compares our birth rates in the quinquennium ending 1930 with the birth rates of a number of foreign countries and says that our birth rates are comparable with those of countries like Japan, Italy and Rumania.* This conclusion is right if we assume that the birth rates of those countries are as defective as ours, which is very unlikely. Though the extent in error in our birth rates cannot, as remarked above, be specifically stated, it is safe to assume on the basis of the facts mentioned in the preceding paragraph, that the margin of error in our birth rates is at least 33 per cent. and if we increase them by that rate, they will still be well below the actual rates. The death rates in India are known to be less defective than the birth rates and if their relative position is not to be changed, an addition of 30 per cent.

* *Poverty and Population in India*, D. G. Karve, p. 41.

will probably achieve the same measure of approximation in their case as 33 per cent. in that of the birth rates.

Bearing this important consideration in mind, the birth and death rates since 1885 (complete figures for earlier years are not available) may now be taken into account. In Table 37 are given the decennial rates since 1885 :—

TABLE 37

Birth and Death rate per *mille* since 1885.

	Birth Rate	Death Rate
1885–90	36	26
1890–01	34	31
1901–11	38	34
1911–21	37	34
1921–31	35	26
1931–35	35	24

If these tables are to be used merely for knowing the trend, it is obvious that the birth rate has practically remained the same in the last fifty years. From the table of death rates the first impression that one gets is that there has been a considerable improvement in respect of mortality, but if allowance is made for the high death rate in the three decades from 1891 to 1921 caused by famine in the first decade, plague in the second and influenza in the third, it would appear that our position now in this respect is hardly any better. The figures of the death rates since 1931 also show that the rate of 24 or 25 per *mille* is practically being maintained. Our vital statistics being what they are, it is hazardous to generalize on their basis ; but if this risk is disregarded, it can be stated with a fair amount of assurance that, apart from exceptional circumstances, the normal birth and death rates* in India are 48 and 33 per *mille* respectively.

The next table gives the birth and death rates of India and fourteen other countries selected with a view to giving an idea of the position with regard to the birth and death rates of the

* This statement is based on the assumption that our average birth rate is 36 and death rate 25 per *mille* and that an addition of 33 per cent. for the birth rate and 30 per cent. for the death rate is necessary in order to get a reasonable approximation to the facts.

various representative countries. The rates are for 1881–91 and the quinquennial average for the period 1921–35 :—

TABLE 38

Country	Birth Rate				Death Rate			
	1881–91	1921–25	1926–30	1931–35	1881–91	1921–25	1926–30	1931–35
United Kingdom	32·5	20·4	17·2	15·5	19·2	12·4	12·3	12·2
Sweden..	39·1	19·1	15·9	14·1	16·9	12·1	12·1	11·6
Norway	31·0	22·2	18·0	15·3	17·1	11·5	11·0	10·3
Germany	36·8	22·1	18·4	15·9	25·1	13·3	11·8	11·0
France ..	23·9	19·3	18·2	16·5	22·1	17·2	16·8	15·7
Spain ..	36·2	29·8	28·5	26·9	31·7	20·2	17·9	16·2
Rumania	41·4	37·9	35·2	32·8	27·5	23·0	21·2	20·6
Italy ..	37·7	29·7	26·8	23·8	27·3	17·3	16·0	14·0
Netherlands	34·2	25·7	23·2	21·2	21·0	10·4	9·9	8·9
Poland ..	—	35·1	32·2	27·6	—	17·3	16·8	14·6
U.S.A. ..	—	22·5	19·7	17·3	—	11·8	11·8	10·9
Mexico ..	—	31·9	36·7	42·3	—	25·5	25·6	24·6
Uruguay	—	25·8	24·7	21·8	—	11·5	10·8	10·3
Japan ..	27·2	34·6	33·5	31·6	19·9	21·8	19·3	18·1
Egypt ..	—	43·0	44·1	43·6	—	25·4	26·2	27·9
India ..	35·9	32·7	33·3	34·3	27·4	26·0	24·3	23·8

Even taking the Indian birth and death rates at their face value, the table brings out clearly the striking contrast between India and the selected countries in respect of both the birth and death rates. In 1881–91 the birth rate in India was about the same as in the other countries. Now, with the exception of Mexico and Egypt, the birth rates in the other countries are lower and in most cases very much lower. This is, of course, due to what some call precipitous fall of birth rates in the countries in which Europeans are living. It will be noticed that even in countries like Poland, Rumania and Japan, in which the birth rate was almost as high in 1921 as in India, there has occurred a considerable fall in the birth rate in the last fifteen years.

The contrast between the Indian and the other death rates is quite as striking with the one important difference that the fall of the death rate, though considerable in some cases since 1921, has occurred at a slower rate than the fall of the birth rate.

The point of difference is due to the fact that the more progressive countries of the world achieved remarkable success in the reduction of their death rate in the first two decades of the 20th century and though there is still room for its reduction in almost all countries, the rate of reduction attained in the earlier years cannot be maintained owing to its approximation to the limit below which it is, in the nature of things, impossible to reduce the death rate.

The contrast referred to above is striking enough even if we compare our vital statistics with those of the other countries, but if we take into account the inaccuracy of our vital statistics and provisionally take it for granted that our birth and death rates are in the neighbourhood of 48 and 33 per *mille* respectively, the position of our country becomes still more conspicuous as a land in which the interplay of life and death secures an increase of population at a tremendous cost in human suffering. Vital statistics of the other countries are not beyond doubt or reproach and in some of them the element of error is not inconsiderable ; but the available facts go to show that there is no comparison between the standard of accuracy attained in countries like U.K., Germany, Sweden and Norway on the one hand, and India on the other, and even in the countries in which the standard is far from ideal, nowhere are the omissions as large as in this country. That is hardly surprising in view of the fact that the village chaukidar is the only agency for the supply of vital statistics in the rural areas, that is nine-tenths of the country, and even he does better in this respect than the municipal authorities in towns, whose deliquencies make the record of vital occurrences in towns even more unreliable than that of the villages. In a country in which the metropolitan city of Calcutta, which prides itself on being the most advanced city of the country, maintains a record of births and deaths which shows a decrease of 13·5 per cent. in the population in 1921–31 as against the actual increase of natural population of 11·1 per cent., it is hardly worth while to use vital statistics for comparing its position in respect of population with that of the countries mentioned in the above table. But since no other method is available by which some of the more significant facts can be set forth, the extreme

backwardness of India in respect of the accuracy of its vital statistics has to be borne in mind in making the comparison. If the birth and death rates of 48 and 33 per *mille* are the likely facts, the conclusion is that in India, as remarked above, the rhythm of the dance of life and death is maintained at a rate which causes immense misery.

The extent to which the differences involve human suffering can be better appreciated if—by way of illustration—the figures of actual deaths in India and in Europe are compared. From 1923 to 1930 the number of deaths in Europe, excluding the U.S.S.R.,* was 42·63 millions and in India 50·27 millions. That gives an excess of 7·64 million deaths in India in eight years, that is according to the records of deaths. India, in spite of her smaller population, suffered this much loss of life and if those records are in defect by 30 per cent., the excess of her loss amounts to about 10 millions, which is nearly equal to the population of two European countries, Portugal and Denmark, or a little more than the population of Assam. The measure of our loss also shows the possibility of the rate at which our population can grow if we can reduce the number of deaths in India to the average now obtaining in Europe.

The decennial birth and death rates from 1901–1931 in India and in the different Provinces are given in table 39, page 103.

The value of the above rates for the purpose of comparison is even less than that of the all-India rates, for it cannot be assumed that these figures are equally inaccurate, but taking them as they are, the high birth rates and death rates of the C.P. are particularly noteworthy; and as the Province has, as stated below, the highest rate of infant mortality, the view that these ratios are co-related seems to be supported by these figures. But as the point will be discussed fully in the next chapter, it is enough to point out here that the Punjab and U.P., which come next in order of the birth rate, occupy the same position in respect of the death rate. The low rates of the States in the table are, it is obvious, due to their being much below the actual rates owing to numerous omissions.

The incidence of deaths and its relative intensity is also

* The population of Europe excluding the U.S.S.R. is 378 millions and of India is 352 millions, i.e. the latter is 4 per cent. less than the former.

Births and Deaths

TABLE 39

Province	Birth Rate			Death Rate		
	1901–11.	1911–21.	1921–31.	1901–11.	1911–21.	1921–31.
Assam	35·7	32·3	30·3	29·7	31·3	23·8
Bengal	37·6	32·8	28·5	32·7	31·1	25·3
Behar & Orissa ..	41·0	38·8	36·3	35·2	35·2	26·7
Bombay	33·4	34·2	35·9	34·6	36·9	26·8
Central Provinces ..	49·6	45·5	43·7	35·9	44·2	33·5
Punjab	41·2	43·8	42·2	44·0	36·6	30·4
Madras	30·8	30·7	34·6	23·2	25·6	23·9
N.-W.F. Province ..	34·6	32·8	28·0	28·5	30·3	23·7
United Provinces ..	41·4	42·2	35·1	39·3	40·2	26·4
Baroda	20·7	—	27·4	30·4	30·2	21·0
Cochin	11·0	16·9	14·6	11·1	14·5	9·3
Hyderabad ..	7·3	7·3	9·7	8·3	11·7	10·2
Mysore	17·1	19·0	18·9	19·7	22·1	16·1
Travancore ..	17·8	19·8	20·5	15·1	15·7	11·1
All India	38·0	37·0	35·0	34·0	34·0	26·0

TABLE 39 (A)

Infant Mortality in British India

Year	Infant Mortality per 1,000 live births
1911	204·98
1912	207·65
1913	194·61
1914	211·83
1915	201·90
1916	202·34
1917	205·18
1918	266·96
1919	224·40
1920	194·93
1921	197·90
1922	175·09
1923	175·09
1924	188·86
1925	174·40

generally illustrated by the high rates of mortality in India among infants, women in child-birth and women of child-bearing age. The figures of their specific death rates have

received wide publicity in the propaganda campaign of official and voluntary organizations, but it is necessary to give them here on account of their great importance. The reported rates of infant mortality from 1911 to 1925 which have been taken from the Health Commissioner's Reports, are given in the Table 39(A). The downward trend of infant mortality since 1920 in all Provinces except Madras, Bengal and Bombay is clear, but though a welcome sign in itself, it is not a matter for any great satisfaction. The C.P. has, and has had all along, the highest rate of infant mortality and the latter was in 1921–31 30 per cent. higher than the rates of Bengal, Punjab and Madras which were about the same and could be bracketted together as occupying the next highest place in the scale of infant mortality.

But the rates of infant mortality are as inaccurate as the general death rates and probably more. There is a possibility of the death of children over twelve months old being registered as deaths of infants, and in some cases, there is no doubt, the recorded rate is exaggerated on that account, but on the whole probably the fact is that the failure to report or register deaths is more common in the case of infants than in the other cases. A rough measure of the margin of error in the rates of infant mortality is given by comparison of the reported rates with the rates deduced by the actuary in his report for 1931*.

*TABLE 40

Infant mortality in 1921–31

	Recorded Rates	Actuarial Rates
All India	181	241
Assam	174	242
Bengal*	186	
Behar & Orissa ..	137	235
Bombay	185	237
Central Province†	242	238
Punjab	185	238
Madras	185	225
N.-W. F. Province‡	144	258
United Provinces	168	266

* This includes Sikkim too. † This includes Berar and Hyderabad.
‡ This includes Sindh and Baluchistan.

The deduced rate for India is 30 per cent. higher and for most of the Provinces, the difference is more than 30 per cent. The case of C.P. is peculiar, because among the Provinces, only the deduced rate of C.P. is less than the recorded rate. But it is very likely that the actual rate for infant mortality for the country as a whole and the Provinces is nearer 240* per *mille* than the recorded rates and the difference between the actuarial rates of the different Provinces are not as wide as indicated by the table of the recorded deaths.

The quinquennial rates of infant mortality for the period 1921–35 for India and the same fifteen countries for which the birth and death rates were given are as follows :—

TABLE 41

Rates of Infant Mortality for three quinquennia from 1921

Country	1921–25	1926–30	1931–35
United Kingdom ..	78	70	65
Sweden	60	58	51
Norway	52	49	47
Germany	122	94	76
France	95	89	73
Spain	143	124	113
Rumania	—	192	183
Italy	126	119	105
Netherlands	64	56	45
Poland	—	147	136
U.S.A.	74	68	59
Mexico	223	173	138
Uruguay	105	98	99
Japan	159	137	124
Egypt	144	152	166
India	182	178	171

The rates of Egypt and Rumania are comparable with the Indian rate but the latter is two or three times the rate of most

* The rate of infant mortality in towns is much higher. The average rate for India in 1934 was 218 as against 183 per *mille* for the rural areas. The recorded rates for some of the most important cities in 1931 are as follows :— Bombay, 274 ; Calcutta, 244 ; Madras, 251 ; Nagpur, 323 ; Allahabad, 256 ; Lucknow, 286 ; Delhi, 202 ; Lahore, 185. The actual rates are, of course, very much higher and intensive enquiries in some cases have given a rate of mortality of 500 per *mille*.

of the other countries and when we compare the Indian rate for the different periods with the rates of the other countries, the reduction of their rates makes the contrast even more striking than their relative position in respect of the death rates. There are a few countries whose rate of infant mortality is above 200, but the highest recorded rate in 1931–35 was 248 and that was for Chile. If our rate is somewhere near 240, the loss of infant life in India can almost be regarded as the largest in the world. The success which the progressive countries have achieved in reducing their death rate is, in a considerable measure, due to the reduction of their infant mortality. One-fifth to one-fourth of babies in India die before they are over one year old and nearly 45 per cent. of them before they are five years old. What that means in terms of human misery is too well-known, but the fact that we have got used to this ghastly loss of child life does not make it any the less an index of the severity of strain to which our people are being subjected.

As averages and rates are arithmetical abstractions, the extent of loss which we are suffering can be better realized if by way of illustration absolute figures of infant deaths are given. The total deaths of infants in 1934 were 1·73 millions which were about 25 per cent. of the total deaths in the country. If the rate of infant mortality in that year had been what it was in England* and Wales, 1·18 millions fewer babies would have died in 1934. The English rate is not the lowest in the world. The rate of infant mortality was 32 per *mille* in New Zealand in 1934 and lower rates than that, though not at all common, have not been unknown. As 1934 was a normal year, we can take the excess of infant deaths over what would have occurred if the English rates were attainable in this country as a fair measure of the extent of our loss owing to our excessively high infant mortality. If this is taken as the average loss in the current decade, by 1941 we would lose about 12 million more babies than would be lost with the improvement of our conditions to the English level. Under existing conditions these calculations may look like exercises in Utopian arithmetic ; but since in England and Wales the rate of infant mortality was 154 per *mille* in 1900, and in a large number of

* In 1934 the Indian rate was 187 and the English rate 59 per *mille*.

other countries a similar reduction of the death rate among infants has been realized in the same period, we are not far removed in time from our Utopia provided we can work up to the same level of social efficiency in the widest sense of the word. The fulfilment of the proviso will, of course, depend upon conditions to be discussed later in this book; but it may also be stated that as in 1934 in India 5·08 million more babies were born than would have been if our birth rate had been the same as in England, the difference in the birth rates of the two countries is one of the conditions which is relevant to the discussion of the whole question.* The excess of 1·18 million infant deaths and of 5·08 million births in 1934 are not only related to each other as being simultaneous but there is a strong presumption that one, at least in some measure, is the cause of the other.

This statement may be open to question but there is no doubt that death among women in child-birth and during the child-bearing period, the rates of which are known to be high, is partially due to the exhausting strain of numerous and frequent child births. The registration and classification of maternal mortality are unfortunately grossly defective, and even more unreliable than the recorded rate of infant mortality. But modest estimates put the rate at 20 per *mille* and higher rates rising to 50 per *mille* are not uncommon. It has been estimated that at least 200,000 women die in child-birth in India every year and " 100 out of every thousand girl-wives are doomed "† according to the statement of Sir John Megaw quoted in the *All-India Census Report* for 1931, to die in child-birth. Maternal mortality in England is about 4 per thousand and even that rate has been causing serious concern in that country and strenuous efforts are being made to reduce it to the lowest minimum which is known to be lower. In India progress is painfully slow and the prospect of materially reducing the maternal mortality is not at all hopeful.

* In 1934 the total births in India were 9·29 million, our birth rate was 33·7 and the English birth rate 15·3 per *mille*.

† Sir John Megaw has, on the basis of an enquiry conducted by him in 1933, calculated the rate of maternal mortality per 1,000 for the various provinces. They are:—Assam, 26·40; U.P., 18; C.P., 8·18; Madras, 13·24; Bengal, 40·16; Behar & Orissa, 26·87; Punjab, 18·73; Bombay, 20·00; India (average), 24·05.

The high rate of maternal mortality not only causes a heavy loss of life during a period full of possibilities of all sorts, but makes maternity a much greater ordeal in prospect and in fact than it need be. Much of it is due to the immaturity of mothers, and the utter lack of facilities for ante and post-natal care and can, therefore, be prevented if the age of marriage is raised and maternity-welfare arrangements made more efficient and adequate ; but it can hardly be denied that even under more satisfactory conditions, the strain of bearing a large number of children following each other in quick succession would be too much for most women, undermine their health and render them unfit for withstanding the ordinary risks of life, among which child-bearing is and always will remain one of the most trying. It has been said that every mother has to pass through the portal of death in order to give birth to new life, but the portal in India has been made unnaturally narrow by human follies, and of these the one which is the most obvious and the least excusable is that which results in an unending procession of death of mothers and babies due to our women being subjected to the strain of excessive child-bearing.

This strain is not only an important cause of the high rate of deaths of women in child-birth, but undermines their health and, therefore, increases greatly the chances of their death by other causes during the whole of their reproductive period. This is, among other reasons, a very important reason for the shortage of women, which is such a striking feature of the population of India. In India, as in the rest of the world, the number of boys at birth is larger than that of girls, but the numerical advantage of boys is lost before they are one year old, owing to the rate of mortality being much higher among them, and though owing to the mis-statement of ages it is not possible to put any reliance on the distribution of population in the different age-groups, the shortage of girls begins fairly early, probably by the age of ten, and is the greatest during the age period 35–40. In the later age-groups the balance is partially redressed and though that does not make up for the deficiency of women in the reproductive period, after the age of 55, women regain their superiority in numbers and old women are in excess of old men.

The enormous loss of life among the women of child-bearing age in this country is a matter of common knowledge and is reflected in the very high rates quoted by insurance companies for covering women's lives. In every country, though in varying degrees, the death rates during the period 15–45 is higher among women than among men; but the disparity between the two is much greater in India and is accounted for by the incidental risks of child-bearing being much greater in this country. The following table gives the percentage of female deaths to male deaths by age up to the age of 40. The child-bearing period in India is a little shorter than in most other countries and the death rates for the age-groups 40–45 are not separately available. The limit of 40 has been adopted to show the excess of mortality among women.

TABLE 42

Female deaths per 100 male deaths in 1921–31

	All Provinces	Assam	Bengal	Behar & Orissa	Bombay	C.P.	Punjab	Madras	N.-W. F.P.	U.P.
0– 1	90	91	96	90	91	92	99	88	90	96
1– 5	104	103	100	104	108	99	105	104	104	105
5–10	99	96	92	92	109	101	106	100	100	98
10–15	95	88	82	81	109	97	109	92	104	96
15–20	126	164	124	120	134	122	111	140	108	114
20–30	131	174	137	113	127	134	115	142	125	122
30–40	101	104	93	95	98	100	109	102	115	104
All ages	906	905	907	913	925	902	896	973	859	*876

* Total female deaths per 1,000 male deaths for all ages.

In four age-groups out of nine, it will be observed that the female mortality is above the average; but as the average of female deaths is 906 per 1,000 male deaths for the country as a whole, it is only in two age-groups, viz. 15–20 and 20–30, female deaths exceed male deaths. But in those periods the excess is so large as to make it impossible for them to regain the position which they established for themselves by their greater power of survival in the critical year of infancy. In other words the lower rate of infant mortality among girls, which gives them an initial advantage at the age of one, is more than neutralized by the increase in their deaths in later years, particularly between the ages of 15 and 30. The deficiency of

women in India about which more will be said in the next chapter is, therefore, due not to the fewer births of girls but to the very heavy mortality among women in the child-bearing period.

The same conclusion is borne out by the next table which gives the death rates for females as percentages of the death rate for males for the different age-groups.

TABLE 43

Percentage of the death rate for females to the death rate for males by age for the different Provinces in 1921–31

	Assam	Bengal	Behar & Orissa	Bombay	C.P.	Punjab	Madras	N-W. F.P.	U.P.
0–1	84	94	83	86	95	91	85	78	82
1–5		101	86	95		98	95	92	92
5–10	82	86	84	108	95	106	94	99	98
10–15	97	97	80	125	100	125	102	122	106
15–20	167	119	100	143	122	127	140	146	121
20–30		120	88	126	117	115	116	117	124
30–40	129	104	83	—		120	99	106	106
All ages	98	97	86	—	95	107	95	98	98

With the exception of Behar & Orissa, a rise in the percentage of female deaths from the age of ten in all the Provinces is a common feature and the rise during the period 20–30 is sharp and significant. There is a more or less general coincidence between the variations in the two tables which shows that defective as our birth and death rates are, they can, within certain limits, be used as the indices of tendencies. From these tables the general conclusion can be hazarded that though the death rate of women is 10 per cent. lower than that of men, it is 25 per cent. higher for the age-groups 15–30, and the difference between the general and specific rates is due to causes arising out of the reproductive function of women, or rather it is due to the very unfavourable conditions under which their function has to be exercized in this country.

The risks to which the women in India are exposed during the child-bearing period may be compared with the conditions existing in the four countries in the following table :—

TABLE 44

Percentage of the death rate of females to the death rate of males in the different age-groups in 1930–32

Ages	Sweden	Germany	France	Japan	India
0– 1	77	81	79	88	91
1– 5	93	92	91	91	91
5–10	82	89	96	102	99
10–15	100	93	105	138	100
15–20	103	86	103	123	119
20–25	98	80	94	109	125
25–30	95	95	89	117	
30–35	97	105	75	121	105
35–40	96	102	69	113	

If due allowance is made for the fact that in the above table indices are given of the death rates in countries which differ from one another in every important respect on which the death rate depends, the indices are a useful method of comparing the conditions in the countries in question. In Sweden, Germany and France women generally do not get children before they are twenty and if the difference between the death rates of males and females after that age is considered, it will be seen that though in Germany the difference increases, in the other two countries child-bearing hardly makes any unfavourable impression on the relative mortality among women. In these countries, as a matter of fact, the indices show that the women improve their position in this respect, the improvement in France being considerable.

The position in Japan and India is almost equally unsatisfactory as regards female mortality in the reproductive period, in Japan, if anything, a little more so. That does not mean that the death rate in Japan is higher than in India. As a matter of fact, it is lower in all age-groups and in some appreciably lower. But there the disparity between the death rates of men and women increases considerably even in early childhood and becomes very marked in later years. The living conditions in Japan are known to be better than in India, but obviously the high birth rate, which is the rule in that country, involves a drain on the vitality of women which makes their relative position in regard to the death rate hardly

less discreditable than it is in India. The contrast between the incidental risks of child-bearing in India and Japan on the one hand and the three European countries on the other at once strikes the eye. By nature it is clear that the women are more tenacious of life than the men ; but their hold on it cannot stand the strain of too many and too frequent child births. If all the available knowledge and skill were fully utilized for ensuring the safety of women in child-birth, the latter would cease to be an ordeal involving any serious risk to life, but that cannot be done unless the demand on the resources of the community and the vital reserves of women is limited to their capacity to meet it. It is also clear that in countries like India and Japan the limit is lost sight of altogether and the result is tragic in the extreme both in intensity and dimension.

How heavy is the toll of death in India is clearly indicated by the general death rates and the rate of infant and maternal mortality. But the fact may be further illustrated by the figures of the duration of life in this country. In the actuarial tables figures are given of what is called the " expectation of life," by which is meant the average number of years that persons of a given age will probably live. The expectation of life is given in these tables for all ages, but the expectation of life at birth is taken as an index of the mean duration of life. The value of these figures is a point with regard to which different opinions are held and Mr. Meike, who prepared these tables for the *Census Report* of 1921, was so sceptical about their utility that he did not regard it as worth while to calculate the expectation of life for 1911–21 ; but taking the figures as they are, the expectation of life since 1881 is given in the following table :—

TABLE 45

Expectation of Life

	1881	1891	1901	1911	1931
Males	23·67	24·59	23·63	22·59	26·91
Females ..	25·58	25·54	23·96	23·31	26·56

If allowance is made for the fact that the decades 1891–1911 and 1911–21 were periods of exceptional mortality owing to

the ravages of plague and influenza and also that the figures themselves are affected by the methods adopted for eliminating or smoothing the errors in ages, the conclusion to which these figures point is that there has been hardly any improvement in the duration of life in this country since 1891. In other words we may, as Mr. Carr-Saunders says, " take it, therefore, that secular improvements in mortality rates, if any, are very small."* This conclusion supports the view already expressed that in this country there has been practically no reduction of the death rate for the last five or six decades.†

During the same period the chances of life in the more progressive countries of the world have been greatly improved and the improvement is shown by the figures of the expectation of life in those countries. The figures of some of them are given in the following table :—

TABLE 46

Mean Expectation of Life

	1881–90	1933
England & Wales ..	45·39	60·78
	1881–90	1930–32
Scotland	44·97	57·57
	1881–90	1924–26
Germany	38·67	57·35
	1881–90	1926–30
Sweden	50·02	62·33
	1881–91	1920–21
Switzerland	44·77	55·95
	1891–95	1921–22
New Zealand ..	56·66	64·07

* Carr-Saunders, *World Population*, p. 271.

† The figures of expectation of life can be used to deduce the death rate. For males, for example, the death rate would be $\frac{1}{26{\cdot}91} \times 1{,}000$ or nearly 37 and for females $\frac{1}{26{\cdot}56} \times 1{,}000$, or nearly 38. The " expectation " of life figures are themselves defective but such as they are, they support the conclusion that the assumption that the normal death rate in India is not less than 33 per 1,000 is correct.

The most important factor in the increased duration of life in these countries is the reduction of the rate of infant mortality, but that is not the only factor. There has taken place in these countries an all-round improvement in the conditions of life which has increased the stamina of the people, provided them with more sanitary surroundings and involved the use of measures by which the more serious diseases have been brought under control and in some cases, completely eliminated. Even in these countries the conditions are far from ideal and the occurrence of preventable loss of life on a fairly large scale is admitted by their health authorities. But the progress achieved by them in a comparatively short period is a creditable record and indirectly a measure of our failure or inability—probably both—to make use of the life-saving methods which have given such good results in other countries.

The short duration of life in this country can be further illustrated by comparing the distribution of our population by age-groups with the similar distribution in the more advanced countries. The table on page 115 gives the proportion of children below ten and persons above fifty-five in the population of our country and of other countries for three censuses, except for Japan and Russia for which the figures for three censuses are not available.

The high percentage of children in Japan and Russia and India are due to their high birth rates and in those countries the proportion of the old persons above 60 is also the lowest but in Japan and Russia their proportion is nearly 75 per cent. higher than in India. In the other countries their proportion is two to three and a half times as much. The increasing proportion of the old persons in those countries is as much the result of a fall in the proportion of children as increase of longevity, and in the years to come the importance of this factor will increase owing to the fact that the proportion of children will probably slightly decrease still further while that of old persons will increase, as middle-aged persons advance in years. But the contrast between the proportion of old persons in India and in the other countries is the result of the difference in the duration of life which is, of course, due to the poor health of our people caused by ignorance and poverty and disease.

TABLE 47

Percentage distribution of population by age groups

	0–5	5–10	55–60	Above 60
United Kingdom 1911	10·7	10·2	3·5	8·0
,, ,, 1921	8·8	9·3	4·3	9·4
,, ,, 1931	7·5	8·3	5·2	11·6
Germany .. 1910	12·1	11·3	3·4	7·8
,, .. 1926	9·4	6·4	4·4	9·2
,, .. 1933	9·0	9·0	10·7*	11·0
Sweden 1910	11·2	10·5	4·0	12·1
,, ... 1920	9·6	9·7	4·3	12·2
,, ... 1930	7·4	8·5	4·4	12·8
France 1911	8·8	8·5	4·8	12·5
,, ... 1921	6·2	7·7	5·5	13·7
,, ... 1931	8·7	8·6	5·5	14·0
U.S.A. 1910	11·6	10·6	3·0	6·8
,, ... 1920	10·9	10·8	3·4	7·5
,, ... 1930	9·3	10·3	3·8	8·5
Japan 1925	13·8	15·6	3·7	7·1
,, ... 1930	14·1	12·1	3·6	7·4
U.S.S.R. .. 1926	15·2	10·4	2·9	6·7
India 1911	13·8	13·8	1·7	5·2
,, ... 1921	12·6	14·8	1·8	5·3
,, ... 1931	15·3	13·0	2·3	4·1

* 50-60.

The same fact can perhaps be even better illustrated by giving figures of persons who survive up to the age of thirty in India and a number of other countries. The following table, which has been taken from the actuarial report for 1931, and for which acknowledgment is due to Mr. Vardanathan, gives such figures :—

TABLE 48

No. of survivors out of 100,000 born alive

	United Kingdom 1901–10	Sweden 1901–10	Germany 1901–10	France 1893–1903	Japan 1893–1903	India 1901–10
	100,000	100,000	100,000	100,000	100,000	100,000
Males Age 30	72,741	74,331	67,092	67,653	65,596	35,831
Females Age 30	75,779	78,382	69,848	70,068	64,874	36,745

The figures in this table relate to the decade 1901–10 except in the case of France and Japan which relate to the decade 1893–1903; but the purpose for which they have been given is served by them, for the contrast between India and the other countries has become even more unfavourable to our country owing to the great improvement in the health conditions of the other countries since the years to which these figures relate and the continuance of the high death rate and low duration of life in this country. The table shows how even by the age of thirty the life of nearly 65 per cent. of our people is cut short while the proportion in the other countries varies from 22 to 35 per cent. and is in most cases below 30 per cent. It is quite clear that the hidden pit-falls, referred to in the vision of Mirza, " which the passengers no sooner trod upon but they fell through into the tide and immediately disappeared " are set very much thicker in the bridge of human life in India than in most other countries of the world. The fact that about 45 per cent. of the passengers on the bridge disappear before they are 10 years old and 65 per cent. before they are thirty, is another way of saying that we are a death-stricken people. The fact is very well known; but we are so used to it that we seldom realize it vividly as an element in our population situation. The facts given in the three or four tables of the preceding paragraphs are simple but are an easy method of reckoning the cost which we, as a nation, have to incur to keep ourselves going.

The hand of death lies heavily upon us; but we give the form in which it comes different names, according as we die of the numerous diseases which are so common in this country. The visitations of death* when they take the form of the orgies of destruction associated with events like the famine of 1897–99, the outbreak of plague in 1896 which raged in its fury from 1901–11, and the influenza epidemic of 1918–19 are spectacular, but the loss of life, every year, when the country is not afflicted with any dire calamity, is so appalling in itself as to constitute a standing challenge to our national self-respect.

* The estimated deaths from the famine of 1897–99 were 6 millions, from plague up to 1934 about 13 millions and from influenza in 1918–19 also 13 millions.

Births and Deaths

The total number of recorded deaths every year in this country amounts to about 6 to 7 millions and the actual number is probably 8 to 9 millions. For population studies it would be very useful to analyse the total deaths according to diseases. But unfortunately the information available on the point is even more scanty and unreliable than the information about the total deaths. If reporting agencies are unable to record the deaths as they occur, they cannot possibly be expected to classify them according to their causes. One of the incidental results of the utter inadequacy of medical relief in rural areas, where nine-tenths of our people live, is our ignorance of the diseases from which they die.

An attempt has, however, to be made to use for our purpose whatever information is available regarding the causes of death. As one-fourth of the deaths occurring in this country are infant deaths, an analysis of the causes of infant mortality would be very much worth while, but no material is available for such analysis. According to a committee of the League of Nations "congenital and developmental defects" account for most of the infant deaths in the first seven days of life. In these the Committee includes constitutional weakness, chronic infections like syphilis and acute diseases like influenza. These defects, in the opinion of the Committee, cannot be mitigated by sanitary improvements. In India generally, more than half the deaths among infants occur in the first month and of those nearly 60 per cent. in the first week. The Committee of the League of Nations has not yet studied the cause of infant mortality in India, but if the deaths in the first week are due to the same causes to which they attribute deaths in the countries whose problems they have studied a large proportion of the infant deaths in India, more than one-fourth of the total, are due to constitutional defects. The figures of Bombay City seem to support this conclusion. In 1930–34 nearly three-fourths of the recorded infant mortality of that City was attributed to "debility, malformation, premature births and respiratory diseases"—causes which all fall under the category of "constitutional and developmental defects."

In India the ignorance of the very elementary laws of maternal hygiene and the practical non-existence of maternal

services are, taken together, important causes of our exceptionally high infant mortality; but probably constitutional defects which are primarily due to debility are as, if not more, important. Congenital defects which, of course, are due to bad heredity, are also an important contributory factor; but among all these causes of infant mortality pride of place must be given to the cause of causes, i.e. poverty. Infants die in millions every year in this country due to the fact that owing to the penury of their parents, they cannot have the conditions essential to survival through the first year of their life; and this is more important than all the other causes put together. Statistical evidence to support this conclusion may be lacking, but the conclusion itself is justified by all that is known about the position of our people with regard to nutrition, housing and economic resources. They cannot afford to give their babies the barest necessities, and therefore, the inevitable result is that one-fourth (240 per *mille* being taken as the average of infant mortality) are born only to die shortly after their birth. Maternity and child welfare work is commendable. But baby weeks and child-welfare clinics cannot reduce the mortality which is due to semi-starvation of the mothers, bad housing conditions and other cognate factors. Infant mortality is a health problem but its solution depends primarily upon economic factors. It is necessary to give the latter their due place in the discussion of the whole question.

Turning from the census of infant deaths to the causes of all deaths we are again in the region of the unknown and have to grope in the dark just as much in our quest for an explanation of the heavy mortality of our people. In the published figures of deaths 60 per cent. of the total deaths are ascribed to "fevers" and over 25 per cent. to "other causes." These proportions have practically remained unchanged ever since the records of births and deaths came to be maintained in India. "Fevers" is an omnibus heading which, as is officially admitted, covers a multitude of causes. Whenever in doubt, say "Fevers," is, to quote from the *Census Report* of Behar & Orissa, "the maxim on which the Chaukidar acts." This is so in every Province, but as the Chaukidar cannot be expected to distinguish between the different kinds of fever and the

numerous diseases in which fever is a symptom, this method of resolving the doubt is for him a practical necessity. But that, of course, means that " fevers " as a recorded cause of death has no significance whatsoever and has to be regarded as a confession of ignorance. As " other causes " is equally unenlightening, the position is that so far as 85 per cent. of the deaths in India are concerned, the cause of death is unknown and as long as the reporting agency remains what it is, the position will remain unchanged. If it is correct that over 8 or 9 million deaths occur in India every year, the cause of about 7 or 8 million of them is and must remain a mystery.

Among fevers, however, the one fever which is by far the most important, is malaria. It has been estimated that at least one-third of the deaths recorded under " fevers " are due to this disease and one hundred million people suffer from it every year. According to Col. Sinton, Director of the Malaria Survey of India, over a million persons die of malaria every year and if the number of those who fall easy victims to other diseases owing to the debilitating effect of this disease is also taken into account, " there seems " in the words of Col. Sinton, " little doubt that malaria, by its combined direct and indirect action, is responsible for at least 2 million deaths each year in India." The United Provinces, Behar & Orissa, and Bengal account for nearly 60 per cent. of these deaths, their death rate being in the order in which the Provinces are mentioned. Deaths from malaria are three times as numerous in rural as in urban areas and though anti-malarial campaigns are being carried on in some Provinces, very little progress has been made in reducing malaria mortality and the efforts which have been made so far to solve the problem have only served to make its magnitude the more obvious.

Estimates have been made of the economic loss which the country suffers on account of the direct and indirect effects of this disease. That the loss must be enormous admits of no doubt, but from its very nature it is incalculable. Any amount of money spent for combating this disease would give returns many times over, but that is true of every vital need of ours. The crux of the problem is the source from which the money is to come. People have to die in India of preventable diseases

because most of them cannot afford to take preventive measures and the poverty of the people is reflected in the State finances. The State cannot find even a small fraction of the money it requires for some of the most urgent needs—and malaria control is certainly one of them—because the people cannot pay higher taxes.* What Col. Gill says about the result of water-logging in the Punjab has a much wider application. "A vicious circle is set up," says the Colonel, "in which endemic malaria leads to bad health, bad health to economic stress and economic stress to further sickness." This is true of malaria and poverty all over the country with one very important difference and that is that the circle is set into motion by poverty and not by malaria, endemic or epidemic. The malarious parts of the country, like the plains of Central and Western Bengal, the Terai of the U.P. and the submontane slopes of the Eastern and Western Ghats, are malarious not because the people of these parts are poorer than elsewhere, but the persistence of the disease there is due to its eradication being beyond the individual and collective resources of the people.

Tuberculosis, next to malaria, is the most formidable danger to the health of our people. It has been called the "subtle enemy" in an official report. It deserves that description because it is an insidious disease, but it is also subtle because "it is," in the words of Sir John Megaw, who has been quoted already, "increasing steadily and rather rapidly" without our being aware of the extent and the rate of its increase. Figures of the total deaths from tuberculosis are not available but they are estimated at about half a million a year. Deaths from this disease are much more common in towns than in villages and among women than among men. The Purdah system, the severe strain of frequent child-births and early marriage account for the rate of mortality being higher among women and congestion in the large towns is the cause of the higher rate in urban areas.

* This statement is made in spite of the fact that I accept the current view that a large proportion of public money in India is not well spent. The proportion, however, is generally greatly exaggerated and the limitations of economy as a measure of financing national development are not realized at all. Further, it is also true, that we can raise a large sum of money by different measures of additional taxation, but the amount, with all our efforts, will fall far short of the barest minimum required for our most crying needs.

Bombay, the most urbanized Province of India (22·4 per cent. of the population of Bombay is urban as against the average of 11 per cent for India) shows the largest death rate from tuberculosis.* Though this disease is more active in urban than in rural areas, villages are not free from it; the deaths from tuberculosis are as a matter of fact, quite numerous even there and it is apprehended that they are increasing more rapidly than in the towns. That is due to the villagers not having acquired the immunity which comes from living in a "tuberculized" atmosphere—an atmosphere charged with the germs of the disease; and it is feared that now that motor transport is fast breaking the isolation of the villages, tuberculosis will become a much more dangerous disease for the people living there. When the infection becomes widespread in the villages, it is easy to imagine what havoc it will work among them in spite of the open air. The housing conditions and malnutrition are worse in villages than in towns and medical aid being almost entirely absent there, they will die of tuberculosis in much larger numbers once the infection spreads to the rural areas.

Tuberculosis is essentially a "poverty" disease. "The disease constitutes a real index," to quote Sir John again, "of the standards of life which prevail in countries in which it has become established for long periods of time. It spreads rapidly among ill nourished and badly housed populations and correspondingly diminishes when the people are well-fed, well-housed and cleanly in their habits." Cleanliness in habits is

* In 1934 the percentage of deaths from tuberculosis of the total deaths in the four Provinces for which figures are available, were :—

	Rural	Urban	Total
U.P. ..	0·1	3·7	0·5
Bengal ..	0·9	5·4	1·3
C.P. ..	0·6	1·3	0·7
Bombay ..	3·6	6·7	4·2

In Calcutta the death rates of males and females from tuberculosis in 1931 were as follows :—

	Males	Females
10–15 years	0·4	1·2
15–20 ,, ...	1·3	3·2
20–30 ,, ...	2·5	7·4
30–40 ,, ...	2·3	6·7

There is a general agreement that such figures are a fair sample of what is happening all over the country.

only partly a matter of means but their being " ill nourished and badly housed " is entirely a question of means. Lack of proper nourishment can be due to the ignorance of food values rather than to the lack of food itself, but the cause of malnutrition on a large scale—on the scale on which it exists in India—is always the direct outcome of poverty.

The extent of under-nourishment in India is a matter of estimate and Sir John's own estimate is that only 39 per cent. of the population in India is well nourished, the rest being either poorly or badly nourished. The distinction between the two last categories cannot but be very thin ; the fact of a vast majority of our people being in a state of semi-starvation is generally admitted. Bad planning and the lack of sanitary conscience account partly for bad housing in India ; but the abominable dwellings in which most of our people live are the most conclusive evidence of their not having the means to live any better. Sir John speaks of the villages as " virgin soil " for the spread of tuberculosis. They are not only a " virgin " but also an exceedingly fertile soil for the growth of the disease and if the apprehension that the infection is extending its hold in India is well-founded, the prospect of our people is truly terrible.

The *Public Health Commissioner's Report* for 1934, while deploring the insufficiency of hospitals and sanatoria for the treatment of tuberculosis patients, points out the self-evident fact that " it is beyond the financial resources of the country to house our countless cases of tuberculosis." " First and foremost," according to the Report, " the problem resolves itself into one of improving housing in urban areas with all that it connotes in the way of space, sunlight and fresh air." This is true but it is an under-statement. It is not merely a problem of improvement of housing in urban areas but of housing in general ; and as things are, it is beyond, far beyond the financial resources of the country to rehouse the enormous population which is now living in extremely insanitary houses. The countryside has space, sunlight and fresh air, but the houses in the villages are lacking in these three essentials of health and are, as stated above, better suited to foster disease germs than houses in the towns. If we reckon the cost of adequate improvement in housing and set it against our available

resources, we can easily realize that we have not the means for carrying out this stupendous task.

The Report goes on to say: "The importance of good nutrition in the prevention of tuberculosis cannot be over-stressed," but adds, "this, however, is a problem by itself." The first statement is, of course, a truism but the second amounts to running away from the problem itself. It is not a problem by itself but the same problem, and it cannot be solved by medical agencies. The gravity of the danger of tuberculosis becoming more widespread lies in the fact that good nutrition is a luxury for the bulk of our people and particularly for the peasants who grow food for us. Propaganda carried on by the King George's Thanksgiving (Anti-tuberculosis) Fund and its other activities are useful but amount to, in the words of the *Public Health Commissioner's Report* for 1932, "preliminary skirmishes with its subtle enemy." Increase in the resources of the Fund will be a public service; but it cannot do more than carry on merely a borderland warfare. The enemy's real stronghold lies in the half-starved bodies of the millions of our people. That is the fastness—inaccessible for the Fund and all other agencies of the same kind—from which the enemy will continue to do its destructive work in its insidious manner and, as it is feared, also on a much wider range.

It is not possible to deal even briefly with all the other important diseases to which our people are such good hosts. Dysentery, diarrhœa, influenza, pneumonia, enteric and relapsing fever, typhoid and many other diseases account for deaths whose number is not known but taken together must be running into millions, for if malaria is responsible for at least two million deaths and tuberculosis for half a million and the number of total deaths in India is over 8 millions per year, there are still at least 5½ million deaths to be accounted for. The diseases mentioned above are known to be very fatal to life and, therefore, a good proportion of the 5½ million deaths must be ascribed to them. The general statement that among the pre-disposing factors of diseases economic want is probably the most important applies also to these diseases, but it is hardly necessary to stress the fact specifically. Want and disease

are good companions and where one is found, the other follows urged by an irresistible attraction.

India is the home of epidemics and it is desirable to indicate those aspects of their occurrence which are of interest for the study of our population problem. The most important aspects are the increase or decrease of mortality caused by them and the future trend of their influence. Cholera, plague and smallpox are the three widely known epidemics of India, but there are two others, viz., kala-azar, and beriberi, which also cause heavy mortality and have to be considered.

Deaths from cholera occur in every part of the country, but Bengal, Behar & Orissa and U.P. are the worst sufferers, more than half the total number of deaths being generally recorded in these Provinces. Incidence of the disease is subject to violent fluctuation and in British India as a whole the rate of mortality has varied from 2 to 36 per 10,000. Even in a Province like the Punjab, which has known years in which only sporadic deaths from cholera have occurred, a death rate of 36 per 10,000 has been registered, and Sindh, which is normally practically free from cholera, has been visited by cholera in an epidemic form. The disease has, however, become endemic in parts of Bengal and Behar & Orissa and the U.P. and there, even after an epidemic has subsided, deaths from this disease continue to occur in large numbers. The death rate in rural areas is much larger than in the urban ones, the proportion being 2 : 1. Owing to bad sanitation big fairs like the Kumbh Mela of Hardwar and Allahabad and the Rath Jatra of Puri become occasions for a violent outbreak of the disease and from there the infection is carried to the different parts of the country.

Attempts to control the disease have taken the form of improvement in the sanitation of fairs, inoculation, experiments with a new preventive medicine called bacteriophage and improvement of drinking water in the villages. But the only measure, which has so far been successful, is strict control of the religious fairs. Dr. Raja of the All-India Institute of Hygiene and Public Health has made statistical analysis of cholera mortality figures since 1877 and his conclusion is that during this period there has been hardly any decline in cholera

mortality in British India. The lowest annual average for the quinquennia since 1877 was 148,437 (1922–26) and the highest 448,718 (1892–96), but taking the whole period the figures do not reveal a definite downward trend of the disease. The number of registered deaths from cholera is, of course, much lower than the actual deaths and as the outbreak of the disease in an epidemic form is a common occurrence, any failure of the reporting agency to record the deaths is generally more serious than it is under normal circumstances.

It appears that India is to continue to have the distinction of being the most important focus of cholera. The one remedy which, from a layman's standpoint, is likely to yield the best results is the provision of pure drinking water in the villages. It cannot go far in reducing cholera mortality if the other conditions, which are favourable for the continued vitality of the disease, remain what they are, but it would be an important contribution to the solution of the problem. But the cost of carrying out this simple measure of reform would be beyond our current resources. To say this is to rule out the prospect of our being able to provide the one condition without which the other measures are bound to be of little avail for reducing substantially the deaths from cholera. The other conditions which favour the continuance of the disease are, of course, the appalling sanitary conditions, the lack of effective control over the provision and sale of food, the poor quality of the food which is within the means of the people, their ignorance of the rules of health and the inadequacy of medical relief in the villages. In other words the control of cholera requires an all-round improvement in the general conditions of our life. If the cost of supplying pure drinking water is beyond our means, the cost of introducing the other improvements is much more so. It is again a case of a vicious circle set up by economic factors.

Plague, the recorded deaths from which, from 1898 to 1934, number about 13 millions, is, it appears, decreasing in the intensity of its incidence and some medical experts are of opinion that it will soon disappear from India. The average number of deaths every year for the decades ending 1908–09, 1918–19, 1928–29 were 603,269, 422,152 and 170,272 respectively. The average for 1929–34 is 49,984. The decrease is progressive

and the hope that it will disappear may possibly come true. The Punjab, the U.P. and Bombay together account for about 73 per cent. of the total deaths from 1896–1929, their respective percentage being 29, 23·7 and 20·2. In the Punjab, mortality from plague is fitful. It breaks out in an explosive form from time to time and then there is an interval of low mortality. The U.P. generally records the highest number of deaths. The severity of the outbreak depends upon atmospheric humidity and the presence of infected rats. Some of the most densely populated districts like Lahore and Gujranwala in the Punjab, Ballia, Gazipur and Gorakhpur in the U.P., Satara, Belgaum and Dharwar in Bombay and Darbhanga, Saran and Muzaffarpur in Bihar show the highest mortality. But density is not a primary factor in causing plague mortality and that is clearly shown by the fact that Bengal, excepting Calcutta, has been practically free from plague since 1896. Assam and Madras have also enjoyed comparative immunity from it. Plague like tuberculosis, causes greater mortality among women, due, of course, to their lower vitality.

The decline of plague mortality is gratifying. It is partly due to inoculation and the destruction of infected rats, but the most important factor responsible for the improvement, according to a theory favoured by medical authorities, is that a new race of rats immune to plague has been evolved and the immunity is the greatest in places which have suffered most severely from plague.* If this is so, the improvement that has taken place in respect of plague mortality is no index of the improvement in our health conditions; and if the latter remain as they are, we will have to pay our debt to nature in some other form even if the gradual and progressive reduction of plague mortality leads to its early disappearance. The liabilities, which we accumulate from year to year, are due to the general conditions of our life, and if the balance against us is not reduced, we will have to meet our dues in one form or another.

Smallpox, the third epidemic disease of which India is the most important centre, also shows some sign of decreasing in

* *The Public Health Commissioner's Report* for 1929, p. 66.

severity, but the decrease is not appreciable. The following table gives mortality rates per 10,000 for the five decades since 1877 and also vaccination per 1,000 :—

TABLE 49

	Vaccination per 1,000	Mortality per 1,000
1878–87..	27	0·772
1887–97..	34	0·466
1897–1907	38	0·374
1907–17	36	0·363
1918–1927	37	0·399

The rate for 1927–34 is 0·252, but as the disease runs in cycles, it is not safe to assume that a period of definite decline of the disease has set in. The disease is more equally distributed in the different parts of the country than cholera and plague. Nearly half the deaths every year are among children under ten and infant mortality from smallpox is very high. In India a very virulent type of smallpox is common, and the percentage of deaths is higher than in most countries.

In the opinion of medical authorities smallpox can be more or less effectively controlled by vaccination and re-vaccination. " The continued prevalence of this easily preventable disease," in the words of the *Public Health Commissioner's Report* for 1934, " is a measure of passive resistance to public health improvement." Inoculation is compulsory in some parts of the country, but though about 15 million vaccinations take place every year, the rate of vaccinations has, as the above table shows, only slightly increased since 1887. It is held that without compulsion on a national scale the disease cannot be brought under control. The fact that even the comparatively poor countries of Central Europe and Netherlands, where conditions are not much better than in India, have achieved a large measure of success in reducing the cases of smallpox has been cited in support of these views. If this is correct, ignorance, more than poverty, is the great obstacle in the way of our reducing smallpox mortality. Ignorance

being due to the fact that the country cannot afford compulsory primary education, " the continued prevalence of this easily preventable disease " is also a measure of our inability to find money for our elementary needs. But it is some satisfaction to know that even if the general conditions of our life are not radically changed, it is possible to reduce substantially smallpox mortality when compulsory vaccination becomes practical politics.

There are two other diseases which have caused heavy mortality in certain years. Kala-azar, which proved very destructive in Assam in 1898–99, has since 1917 again caused a considerable loss of life in that province and in Bengal and Behar but is on the wane since 1924 owing to the use of antimony treatment. Beriberi is a disease of the rice-consuming provinces and its occurrence is attributed to the consumption of highly polished rice. Madras and Bengal are the two Provinces which show the highest incidence of beriberi. There are no statistics of deaths from this disease, but their number is known to be large. It is, however, held that they can be controlled more easily than cholera, plague and smallpox.

Epidemics, dangerous as they are, only account for a small proportion of the total deaths in India. The proportion, excepting devastating visitations like plague in 1907 and influenza in 1918, seldom exceeds 6 per cent. of the total deaths and is generally lower. More than 94 per cent. of the deaths in India are ordinarily due to diseases which have become a normal feature of the life of our people. Fifty to sixty per cent. of the total deaths are as stated already, ascribed to fever. Dysentery and diarrhœa generally account for more than three times as many deaths as smallpox and in several years the mortality from them exceeds cholera mortality. About twenty per cent. of the total deaths are recorded under " all other causes," which means deaths from diseases which are not important enough to be separately classified, but are in ordinary years three to four times as numerous as the deaths from epidemics. These proportions have to be borne in mind in understanding the problem of disease in India in its right perspective.

Compulsory vaccination may stamp out smallpox from India and plague may disappear owing to the immunity given by the persistence of the disease itself for over forty years. Welcome as these events would be and less precarious as life in India would become owing to their consummation, the actual saving of life would bear a small proportion to the total deaths in India.

In the paragraph dealing with the reduction of plague mortality in India it was stated that in the event of plague disappearing from India nature would balance its account in some other way. The meaning of the statement should become clearer in the light of what has been said above. The reduction in plague mortality that has already taken place has produced a very slight impression upon the death rate in India. People continue to die in millions and the reported death rate of 25 per *mille* and probably the actual death rate of 33 per *mille* is being maintained. The reason is obvious. When a people are in what may be called an exposed state, i.e. liable to death owing to their stamina being undermined by the necessary incidents of their everyday life, if they do not die of one disease they will die of another. Medical science may save them from kala-azar by the discovery of antimony treatment and vaccine protect them against infection from cholera, but it can save the lives only of those who are in sound health otherwise. But people, who have to live on starvation diet, in hovels without sunshine or air and whose conditions of existence are otherwise sordid in the extreme are doomed to die long before their time. If they do not, it may be repeated, die of one disease they will die of another.* When liabilities

* In the annual report for 1935 the Public Health Commissioner after referring to the mortality caused by malaria, tuberculosis, leprosy and infant and maternal mortality makes the following significant observation—"These five cases of high mortality have not been brought together merely because each is responsible for a large number of deaths . . . but in all five groups there exists a common pre-disposing etiological factor which is of vital importance. Recent scientific research has in fact indicated that were this factor eliminated, it would, without doubt be possible to effect large reductions in the continuous heavy mortality recorded under all these causes. The pre-disposing factor is malnutrition. It has long been known that malnutrition produces a lower resistance to disease ; this has been frequently illustrated by the great susceptibility of the people of India to malaria, bowel infections and other diseases during times of scarcity. But until recent times few people realized the extent to which malnutrition exists in India.

are in excess of assets, liquidation must be the normal process of redressing the balance. Our people are in a continual process of liquidation. Their vital reserves are low. They have to draw upon them for their every-day normal existence, and when a contingency arises—and such contingencies must be numerous under the conditions prevailing in India—which requires the use of reserve powers, they cannot hold their own. They, of course, hold out for some time, but they cannot hold out long. The flesh in India is heir to more numerous ills than in most other countries and as the flesh is weak and the will to live none too strong, premature death must be the fate of most people in this country.

The concluding portion of the above paragraph also sums up the argument of this chapter. Our high birth and death rates are more or less stationary and have been for the last fifty years. They involve human suffering on a colossal scale because even under the more favourable circumstances of the last decade about 12 or 13 million babies are born and about 8 to 9 million persons die every year in order to have a balance of about 3 to 4 million lives. Apart from the question as to whether we can afford the growth of our population at this rate the fact remains that the cost that we have to pay for securing this increase is a terrible indictment of the conditions under which we have to live. We are not a dying nation, but death is the badge of our people. Must it be so? Can it be otherwise? These questions will be answered in the next and the following chapters.

No preventive campaign against tuberculosis or against leprosy, no maternity relief or child welfare activities are likely to achieve any great result unless those responsible recognize the vital importance of the factor of defective nutrition and give it their most earnest attention."

All this is sound sense, but qualitative defects in the ordinary diet of the people are to a small extent due to their ignorance of " what to buy and how to use to best advantage the material bought." The far more important cause is their inability to buy the essentials required for a higher standard of health, a better physique and a greater power of resistance to infection.

In plain words the problem of disease in India is the problem of poverty. This is the pre-disposing etiological factor—the cause of all causes and to it " the most earnest attention has to be given by those responsible." Their task has become far more difficult because their predecessors have been guilty of gross neglect in their understanding and treatment of it. The problem cannot be dismissed by saying " That is another problem." That is the problem and its solution raises hosts of issues which " those responsible " generally refuse to face up to.

Chapter VI

THE BALANCE OF BIRTHS AND DEATHS, I

THE fact that the death rate is the decisive factor in the growth of population in India has been duly stressed in the last chapter. It is, however, necessary to discuss a little more fully the causes which determine the birth and death rates and the relation between the two in order to appreciate the relative importance of the forces at work and forecast, if possible, the likely tendencies of the population in the near future. It is not possible to look far ahead or state what the population of this country will be, say, in the year 2,001. We are passing through a period of the utmost instability and insecurity. It is clear that the period is important inasmuch as the whole future of the world, and, therefore, of India, depends upon what will happen in the next decade. The increasing international tension is sure to bring matters to a head before long and involve consequences of profound significance for every country. But the ultimate issue of the struggle that is in progress is highly uncertain, and our future, like that of all other nations, will be shaped by the turn of events, the course of which can only be foretold if we base our anticipations upon our predictions.

It is, of course, possible to calculate what our population will be forty, fifty or sixty years hence if it continues to grow at the same rate as for 1921–31, or 1881–1931 or any other period. That is simple and involves only sums in compound interest. The growth of population, however, depends upon a number of factors which cannot be assumed to be constant and with regard to which information is lacking in India. But the more important consideration is that owing to the uncertainty of the world situation, of the situation in India and of the repercussions of the former on the latter it is not possible to make any tenable assumption with regard to what the future has in store for us. Despite these considerations it is necessary to review the present position in order to assess the relative strength of

the forces favourable to the growth of population. That will be helpful in understanding the present situation more clearly and make it easier to point out the bearing of our population on the question of national policy.

One point must be mentioned at the outset of this discussion if only to state that this point is not important or, rather, is so very obscure as to make any speculation about it hardly worth while. This is the relation of the racial composition of our people to the growth of population in India. It is well known that certain races are more prolific than others and mortality also depends to a certain extent upon biological factors. The reproductive powers and longevity are, to use a convenient word, race-linked. They are limited by the stock to which the members of a nation belong. That is so, but in no country of the world is it possible to state the extent to which the biological factors determine the growth of population. This is due to two reasons—one being the mixing of races which has taken place almost everywhere. There is no pure race left in the world now; though some races are purer than others, miscegenation has occurred all over the world and purity of race is, even in countries and communities in which the pride of race is their most distinctive feature, more or less a myth.

The other reason which makes it impossible to tell how far the racial factor is at work in determining the rate at which the population of a country is growing is that in every country social institutions and standards are far more important than the racial composition of its population in determining its birth and death rates. A sterile people cannot become fertile through economic and social changes, but the actual exercize of the reproductive powers of a people and the chances of children's survival for the normal duration of life are influenced to such an extent by their resources, institutions and acquired habits of thought and conduct that it is, in practice, impossible to isolate and assess the effect of biological inheritance on the increase of numbers.

The importance of these considerations is greater in this country. Our caste-system, with its innumerable sub-divisions, has taken its present shape owing, at least partly, to an

organized effort to preserve the purity of race or races. That the attempt has been successful, up to a point, is clearly borne out by the nasal, facial, cranial and other indices commonly used by scientists to differentiate races. These characteristics are stamped on the faces of the people of different castes and there are provincial distinctions which can rightly be ascribed to differences of biological inheritance. The existence of these different types and grades can be made an argument against the indiscriminate relaxation of restrictions on inter-marriage between the different castes, but the argument has no practical importance owing to the rigidity of castes, the difference of language, culture and economic status which have made the caste divisions and sub-divisions such an important factor in our life. Emphasis on the relaxation of these restrictions is certainly more essential from the practical standpoint owing to their harmful social and political effects and to the fact that in a large number of cases the assumed superiority upon which the restrictions are based, is a social fiction and what is worse an anti-social prejudice. But the point with which we are directly concerned here is that in spite of these distinctions, some of which are partly due to racial differences, in India, even more than in most other countries, no good purpose can be served by introducing the element of race into the discussion of our population problems.

The reasons for the exclusion are the same ; only their validity is greater in India. The fact that India has been a melting pot of races for thousands of years carries with it the conclusion that the process of assimilation, which has been at work all this time, rules out the possibility of disentangling the influence of race factor as a cause of the birth and death rates. It cannot be denied that the factor has its effect on the fertility of the different sections of the community and is even more important in determining the quality of their life. In a few cases its effect on numbers can be inferred from general observations. The higher birth rate among the aboriginal tribes is, for example, most likely a racial difference and so is the relative scarcity of women in the Northern and Western Provinces of India ; but no generalization of any value can be made on the basis of such facts, and as there are other causes

which also account for them, it is not possible to say how far they are the result of racial differences. The mixture of races in India has gone farther than in most countries in spite of caste barriers, and it is, as stated above, impossible to assess the extent to which racial composition has influenced fertility or length of life.

The other reason which makes speculations about the effect of race on the balance of births and deaths futile, relatively speaking, is even more important in India. Traditions, living and dead, are the most important governing factors in our life. In all matters relating to marriage, the size of families, the attitude towards and treatment of women, usage and custom are all-important. The growth of population is, in a large measure, due to the working of such social factors and they collectively are far more important that the racial differences in determining the birth and death rates. If to these considerations are added the supreme importance of our economic organization and resources in determining the size and growth of our population, the comparative insignificance of racial factors in the consideration of the population problems becomes obvious. That does not mean that all considerations of race can be safely ignored in this country. Eugenic considerations are as important in India as elsewhere and something will be said about these later in this book. But so far as the discussion of the causes of the birth and death rates in India is concerned we have to leave out of our calculations what may be called the biological make-up of our people. The exact influence of this factor is obscure and overshadowed by social and economic factors.

To take the causes which determine the birth rate first, the social factors are of decisive importance but they are well known and can be dealt with very briefly. Among them, the fact that in India marriage is universal has to be mentioned first, but the mere mention is all that is necessary. In this country every one marries as a matter of course, and in this respect there has been practically no change since 1881. In 1931 467 males and 493 females out of every thousand were married ; taking widowers and widows, ascetics and mendicants into account, this means that almost every person of marriage-

able age was actually married. In Western countries marriages and prosperity are known to be directly related and charts have been prepared to show how the level of prices, the value and volume of international trade, the rise and fall in unemployment, in the poorer countries changes in the price of bread and other indications of prosperity or the reverse have a direct bearing on the marriage rate. In India economic considerations are only of secondary importance with regard to matrimony; or rather, since marriages are arranged without the parties having any say in the choice of their mates or the time and age at which they are married, marriage is entered into by a vast majority of our people without any regard for their resources and prospects. When the country is in the grip of severe famine or economic distress, the postponement of marriages becomes unavoidable; but apart from such circumstances of acute misery, poverty being a chronic condition of the life of our people, they are not deterred from marrying by want of means. This is generally attributed to the fact that marriage in India is considered a religious duty. But it is doubtful whether the fear of religious sanctions is an important motive in the contracting of marriages. When a man has no son, he may take another wife later in life or re-marry if he is a widower for the salvation of his soul. But as a rule the people get or rather *are* married because the marrying of children has become a social obligation on the parents which they discharge irrespective of their own economic circumstances or the economic prospects of the children. Whatever its explanation, the disregard of economic considerations in the matter of marriage is a well-known fact in our social life and is the most important cause of the universality of marriage. The high proportion of married persons, combined as it is with the equally common disregard for the future of children, cannot but be an important contributory factor in making the birth rate as high as it is in India.

The prevalence of early marriage in India is generally regarded as favouring a high birth rate. Early marriage, in the sense in which it is understood in India, is a great social evil and attempts to remedy it by legislation have only resulted in an increase in the number of married children

under ten.* The Age of Consent Committee has calculated that about 50 per cent. of girls get married before they complete their 15th year. Undesirable as are such marriages from every point of view, their effect on the birth rate is small when their total number is taken into account. The reason is, of course, simple : a large majority of these marriages are of no importance as regards reproduction. Most of the girl-wives not being potential mothers, any increase or decrease in their number can probably only affect the birth rate in so far as married girls of 14–15 years of age are concerned. The Age of Consent Committee has expressed the opinion that " the consummation of marriages takes place in many cases below 13–15." The figures on the point being unobtainable from the very nature of the case, it is not possible to do more than estimate the proportion of such marriages which also involve child-bearing. That the number of such cases is likely to be " many," is, of course, obvious from the fact that according to the calculation of the Age of Consent Committee on the basis of the 1931 figures nearly 32–33 million girls must have been married‡ before they were fifteen. In spite of customs designed to prevent premature co-habitation, transgression of the rule is likely to take place in a large number of cases. But the number of such cases, though large in the aggregate, must be proportionately small ; and in most of these lapses, there can be no question of childbirth. Cases of not only child-wives but child-mothers are not unknown ; when a girl of thirteen or

* The number of married persons per 1,000 between the ages of 0–10 for the five censuses taken since 1891 is given in the following table :—

	Hindus		Muslims	
	Male	Female	Male	Female
1891	28	70	9	43
1901	28	70	10	39
1911	29	74	9	35
1921	26	66	9	30
1931	53†	113†	40†	107†

† This is the result of a great measure of " Social Reform "—the " Sarda Act."

‡ Total number of girls under 15 was 65 million in 1935.

fourteen becomes pregnant, the case being abnormal naturally attracts a great deal of attention. But it may be repeated that the proportion of such cases is very small and though child bearing at the age of 14–15 is more common, even such cases represent only a small proportion of the total number of girls married at 13–14 or before. In India as elsewhere, 15 can be taken as the beginning of the child-bearing period, numerous exceptions to this general rule notwithstanding.

The above paragraph is not intended to be an answer to Miss Mayo, but merely states a fact: though over 50 per cent. of girls are married before they are 15 years of age, they contribute little to our high birth rate. As early marriage has come to mean marriage of girls under that age, the existence (or reform) of the evil will not make much difference in our birth rate, although it makes all the difference in the life of the girls themselves. As regards the birth rate, what is of real importance is the fact that more than eight out of ten girls aged 15–20 are married, and only 13 per cent. remain unmarried, the rest being widows. When we compare this proportion with the percentage of unmarried women aged 30 in Ireland, the United Kingdom and the U.S.A. (60, 41, 23 per cent. respectively) we can realize at what an early age reproduction begins in India. The fact, therefore, that most of the women who marry in India are married before they are 20 is of real importance for the purpose of the birth rate. No definite information is available regarding the fertility rate of Indian women at different ages or age-periods, but such material as is available supports the view that the 15–20 period is the most fertile in the case of most women. The fertility rates of other countries* point to the same conclusion. The age period

* The Registrar-General of the United Kingdom, for example, in his report for 1922 has given a table on the basis of which he comes to the following conclusion: "Below age 20 the chance of a married woman having a child within a year is shown to be nearly ½, between ages 25 and 29 the chance has diminished by 50 per cent. to ¼, ten years later it is a little more than ⅛, while in the oldest age group it is about 3 per cent. or about one-fourteenth of that shown for the youngest age group. When a change in the proportion of married women in one age group may thus have an effect upon ensuing fertility fourteen times as great as an identical change in another group, the importance of age distribution of the potential mothers is at once manifest and it must clearly be taken into consideration in a comparative analysis extending over several decades." Quoted in *The Measurement of Population Growth* by Kuczynski, p. 147.

20–30 is also fertile though less so than the previous one, but once women are past that age, their reproductive power decreases rapidly until it exhausts itself, generally at the age of 45. That most women in India bear most of their children before they are 30 is well known and is borne out by the high mortality rates from 15–30. (*Vide* Table 44).

The conclusion is obvious. The importance of early marriage in India from the standpoint of population lies not in the fact that 50 per cent. of girls marry before they are 15 but in the fact that in the age period 15–20 only 13 per cent. of girls or women remain unmarried. Even if the Sarda Marriage Act ceases to be a dead letter and the marriages of girls under fourteen are stopped altogether, it will affect the birth rate in India only slightly. Even then most girls will be beginning their marital life, as they do now, at an age at which their fertility is at its highest.

In the preceding paragraph nothing has been said about the early marriage of boys. Apart from the fact that it is the lesser evil, the omission is due to the relative unimportance of the age at which the men marry, for the latter has practically no influence upon the number of their offspring during the period of effective marital life. Leaving early adolescence and late old age aside, their reproductive power is known to remain at about the same level and the number of children they beget depends not upon their age but that of their mates. If this average marriage age is raised to 18, 20 or even 25, that will give them easily 30 reproductive years during which they can have as many children as they are capable of having.

Early marriage in India, in the ordinary sense of the word, has, however, a depressing effect upon the birth rate by being responsible for the enormous number of widows in this country. Their number per thousand females of all ages has decreased from 176 in 1891 to 155 in 1931, but most of the decrease took place in 1921–31, for up to 1921 the number was on the average 175. In the current decade unfortunately it is certain that the position will become worse again and the proportion of widows will show an increase. That is due to the entirely unexpected result which the Sarda Marriage Act has had in producing a

rush of marriages within the short period of six months.*

The number of infant widows in 1931 almost doubled, which of course, was due to the number of baby girls under the age of one year who were married in 1929–30, and lost their infant husbands. It is not known how far this inverted progress in respect of early marriages has been continued in the current decade. That marriages below the minimum age laid down by the law persist as if the Sarda Act had never been passed, is of course certain, but one hopes that the people are only contemptuously ignoring the law and not showing their resentment by marrying children in defiance of it who otherwise would not have been married in their early childhood. If the law is being " dared " the number of widows will increase not only owing to the rush of 1929–30, but also through the numerous early marriages caused by this vindictive breach of the Child Marriage Restraint Act. Most likely the position has become normal; but even if that is so, the increase of about 3·7 millions in the number of girls under 15 married in 1921–31 would mean a considerable increase in the number of widows in 1941.

The importance of the number of widows from the standpoint of the birth rate consists in their enforced withdrawal from reproduction. It is the withdrawal of the widows aged 15–45 which matters for reproduction and in India (without Burma) their number in 1931 was 10·66 millions out of a total of 25·50 millions. That means that nearly two-fifths of the widows in India are in the reproductive period of their life. As the total number of women in India aged 15–45 was 75·42 millions in 1931, it means that 14 per cent. or nearly one-seventh of the women in the child-bearing period are socially sterilized. The ban on widow re-marriage, which is the means by which this result is achieved, not only involves severe emotional strain for and, of course, gross injustice to these unfortunate millions, but serves as a preventive check on the growth of population.

* The Child Marriage Restraint Act was passed on the 29th September, 1929, and was to take effect from April 1, 1930. This interval was utilised for forestalling the Act and led to the increase in the proportion of married girls under five from 11 per thousand in 1921 to 30 in 1931 and in the age group 5–10 from 42 to 93. The total number of married girls under fifteen increased from 8·57 in 1921 to 12·27 millions in 1931.

The ban on widow re-marriage has defied the zeal and efforts of three generations of social reformers and it is unlikely that it will be relaxed to any appreciable extent in the next generation. The redress of this ancient social wrong cannot, however, be indefinitely postponed, and when it is redressed, the high birth rate in India will become higher still. The extent of the rise that will take place in that event can only be guessed, but if the assumption that the birth rate in India is 48 per *mille* holds good, removal on the ban of widow re-marriage would, it may be inferred, increase it by 12 per cent., i.e. to 53 or 54 per *mille*. This rough calculation has been arrived at as follows: there are 10·66 million widows aged 15–45 and they are 14 per cent. of the number of women of that age group. Of these 8·31 millions or about 78 per cent. are Hindus, most of whom cannot re-marry. Amongst Muslim widows re-marriage is permitted but the extent to which it is practised varies according to locality and class. The same applies to Christians and tribal religions. It would not be an exaggeration to say that about 85 per cent. of the widows of child-bearing age fall under the ban against widow re-marriage. That means that 9·11 million women, or about 12 per cent. of the total number of reproductive women (75·42 millions), are "socially sterilized." The calculation is very rough, but gives an idea of the extent to which the social prohibition on widow-remarriage functions as a "preventive check." In this inference, it is implied that the widows now deprived of the opportunity of discharging their reproductive function will, on the average, give birth to the same number of children as the married women aged 15–45 do at present. This is a fair assumption, but presupposes that while this deep-rooted social evil will be eradicated, our society will remain static otherwise. That is extremely unlikely, for forces that are strong enough to get rid of this evil will fundamentally transform our society in many other ways. It is, therefore, an idle speculation to estimate the rise in our birth rate in the event of widow-remarriage becoming as common as it is rare now. The point which matters is that in spite of reproduction being confined to seven-eighths of the women of child-bearing age, the birth rate in India is as high as it is at present. The fact is

significant inasmuch as it shows the real incidence of the strain of child bearing and the extent to which married people let their impulses determine reproduction.

It is necessary to refer here to the effect of the prohibition of widow re-marriage on the relative increase of the population of the different communities. This is a sore point and has given rise to misgivings among the Hindus regarding the future. More will be said about it later but a brief explanation of the relation between the widowhood inflicted upon the ten million and odd women and the growth of population of the different communities will be of value. Out of 10·66 million widows of child-bearing age 8·31 are Hindus, i.e. about 78 per cent. As the Hindu population is 68 per cent. of the total population of the country the proportion of Hindu widows aged 15–45 is ten per cent. in excess of their proportion of population. The proportion of widows of this age-group in the different communities is given in the following table :—

TABLE 50

	Percentage of widows aged 15–45 to the total number of women aged 15–45	Percentage of increase since 1881
Hindus	15	26
Muslims	12	55
Christians ..	8	—
Tribal	6	—
Sikhs	6	—
Jain	24	—

The higher proportion among the Hindus and Jains of widows aged 15–45 is clear, but the fact which makes the position much worse for them is that while widow re-marriage is practically non-existent among them, reform of the ban in other communities varies according to local conditions and the classes to which the widows belong. There are a few Hindu castes among whom widow re-marriage is permitted and

practised; but even they look upon early marriage and the prohibition of widow re-marriage as symbols of a higher social status and, in order to raise themselves in the social scale, tend to imitate the customs of the higher castes. Among Muslims widow re-marriage is permitted by their religion; how far the practice is common is not known. But it is wrong to assume that it is the rule.* The extent to which it prevails depends, as stated above, on local conditions and the economic position of the classes concerned.† The point which is of interest here is the higher proportion of widows aged 15–45 amongst Hindus and Jains and the all but complete prohibition of widow re-marriage among them, which is a cause and an important one of this relatively slow rate of increase.

Column 3 of the above table also gives the rates of increase of the various communities since 1881. The inverse relation between the proportion of widows and the rate of increase of the communities concerned is clear, but it would, of course, be absurd to ascribe the difference in the rates of increase to the difference in the proportion of widows amongst the various communities. The rates of increase are the result of a number of factors which are related to one another in a complex manner; but the prevalence or absence of widow re-marriage is certainly one of these. Jains are a small community and are paying the price for their orthodoxy in the extremely slow growth of their population. Hindus have increased by 26 per

* The Census Commissioner of India for example, on page 202 of his report of 1931, in giving the number of women in the age group of 15–45 and the number of men aged 20–50, excludes the Hindu and Jain widows and includes the Muslim and Christian ones in his table on the assumption that the former, as a rule, do not re-marry and the latter do.

† "Amongst the followers of Islam and Christianity," says the *Punjab Census Report* for 1931, "there is no religious tenet prohibiting widow re-marriage. But social customs come into play and among Muslims the castes and tribes enjoying higher social status consider it derogatory for their widows to seek re-marriage. For example, Jats, Rajputs, Syeds and Pathans in many cases would not permit their widows to re-marry." Similar social customs also "come into play" in the other Provinces and make it "derogatory" for Muslim widows to re-marry. Besides the influence of social status, that of locality also is a factor in determining the number of widows and the prejudice against their re-marriage. "This prejudice (against the re-marriage of widows)," to quote from the *Behar and Orissa Census Report* of 1931, "is much more acute among Hindus than among Muslims . . . But in this matter also local influence outstrips the influence of religion so that the proportion of Muslim widows in Orissa is higher than the proportion of Hindu widows in any other part of the Province."

cent. since 1881 but have declined compared with the other communities, and that too is partly due to their conservatism. It is unnecessary to add that, so far as the prohibition of widow re-marriage is responsible, it will, owing to the improbability of any appreciable change for the better, continue to exercize its depressing effect on the increase of Hindu population.

The ban on widow re-marriage has another baneful result whereby it becomes itself a cause of the increase in the number of widows in India. There is a deficiency of women compared with men which is accentuated by widows being forbidden to re-marry. As re-marriage amongst widowers is quite common and widows cannot re-marry, the former have to marry girls very much younger than themselves. Even bachelors, owing to the deficiency of women, cannot find mates of suitable age and have to seek them among girls very much their junior.*

* By way of illustration the following figures may be cited :—

Number of unmarried and widowed persons aged 15–20, 20–30, 30–40, per 1,000 in 1931.

Age	Unmarried		Widowed	
	Males	Females	Males	Females
15–20	—	144	—	34
20–30	255	44	32	78
30–40	74	17	67	212

In 1931 there were 287 men (aged 20–30) per thousand for whom there were available only 188 unmarried suitable mates, assuming that it is undesirable for girls under 15 to marry men aged 20–30. Of 112 widows aged 15–30, if 85 per cent. (the proportion adopted before) come under the ban on re-marriage, only 17 widows (aged 15–30) would be available for marriage with the men aged 20–30. That means that 287 − (188 + 17), i.e. 82 men of this age group, would not possibly be able to marry into the age group from which they should normally take their wives. They would have to look to the next lower group, i.e. 10–15, and there were 609 girls per 1,000 unmarried in that age group ; they would most likely marry girls who would be from 5–20 years their junior in age. If bachelors and widowers aged 30–40 are also brought into the picture, and the difference between their number and that of the marriageable women of that age group is added to the 82 men aged 20–30, the position would become worse. Out of 141 bachelors and widowers aged 30–40 only 42 (17 virgins and 15 per cent. widows, i.e. 32 out of 212) would be able to marry in their own age group and the rest (99) would have to go lower down. If they marry women aged 15–30, the difference between their age and that of their wives would vary within the limits of 10 and 25 (though, of course, there may be a few cases in which the difference would be 0–5) and some of them would have to marry girls of 10–15, in which case the difference between their ages would vary from 15–30. Thus if we take the

Marriage of comparatively old men with young women means, of course, that the latter outlive their husbands and not infrequently become widowed long before they have completed their reproductive period. This, besides causing maladjustment and emotional poverty for women married to older men, leads to an increase in the number of reproductive women whom this bad social custom makes relatively sterile. It is a vicious circle. We have a disproportionately large number of widows because of early marriage and their number is increasing just because re-marriage is made impossible for them. Widows, more widows, still more widows, is the consequence of widows being forbidden to marry by religion and social prejudice.

Universality of marriage irrespective of economic considerations, early marriage and sterilization of the widows of child-bearing age have an important bearing on the birth rate. Our social institutions are responsible for these phenomena. The first two factors make the birth rate high and the third prevents it from becoming higher; it also indicates the strain of child-bearing for the women who, as stated above, show almost the highest birth rate in the world in spite of the prevalence of widowhood among them. The social institutions which account for this state of things are a part of our heritage, and they incorporate an outlook for which it is not easy to find a suitable word. This outlook is tradition-ridden and makes

age composition of men and women aged 15–40 and their distribution according to what in the census reports is called "civil condition," i.e. according as they are unmarried or widowed, and assume that only 15 per cent. of widows re-marry, nearly 91 $\frac{(82 + 99)}{2}$ per 1,000 men aged 20–40 would have to marry wives who would be 5–30 years younger than their husbands. A difference of 5 or 10 years between the ages of husband and wife may be considered normal, but in most cases the difference would be 15–30 years, which must involve subsequent widowhood for a large majority of wives whose husbands are much older than they themselves.†

Age statistics in India are very incomplete, but the figures given above illustrate the disparity between the age of husbands and wives which is such a common feature of our social life. The figures show clearly that it is the fact of widows being debarred from re-marriage which makes the disparity between the ages of husbands and wives inevitable. Widows are twice cursed. They suffer themselves and their suffering makes it inevitable that many more should suffer like and with them.

† As there were nearly 55 million men aged 20–40 in 1931, there would be about 5 million (91 per 1,000) marriages in this age-group in which husbands would be 5–30 and in most cases 15–30 years older than their wives. This gives us an idea of the number of persons involved in the mismating arising from the prohibition of widow re-marriage in this country.

reproduction one incident in the interplay of a number of factors all of which imply a habit of drift with regard to marriage and children. The one essential element in this outlook is the subjection of women. There is a well-known passage of J. S. Mill in which he attributes " too numerous families " to the women not having any choice in determining their size, and puts in an earnest plea for their " having an equal voice with men " in what concerns the function of reproduction. To be relieved from it (the intolerable domestic drudgery resulting from the necessity of child bearing and rearing), to quote from that passage, " would be hailed as a blessing by a multitude of women who never venture to urge such a claim, but who would urge it if supported by the moral feeling of the community."

" The moral feelings of the community," in the West, have, since Mill wrote that famous passage, undergone a change and women have urged the claim which he predicted : the result is a decline in the birth rate. Mill expected that this " improvement " would be more fertile than any other in every kind of social and moral benefit. There is a difference of opinion whether this change has been morally or socially beneficial, but the point here is the importance of the moral sentiments of the community in determining the birth rate. The latter is a social phenomenon, not merely because far-reaching social results follow from it, but also because it is the reaction of a community's whole social being or ethos to the entire scheme of things. The low social status of women in India is a part of that reaction and makes them passive and not infrequently unwilling partners in child bearing. In a matter, which both affords them scope for expressing their deepest impulse and limits the extent to which they can realize what they have in them, tradition and training leads them to acquiesce in their man-made destiny and accept it as divinely ordained. The high birth rate in India is a part of our culture and it is only when the moral sentiments of the community change either by choice or the force of circumstances that a fall in the birth rate comparable with the fall which has taken place elsewhere can be expected. That such a fall is desirable in itself is a point which has to be reserved for a later chapter. Here it is necessary to stress the fact that the birth rate in India

is high because the institutions whose effects on it we have been discussing so far, are based upon a view of life which assigns to women a low position in the social system and denies them an equal voice with men* in regard to reproduction.

In the above paragraph the relation of the status of women to the birth rate has been pointed out, but it should be clear from what has been said that the position of women must be regarded as part of our whole view of life. If by religion is meant our whole attitude towards life and its problem, it is not necessary to say more. But religion in the sense of dogmatic faith has been held to be an important factor in determining the birth rate and a few words may be added about the influence of religion in the more limited sense of the word. The influence of Roman Catholicism on the birth rate is well known. The fact that the Pope has condemned birth control as immoral accounts for the birth rate being higher in the countries in which his religious writ still runs. In Quebec, for example, the birth rate is high, though it is low in Canada as a whole, and the difference is due to the private lives of the French Catholics, who inhabit the Province of Quebec, being completely governed by the Papal fiats. Ireland is another country where Catholicism is all powerful. There the birth rate is low but the result has been achieved not by birth control, but by the postponement of marriage, which accounts for a fact referred to earlier in this chapter, viz. that 60 per cent. of the Irish women are still unmarried at the age of 30. Does religion in India exercize any influence on the birth rate as Catholicism does in the countries in which it is the dominant faith ?

India is a land of many religions ; but taking Islam and Hinduism, the two most important religions, the point that has to be considered is whether the tenets of these faiths have any bearing on the birth rate. It is not necessary for this purpose

* The social inferiority of women is vividly indicated by the working of these institutions, but it does not mean that men have any voice in child bearing in the sense that they determine how many children they are going to have and how often. That is not a matter of choice in India—nor, as stated later, has it been so in scarcely any country until recently. But the point which is implicit in the argument is that though both men and women are governed entirely by impulse in reproduction, the present position has been created or at least maintained because in intimate relations between men and women, women have been and are being treated with utter lack of consideration, and this state of things has the moral support of the community.

to examine at any length the beliefs of the followers of these religions. Monotheism, reincarnation or any other doctrine of their faith is of interest merely to theologians; apart from providing some stock phrases which do service for the working philosophy of life, they are of little account to most people. Respect for the scriptures and obedience to authority are common to both religions and create a habit of adherence to traditions without any regard for their intrinsic value or purpose. It is likely that the birth control movement will, if it acquires greater importance and force, meet with considerable opposition from both the Hindu and Muslim religions, and texts from the scriptures will be cited to show that the use of contraceptives is contrary to the teachings of religion. But that will be a case of the rigidity of religious outlook being used for anathematizing changes which cannot be fitted into the framework of existing usage and practice. At present there is no difference between Hinduism and Islam so far as the birth rate is concerned. As things are, our people have as many children as they can beget, and reason and prudence have nothing to do with the matter. Their religious beliefs do not affect their behaviour* in this respect.

* The Punjab and Bengal are the two Provinces in which though Muslims are in the majority, the two communities, taking everything into account, are evenly balanced. The following table gives the birth rates of Hindus and Muslims for six Eastern Districts in which the former are more numerous and for six Western Districts in which the latter are in a great majority :—

Birth rate of Hindus and Muslims per 1,000 in the Punjab.

Eastern Districts	Hindus	Muslims	Western Districts	Hindus	Muslims
Kangra ..	36	35	Attock ..	29	34
Ambala ..	37	39	Rawalpindi	29	36
Rohtak ..	44	40	Mianwali ..	40	42
Karnal ..	38	40	Muzaffargarh	34	32
Gurgaon ..	45	47	Dera Ghazi		
Hissar ..	40	43	Khan ..	39	29
			Multan ..	37	36

In the above table the birth rate among the Muslims is higher in seven districts and lower in five than among the Hindus, but, taking the table as a whole, the figures do not show any striking difference in the birth rate of the two communities.

For Bengal the birth rates of Hindus and Muslims are not available, but we can form some idea of the relative position by comparing the birth rate of the Burdwan Division, in which Hindus form 82 per cent. of the total population

The birth rate among Hindus and Muslims is about the same.† Taking the country as a whole even early marriage is only slightly less prevalent among the latter than among the former. There is not much to choose between them so far as the hold of priests over them is concerned, but if experience is any guide to the future, it is likely that Muslims will be more swayed by the edicts issued by their high priests if the rise and growth of the birth control movement becomes a challenge to tradition. Widow re-marriage is less uncommon among the Muslims ; but the difference, as stated already, is one of degree and the influence of religious belief is less important than that of status and locality in determining the practice in this respect. Religion, in the sense of a set of beliefs and dogmas, is not, to repeat, a factor of much importance in determining the birth rate.

and that of the Dacca Division in which the proportion of Muslims is 71 per cent.

Annual Average Birth rate, 1921—31 per *mille*.

Bengal		Dacca Division		Burdwan Division	
Male	Female	Male	Female	Male	Female
27·7	27·5	26·9	25·9	29·3	28·9

The Dacca rate is below and the Burdwan rate above the average, but making allowances for the inaccuracy of our vital statistics and the difference due to local conditions, these figures do not lend themselves to the inference that religion determines or greatly influences the birth rate in India.

† In 1931 the number of boys and girls married below the age of 20 among Hindus and Muslims was as follows :—

Age	Hindus		Muslims	
	Males	Females	Males	Females
0–5	18	31	15	35
5–10	93	215	67	198
10–15	172	417	125	394
15–20	462	850	421	845

The difference between the marriage rates in the first three age-groups is nothing very remarkable, and in the fourth it is negligible in the case of women, and as stated before, it is marriage of women in this age group which is all-important for the birth rate.

The fact of the matter is that, leaving aside the last fifty or sixty years, it has been the rule all over the world for the people to take no thought whatsoever about the number of children they have. They came, God gave them, and that was the end of the matter. Infanticide, abortion, social customs which made marriage more difficult, and other practices grew up from time to time and led to unconscious adjustments of population to resources. But, as stated in Chapter II, in the matter of population, conscious purpose has been conspicuous by its absence all through the ages. The state of things now existing in India was common all over the world until the last quarter of the 19th century and we are only half a century behind the most advanced countries in this respect. Monotheism, pantheism, Karma, transubstantiation and other dogmas of the various religions and sects did not affect the conduct of the people upon whom the size of the family depended. The practice was the same in all countries whether the prevailing religion was Christianity, Hinduism, Buddhism, Islam or any other faith. Most people were uncritical, tradition-bound and thoughtless in reproduction, and children came because they did. Hormones and spermatozoa had it all their own way and the particular religious beliefs did not matter. That is so in India now. We, as a people, are not guided in the procreation of children by our religious beliefs. Islam and Hinduism are alike inasmuch as the habits of thought and conduct which make the birth rate high in India are not incompatible with their tenets and are probably fostered by them.

This discussion of the effects of social factors on the birth rate may be concluded with a brief reference to the effect of the extremely low standard of living prevailing in this country. The overwhelming majority of people in India have hardly any standard to speak of. They do not make enough even to attain the minimum subsistence level—if that is taken to mean just enough to maintain the body in good health. Such abject conditions are known everywhere to make people reckless in breeding. The oft-quoted statement of Adam Smith that poverty is favourable to generation, the truth of which is borne out by the facts collected in a number of countries, is based on that experience. It is not certain whether the

psychological factor in itself is an adequate explanation of the correlation between poverty and a high birth rate. The fact that half-starved women bear many children, while "a pampered fine lady" is so often not capable of bearing any, may be, probably is, due to other reasons besides the difference in the degree of prudence exercized by them. In India the exercize of foresight in child-bearing is rare even among the more well-to-do section of the community; but there is no doubt that the fact that our masses are desperately poor is an important reason for their utter indifference to the size of their family. People in India have "a multitude of unprofitable children" not because they desire them but because they do not mind their number.

Dr. Johnson in reply to Boswell's questions on increase of population is reported to have said: "A man is poor," he thinks, "I cannot be worse, and so I'll e'en take Peggy." The fact that a poor man cannot be worse for the coming of another baby weighs a lot with him. The depth of poverty to which people can fall does not seem to know any limit; as one travels eastwards from the Punjab through the U.P., Behar, Bengal to Orissa, one realizes the extent to which descent from what appears at the outset as abject poverty is possible. That the poor in certain parts of the country can be even poorer is indicated by the extreme poverty of other parts; but a general statement that in the economic conditions of most of our people there is little room for hope or fear does not admit of any contradiction. Precariousness of life and the exercize of prudence cannot go together, and the risks to which the poor are exposed in India, and to which they so often succumb, make them prudence-proof and are favourable to a high birth rate. Any prospect that the sense of insecurity born of the desperate position may be mitigated to any considerable extent is remote and we have, therefore, to take it that the high birth rate, so far as it is due to the absolute destitution of our people, will not suffer any change in the near future.

There are two other factors which also have an important influence on the birth rate but they are not social in the sense in which the proportion of widows, for example, is a social phenomenon. They are really biological though greatly

affected by social conditions. One of these is the age-composition of a people. If the marriage rate and the average age at which people marry are constant, and there is no other change of any importance, the birth rate depends upon the proportion of men and women, particularly the latter, at different ages. For example, an increase in the proportion of women of child-bearing age and, even more so, of women aged 15–30 will naturally increase the birth rate without involving any change in the average size of the family or the frequency with which children are born. Similarly, any increase in the proportion of children or persons past the reproductive age will decrease the birth rate, even if there is no change in social conditions or the normal fertility of women. An illustration of how changes in age composition affect the birth rate is provided by the fact, which is at present receiving a great deal of attention among the students of population in the West, that the proportion of persons between the ages of 15 and 50 is larger now than it will be ten to fifteen years hence ; this is due to their having been born before the decline in the birth rate became as marked as it did 15 to 20 years ago. As these persons advance in years and pass into old age, they will be replaced by persons born during the period of the rapidly falling birth rate and even if the latter continue, on the average, to have as many children as married persons do at present, the birth rate will fall because the number and proportion of persons, who are now contributing to the growth of population, is larger than those who will take their place. That will change the age-composition of people in the West and decrease the birth rate without decreasing the number of births per married woman.

Age-composition is important, but does not as a rule change materially unless an exceptional change in the birth and death rates occurs or war or some epidemic proves particularly fatal for persons of one sex or particular age-periods. In India epidemics have caused selective mortality and famines have left their mark on the proportion of persons of different ages. It is not necessary to go into details or trace the effect of the heavy mortality caused by epidemics and famines on the age-composition of our people. Long periods free from catastrophes or epidemics are rare in India and the proportion of persons at

different ages is subject to fairly wide variation owing to the effects of these calamities. The following table shows the number of men and women per 10,000 between the ages of 15–50 for the four decades from 1891.

TABLE 61

Persons aged 15–50 per 10,000 of population

	Male	Female
1891	4972	4962
1901	5121	5041
1911	5141	5114
1921	4956	4946
1931	5071	5090

There has been a marked increase in the number of women aged 15–20 in 1931 but owing to the adoption of an improved method of smoothing age periods in 1931, the figures of this age group are not strictly comparable to those of previous censuses. The figures of the other age groups also show large variations, but taking the table as a whole no tendency is discernible which may have the effect of increasing or decreasing the birth rate. The variations that are there partly reflect errors in the figures of ages and also the effects of the natural calamities which are a normal feature of our national life. The birth and death rates in India have not changed for the last fifty or sixty years and the position has been more or less stabilized within the range of variations which have to be accepted as a recurrent feature of our population. Age-composition at present seems, owing to the increase in the proportion of women aged 15–30, to be favourable to a high birth rate.

Age composition owes its importance in the study of the birth rate to variations in the capacity for reproduction at different ages. Capacity for reproduction or fecundity depends upon natural factors, i.e. racial characteristics. The working of these factors being obscure everywhere, it is impossible to say what is the maximum number of children which the married

woman in any nation or community is capable of bearing. " The full effect of fecundity," in the words of R. R. Kuczynski, " would be realized if all females through their entire child-bearing period had sexual intercourse with procreative men and did nothing to prevent conception or procure abortion."*. The conditions under which fecundity is fully realized do not, it need not be added, exist anywhere. But in spite of all the factors which may affect the result, fecundity is important in determining the birth rate. In India the caste system is a great complicating factor. On the one hand inbreeding, for which it is largely responsible, accentuates the effect of natural factors and may be taken to have preserved the natural fecundity of the more prolific castes. On the other hand, the numerous caste divisions and sub-divisions have arisen partly because restrictions on inter-marriage could not be effectively maintained, and the mixture of races has involved the diffusion of racial characteristics, upon which have been super-imposed conventions and practices which make it impossible to tell how far the racial traits in respect of fecundity, as in other respects, still continue to determine results. There are prolific families and communities in India; but it is not known, and most likely it cannot be known, to what extent the exercise of reproductive powers in their case is affected by inherent differences in child-bearing capacity.

In the preceding paragraph, the view expressed earlier in this chapter that the effect of racial factors in India on the growth of population cannot be isolated, has been re-stated with special reference to fecundity. Discussion of the social causes of the birth rate has made it clear that their importance is much greater than the racial factor. That fertility in India, as everywhere, is lower than fecundity admits of no doubt. But that the gap between the two is not and cannot be very wide can also be inferred from the fact of the high birth rate itself. If our actual birth rate is taken to be about 48† per 1,000 and would be five to six per *mille* higher if re-marriage for widows were the rule, the inference is that married women in

* R. R. Kuczynski, *The Measurement of Population Growth*, p. 1.

† The actual birth rate is assumed to be 48 per *mille* for the reasons given in Chapter V, p. 99.

India are in most cases having as many children as they can. The upper limit of the birth rate is, according to Kuczynski 65 and actually it has seldom exceeded 55*. As the proportion of women of child bearing age is generally about one-fourth of the total population, it would appear that the limit of about 220 children per 1,000 women aged 15–45 is seldom exceeded. In India in 1931, the number of women in that age group was 232 per 1,000 and if we allow for 12 per cent. widows, there were about 205 women per 1,000, who were capable of child bearing; if our birth rate is assumed to be 48, we thus get an average of 236 children per 1,000 women. That does not indicate the limit of fecundity of women in India which, of course, cannot be definitely stated, but it does show a large degree of fertility.

In 1931 a special enquiry was carried out with a view to ascertaining fertility in India. The enquiry, though not as comprehensive as it might have been, yielded results of considerable interest. If the average number of children born to the women who had completed the child-bearing period, is taken from the table compiled from the data collected in the course of this enquiry, it appears to confirm the conclusion based on the rough calculation made above. An average of 219 children per 1,000 child-bearing women means that a woman has a child every five years, roughly speaking. That is, of course, the average. Not only do some women bear children at shorter and others at longer intervals, but every woman bears more children in the first half of the child-bearing period, and fewer in the second half. But taking the average, it means that in the thirty years of the child-bearing period a woman who completes the period has six to seven children. The table which confirms this conclusion is given below :—

TABLE 52

Average number of children born per woman in case of completed fertility

Name of Province or State	Assam	Bengal	Bombay	Punjab	C.P.	Baroda	Travancore	Mysore
Number of children	6·7	6·0	6·1	6·4	6·7	6·0	6·4	7·0

Kuczynski, *Op. cit.*, p. 102.

There is, as stated above, no way of ascertaining the relation of fecundity to fertility, but that fertility is high in India, almost as high as it can be, is borne out by this table. There is another point of interest with regard to which it is necessary to offer brief comments. In the West what is called " differential " birth rate has been the subject of a great deal of controversy for a long time and very gloomy predictions about the future have been indulged in. By " differential " birth rate is meant that the birth rate is higher among the lower classes than among the upper and as the latter are assumed to be better biologically endowed, both physically and mentally, it is concluded that the progressive increase in the proportion of persons born of the lower and, therefore, more poorly equipped classes would involve the deterioration of the race and eventually the downfall of civilization. The different birth rate has been mostly due to the knowledge and practice of birth control being confined to the higher classes and with wider diffusion of the knowledge of birth control among all sections of the community, the difference between the birth rate of the higher and lower classes has shown a distinct tendency to become smaller and smaller and in some cases has almost disappeared. Moreover, the assumption that the higher classes are also intrinsically superior is based more on social prejudice than scientific knowledge, though it would be wrong to say that it is entirely unwarranted. But with the further spread of birth control knowledge and higher social aspirations among the lower classes, it is likely that the universal use of contraceptives in the West will make the forebodings of the eugenist and economist even less justifiable than they are now.

In India the position is more complex owing to the existence of the caste system. Castes, except in very few cases, do not represent distinct racial types or groups, but the existence of restrictions on inter-marriage has given to each caste a certain bias which is biologically not insignificant. There is also a certain amount of correspondence between castes and classes, the higher castes being in most cases economically better off than the lower castes. But though the higher classes are generally composed of persons of higher castes, the proportion of the latter in the upper grades of the economic scale is

necessarily small owing to the distribution of wealth being even more unequal in this country than in most countries of the world. In agriculture, the industry which supports four-fifths of our population, all the important castes, with a few exceptions, are represented, and though in agriculture itself there are distinctions of economic status, agriculturists as a class are poor; being composed of persons belonging to all castes they combine poverty with caste distinctions which make inbreeding the rule among the different constituent groups of agriculturists. Even in non-agricultural occupations caste is an important factor only in a few cases, and in most occupations the diversity of castes is common. To give a simple illustration, most of the Brahmins are poor and are distributed among many occupations; even if the few who are rich among them are not multiplying fast, that is not a matter of any consequence, for any deficiency of births among the richer Brahmins due to their low fertility will be more than made up for by the high fertility of a much larger proportion of poorer Brahmins. The same is true of the other higher castes. This fact makes any assumption regarding the natural superiority of the higher classes in India even less valid than in other countries.

The poorer classes in India do not represent poorer biological strains and, therefore, any difference in the birth rate between them and the richer classes need not be regarded as an object of social concern. That is so in spite of the fact that there is a relation between caste and class and the lower castes occupy a low position in the economic scale. The obvious conclusion is that as by far the largest proportion of the higher castes is poor and caste distinctions are more important biologically than class distinctions, it is wrong to invest the differential birth rate, even if it does exist in India, with any qualitative significance.

The question, however, arises as to whether there is any evidence to show that higher classes have lower fertility than the lower. As the birth rate of the different castes and classes is not known, we have no direct evidence in favour of or against any such assumption. From fertility tables compiled from data made available by the special enquiry instituted in 1931, it appears that there is no justification for making any

assumption regarding the lower fertility of the upper classes. These tables have not been compiled on a uniform basis. It would take too much space to reproduce them all, but a few tables may, however, be given by way of illustration.

Taking All-India figures first, the average number of children born per family by occupation, was as follows :—

TABLE 53

Agriculturists	4·4
Industry	4·2
Profession	4·3
Law, Medicine and Instruction	3·7
Public Administration	3·9
Average for all occupations	4·3

Average size of families of two high castes and depressed classes may also be given :—

TABLE 54

Brahmins	5·2	Average 4·3
Kayasths	6·3	
Depressed castes	4·1	

These figures are averages worked out by the method of random sampling. In some cases the number of cases examined was small and, therefore, their average could not be free from bias, but taking them as they are it is clear that any difference in the size of families of different classes and castes cannot be used to support the view that higher castes and classes are less fertile than the lower.* The figures of the different Provinces and States point to the same conclusion. Only four or five tables

* Mr. P. K. Wattal, in the book *The Population Problem of India*, does however use them in support of that view. He does this because the average for Public Administration and Liberal Arts is 4 and for Lawyers, Doctors and Teachers 3·7. The whole argument in favour of his view cannot, in my opinion, be sustained on that slender basis. Taking into account the limitation of the enquiry, the difference between the number of children born is too small to bear out the point. The same table gives figures for occupations which are by no means intellectual and whose average is not much higher than that of Lawyers, etc. Domestic Service, for example, has an average of 3·8. Police has the same average, i.e. 3·7 and Transport Workers actually lower, i.e. 3·5. Persons of independent means, who, it may be presumed, belong to advanced classes show an average of 5.

Too much cannot be made of these averages but they do not support the view that we in India are multiplying at the wrong end. It may also be mentioned that Mr. P. K. Wattal supports this conclusion by reproducing a long table from the *Census Report of the Baroda State*. The Census Commissioner, Baroda, commits himself to a similar view without taking into account some of the facts given by him in his own Report. For example, the

will be given here. In Bengal the average number of children born in cases of completed fertility was as follows :—

TABLE 55

Average of all occupations	6·0
Agriculture	6·1
Wood workers	6·2
Artisans	5·7
Domestic Servants	5·3
Priests	7·3
Lawyers	7·1
Doctors	6·7
Teachers	5·2

The average number of children of the different castes of Hindus, again in cases of completed fertility, was as follows :-

TABLE 56

Average of all castes, etc.	6·0
Brahmins	6·3
Baida	7·7
Kayasths	6·1
Other Hindus	5·8

The Bengal figures can, as a matter of fact, be used to support the view that the higher castes and classes are more prolific than the lower, but such a conclusion would also be unjustified

average size of a family in Baroda, according to occupation is as follows :—

Average of all occupations	5·9
Agriculture	5·1
Industry	5·8
Public Administration	6·03
Religion	6·08
Law, Medicine & Instruction	6·28
Domestic service	4·71

Average size of completed family, according to the Census Commissioner, was :—

Advanced (economically and educationally)	5·81
Intermediate	5·52
Illiterate	5·67

These facts, it need not be stated, disprove any conclusion regarding the inferior sections of the community multiplying at the cost of the more advanced ones.

It may be added that the Census Superintendent for Bombay, who has analysed the fertility table of the Province, with a view to see whether there is any tendency on the part of the better sections of the community to grow less rapidly, comes to the conclusion that there is none.

These figures (of fertility of marriage in respect of the number of children born and the number of children who survive), to quote the words, " would seem to disprove the view often urged that the poorer stock are breeding more rapidly than the better stock." (*The Baroda Census Report*, p. 172).

in view of the limitation of the figures themselves. The conclusion that the higher are at least as fertile as the lower castes and classes is, however, easily borne out by these figures.

The figures for the C.P. are similar. The average number of children in the case of completed fertility was as follows :—

TABLE 57

Average of all occupations	6·7
Agriculture	6·8
Wood workers	5·8
Metal workers	6·6
Building workers	7·7
Merchants	6·8
Priests	7·1
Lawyers	7·0
Doctors	7·1
Teachers	4·5

The average of teachers is low in the above table, but that of merchants, lawyers, doctors and priests is higher than the general average, and the table as a whole shows that persons of all occupations are almost equally prolific. The C.P. averages for castes may also be given, for they show that the higher castes are, if anything, more prolific than the lower :—

TABLE 58

Twice born (high castes)	6·8
Higher Cultivators	6·4
Serving Castes	6·7
Depressed Castes	6·5

The Punjab figures are even more interesting because in the Census Report of that Province, the average for Hindus, Muslims and Sikhs has been given by classes in order of their precedence in the economic and social scale. The average size of family for the different classes is as follows :—

TABLE 59

	I	II	III	IV
Hindus	3·92	4·39	4·98	3·83
Muslims	4·14	3·73	3·98	3·71
Sikhs	4·73	4·05	4·16	4·16

In the case of Hindus, Class I (Intellectuals) has a lower average than Class II and III but higher than Class IV, but in the other two cases, the intelligentsia are, according to this table, more fertile than the lower classes.

The figures for Travancore are equally inconclusive. The average number of children born to each occupation is :—

TABLE 60

Agriculture	6·8
Industry	6·0
Trade	6·5
Public Administration	5·9
Independent income	6·2
Labourers	6·1

Figures for the Mysore State are for the average size of the family. The average for different occupations is :—

TABLE 61

Cultivators	4
Factory workers	4
Other artizans	4
Profession	5
Clerks	4
Servants	5

It is not necessary to press the point further. In India sterilization of the higher classes has not become a practical issue and will not, until they start using contraceptives on a large scale. Among the Parsees, who are less fertile than other communities, the use of contraceptives is fairly common ; and it is not unlikely that the pressure of circumstances will oblige the educated section of other communities to exercise similar checks. But if that happens, any disparity in the birth rates will only be temporary until the practice is more widely adopted, and even during the transition period, there will be no justification for alarm. The vertical divisions of the caste system will ensure that the level of ability and character, so far as they depend upon heredity, is not lowered by voluntary restriction of births by the educated class. We shall have in the poorer and less educated sections of the higher castes a biological reserve which will be automatically tapped in the event of any

marked tendency on the part of the better-off sections of the community to limit the size of family much below the general average.

The tables of completed fertility of the different Provinces bear out the point referred to above, viz., the tendency of the people in India to multiply to the limit of their capacity. In Bengal, C.P., and Travancore, the average number of children in cases of completed fertility varies from 6 to 7 which shows that not only the people as a whole, but also the different castes and classes in the two Provinces and the Travancore State, are having as many children as they can. In view of the fact that the average for the different Provinces is about the same, the figures for cases of completed fertility would probably, if available, also show that in India all classes and castes exercize their procreative impulses to the full; and though in all other matters castes and classes are important, in regard to the birth rate these distinctions practically do not exist. There may be differences in fertility owing to the untraceable effect of the biological factors, but the general fact that in India fertility approximates very closely to fecundity is not affected by them.

The conditions which make the birth rate in India about the highest in the world, are likely to persist. Social changes have been and are taking place and they will be accelerated by the inherent necessity of the situation and the impact of outside forces. But it is unlikely that conditions which are "favourable to generation" will be materially altered in the next two or three decades. We are living in times which have made the "tempo," to use a word in great vogue, of life very rapid, but unless there are changes which for the purpose of our argument have to be ruled out, the conditions which we have been discussing in this chapter will keep the birth rate high in this country. It is not that radical changes are in themselves impossible. They are not, and they may come upon us with a rapidity and force which will alter everything. But we are discussing the future of the birth rate in India in the light of the existing situation, and if that is projected into the future, making, of course, an allowance for the effect of such forces as are already at work, the conclusion is forced upon us that

India will remain a country with a very high birth rate for a generation or more.

The conclusion does not imply a denial of the impossibility of social reform. India has been changing in the last five or six decades. Some do attach due importance to their economic position and prospects before they get married. The average age of marriage has been rising, leaving aside the set-back caused by the Sarda Act. Re-marriage of widows does take place in the teeth of strong opposition—and the opposition is not as strong as it used to be. The position of women in general has been improved, and in the middle classes women with a feminist flair have become fairly common to make the arguments in favour even of the newer problems of sex and marriage socially plausible. The general attitude of the people towards life is becoming more rational and critical and the use of contraceptives, the one practice which is the most important development from the standpoint of the birth rate, is increasing among the educated classes. But the conclusion that the birth rate in India is likely to remain at its present level for the next generation still holds good ; this is due to the fact that the pace at which these changes have been coming and the pace which is likely to be maintained in the near future make a considerable decline in the birth rate highly improbable.

The above statement is subject to reservation on one important point, and that is the possibility of the birth control movement becoming a mass movement and producing far-reaching results through general use of contraceptives. As the whole subject of birth control is to have a chapter to itself in this book, the discussion of the point has to be held over for present. The possibility of the birth control movement becoming a powerful social force and fundamentally changing the whole situation can be envisaged even within the existing social framework. If that is to happen, a much clearer appreciation of the essentials of the population problem will have to come about and be translated into terms which the common people can understand before it is put into effect in their every-day life.

The more radical changes have to be ruled out from the consideration of this question not because they cannot happen

but because their nature and effects cannot be predicted. Gradualism in India is far too gradual to make any assumption regarding fundamental social changes anything but hypothetical. In the existing circumstances in India, as elsewhere, anything from fascism to communism can happen, but what will happen is a matter only for speculation. It may be that gradualism in India will bring its own nemesis and make its abolition inevitable. But it still holds the field and in the working of the institutions which are important from the standpoint of the birth rate it can hardly be distinguished from hidebound conservatism. That being so, we have to take it for granted that there is very little chance of any appreciable fall in the birth rate in the next twenty or thirty years.

Chapter VII

THE BALANCE OF BIRTHS AND DEATHS, II

THE high birth rate in India is likely to continue, but whether that will also mean a rapid growth of population will, of course, depend on the death rate. In the past, as stated in Chapter II, in spite of the high birth rate the rate at which our population has grown has been lower than that in the countries of low birth rates; that has been due to the excess of births over deaths being small, owing to the death rate being high. In other words, though the birth rate in India has been, is and probably will remain high, the excess of births over deaths or the survival rate will depend on the future course of the death rate.

This death rate has remained practically steady since 1885. The recorded death rate of about 25 per 1,000 is, as stated already, lower than the actual death rate and the latter is most likely nearly 33 per 1,000. That is what may be called the normal death rate in India. In years of famine or of exceptionally virulent epidemics it is very much higher. In 1918, for example, the recorded death rate rose to 62·46 per thousand, a year in which the record was particularly defective owing to the breakdown of the reporting agency. The fact that there has been very slight improvement in the expectation of life at birth itself shows, as pointed out by Carr-Saunders, that there has been no material improvement in respect of the death rate in India. It is possible to derive the death rate*

* The method of deriving the death rate is simple and has been explained in Footnote on page 113. Taking the expectation of life of males in 1931 which was 26·91 years, the annual death-rate comes to $\frac{1000}{26{\cdot}91}$ or nearly 37 per thousand. As expectation of life of 26·91 years at birth means that one thousand live-born males would have a total life of 26910 years, any preponderance of children or old persons in the population of any country, or of persons in the prime of life owing to immigration will have no influence if the death rate is derived from the expectation of life. But for this it is necessary for the death rate at different ages or age-periods to be known and age statistics to be reliable, conditions which, it need not be added, are not fulfilled in India.

from life tables and the rates so derived are regarded as a more correct index of the incidence of death than the recorded death rate, since this index, in the words of Kuczynski, "eliminates all misleading effects of actual age-composition which is the result of changing fertility and mortality and of emigration and immigration." The death rates derived from life tables are as follows :—

TABLE 62

	1881	1891	1901	1911	1931
Male ..	42	41	42	44	37
Female ..	39	39	42	43	38

These figures appear suspiciously high and probably they are, for in the 1931 Report the Actuary himself leaves out the age periods 0–5 and 5–10 when comparing the average duration of life in the different Provinces. The extent to which the high death rates derived from life tables exaggerate mortality in India can only be indicated, if at all, by applying elaborate mathematical checks. The reduction of the death rate in 1931 reflects the improvement in the expectation of life; whether the improvement is real and lasting will be shown by the next and subsequent censuses. From 1881 to 1921 high mortality due to famine and epidemics accounts for the high derived death rate. Owing to the unreliability of age and other vital statistics in India, it is not possible to compare the recorded death rate with the correct death rate (the death rate derived from life tables) but the latter may be taken as showing that the normal death rate in India, assuming that it is at least 33 per 1,000, errs, as already pointed out in the footnote on page 113, more on the side of under- than over-statement.

The survival rate in India has, since 1921, been higher than that of most of the leading countries of the world, but it was lower from 1891–1911. This was due to the fall in the death rate being greater than that in the birth rate during the latter period, the position being reversed after 1921. The survival rates of some leading countries and India are given on page 166.

TABLE 63

	1881–91	1891–1901	1901–11	1921–25	1926–30	1931–35
Germany	11·7	13·9	15·9	8·8	6·6	4·9
Italy	10·4	10·8	11·1	12·4	10·8	9·8
United Kingdom	11·3	11·7	11·8	8·0	4·9	3·3
Sweden	12·2	10·7	10·7	7·0	3·8	2·5
France	2·8	0·6	1·2	2·1	1·4	0·8
Spain	4·9	5·3	9·2	9·6	10·6	10·7
U.S.A.	—	—	—	10·7	7·9	6·4
Japan	7·1	8·9	11·4	12·8	14·2	13·5
India	8·4 (1885-90)	4·1	4·3	6·7	9·0	10·2

The survival rate for 1911–20 is not given in the above table, owing to the birth and death rates being abnormal in a number of countries during the war period. The position in France has been exceptional all along, the use of contraceptives having become common in that country much earlier than elsewhere. Her survival rate has been and is the lowest, but the survival rate of the other countries, as shown by the above table, has also declined rapidly since 1921, and it is feared that in a number of countries there will shortly be an excess of deaths over births because the age composition is becoming more favourable to the death rate and less favourable to the birth rate. In India the survival rate is, next to Japan, the highest in the world, but probably the actual survival rate in this country is nearer 14 than 10 ; if that is so, the survival rate in India is as high as in Japan, if not higher.*

The survival rate in India though about the highest in the world was, it will be observed, low until 1925, and, excepting France, the recorded survival rate in this country was lower than in the other countries. That is due not only to India's normal death rate being high, but also to our population being exposed to special risks owing to the outbreak of epidemics.

* The survival rate of 14 gives an annual increase of population of nearly 5 millions and of 13 4·5 millions on the basis of the 1931 population. It is estimated that in 1941 the population will show an increase of 45 to 50 millions ; if that anticipation comes true, it will show that the survival rate is between 13 and 14.

The Balance of Births and Deaths, II

Since 1919 India has been free from epidemics—plague and smallpox being a normal feature of the life of our people—which accounts for the rapidity with which our population has increased since 1921. But our position is so precarious and the health reserve of our people so low that it is not safe to assume that the survival rate of the last decade will be maintained in the future. The vitality of our people being undermined by semi-starvation and disease, they have to live in a state of chronic insecurity which makes it difficult to foretell the death roll when disaster comes along. Plague in 1901–11 and influenza in 1918–19 left record mortality figures which one would never expect to be broken, but in a country in which the people are so utterly weak and unprotected as they are in India, new records can be set up easily under conditions which expose people to new and grave risks against which they have not been immunized by nature. What happened in 1901–11 or in 1918–19 can happen again, perhaps on an even larger scale, if a new or even an old epidemic breaks out in a particularly virulent form.

Apart, however, from the possibility of enormous loss of life through such epidemics which must be taken as ever-present in this country, the point which is of greater importance is that the survival rate in India should entail such a death rate as it does. That rate is an index of immense suffering and misery, and a discredit to our country. What are the chances of the death rate being reduced? To this question one answer given by some students of population is that so long as the birth rate continues to be as high as it is in India, there is very little chance of the death rate being reduced. This view is often met with in Neo-Malthusian propaganda. Mr. P. K. Wattal, for example, endorsed this view in his book and points out that if the death rate is to be reduced, it must be preceded by the reduction of the birth rate. It can be argued that the birth rate in India must be reduced if a serious and effective attempt is to be made to reduce the death rate, otherwise the problem of population will become even more acute than it is now; but that is a different aspect of the question. The point to be dealt with here is the assertion that it is not possible to reduce the death rate unless the birth rate is reduced first. Why?

Such a view, expressed without any qualification or explanation, is obviously wrong, and is contrary to the facts. There are various causes of death, most of which have very little relation to the birth rate. Race and climate are two natural factors which, to a certain extent, account for the relatively long or short life of the people of a country. As stated before, race is a factor whose effect on births and deaths though important, is obscure, but even if we leave aside the question of race, the influence of climate on the life of a people does not admit of any doubt or contradiction. Even if the birth rate is low in a region which is pestilent and cannot be improved, its death rate is bound to be high unless the advance of knowledge enables man to counteract its effects. The temperate countries are more healthy than the tropical ones and, other things being equal, death cannot but be a more common occurrence in the latter. The point is so obvious that it is not necessary to labour it here. In India the climate in most parts is enervating and though the very low average duration of life is not due to this, we cannot expect to reduce the death rate to 8 or 9 per 1,000—the lowest death rate so far known—even if conditions are otherwise ideal.

Ignorance, superstition and unhygienic social habits are, taken together, responsible for high mortality everywhere, and education in the laws of health can go a long way towards an improvement in physique with a consequent reduction in the death rate. In India this consideration is, as everyone knows, especially important ; if to it is added the urgent need for improving sanitation and housing, we have an explanation of the high death rate in India which will be more acceptable to most people than the view that the high birth rate is the cause of the high death rate. If other conditions are favourable, there would appear to be no reason why we should not be able to reduce the death rate appreciably in India even if the birth rate remains at its present level. Preventive measures have worked wonders in the countries in which they have been adopted with zeal and vigour and put into effect with the co-operation of the people concerned. The same thing can, it may be urged, be done here and with equally good results, provided, of course, that resources are available and vigorous

enlightened action on a nation-wide scale is politically and socially possible.

The adequacy or inadequacy of hospitals and other institutions for the care and cure of the sick and afflicted is another important factor in determining the death rate. Conditions in India in respect of the provision of hospitals are, it is well known, exceedingly unsatisfactory* and the people in the rural areas are practically without medical aid of any sort. Extension of institutional help and hospitalization of the sick can save millions of lives in India every year if the country can afford to meet the cost. That will be readily admitted; hence the loss of life that can thus be prevented is due, it can be maintained, not to the high birth rate but the lack of development of a proper and adequate medical system in India. If this deficiency can be overcome, reduction of the death rate will follow as a matter of course, and the process can be made progressive, by supplementing curative measures by preventive. The only case in which the high birth rate can be held directly responsible for deaths is when women in the reproductive period die in large numbers owing to too frequent pregnancies. But it is doubtful whether the birth rate will fall materially if babies are properly spaced; if that is done, the birth rate may still remain as high as it is now while the death rate falls owing to the introduction of appropriate remedial and preventive measures.

The high rate of infant mortality in India can also be and generally is, attributed to ignorance and the people's inability and unwillingness to avail themselves of trained midwives. If expectant and nursing mothers are educated to take proper

* In 1934 there were 6,597 hospitals and dispensaries in India and the average population served per institution was 41,800. In this number were included hospitals of all kinds, hospitals maintained by railways for their own employees, special institutions and private institutions which, in some cases, are intended for special communities. In rural areas the position is, of course, much worse. The average population served by each dispensary in rural areas in the different Provinces was as follows:—

U.P.	.. 127,107	B. & O	.. 66,679	Assam	.. 40,586
Bombay	.. 91,372	Bengal	.. 65,171	Madras	.. 36,772
C.P.	.. 90,012	N.-W.F.P.	.. 49,011	Punjab	.. 30,852

If the equipment and size of village dispensaries is borne in mind, it will be realized how utterly inadequate these facilities are, even in a province like the Punjab where the development of medical services has been greater than in the other provinces.

ante- and post-natal care, know the essentials of mothercraft and are provided with adequate maternity services, a reduction of infant mortality can be brought about without previous reduction of the birth rate. Even if the latter is lowered, conditions otherwise remaining the same, it is doubtful whether that would, to any appreciable extent, lead to a fall in our infant mortality. If people live in utter ignorance of the elementary laws of health, and if during the critical period when mother and infant need the utmost attention together with perfect surgical cleanliness, people disregard vital considerations of personal hygiene, do not make any provisions for safeguarding the health of the mother and child, and skilled attention is not given (usually because it is not available), high infant and maternal mortality is inevitable ; the way to reduce both is to develop maternity services and educate the people in the laws of health while improving their living conditions. It is not true, as is often asserted, that a lower birth rate always means lower infant mortality. In England, for example, though the birth rate declined by 20 per cent. between 1876 and 1899, there was hardly any decline in the rate of infant mortality, and though since 1900, both the birth rate and death rate among infants have fallen, the lowered death rate is due rather to the adoption of preventive health measures than to the reduction of the birth rate. In his *Vital Statistics*, Newsholm has given numerous facts in support of the conclusion that " the relation between large families and excessive infant mortality is not inevitable," and states that " it is possible, by removing some elements in the complex of factors (on which infant mortality depends) to reduce materially, if not to remove entirely, a relationship between a high birth rate and a high rate of child mortality."* This is as it should be, provided, of course, that children are born under conditions which do not adversely affect their prospect of life.†

* Newsholme. *Elements of Vital Statistics*, page 122 (George Allen & Unwin).

† A contemporary illustration of what can be done to produce that result is provided by Soviet Russia. In that country care of child life has been made the first charge on the income of the community ; the result has been that though the birth rate has been and continues to be high, there has been a progressive decrease in infant mortality in particular and the death rate in general, which has given her a rapidly increasing population with an even more rapidly rising standard of living.

The Balance of Births and Deaths, II

That there is no direct relation between a high birth rate and a high death rate is further borne out by the fact that in countries in which the birth rate has fallen, the decline of the death rate was much greater in the last two decades of the 19th and the first decade of the 20th century. Decline of the death rate was only indirectly due to the decline of the birth rate and the primary factor which was responsible for the remarkable improvement in the duration of life and the reduction of the death rate was the development of social services rendered unavoidable by the necessity of placating insurgent elements of social life and made possible by growing economic prosperity in the countries concerned. That both the birth and death rates fell at the same time is in itself no proof of one being the cause of the other. Since 1920 the drop in the birth rate has been much greater than in the death rate and, as stated before, it is likely that in spite of the low birth rate in a large number of countries—or rather in a way because of it—the death rate is likely to increase in the future and lead to a diminution in population. The fact of the matter is that the fall in both the birth and death rates is due to profound social changes which have been in progress since 1875, changes which have not yet been worked out in full but are responsible for most of the features which make the times we live in so precarious and yet so full of promise. Whatever its propaganda value, the facile statement that the high death rate is an incident of the high birth rate is not true in the sense in which it is generally made.

Yet it is in a very important sense true that there is not much chance of reducing the high death rate in India unless the birth rate is also reduced. Improvement in sanitary and social conditions, provision of hospitals, dispensaries and other health-giving and health-restoring institutions, introduction of preventive health measures of all kinds and, above all, general enlightenment of our people so that they may have

Conditions in Russia are, however, peculiar. She has her vast uninhabited but fertile spaces to fill, an economic system which has shown unique capacity for progress and a social order the establishment of which has involved immense sacrifices. But the future of Soviet Communism, though more secure than before, is far from assured and it cannot be assumed that conditions favourable to the high birth rate and the low death rate will be perpetuated in Russia.

a much higher standard of living (which is impossible without a much higher standard of physical well-being)—all measures which will increase the chance of survival of our people—are not possible unless we have the necessary resources. Individuals and the community as a whole should be in a position to afford these improvements and for that it is essential that our individual and collective income should be much higher than it is. But it is not merely a matter of resources. A determined will and a higher social purpose are important and will go a long way. But, whatever be our determination and however intense and well oriented our purpose, we cannot introduce the above measures without a very large addition to our present resources. Poverty is the most important limiting factor of our life ; though in itself due to the complex of political, social and ethical factors, it is the one cause which sums up in itself the deficiency of our national life which must be surmounted if death is to be made a much less common event than it is to-day.

In the case of individual families, the importance of this consideration is self-evident. Every poor man or man of limited means knows that he can do more for his children when they are few rather than many ; the chances of survival of the children certainly improve when there is a small family to provide for. Even the most ignorant peasant in India can understand that the very little he has goes further when he has fewer children. For poverty-stricken people like ours it is impossible to give proper and adequate care of their children even if they know the laws of personal and social hygiene and are prepared to do their best to live in accordance with them. They may abandon their superstitions, change all habits injurious to the health of children, assiduously acquire the knowledge necessary for doing their duty by their children, but for want of means they cannot do the very minimum required to give children a fair start in life. That does not admit of any doubt, but even then it has to be granted that, given the necessary standard of knowledge and sense of responsibility, they can do much more to protect their children against risks of early death and reduce the strain of their own existence if they can be persuaded to realize what an advantage small

families can be to them. In that sense reduction of the birth rate is, it may be conceded, necessary for reduction of the death rate.

But in India collective more than individual action is essential to reduce the incidence of deaths. Education of the people, development of social services and improvement of sanitary and housing conditions can only be brought about by the State, and will, of course, necessitate an enormous outlay of public funds which at present are not available. Our administration is based on considerations which lead to false economy in actual practice, and we can get a much better return for public expenditure by its re-distribution. That is a question of time and the rate at which the centre of political gravity is shifted. Our tax system exempts the well-to-do sections of the community from making their proper contributions to public revenues; the imposition of new direct taxes while steepening the scale of graduation of the old ones will yield revenue to satisfy, if only partially, some of our most urgent needs. But re-distribution of expenditure and development of taxation cannot possibly provide the means to carry out the programme of public education and development of health services on which the success of a campaign for reducing infant and general mortality in this country must depend.

The reasons for this, of course, are the poverty of our people and the magnitude of the problem owing to our enormous population. Even with the present population it seems well-nigh impossible for even the most progressive Provincial Governments to find the resources for doing a fraction of what is necessary to reduce the misery caused by the high death rate in India, but if the birth rate remains what it is, and the population continues to increase at the rate of even one per cent. every year, there is absolutely no chance of our public authorities ever being able to catch up with the increase of numbers. The task of dealing with the accumulated arrears of the past is itself colossal and a vivid appreciation of the fact cannot but intensify the wide-spread desire for a radical change in our whole economic and social system. But if the magnitude of the task is increased every year by the birth of nearly 10 million babies, one-fourth of whom do not survive the

first year of their life and nearly one-half of whom do not live even up to the age of ten—leaving nothing behind except a sense of frustration, an incalculable loss of vitality and human happiness, accompanied of course, by absolute waste of all the resources involved in giving them all too brief a lease of life—even radical changes, whatever their nature or range, will fail to provide the irreducible minimum for a healthy and civilized existence. In other words, our public authorities cannot take adequate and effective measures to reduce the death rate because of the cost involved; such cost is prohibitive, because our population is enormous and its growth, quite apart from whether it is too rapid or not, is maintained by a high birth and high death rate. Reduction of the latter will, it is obvious, become a great deal easier than it is if we can reduce the birth rate.

The obvious conclusion is that changes necessary to increase the income of the community must be introduced, and that without delay. But if the needs increase faster than the means, there is no chance of making the two ends meet. A reduction of the birth rate is essential if we are to make the most of the existing and potential resources available for improving health conditions, which is only another phrase for reduction of the death rate.

The argument set out in the above paragraphs does not mean that the death rate cannot be reduced unless the birth rate is reduced, but that the high birth rate makes any material improvement in this respect very difficult. That is practically a repetition of the point referred to a number of times in Chapter V, viz. the poverty of the people is the most important pre-disposing factor so far as disease and its consequences are concerned. If the general level of prosperity were very much higher than it is, and carried with it the possibility of further development, a high birth rate would be perfectly compatible with a low death rate. But this condition is not satisfied in India. Not only are the people extremely poor but, to anticipate the argument of a later chapter, the prospects of economic progress commensurate with our needs are none too bright. As long as present conditions and outlook for the future are what they are, we are handicapping ourselves still

further by maintaining the present birth rate. But it must be realized that a reduction of the birth rate would in itself be only a negative measure. It would only make the immensity of our task less immense.

The task, however, will remain immense, and if the conclusion arrived at in the last chapter, i.e. that all signs point to a continued maintenance of the present birth rate, is correct, even the relief contingent upon reduction of the birth rate cannot be expected to mitigate the existing situation.

What then are the chances of the appalling death rate being reduced ? Its reduction will have to be brought about in spite of the high birth rate. If poverty, ignorance and the lack of health services are responsible for the high death rate in India, we cannot expect to reduce the death rate appreciably unless there is a material improvement in the income of the people. The low level of income at present is due to a complex of many causes which will receive consideration later in this book. But it is obvious that a deficiency of food and other essentials of life is manifest in our high death rate. There is a famous passage in Malthus' *Essay on Population*, which is worth quoting again in spite of the fact that it has been given in full already* in which he says, " A man who is born into a world already possessed, if he cannot get subsistence from his parents on whom he has a just demand and if society do not want his labour, has no claim or right to the smallest portion of food and, in fact, has no business to be where he is. At Nature's mighty feast there is no vacant cover for him, she tells him to be gone." Parents in India can neither find subsistence for themselves nor for their children, and society cannot find work which will enable men to live healthy and full lives. Whether the want of covers is due to Nature's inability to lay more or the fact that men are born into a world already possessed—two entirely different propositions—is a matter for careful consideration ; but that there are no covers and men in millions are told to be gone long before their time is a fact which admits of no denial and can only be changed if the right of men to an adequate portion of food receives a clear social recognition and is provided for.

* *Vide* Chapter II, page 42.

If the view that both the existing birth and death rates are likely to be maintained in the near future is correct, the conclusion that our population will continue to grow at the rate of about 10 to 12 per thousand every year and at the same enormous cost of life which we have come to regard as normal in India, follows as a matter of course.

This is subject to the obvious reservation that if there is an epidemic like that of 1918, or any other disaster of the same magnitude, the growth of population will be as sharply arrested as it was in the decade 1911–21. The occurrence of such calamities, as the Census Commissioner for India has pointed out, is to be taken as a normal feature of our national life; the very fact is, of course, an index of the utter precariousness of our existence as a nation. The incidence and consequence of such events are, however, incalculable, and we have to assume that, barring serious epidemics, famines and floods—which in fact can be anticipated but not barred—the population of India will grow at a little over one per cent. According to the Public Health Commissioner the population of British India increased between 1931 and 1934 by 3·8 per cent., i.e. at a little less than 1·3 per cent. per annum. Dr. Bowley and Mr. Robertson have estimated that on the basis of Life Tables the population of Bombay, Bengal, Madras, the Central Provinces, the United Provinces, the Punjab and Behar will in 1941 show an increase of 10, 8, 11, 10, 8, 14 and 14 per cent. respectively over the population of 1931*, which would probably give for the country as a whole an increase of 10 to 11 per cent.

The expectation of increase of the population is based upon the difference between the birth and death rates, but in the more recent literature on population stress has been laid upon the fallacy of predicting the future trends of population from the registered birth and death rates (the crude rates, as they are called). These rates are called crude because they make no allowance for variations in the age and sex composition of population. The birth and death rates are affected, as every one knows, by the proportion of old persons and children, of

* Vide *A Scheme for an Economic Census of India* by Bowley and Robertson, p. 31.

persons in different age-groups, of women in the reproductive period and of married women in different age-groups. Any variations in these proportions are significant for the growth of population and should be taken into account in forecasting the future tendencies of population. In Western countries a decline of population in the near future is anticipated because it is known that though at present there is an excess of births over deaths, soon the conditions will change and owing to the fall in the birth rate which has become very marked in the post-war period, the proportion of women now entering upon the child-bearing period is decreasing, of old men and women increasing and of children, of course, decreasing. An increase in the proportion of persons in the higher age-groups will lead to an increase in the death rate, and a decrease of potential mothers will be followed by a further fall in the birth rate unless the parents can be persuaded or compelled to have larger families by abandoning or decreasing the use of birth control methods.

In Germany, Italy, France and Belgium the authorities are, by bribes and threats, doing what they can to arrest the downward course of the birth rate, but so far their efforts have yielded very meagre, in fact practically negligible, results. In Great Britain the appointment of the Population Commission is also due to the concern which is being felt regarding the future of the population, and it is not unlikely that the Government there will also initiate policies to counteract the effect of what is popularly called the " parents' strike " ; but it is also not unlikely that the result from their point of view will be as disappointing as it has been in other countries. The fall in the birth rate is due to a silent revolution which has been taking place in Western countries for nearly half a century in the whole attitude towards sex, marriage and children ; and in spite of the fact that in almost all countries conservative forces are still in power and are even increasing their hold over the agencies of propaganda and control, the prospect of their being able to change the course of events in this respect is not at all hopeful.

In India there is a possibility of similar forces being brought into operation and producing a situation not very different

from the one which exists in so many countries to-day. But whether that will happen is merely a matter for speculation; at present our anticipations can only be based upon the existing facts. The view expressed above that our population is likely to increase at a little over one per cent. per annum is based upon these. But in the statement of this view no attempt has been made to support it by the use of the more refined methods of prediction referred to above. One method, which is being more generally adopted and for which students of population are indebted to Mr. R. R. Kuczynski, is to ascertain, on the basis of existing fertility and mortality rates, whether the mothers of to-day are producing girl-babies numerous enough to replace them when they themselves cease to perform the reproductive function. In order that every mother who is now bearing children and is about or likely to complete the child-bearing period, should bear and rear a daughter who will take her place, it is necessary that the number of girls born should be in excess of the number of effective mothers, so as to provide for the loss of future mothers which is bound to occur between the ages of 0 and 45, i.e. between birth and the end of the child-bearing period. If it could be ensured that every girl-baby should live up to the age of 45, marry and give birth to at least one girl, it would be enough to maintain a stationary population if every mother had one daughter. In that case what Kuczynski calls Reproduction Rate would be unity, and the population would replace itself.

But there is no way by which this objective can be realized; for a stationary population, therefore, it is necessary that the average number of girls per mother should be such as to ensure that, in spite of the risks to which potential mothers are exposed by diseases common to men and women as well as by those which are peculiar to women during the child-bearing period, every woman is survived by a girl who attains and completes her child-bearing period. In order that population may replace itself it is, of course, necessary on the average that there should be two surviving children; but as only women can bear children for the replacement of population it is estimated that there should be no decrease in the number of mothers from one generation to another. The difference between the number

of girl-babies born and the number of surviving mothers is the measure of the loss of female lives, and for a stationary population it is necessary that the Reproduction Rate should be unity in spite of the loss. Kuczynski calls the latter rate the Net Reproduction Rate, and the average number of female births per woman the Gross Reproduction Rate. If Net Reproduction Rate is unity, the population will be stationary, increasing or decreasing according as it is more or less than unity.

It is because Net Reproduction Rate in a number of European countries and countries inhabited by Europeans is less than unity that, in spite of the excess of births over deaths, a decline of population is anticipated and the prospect is causing serious concern. For calculating Net Reproduction Rates it would be necessary to know the number of women in different age-groups of the child-bearing period, the average number of girl babies born to these women and their death rates at different ages. Information is available in the Census Reports regarding the number of women in different age-groups and the death rates at different ages. Even information on these points is not absolutely reliable, but there are no data giving the number of girl-babies born to women at different ages ; this fact makes it impossible to calculate the Net Reproduction Rates for India, which would provide a much better method of estimating the rate of growth of our population than the ordinary method of deducting the death rate from the birth rate.

Owing to vital statistics being grossly defective in India, even the latter method cannot give trustworthy results and the use of the more refined method referred to above has, of course, to be ruled out altogether. But our inability to do so is not as serious a disadvantage as it would have been if our age composition had been subject to the same changes which are taking place in Western countries because of the sharp decline of their birth rate in the last two decades. There the birth and death rates are no index of future trends because the proportion of children, young, middle-aged and old persons is changing rapidly and becoming unfavourable to the growth of population. In India the proportions of persons at different ages have varied in the last five decades, but, apart from variations due to the incidence of famines or epidemics, it is not possible

to discover in them any marked change for better or worse from the standpoint of the growth of population.

It has already been stated that in India the rule is that all classes of people have as many children as they can; or, to use words which by recent usage have acquired a technical meaning, fertility and fecundity are about the same for all classes. It is not likely that the birth rate will show any tendency to decline unless the practice of birth control becomes widespread. The social forces that are at work are bringing many changes, but assuming that the age constitution remains unchanged, the rate and age of marriage and the re-marriage of widows—the three factors which can affect the birth rate—are not likely to have that result. It is not implied that with regard to these there will be no change at all, but the changes that will occur, will not result in a falling birth rate.

As has been pointed out already, the death rate will be determined by two factors, occurrence of epidemics or any other disaster involving exceptionally heavy loss of life, and improvement in economic and sanitary conditions. The occurrence of major calamities causing abnormal mortality cannot be predicted, and the precarious condition of our national life exposes us to risks which are great and cannot be provided against. We can reduce the death rate by improving sanitation, extending health services and fortifying the people against disease by increasing their vital reserves. Development of health services is partly a matter of organization but more a matter of funds; increasing the defensive powers of the people depends to some extent upon education in the laws of health and better living but is primarily—it is worth repeating—a matter of increasing their resources through economic development. Some progress in this respect will, it is hoped, become evident in a fall in the death rate, but any improvement corresponding to what has taken place in a number of countries cannot be expected unless the resources both of people and State are increased to a level which makes civilized standards of life and administration possible.

The conclusion we reach is, of course, that a further growth of population in this country is likely. The birth rate will most likely remain what it is, and the death rate may be reduced

though very slightly. An increase of three to four million per year has probably taken place since 1931, and a similar rate of increase is likely to continue in the near future. This expectation may be upset by an outbreak of some epidemic in a very severe form. India has been free from such epidemics for nearly two decades, but this immunity is far from an established fact. Can the country afford this increase ? Has the development of resources kept pace with the increase of numbers in the past ? Is development at the same rate likely to continue ? And even if it does, is it desirable that there should be an increase of population at the present extremely low standard of living ? It is obvious, though the fact is often overlooked, that even if the economic position of the masses thereby does not become worse, an increase of numbers cannot be welcome if the lot of the newborn children is not going to be any better than that of the present generation. Is the poverty and the misery of the people partly due to the growth of population ? Will their distress be mitigated by our having a stationary population or one that is increasing at a much slower rate ?

Upon the answers to these questions must depend the population policy of the country. These questions cannot be answered easily. In many cases we have not got the material for answering them. In others they involve speculation as to what is going to happen in the future, and answers in those cases necessarily involve interpretation of the present trends of economic life and will vary according to the point of view or the line of approach which is adopted. Apart from the introduction of subjective considerations, answers with regard to the future mean prediction at a time when it is almost certain that the future is going to be unlike the present and the past, even though we cannot say what it is going to be. In spite of these difficulties, it is necessary to answer these questions.

The next four chapters of this book are devoted to the discussion of these questions. The object of this book being not only to state the facts but also to assess their value, it is necessary to attempt answers to the questions raised above.

Chapter VIII

ECONOMIC POSITION

In an earlier chapter it has been stated that population is not merely a question of economic resources. Growth of population may, in certain circumstances, be desirable from a social standpoint and even necessary although wealth and income per head are thereby reduced. Reference has already been made to the cases of Italy, Germany and Japan. There the struggle for population, i.e. frantic efforts to increase the birth rate—is going on in spite of the fact that the economic life of these countries and the world as a whole is subjected to very severe stress owing to internal and international strife. The point of view which determines public policy in these countries may be wrong and even disastrous. I share the opinion held by a large number of people all over the world that the countries in question are in the grip of malignant forces and the way they are going is the way to hell for themselves and the world. But if, as pointed out in Chapter II, the validity of the point of view on which their policy is based, is conceded, there can be no question as to the urgent necessity of the increase of their population. The point which matters is not why they want their population to increase rapidly but that they want it in spite of the economic straits to which they have been reduced or have reduced themselves by their own folly. In doing so they are true to their avowed purpose, and any other country which, in respect of population, chooses to subordinate economic considerations to its conception of national good, would be acting rightly, notwithstanding the optimum theory of population.

In a country like India, however, economic considerations are paramount because of the extreme want from which our people are suffering.

It can, of course, be argued that our extreme poverty has nothing to do with the growth of our population; and that unless other adequate measures are taken for fundamentally improving the present economic outlook, it will remain, even

if a stationary or—and this is much more difficult—a declining population can be achieved. That may be so, and somewhat later in this book the argument will receive its due consideration. But the point which is relevant here is that, though it is right and reasonable that the growth of population should not be viewed merely from the standpoint of economic resources, in India the question of the actual and potential resources is of primary importance owing to the utter destitution of our masses. Even if the growth of population is not a cause of poverty in India and attention has to be directed to the adoption of other measures of reform and reconstruction, the increase of numbers is a matter of serious concern if our economic development has fallen short of the needs of our people.

Seeds of discontent have been broadcast by the winds and have already germinated in the Indian soil and the present economic position and prospects acquire a more ominous significance owing to the fact that what is at stake is the future of a nation of nearly four hundred millions, one-fifth of the human race. These four hundred millions have to be raised from their present sub-human existence to a level worthy of human beings. Have we the resources to realize this end? Have our resources expanded during the last sixty or seventy years? Will the increase of numbers add to our strength or to our perplexities?

The answer to these questions is partly a matter of facts and partly of opinion. So far as it is a matter of facts it involves an analysis of the existing statistics and these are, unfortunately, not at all conclusive in their bearing on the point. The statistics which have to be analyzed are statistics of production covering agriculture, industry and trade. Agriculture being the mainstay of our economic life, the figures of agricultural production are, of course, the most important for our purpose. But these figures are extremely inadequate. In order to know the total output of agriculture we must know the total area under cultivation, the different crops sown and matured, the average yield per acre of those crops and their value in money. The Indian cultivator still consumes the larger proportion of what he produces and is to that extent independent of the vagaries of the market. But his indepen-

dence has, as the depression has so very clearly and painfully shown, been impaired by the growing importance of money economy in our national life. It is therefore necessary to know, not only what and how much he produces, but also what he receives in money for his products. Statistics on all these points are available, and if they were reliable they would be very useful for the purpose in hand. But unfortunately they are not reliable and that is our initial and almost insuperable difficulty in assessing the quantity and value of our agricultural production.

The unreliability of the statistics of agricultural production is due to four reasons. The first is that for nearly 44 per cent. of the area in the Indian States there are no statistics, and as their area is nearly two-fifths of the total area of the country, we are without any data regarding the agricultural production for a little less than one fifth of the total area of India. For the area of the Indian States for which agricultural statistics are available, the standard of accuracy is, with a few notable exceptions, much below the standard of British India; and as the latter is also very imperfect, for reasons given below, the standard attained in the Indian States makes the estimate of agricultural production valueless for the purpose of comparing the growth of population with that of production.

The second reason why our agricultural statistics fall short of our requirements is that about 20 per cent. of the area in British territory is under permanent settlement and, owing to the absence of revenue staff in the villages of this area, the estimates of agricultural production have been and are grossly defective. In the words of Messrs. Bowley and Robertson, the figures of agricultural production at present are quite insufficient to determine whether or not food is increasing in proportion to population.* As the population of this area was, in 1931, 95 millions or over 35 per cent. of the total population of British India, this deficiency is, it is obvious, a serious disadvantage from the point of view of ascertaining the sufficiency or otherwise of our food supply. The information in the permanently settled areas is collected through various agencies

* *A Scheme for an Economic Census of India*, by Bowley and Robertson, p. 35.

and reports are submitted to the headquarters; but "these reports," to quote from another authoritative Report, "are often mere guesses and are not infrequently, demonstrably absurd guesses."* In the Agricultural Statistics of India however, these "absurd guesses" are duly published from year to year as "estimates framed on the best available information." That the estimates so framed are utterly worthless for any purpose whatsoever and particularly for assessing the economic position of the people in the most densely populated tracts of India is nowhere mentioned in the introductory note with which the tables of agricultural statistics are prefaced every year.

In the temporarily settled provinces of India, which comprise 433 million acres out of the total of 1,130 million acres of the country as a whole or about 38 per cent., the annual figures of the area sown are, thanks to the necessity of land revenue assessment, known to be accurate in the main and "compare very favourably with those published for any other country in the world."† But for an estimate of the yield of different crops it is necessary to know the standard output per acre. In the different Provinces standards of normal yield of each crop are adopted, but these standards are in most cases based on estimates of old dates and of doubtful validity.†

The standards are loosely defined and the methods of selecting "average" crops for crop-cutting experiments are unsound. The standards are modified infrequently and crop-cutting experiments are not numerous enough to justify any degree of confidence being placed in their results. The position is obviously unsatisfactory and the estimates of yield calculated according to these standards are not and cannot be a trustworthy index of the production of different crops or of the trend of production.

In estimating production in a particular year it is necessary to make allowance for seasonal variations. This is done by a system of "anna valuation." The methods adopted for indicating the condition of a crop vary from province to province but their purpose is the same everywhere, i.e. to state

* *The Agricultural Commission Report*, p. 527.
† *Ibid.*

the relation of the crop reported to the standard yield per acre. These estimates are purely visual, the village officer relying on a mental picture of the condition of a crop for framing his estimates. After the area sown has been reported, during the growth of the crop and again at the time of harvesting, the village officer estimates the yield as so many annas, taking a definite number of annas as standard. These nebular estimates pass through the higher revenue officers who use their own knowledge or discretion to correct bias in the information supplied by the reporting agency. The procedure provides for a number of checks, but as the superior officers have nothing better to go upon than their own judgment of the condition of a crop over a large area, the supervision exercised by them does not make these estimates any the less incorrect as actual measures of the crops matured from year to year. The standards to which these estimates are related are themselves, as stated above, untrustworthy and the methods adopted for making allowance for the seasonal factor afford no corrective for the undefinable element of error contained in these estimates.

The third and fourth reasons for putting still no reliance in the available agricultural statistics in India for ascertaining the extent to which the growth of agricultural production has been keeping pace with that of population are the degrees of inaccuracy in the estimates both in the condition of crops and their normal yield. As agriculture is by far the most important source of wealth of our people, those deficiencies make it impossible to estimate statistically how far our resources are adequate for supporting our growing population.*

* Various attempts have been made to estimate the extent of the deficiency of food in India. Dr. R. K. Das, for example, stated in his paper on the "Problem of Over-Population in India," read at the Session of the International Congress for Studies regarding "Population Problems" held in Rome in 1932, that the per capita food supply in India amounts to ·75 million calories, while it should amount to one million calories a year. In his calculation, he adopted the standard laid down by the Food (War) Committee of the Royal Society which was 2,618 calories a day per unit of population. The Standard adopted by the Mixed Committee appointed by the League of Nations in 1935 is 2,400 calories per day for an adult which gives an average of about ·88 million calories per year with a corresponding reduction for children, the figures for an infant being 840 calories. On this calculation the calory requirements of people in India would not amount to more than

That being so, any attempt to demonstrate statistically whether agricultural production and—since agriculture dominates our economic life—production in general has or has not been keeping pace with the growth of population, has to be ruled out. If we take the existing standards of food consumption, which for the vast majority of people are lower than the minimum of subsistence, it may be that the population has not grown faster than the increase in food supply, but we cannot prove that it is so. There has been an extension of cultivation. The construction of irrigation works has brought security to millions of acres of cultivable land and also brought under cultivation millions of acres of our previously uncultivable land, and new and improved varieties of crops have been introduced and undoubtedly contributed to the improvement in their yield and quality. There has also taken place a development of trade, industry, communications and capital resources of the country which has also to be taken into account when comparing the growth of population and production; we have not been standing still, but we do not know whether in the last 50 or 60 years for which we have dependable records of population, our liabilities or assets have been growing faster.

Various attempts have been made to indicate the relation between production and population. Dr. P. J. Thomas of Madras University and Principal D. G. Karve† of Willingdon College, Bombay University, have tried to prove that there is no cause for concern because production in India has been increasing more rapidly than population. It is not necessary to analyze their arguments here or show why their conclusions rest upon very insecure foundations. An attempt to do so would involve lengthy and detailed argument for which space cannot be found in this book. The above conclusion that at

·75 million calories which if Dr. Das's figure is accepted, would give to our population all the " fuel " that they need for a healthy life. Apart from the fact that the latest medical researches have stressed the importance for the human body of vitamins and minerals which are almost entirely lacking in cereals and lentils—the staple diet of the Indian people—all such calculations are misleading for the simple fact that on the basis of available statistics the food supply of the country cannot be estimated.

† Vide *Population and Production*, by P. J. Thomas; *The Indian Journal of Economics*, Vol. XV, Part IV, Serial No. 99 and *Poverty and Population in India*, by D. G. Karve, M.A.

present such a comparison cannot be made is based upon the undisputed fact that the materials for measuring national income and wealth and the rate of their increase are entirely lacking. We can, if we want to prove our case for or against a particular opinion, give an impressive array of figures in the hope that an unsuspecting public will accept them at their face value not knowing that the materials on which they are based are grossly defective. But thereby nothing is proved except our capacity for surmounting or disregarding facts.

Having committed myself to the above view it is very risky to tabulate such facts as are available in order to find some guidance from them and yet it may have a negative value if we present first the available facts of agricultural production and later of non-agricultural and comment upon their meaning and value. In doing so we have to omit the Indian states altogether so far as agricultural production is concerned. (*See* page 184.) Figures for most of the Punjab states are for example available only from 1908–09, for Kashmir from 1910–11, for Baroda and some important Rajputana states from 1918–19, for Hyderabad, the premier Indian state, from 1920–21 and some states have come into the system as late as 1928–29. Figures for normal yield are not available for any Indian states except Mysore, and as their standard of administration varies within very wide limits, in some cases attaining or even surpassing the standard of the provinces, but in most cases falling very much below it, the available figures cannot be compared with the figures of British India.

The Indian states account for nearly one-third of the population of British India and of one fourth of the country as a whole, and since 1881, the rate of growth of population in the states has been more rapid than in British India, the rate being 46 per cent. in the former and 39 per cent. in the latter, and of the total increase of 99 millions since 1881 the states are responsible for nearly 26 millions or about 28 per cent. While the increase of population in the states is more rapid than in British India, the rate of their development, excepting a few progressive states, is known to be distinctly lower and therefore the strain caused by the growing population in their territories cannot but be greater. The omission of the Indian states from the review of

the present economic position is therefore serious from the all-India standpoint and takes away a great deal from whatever value this review may have for a proper appreciation of the present position. But this cannot be helped and only strengthens the case for the reservations made in the foregoing paragraphs.

Agricultural statistics are available for British India since 1884–85, but it is proposed to confine this review to the course of development since 1900. This year is selected because it is convenient and owing to the doubtful character of these figures and the limited utility of basing any conclusion upon them it is hardly worth while to go farther back in tracing the course of agriculture in the country.

In the comments made below it is taken for granted that the figures which form the subject matter of these comments contain a liberal margin of error but that the margin remains constant throughout the period. This is a fair assumption because there is no reason to believe that the position in this respect has become any worse or any better than it was at the beginning of the century.

The figures of the cultivated area may first be given. In the following table three sets of figures for British India are given, i.e. of growth of population since 1901 for every census year and for 1934, of cultivated area for 1900–01, for the terminal year of every decade and for 1933–34, and of the average cultivated area for every decade since 1900 and for three years from 1930–31 to 1933–34 and their indices.

The figure for population in 1934 is based upon the estimate of the Health Commissioner for India and has been calculated from the vital statistics. The census, the experience shows, records an increase greater than the increase indicated by the birth and death rates and therefore 275·75 millions is certainly an understatement of the actual population in 1934. But taking it as it is, it is clear that while the average cultivated area has increased by about 11 per cent. the population has increased by 21 per cent. The average for the successive decades is a much better index of the extension of cultivation than the area for the individual selected years, for the former smooths out fluctuations due to vagaries of rainfall and other

TABLE 64

Year	Population		Area cultivated			Average cultivated area		
	Growth of population since 1901 (in million)	Index No. of population	Year	Area (in million) acres	Index No.	Period	Area (in million) acres	Index No.
1901	231·14	100	1900–01	197·11	100	1900–01 to 1909–10	209·37	100
1911	243·79	104	1910–11	222·91	113	1910–11 to 1919–20	221·35	106
1921	246·85	111	1920–21	222·82	113	1920–21 to 1929–30	225·95	108
1931	271·53	117	1930–31	228·16	116	1930–31 to 1933–34	229·71	110
1934	275·75	121	1933–34	232·24	118			

incidents of agriculture and, therefore, the increase of 11 per cent. may be taken as a more satisfactory measure of the extension of cultivation than has taken place since 1900.

The increase in cultivated area has been partly due to the need for more land and partly to the extension of irrigation provided by the State, which as is well known, has made it possible to cultivate lands which were uncultivable before. To the extent that the extension is due to the former cause, it may be presumed that the yield from the land to which cultivation was extended is likely to have been poorer than that from land already under cultivation. Extension of cultivation by the provision of irrigation, on the other hand, must have led to greater production by bringing virgin soil under the plough for the first time. The relative importance of the two factors is not known and cannot be estimated. But without making any allowance for the difference in the quality of land brought under cultivation, the above table makes it obvious that so far as the area under cultivation is concerned, in British India cultivation has not increased in the same proportion as population.

There is a deficiency of 10 per cent. in the cultivated area ; and this fact is far from reassuring.

The analysis may be carried a step further by giving the figures of the area under different crops, the total of which is greater than the figures of cultivated area owing to the fact that some of the cultivated area is sown more than once. In the following table are set forth figures under three headings, viz. food crops, oil-seeds and commercial crops. Food crops comprise cereals and pulses, oil-seeds include crops like linseed, rape, sesamum and groundnuts and the commercial crops are sugar, fibres, tea, coffee, tobacco and so on. The division is more convenient than logical for food crops are also grown for market. Oil-seeds are of great commercial importance and sugar is as much a food crop as a commercial crop. In this table, as in the one above, figures for the base and terminal years, decennial averages and indices are given.

TABLE 65

Food Crops

Year	Area in million acres	Index No.	Period	Decennial Average	
				Area in million acres	Index No.
1900–01	182·11	100	1900–01 to 1909–10	188·10	100
1909–10	204·10	112	1910–11 to 1919–20	199·50	106
1919–20	199·67	110	1920–21 to 1929–30	202·72	108
1929–30	200·01	110	1930–31 to 1933–34	203·88	109
1933–34	206·22	114			
			Oil-seeds		
1900–01	12·91	100	1900–01 to 1909–10	13·36	100
1909–10	14·53	113	1910–11 to 1919–20	14·19	105
1919–20	12·57	97	1920–21 to 1929–30	12·11	90
1929–30	16·33	127	1930–31 to 1933–34	16·95	126
1933–34	17·79	137			
			Commercial Crops		
1900–01	16·47	100	1900–01 to 1909–10	19·67	100
1909–10	20·40	124	1910–11 to 1919–20	18·36	93
1919–20	23·38	141	1920–21 to 1929–30	20·00	102
1929–30	24·62	149	1930–31 to 1933–34	24·40	124
1933–34	22·73	138			

These figures call only for very brief comments. The increase in the area under food crops, viz., cereals and pulses, has fallen short of the increase in population, its increase being 9 per cent., if decennial averages are taken, against a population increase of 21 per cent. The increase in the area under oil-seeds and commercial crops, taking again the decennial average, is 26 per cent. and 24 per cent. respectively and is slightly greater than the increase of population. But it has to be borne in mind that percentage changes in different crops have to be co-related to their relative importance in our rural economy. Even in 1933–34, oil-seeds and commercial crops taken together accounted for less than 20 per cent. of the area under the three varieties of crops, more than 80 per cent. of the area being under food crops. In other words, a change of one per cent. in the latter must, so far as its relative importance is concerned, be taken as equal to a change of 4 per cent. in the other two varieties. The increase of 26 and 24 per cent. in oil-seeds and commercial crops is, therefore, not as significant as the failure of the area under food crops to keep pace with the growth of population. In all, since 1900–10, the area under oil-seeds and commercial crops has increased only by 8·33 million acres which is less than 4 per cent. of the cultivated area of 229·71 million acres in 1931–34.

The greater proportionate increase of oil-seeds and commercial crops does, however, show the increasing importance of " money " crops in agriculture. That is, of course, due to these crops being more profitable. But if there had been no increase in the area under these crops and the increase which had taken place in it up to 1931–34 had been added to food crops, it would have increased the area under the latter to 211·33 million acres or an increase of a little over 12 per cent. over the average of 1900–10. Even then the proportionate increase in the area under food crops would have been short of the increase of population by about 9 per cent. It is not the fact that the area under " money " crops has increased at the expense of the area under food crops which matters, but that the area under these three principal classes of agricultural produce has failed to grow in the same proportion as the population.

The position can be made a little clearer by analyzing the

figures of food grains separately. There are three important food crops in India. They are in order of importance, Rice, Wheat and Millets. Millets taken together are sown over a larger area than wheat and are important in the dietary of the poorer classes, but as a food crop wheat is regarded as more important than millets. The other food crops are maize, gram, pulses, etc. The figures for the selected years, the decennial average and their indices are given below :—

TABLE 66

Rice

Year	Area in million acres	Index No.	Period	Decennial Average	
				Area in million acres	Index No.
1900–01	69·02	100	1900–01 to 1909–10	78·82	100
1909–10	78·52	113	1910–11 to 1919–20	79·51	109
1919–20	80·63	117	1920–21 to 1929–30	79·14	109
1929–30	78·71	113	1930–31 to 1933–34	80·55	111
1933–34	80·42	117			

Wheat

1900–01	20·10	100	1900–01 to 1909–10	21·53	100
1909–10	24·40	123	1910–11 to 1919–20	21·27	99
1919–20	24·79	123	1920–21 to 1929–30	24·42	113
1929–30	23·53	117	1930–31 to 1933–34	25·67	119
1933–34	27·60	137			

Millets

1900–01	48·28	100	1900–01 to 1909–10	47·37	100
1909–10	48·85	101	1910–11 to 1919–20	47·61	100
1919–20	47·15	98	1920–21 to 1929–30	48·38	102
1929–30	48·79	101	1930–31 to 1933–34	45·86	97
1933–34	44·99	93			

Maize and Gram

1900–01	21·80	100	1900–01 to 1909–10	17·15	100
1909–10	20·25	94	1910–11 to 1919–20	19·37	113
1919–20	20·09	94	1920–21 to 1929–30	17·50	102
1929–30	19·69	90	1930–31 to 1933–34	21·30	124
1933–34	22·59	104			

Pulses, etc.

1900-01	27·81	100	1900–01 to 1909-10	29·11	100
1909-10	32·07	115	1910-11 to 1919–20	29·92	103
1919–20	30·03	108	1920–21 to 1929–30	26·38	90
1929–30	29·02	104	1930–31 to 1933–34	30·41	104
1933–34	30·61	110			

The only crops which show an increase nearly in proportion to the increase in population are wheat, maize and gram. The figures for maize and gram are not given separately in the table, but as a matter of fact there is practically no increase in the area sown under maize, the figures for the first decade and the last three years being 6·21 and 6·28 million acres respectively. Increase in the area under gram since 1900–10 is about 38 per cent. (the corresponding figures being 10·94 and 15·02 million acres); but as gram is not an important article of food and the area sown is less than 8 per cent. of the area under food crops, the increase in the area under this crop does not make much difference in our food supply. The increase in the area under wheat has been 19 per cent. since 1900–10, but of this 6 per cent. increase has taken place in the last three years and is due to the extension of irrigation which the completion of the Lloyd Barrage Scheme and the Sutlej Valley Project has made possible.

Rice is our most important food crop, the area under it being nearly two-fifths of the total area under food grains and that has increased only 11 per cent. against the increase of population of 21 per cent. Since 1909–10 the area under rice has increased only 1·90 million acres and if we exclude the increase in rice area in Burma since that year, which is 2·85 million acres, there has been an actual decrease in the area under rice in India proper. As the population of British India minus Burma has increased from 1911 to 1934 by 14 per cent. and 31·54 million, the extent of the deficiency can be easily appreciated. The area under millets has, during the period 1900–1934, actually decreased and under pulses increased by only 4 per cent.

The whole position with regard to the changes in the area under food grains can be better indicated by constructing a

composite weighted index number, i.e. an index number which will indicate the changes in the area as a whole by measuring the relative importance of different changes according to the proportion which the area under each crop bears to the whole area under food grains.

Table 67

Period	Rice		Wheat		Millets		Gram and Maize		Pulses		Composite Index No.
	Weight	Index No.	Weight	Index No.	Weight	Index No.	Weight	Index No.	Weight	Index No.	
1900–01 } 1909–10 }	—	100	—	100	—	100	—	100	—	100	100
1910–11 } 1919–20 }	40	109	11	99	24	100	10	113	15	103	105
1920–21 } 1929–30 }	40	109	12	113	24	102	9	102	15	90	104
1930–31 } 1933–34 }	40	111	10	119	22	97	10	124	18	104	109

The above table shows the change that our food supply, so far as it depends upon the area under food grains, has undergone since the beginning of the century. An increase of 9 per cent. is about all that we can take credit for against an increase of population of 21 per cent.

Of the 9 per cent. increase 5 per cent. increase has taken place in the last three years and is due to the extension of the area under wheat, maize and pulses. It remains to be seen whether this is a permanent increase, for the area under gram and pulses is subject to wide fluctuations and the 5 per cent. increase, except in so far as it is due to the increase of wheat cultivation, may not last. But even if we assume that 9 per cent. increase is normal, it is clear that the area under food grains has fallen short of the needs of our growing population.

A few words may also be said about the area under fodder crops. That area has increased continuously as shown by the following table :—

TABLE 68

Year	Area under fodder crops in million acres
1900–01	3·03
1909–10	4·74
1919–20	8·20
1929–30	9·17
1933–34	10.20

During the period the number of livestock has, as shown by census figures, increased from 87·18 million in 1900–01 to 152·79 million in 1932–33. A considerable proportion of the increase is more apparent than real and is due to the improvement in the method of collecting statistics ; but the increase is due, as pointed out by the Agricultural Commission, to the existence of a vicious circle according to which the number of cattle tends to increase in direct ratio to the deterioration in their quality and leads in turn to greater deterioration. The increase of tillage at the expense of better grazing land creates fodder scarcity and a greater need for cultivation of fodder crops. An increase in the area under fodder is therefore more an index of the drain caused by the necessity of maintaining an unduly large number of undersized and inefficient cattle and of the strain of the growing population than of the increase in the supply of fodder itself.

Area, however, is only one, though a very important factor, in determining the agricultural production of a country. Efficiency of cultivation and investment of capital are the two other important factors which have to be taken into account. To what extent has agricultural production been affected by these factors in India ? It is possible that the deficiency in the area under cultivation might have been more than made up by an increase in yield owing to improvement in the knowledge and skill of the cultivator, and the development of agriculture through investment of capital in permanent improvements. It is not known what the cultivator has been able to do for himself by his own skill and enterprise to increase the yield from his land, but from what is known of the ignorance and poverty of cultivators as a class, it is safe to assume that what they have been able to do through their own initiative or unaided efforts has been almost next to nothing and, therefore,

can be left out of account in the consideration of the question. But it is well known that there have taken place two important developments in India due to state enterprize, which have contributed to agricultural progress. They are the development of state irrigation works and the introduction of new and better varieties of crops through the Agricultural Departments. Of these the former is, of course, the more important.

The construction of irrigation works by the Government is, it is a matter of common knowledge, a remarkable chapter in our recent economic history and its results have been highly beneficial. It has increased agricultural production in two ways. It has, in the first place, brought under cultivation lands on which without irrigation nothing could grow or, to use a more telling form of statement of the same fact often used in this connection, it has converted barren deserts into smiling fields. In the Punjab, in Sindh, in several Indian states, millions of acres of cultivated land have been made cultivable and are being cultivated because of the extension of irrigation works by the State. The extent to which the cultivated area has been increased in this way has already been included in the figures of cultivated area given in Table 64. But the qualitative change which has taken place in agriculture through the development of irrigation can only be measured by assessing the value of the immunity from the vagaries of rainfall granted by an assured supply of water, and of the increase in yield because of the same reason in terms of the crops sown and matured.

In order to measure the effect of the qualitative change we have to know the area under irrigation and the differences between the yields from irrigated and unirrigated lands. The increase in the area irrigated by Government works is correctly known. The figures of area irrigated by other sources are available but, like the figures of cultivated area or of area under different crops, are estimates of varying degree of reliability. The figures of the area irrigated by Government and private works are given in the table on page 198.

Most of the increase in irrigated area is due to the development of Government works. Since 1900 the area irrigated by these works has increased from 19·25 to 29·81 million acres in 1932–33,

TABLE 69

Period	Area sown in million acres	Area irrigated in million acres	Proportion of irrigated to cultivated areas
1900–01 to 1909–10	209·37	35·77	17 per cent.
1910–11 to 1919–20	221·35	45·80	20 ,,
1920–21 to 1929–30	225·95	47·43	21 ,,
1930–31 to 1933–34	229·71	48·36	21 ,,

an increase of 10·56 million acres in 33 years, and accounts for most of the increase of 35 per cent. in irrigated area which has taken place during this period.

The benefits of irrigation, it is claimed, are not to be measured by the area irrigated in a particular year or period, for " canals are usually so designed as to irrigate annually from one third to one half of the cultivable area commanded by them and the various portions come under irrigation in turn, the remainder lying fallow or being sown with more drought-resisting crops."* For every acre irrigated another acre or acre and a half is irrigable and receives water in succeeding years. That means that though nearly 30 million acres of land are now being irrigated by Government works every year, another 30 million acres are within the area commanded by them and have their yield increased by being included in this area. And if it is assumed that the average area irrigated by these works has increased by nearly 10·5 million acres since 1900, the real increase is twice as much owing to their being irrigable and irrigated in turn. An increase of 21 million acres, if this view is correct, or about 10 per cent. of the area under cultivation, has had its yield increased by the extension of irrigation. If we knew the difference between the yield from irrigated and unirrigated land, it would be possible to say to what extent the disparity between the growth of population and of cultivated area is reduced by this factor.

It would be possible to estimate the effect of this factor if the

* *Irrigation in India*, by Mr. D. G. Harren, p. 8.

figures of normal yield in *Agricultural Statistics of India* were reliable. The figures are available for average yield from irrigated and unirrigated land in different provinces for the successive quinquennia since 1911–12, as also are the figures for crops irrigated, and it would be possible by an elaborate calculation to estimate the increase in agricultural production attributable to irrigation. The figures for crops irrigated contain a large element of guesswork but are less inaccurate than the figures of cultivated area, but it is because the figures for normal yield are untrustworthy that even the attempt to estimate statistically the contribution of irrigation to agriculture has to be ruled out.

The untrustworthiness of the figures for normal yield is due to the method of collecting statistics. It is officially admitted that an examination of the return for the quinquennium ending 1911–12 showed that the experiment on which the figures for normal yield were based were generally unreliable. In 1915, the Government of India, with a view to improving the returns, issued instructions to employ as far as possible officers of the Agricultural Department to carry out experiments for estimating the average yield of crops in each province. But the new system, according to the Note on Average Yield per acre of Principal Crops in India,* has been introduced only in some provinces and there only to a limited extent. The result is that in a large number of cases the average yield estimates have not been modified,† and where they have been, the revision has been made without adequate data and the revised figures, besides making the comparison with the figures for yield of the earlier years impossible, are in most cases no more reliable than the pre-1915 returns.

* Vide *Agricultural Statistics of India*, Vol. I, 1934, p. 331.

† In the U.P. and Bombay Presidency, for example, the average yield of rice and wheat has remained unchanged since the quinquennium ending 1911–12 according to official estimates. The figures for the U.P. are Rice, 1,100 lbs. per acre (irrigated), 850 (unirrigated) and 900 (both); wheat, 1,250 lbs. per acre (irrigated), 850 (unirrigated) and 1,050 (both). And for the Bombay Presidency, Rice 1,230 lbs. (irrigated); wheat 1,250 lbs. (irrigated), 510 (unirrigated) and 575 (both). The U.P. contains 30 per cent. of the area under wheat in British India and since the estimates of output are based on the admittedly unreliable standard yield of the quinquennium ending 1912, that cannot but vitiate seriously the estimate of the wheat output for the country as a whole.

There is no doubt that irrigation is a great boon which the British Government has conferred upon our people. Nearly 13 per cent. of the total cultivated area is under state irrigation and, of 30 million acres so irrigated, a certain proportion represents a net addition to the cultivable area of the country and the productivity of the rest has been greatly increased by the provision of irrigation facilities. According to the *Triennial Review of Irrigation in India*, the estimated value of crops raised on area receiving state irrigation in 1932–33 was nearly Rs. 87 crores. Owing to the impossibility of making a reasonably accurate estimate of the yield of irrigated crops, this estimate cannot but be highly conjectural. But it may be conceded that state irrigation must have increased both the quantity and value of crops grown on the irrigated area. The point, however, which is being dealt with here, is that we cannot put any reliance in the available estimates of the increase in agricultural production due to irrigation and we cannot therefore calculate with any degree of confidence to what extent the needs of our growing population have been satisfied by the extension of irrigation since the beginning of this century.

The other factor which has increased the productivity of land in British India is the introduction of new and better varieties of crops. According to the *Review of Agricultural Operations in India*, 1931–32 and 32–33, 15·37 million acres of land were under improved varieties in British India. Improvement lies in superior quality or its heavier yielding capacity or in disease-resistance or better adaptability to environment and usually the improved variety chosen for introduction combines several of these advantages.* Though most of the improved varieties have been introduced after 1901, figures of the area under these crops are not available for earlier years and it is not possible to state the extent to which progress has taken place in successive decades since 1900. The figures of the area under these crops also contain an element of guesswork, but what is more important is that it is not possible to measure the improvement in the quality and quantity of our agricultural production due to the

* *Review of Agricultural Operations in India*, 1931–32 and 1932–33, p. 16.

introduction of these varieties. About 5 to 6 per cent. of the area under cultivation, including the area sown more than once, is under these crops. In order to estimate the contribution thereby made to the development of agriculture it would be necessary to compare the improved crop with the standard yield of hypothetical unimproved crop. But as the standard yields of improved crops are not available and those of unimproved crops are very imperfect, we cannot make any comparison of improved and unimproved crops. The yield statistics cannot show improvement in quality and no data are available for estimating the latter. The conclusion is, of course, that though the introduction of improved crops has partially made up for the increase of cultivated area having fallen short of the increase of population, we are without any means by which we can estimate the contribution of this factor.

From what has been said in the foregoing paragraph it must have become clear that it is impossible to estimate the total agricultural production even of British India or state whether the increase in it has kept pace with the growth of population. *Agricultural Statistics of India* give figures of the estimated yield of the principal crops of the country. These figures are available for all years since 1900 and Mr. D. G. Karve has, on their basis, prepared an index number to show that our total agricultural production has increased by 44 per cent.* from 1901 to 1930. If the view expressed in this chapter is correct—and it should be incontrovertible—that the estimates of area are very defective and those of standard yield and condition factor very much wide of the mark, then any index number of agricultural production based on official estimates of the yields of different crops can only be extremely unsatisfactory from

* This is from Table 36A in Mr. D. G. Karve's book *Poverty and Population in India*. Mr. Karve admits that the figures of yield are "open to serious doubt" and yet uses "such figures as are to be had" to show that there is no convincing proof for the view that production of food grains has not kept pace, in fact more than kept pace, with the increase in population. As stated in the text, he constructs a weighted index number to show that agricultural production has increased by 44 per cent. from 1901 to 1930 while population in that period has increased only by 17 per cent.

The conclusion is based on the official estimates of the yield of different crops which, as pointed out in the text, are entirely untrustworthy. The figures of yield are not merely open to serious doubt. They are utterly unreliable and calculations like Mr. Karve's, being based on them, must suffer from the fundamental unreliability of those figures.

every point of view. With regard to area it is possible to assume that the official estimates, though defective, contain a constant margin of error and may, therefore, be used to show the rate of the extension of area under cultivation and under different crops. But the same cannot be said of the figures of standard yields. The standards have been changed from time to time and the changes have been made not only to record assumed changes in production but also to correct previous errors in standards. The estimates of previous years have remained unchanged in spite of the corrected standards and if the latter are applied to the production of later years only and estimates of the yield of the later years are compared with that of previous years, the extent by which production has increased is bound to be exaggerated, as in most cases upward revision of standards has been the rule. The official estimates of the yield of different crops, are, therefore, quite unsuitable as a basis for estimating the changes in agricultural production and no other material is available for framing such estimates. To the important question whether the increase in agricultural production has or has not been in the same proportion as the increase in population we cannot give a convincing or conclusive answer.

In spite of the above conclusion, it is necessary to summarize some of the more significant facts referred to in the argument developed in the preceding pages. Our population has increased by 21 per cent. from 1900 to 1934. During this period the cultivated area has been increased by 11 per cent. and the area under food grains by 9 per cent. In this same period the irrigated area has increased by 12·59 million acres of which the increase of nearly 10·5 million acres is due to the extension of Government irrigation works and 15·13 million acres have been brought under improved varieties of crops. The benefits of irrigation are not confined to the area irrigated in an individual year and it is possible that the area receiving the benefit of state irrigation has increased by 20 or 21 million acres. Increase in the area under cultivation and food grains shows that there is a distinct deficiency in the development of agriculture compared with the increase of population which has been, to a certain extent, made up by the development of

irrigation and the introduction of the improved varieties of crops. It is not possible to state precisely to what extent. But owing to the fact that the area benefited by the extension of irrigation and brought under improved varieties bears a comparatively small proportion to the total cultivated area,* it is not safe to assume that the deficiency has been overcome by the factors of irrigation and cultivation of improved varieties of crops.

It may be remarked that the food supply of India has been indirectly increased by the fall in exports after the war. The following table is an index of the present position.

TABLE 70

Export of Food Grains from India in million tons

	Pre-War average	War average	Post-War average	1934–35	1935–36
Rice	2·30	1·72	1·50	1·60	1·41
Wheat	1·30	0·81	0·23	0·11	0·10
Other Food Grains	0·81	0·61	0·28	0·05	0·04
Total	4·41	3·14	2·01	1·76	1·55

* The area to which the benefits of irrigation have been extended has been rather liberally estimated, for in tracts like Sindh, where there is no cultivation possible without irrigation, the benefits of irrigation are confined to the area actually irrigated. But even assuming that for every acre irrigated, there is another acre which has become irrigable, 21 million acres of irrigated and irrigable area plus 15 million acres of area under improved crops give us a total of 36 million acres on which the productivity of land has increased on account of State action. If the area under food grains had increased in the same proportion as the population, an increase of over 39 million acres (i.e. $\frac{188 \times 21}{100} = 39{\cdot}48$) would have been called for, while the actual increase has been 15·78 or nearly 16 million acres. In other words there is a deficiency of about 23 million acres. If the area benefited by irrigation and under improved crops had been 46 million acres and its average productivity had been increased by 50 per cent. by irrigation and improved crops, the deficiency of 23 million acres in the area under food grains would have been made up. But as the actual area, even when liberally estimated, is only 36 million acres and it is doubtful whether anything like a 50 per cent. increase of productivity has taken place, it cannot be assumed that our deficiency in the area under food grains is neutralized by the increase of production due to the extension of irrigation and area under improved crops. These calculations are of a nebulous character and only help to show that optimism like that of Mr. D. G. Karve or Dr. P. J. Thomas is unwarranted by the facts.

The decrease of exports from India is, of course, mainly due to the contraction of world demand and the fall of prices. Rice, the principal article of export in the above table, is mainly exported from Burma, the proportion being nearly 90 per cent. In 1935–36 India proper exported only ·19 million tons of rice and she imported from Burma in the same year 1·75 million tons of rice, i.e. on balance India had to supplement her home production by import from Burma. India practically has no exportable surplus of rice and may, with the growth of population, have to import a considerable quantity of this important article of food for domestic consumption.

Decrease in the export of wheat almost to vanishing point has had the same result, i.e. it has increased the quantity available for consumption within the country. With the rise of prices India may recover a part of her lost export trade in wheat, but it does not seem at all likely that the pre-war position will be restored. Before the war we exported nearly 15 per cent. of our total output of wheat, in 1920–21 the proportion fell to 3 per cent. and has, as stated above, been almost reduced to nil in 1935–36.* If the decrease in the export of wheat had not been due to world factors, it could have been interpreted as an index of the growing pressure of population or increase in the home demand for wheat. The latter factor might have had some influence on the export trade, but the position is so complex that it is impossible to disentangle the effects of the different forces at work.

The export of food grains other than rice and wheat has also been reduced materially, but as they have always been comparatively unimportant in our export trade, no comment is necessary on the change in the quantity of export of these food grains.

Our import of food grains is still unimportant, but it has increased since the war as shown by Table 71 on page 205.

The imports, though comparatively small, indicate a tendency which is worth noting. Imports of food grains into India have continuously increased and if the increase in the import of food grain, particularly rice into India from Burma,

* The total production of wheat in 1935–36 has been estimated as 9·44 million tons.

TABLE 71

Import of Food Grains, etc., in thousand tons

	Pre-War average	War average	Post-War average	1934–35	1935–36
Food grains, etc.	15	36	136	416	236

is also taken into account, the fact that India is importing increasing quantities of food grains becomes clear. Imports of food grains into India from Burma are given in the following table :—

TABLE 72

Imports of Food Grains into India from Burma
In million tons

	Pre-War average	War average	Post-War average	1934–35	1935–36
Rice	0·60	0·97	0·80	2·20	1·75
Pulses, etc. ..	0·02	0·02	0·06	0·06	0·08

These figures show that India has in the post-war period become to an increasing extent a food-importing country, and her internal food supply has fallen short of her requirements. This may be taken to mean that India is increasing its production and export of non-food crops and non-agricultural commodities and therefore that the increasing imports of food grains from foreign countries and Burma need not be a matter of any concern. As a matter of fact the post-war averages of the exports of commodities like cotton, cotton piece goods, jute manufactures, tea, iron and steel and other minerals are much higher than the pre-war averages and the import of sugar, an important article of food, has practically stopped. The shift in our economic life indicated by the increasing volume of imports of food grains may therefore be taken as a

sign of the increasing commercialization of our economic life. That it is, but the fact remains that in spite of India being predominantly agricultural and the area under food grains being about four-fifths of the total cultivated area of the country, India is now importing increasing quantities of food grains, the consumption of which, owing to the miserably low standard of living of our people, is by far the most important item in their family budgets. The fact is significant and has an important bearing on the population problem of the country.

India is predominantly an agricultural country and will remain so even if its industrial possibilities are fully realized. But in order to appreciate clearly the economic position it is necessary to review the position of trade and industry of the country and trace the course of their developments. The figures of the growth of India's overseas and coastal trade, of railway traffic in goods and passengers, of mineral production and output of large-scale industries and financial statistics are available and will presently be given and analyzed. But India, in spite of its development on modern lines, still remains a country of small, mostly cottage industries and her internal trade is far more important than her external trade. The development of factory industries has taken place to some extent at the expense of cottage industries. Figures of internal trade are available but are incomplete and, in spite of the general and growing interest in and solicitude for the well-being of cottage industries, no statistical information is available of the output of these industries as a whole. We also do not know the production of milk and other dairy articles, of sea and fresh water fisheries, and of numerous other occupations which are so very important in the economic life of our people. How the growing population of the country has been faring in respect of these industries is not and cannot be known.

The gap is important and makes it impossible for us to say whether with the increase of numbers apart from the changes of agricultural production, there has or has not been taking place a proportionate improvement in the economic conditions of the people. All that can be done is to take such figures as are there and see how much economic progress has been achieved.

The industries in which considerable progress has been made and which, therefore, have created some avenues for the employment of the growing population, are cotton, jute, mineral production, iron and steel, tea, coffee, rubber, lace and lately under the stimulus of protection, matches, cement and sugar. The list is not exhaustive but includes all the principal industries the development of which is of interest from the standpoint of population.

The figures of production of the industries in which development has been most remarkable are given in Chapter X, so far as they are available. The progress recorded by them is striking and in some cases very rapid indeed. The development of these industries is of interest from the point of view of productive efficiency and employment. The use of power and mechanization of production have, of course, raised the standard of efficiency by increasing the output of the workers and therefore contributed to the economic prosperity of the country. In what proportion production as a whole has increased by the development of these industries can only be measured by knowing the proportion of the output of these industries to the total production of the country in the base year and the selected year and also the effect of their development on cottage industries. The small-scale industries which have had to face severe competition by the development of mass production in the country are cotton, sugar and iron. There are others which have also to reckon with new competitive factors at home ; but among the industries under consideration here, the three referred to above are important. How the latter have been affected by the production of machine-made goods may be inferred indirectly to a certain extent, but cannot be known for a fact and it is not possible to measure the extent of their loss as in most cases, or gain. The loss whatever it is has to be set against the gain and as it is not and cannot be known, the balance cannot be struck.

The same is true of assessment of the effect of the development of these industries on the total production of the country. It cannot be known what is the relative importance of their production to the total production, because the latter is an unknown and unknowable quantity. Several estimates of

national income* and the proportion of the income from the organized industries have been made, but they are all open to serious criticism and cannot be used for forming an opinion of the relative importance of these industries in the whole economic life of the country. In other words, we have no data for assigning the large-scale industrial production its proper " weight " in estimating the effects of its increase on the total resources of our people. That the increase has been considerable is clear from the figures given later in Chapter X.† That the relative importance or " weight " to be attached to this increase is small is also known from what we know of our economic life. But how small this weight should be cannot be measured statistically and therefore the extent to which the expansion of these industries has provided the means of subsistence for nearly 45 million persons added to the population of British India since 1901 cannot be assessed.

As it is not possible to know the extent to which the growth of large-scale production has afforded relief from the pressure of population by the increase of output, the increase of employment created by it may be used as an index of its contribution to the support of our growing population. The table on page 209 gives figures of the number of workers in mines, factories, plantations and railways for the period from 1901 to 1931. These figures give, owing to the extension in the scope of factory acts since 1901, an exaggerated idea of the extent of the increase in employment which has taken place by the development of these industries, but taking the figures at their face value and without making any allowance for the decrease of employment owing to the decay of small industries caused by the growth of mass production, we find that these industries in 1931 were employing two million more workers than in 1901. The pace of industrialization in India has been accelerated in the post-war period and we are well on our way to becoming self-sufficient

* Nine estimates of the national income of India, converted into average income per head of population, are available. The first of these was made in 1868 by Dadabhai Naoroji and the latest by Findlay Shirras in 1931. All of them are, as stated in the text, open to serious criticism and suffer from grave defects of material and method—more of material than of method—and are of no use for assessing the relative economic position of the people in different periods.

† Vide Tables 77–81, and pp. 263–269.

TABLE 73

Number of Workers in Large-scale Industries
(in lacs)

	Mines	Factories	Plantations	Railways
1901	0·88	4·70	6·38	3·70
1911	3·07	7·90	7·41	5·43
1921	3·55	12·30	10·02	7·49
1931	3·45	15·20	10·80	7·77

Total 1901 .. 15·66 lacs
1911 .. 23·12 ,,
1921 .. 31·19 ,,
1931 .. 35·81 ,,

with regard to the production of a number of important commodities, but in spite of this progress, the industries which have been created or developed since 1901 have provided work and subsistence for just over two million persons or less than one-twentieth of the increase of our population since 1901. Industrialization has been and is regarded as the most important measure for the reduction of pressure on the soil. The possibilities of industrialization are far from being exhausted in this country, but the considerable measures of industrialization already achieved have provided employment for only a small fraction of the increase in population in the three decades since 1901.

Besides agriculture and industry there are other indices of economic life which can be used to show the trend of forces in the economic life of the country. The external and internal trade have made rapid progress and though owing to the set-back caused by the depression and the restrictive trade policies adopted by the various countries, our trade has suffered a decline since 1930–31, our position in international trade is now distinctly stronger than it was in 1900. The figures of internal trade are incomplete and not available for the whole period, but taking the figures of railway passengers and goods traffic and those of the coastal trade as indices of the tendencies at work, the development of internal trade has also been

considerable. The available figures of internal and external trade are tabulated below. But with regard to trade, again

TABLE 74A

Value of merchandize in Sea borne Trade
(In crore of Rupees)

Quinquennial averages	
1899–1900 to 1903–04 ..	210
1904–05 to 1908–09 ..	285
1909–10 to 1913–14 ..	376
1914–15 to 1918–19 ..	385
1919–20 to 1923–24 ..	573
1924–25 to 1928–29 ..	605
1929–30 to 1933–34 ..	360

TABLE 74B

Internal Trade since 1900

	Railway Traffic		Coastal Trade
	Passengers (million)	Goods (million tons)	Crore of Rupees
1901	195	43	87
1905	271	59	191
1910	372	66	113
1915	464	82	113
1920	559	88	217
1925	599	80	213
1930	634	87	203
1933–34 ..	490	77	142

In both internal and external trade the marked decline since 1930 is due to world factors.

it is not possible to state the extent to which the growth of trade has provided the means of subsistence for our growing population. The proportion of population dependent upon trade has remained at about 7 per cent. since 1901, which may be taken to show that the relative position of trade in our economic life has remained about the same; but its importance depends more on the extent to which the amount of our national income and its distribution have been affected by the expansion

of internal and external trade and on that point unfortunately the available facts do not give any conclusive answer.

The financial statistics of the country also record progress which, relatively speaking, is satisfactory. The figures of postal saving bank deposits, of postal cash certificates and deposits of the Imperial and Joint Stock Banks, Working Capital of the Co-operative Banks and paid-up capital of Joint Stock Companies are given in the following table :—

TABLE 75

Growth of Capital Resources in India
(Crore of Rupees)

Year	1 Postal Saving Deposits	2 Postal Cash Certificates	3 Presidency Banks or Imperial Bank Deposits	4 Joint Stock Banks Deposits	5 Paid-up Capital of Joint Stock Companies	6 Working Capital of Co-operative Banks
1900	10	—	13	8	36	—
1905	14	—	22	12	42	—
1910	17	—	32	26	65	2
1915	15	—	39	18	85	10
1920	23	4	78	71	158	24
1925	27	21	78	54	268	46
1930	35	35	76	63	275	82
1934	52	64	74	72	288	85

The position, relatively speaking, is of course much better. How far the improvement is due to a change in the banking and investing habits of the people and how far to the increase of investable funds it is impossible to tell. That a change has taken place in the banking and investing habits of the people and that they deposit and invest their surplus funds instead of hoarding them is clearly indicated by these figures, but a certain proportion of the increase in deposits and capital investments must have also been due to an increase in the surplus resources of the people. As the proportionate contributions of the two factors to the increase of capital funds of the country cannot be ascertained, all that is possible is to take note of the actual

increase in these funds that has taken place. The increase is considerable, but has no bearing on our population problem. It is necessary to say so because such tables given in the Census Reports generally convey a misleading impression of the increasing prosperity of the country. The figures tabulated above are no index of the increase of our national wealth. They do show that the people are " dehoarding " and acquiring the habit of investing their funds, but without knowing the proportion of this increase attributable to the increase of saveable surplus, no valid inference can be drawn from the above table regarding the relation of population and resources in the country, and the increase of capital funds indicated by the table has merely to be noted as a fact of our economic life.

This short review of the growth of agriculture, industry, trade and finance shows the extent of progress which has been achieved in the last three or four decades, but the deficiencies of statistical material make it impossible to give even a very rough indication of the relation between the growth of wealth and of population and state whether the former has or has not been keeping pace with the latter. In agriculture, the basic industry of our people, there is reason to believe that pressure of population on the soil has been increasing and the extension of cultivation and the improvement of crops has fallen short of the needs of our people. The development of large industries, trade and finance has been considerable, but it is doubtful whether their contribution to our national income can be regarded as a material relief from the increasing pressure of population.

It is now authoritatively stated that the materials for measuring our total national wealth or income* are not available. The materials were even more defective in earlier years and therefore it is more difficult to get anything like a comparative view of the relation of population to our resources, i.e. to estimate whether in spite of the growth of population the general level of prosperity in the country has or has not risen or rather whether the poverty of our people has or has not become more acute on that account ; for the conception of

* Vide *A Scheme for an Economic Census of India*, by Bowley and Robertson, chapter II.

material progress in India has still for the present and for a long time to be a negative one. It is not in terms of increase of prosperity that we can think or speak. We have, as a matter of necessity, to relate our thinking and reasoning to what Patten, an American economist, calls " pain economy," to the distressing facts of starvation, disease and death. In plain words the problem with which we are confronted is not whether we are getting richer, but whether we are not getting poorer. That, however, does not change the bearing of the fact of deficiency of information on the points of issue, and the bearing is that the relative economic position of our people in the face of the growing population cannot be indicated. We do not know whether their lot has become more or less miserable in the last forty or even nearly seventy years, taking 1871, the year of the first census, as our starting point. The facts on the basis of which a fairly conclusive answer may be given are simply not available.

But it may be questioned as to whether it is at all necessary to state the relation of the growing population with the economic position of our people. Why bother about whether they are poorer or not ? Is it not enough to know the absolute fact that the bulk of them are incredibly poor ? The statistics for the purpose of assessing and stating the relative position of the people may not be available, but there is an over-abundance of facts in the published official reports and, what is far more important, in the every-day life of the people to show that the average level of existence in this country is hardly human and the people have got accustomed to a state of things which are a discredit to themselves, the community, the Government and the whole social system under which they have to live. That is undeniably true and cannot admit of any dispute. Whatever the relative position of our people, the actual conditions under which they have to live being what they are, no array of figures is necessary to convince any earnest-minded person that an increase of population under these conditions is not in the interests of the community and the unborn generations.

The point which matters however is not the conditions as they are but as they can be. The economic conditions of the people are distressing and their numbers large, but the existing popula-

tion has to be supported with the available resources and every possible attempt made to alleviate their suffering. Immediate hope of relief, however, lies not in the reduction of population, but in the further development of resources. Economic prospects are more important than the present economic position. What are the possibilities of the development of agriculture, industry and trade ? What is the bearing of the population factor on those possibilities ? Are the existing conditions and the future outlook independent of the growth of population ? Will the slackening or acceleration of the rate of its growth have any effect on the development of resources ? The existing resources and population are to be taken as given facts and cannot be other than they are. It is the extent to which we can realize the possibilities of development which will determine the lot of our people. We have, in other words, to bank upon the future owing to the non-existence of any reserve in the present.

The prevailing belief is that India's economic possibilities are great, almost unlimited. Economic development, it has to be borne in mind, is not merely a matter of resources. The remarkable progress of Japan has been achieved in spite of the well-known poverty of her resources and the even more remarkable progress of Soviet Russia shows how important are organization and driving power in the economic development of a country. Resources remain dead assets until human forces are mobilized for turning them into sources of sustenance and strength. In India we are keenly alive to the difficulties of making headway against the evils of ignorance, poverty and disease owing to our political subjection. But it is not realized as clearly as it ought to be that our progress is inhibited as much by other vital facts inherent in the existing economic and social system as by the absence of political freedom. Our economic prospects, i.e. our ability to provide adequately for the needs of our existing and growing population, depends upon our ability to make appropriate and adequate economic and social changes in the whole economy of our national life.

The economic outlook of the country must, therefore, depend upon whether our economic system can be so modified or adapted as to release the productive forces of the country from

existing inhibitions. Discussion of this all-important point is undertaken in the next two chapters. The discussion rests upon the estimate not only of the facts but also of the possibilities and, therefore, involves points which are a matter of opinion. I must, of course, base my conclusions upon my own opinions. I shall, however, try not only to state my views but also, within the limits of the available space, explain my reasons for holding them.

Chapter IX

ECONOMIC OUTLOOK, I

IN the *Report of the Joint Select Committee*, 1934, the common official view is that " it can be claimed with certainty that in the period which has elapsed since 1858 when the Crown assumed supremacy over all the territories of the East India Company, the educational and material progress of India has been greater than it was ever within her power to achieve during any other period of her long and chequered history." This has been put forward as a vindication of the British rule in India. But in spite of this unprecedented progress India is still one of the most backward countries. The extent of ignorance, disease and starvation is almost incredible and, in the words of Pandit Jawaharlal Nehru, the lot of the peasant, that symbol of India, is to be " born to Endless Night."

When we look ahead to see how far it is possible to provide conditions of healthy, progressive and creative life for nearly four hundred million people of India—who normally can increase, in spite of the appalling conditions under which they have to live, at the rate of one per cent. every year, a rate at which the population can double itself in sixty years—we have, it is worth repeating, to realize the depth of misery and destitution from which they have to be raised. It is not enough that our resources should grow in the same proportion as our population. That, of course, would mean that posterity would be condemned to the grinding poverty of the present generation. Their lot, if the proportion can be maintained, will be no worse, but that would be a very poor solace. The maintenance of the existing standard of living in India cannot but be an exceedingly uninspiring object of our national endeavour. The people of India are capable of rising to any height to which the people of any other country have risen or can rise. They have the necessary stuff in them. But the economic, political and social obstacles in the way of full development have to be duly reckoned with; and while they are there, we cannot assume that for our growing population we will be able to draw upon

potential reserves or realize in full the possibilities of development.

As stated at the end of the last chapter, we are fully aware of the fact that the lack of political freedom is a very important cause of our retarded or arrested progress. We know that we cannot even attempt the stupendous task of bringing about the fullest development of the country until we have attained complete political freedom. Whatever be our opinion of the Government of India Act, 1935, even Sir Samuel Hoare, its author, would not call it a charter of liberty. The view that it will prolong the period of our subjection and postpone our deliverance, if its underlying purpose is realized, is very much nearer the truth, and has the support of almost all politically minded people in India. Provincial autonomy has, relatively speaking, increased our political power, and owing to the growing strength and effectiveness of the national movement and the extreme precariousness of the international situation, the power has been and is being used to some advantage. But fortunately very few people cherish the illusion that provincial autonomy can pave the way to Swaraj. We have gained strength, experience and confidence and they are all invaluable assets for the future. But they have also given us a truer insight and we know that we have a long way to go before we acquire anything like complete mastery of our own house.

The bearing of this fact on the economic outlook, of course, is that the period that lies ahead of us must be a period of unremitting struggle to regain our political freedom. The forces at work which have to be taken into account in the struggle are of a diverse character. The world situation is almost bewildering in its complexity, but as might, as distinguished from right, is gaining ascendancy, we cannot count upon world forces working in our favour. The obvious imminence of a world war caused by the irreconcilable claims of rival and heavily armed powers may, within certain limits, give us an advantage in political bargaining ; but every student of contemporary history knows that the reactionary forces in every country are more than ever willing to make common cause and bring about adjustment of their mutual differences in order that progressive forces may be held in check and, if possible,

suppressed. The fate of Abyssinia and China and the tragedy which is being enacted in Spain are a warning to the "dispossessed" countries against relying upon the trend of world affairs for their emancipation. It is more likely that the 'satisfied" powers will meet the "dissatisfied" ones more than half way and an unholy alliance for the maintenance of the dominance of all of them will be the result.* International politics has become more than ever a game of maintaining the balance of power; and the balance which has to be struck is not only a balance among great powers but also a balance against the world-wide upsurge of the dispossessed masses for creating and establishing a new world order based on justice and co-operation. The position is obscure and the issue of the struggle now in progress uncertain; but without assuming that the reactionary forces will win, it is necessary to realize that although we in India cannot help being drawn into the vortex of world forces, we cannot count upon them for our political emancipation or even take it for granted that they will create a situation favourable to it.

That, of course, means that we have to rely almost entirely upon our strength for winning our freedom—a conclusion which we have already taken to heart from the experience gained in our own political struggle. But besides the re-alignment of forces, which is taking place elsewhere and which increases enormously the difficulty of our task, we have to realize that the same process is at work in our own country. Reactionary forces are rallying and being rallied together by the force of circumstances and the design of our masters. Swaraj has become an ideal for all in India, and our British rulers, Princes, landlords, moneyed classes and liberal politicians profess as much sympathy with it as the most ardent nationalists in Congress ranks. But Swaraj has come to be all things to all men. The view that nothing should be done to divide ourselves when political power has still to be won is right; but coming freedom is casting its shadows before and those, to whom the freedom will mean loss of their privileged position, are ranging them-

* This was written long before "peace with honour" was concluded by Great Britain and France at Munich. The gloomy forecast made here has practically literally come true and made the outlook for the world gloomier than ever.

selves against the forces working for freedom. It may be hoped that India will be spared the horrors of a civil war, for of all countries India, owing to the strength of disruptive elements in our national life, can least afford to run that risk. But as Jawaharlal Nehru has put it, the price of protection guaranteed by others is political subjection. Against that risk we have to be vigilant and provide safeguards from within; but to expect that in the next phase of our political struggle we can carry all classes and sections of the people with us and maintain a common front, irrespective of their interests and affiliations, is a vain hope for which there is no justification in the facts of the case.

The point to which the above consideration leads us is that in the near future the struggle for political power is going to be the dominant fact of our national life. It will not only have to animate all our efforts and engross our energy, but our policy and programme will have to be shaped in accordance with its needs. Our economic policy, to the extent to which it lies in our hands, will have to be directed to strengthen our hands in the struggle. We cannot embark upon any all-round programme of economic reconstruction. We have not got the power to draw up such a programme, much less put it into effect. And we cannot afford to let measures of economic improvement divert us from the pursuit of the supreme aim of national freedom. That does not mean that economic measures are not important and will have to wait until political freedom has been won. The reverse is true. Politics draws its sustenance from the facts of economic life and is limited by them. All the powers that we have or may get should be used for tackling economic problems. But it is not the solution of those problems that matters just now because, as things are, they are well-nigh insoluble. It is the method of approach and its effect upon our political struggle that is all-important. The approach has to be economic and used for winning the confidence of the masses. It is not possible to relieve or even mitigate their misery to any appreciable extent, but they can be made to feel that the struggle for freedom is being conducted in their interest and for their good, and they have to throw the weight of their numbers on its side and give it a reality and

purpose by making regard for their interest its all-absorbing motive.

The direct outcome of the new approach which is already being increasingly adopted, will be not only that the British Government in India will depend more than ever upon the support of vested interests, but vested interests themselves will become more and more reactionary. It is a bad strategy to raise issues which cannot but create confusion of counsels or lead to dissipation of energy. But if politics is to mean action and not merely talk, the increasing reality of our political struggle is bound to lay bare antagonisms inherent in the existing economic system. We should avoid any conscious intensification of these antagonisms, but we cannot ignore them or proceed on the assumption that they do not exist. That would be very unreal politics.

This digression into politics could not be avoided because in estimating our economic prospects we have to take into account the political forces at work. They will set the limits within which economic changes can be brought about and determine their nature and content. Reference to the existing political situation is, looked at from that point of view, not a digression at all but a very relevant fact of the matter. " In all things essential unity, in things non-essential liberty and in all things charity " is a very wise maxim of thought and action. In the present circumstances of our country it is absolutely essential that our conduct should be based upon it. As a matter of fact, we can go further and even in things essential do our best to combine liberty and unity. But the essentials must on no account be lost sight of, and it is the essential fact of the situation that economic measures will, as a matter of necessity, have to be carried out with political intent, and influence and be influenced by the earnestness and reality of our political struggle.

If the above view is correct, it is clear that in the next decade or two the unity of policy and programme which is essential for carrying out any large-scale scheme of economic development will be lacking. The parties concerned, viz. the British Government, the Indian political leaders and their allies, will have to look at every proposal from the point of view of their

relative political positions ; and though on occasions they may act together for tactical reasons, the unity will last as long as the need for it lasts and the underlying acute divergence of aims and purposes will make itself felt again and again and be in perspective all the time. Thus divergence and its consequences are vital elements in the economic situation and have to be allowed for in our economic anticipations.

This argument has a direct bearing on the proposals for economic planning which are enjoying at present a great vogue in India as elsewhere. Everyone in India, except Sir James Grigg, the redoubtable Finance Member of the Government of India, is for planned economy. Sir George Schuster, his predecessor, advocated it with great fervour and invited Sir Arthur Salter to prepare a scheme for its introduction which he did after a few months' stay in India. Mr. D. G. Birla, the great Marwari industrialist of Calcutta, finds in it the solution of Indian economic problems and has indicated the lines on which planning is to be carried out. Pandit Govind Balabh Pant, now the Congress Premier of the U.P. is a staunch adherent of planning, and his party in the Legislative Assembly took strong exception to the appointment of Professor T. E. Gregory as the Economic Adviser, among other reasons, on the ground that he was against planning. Mr. C. Y. Chintamani, the well-known Liberal leader of Allahabad, moved a resolution in the pre-Provincial Autonomy Legislature of the U.P. urging the preparation of a five years' plan for that province, and Sir J. P. Srivastav actually did produce a scheme which the change of ministry made it impossible for him to put into effect. Owing to the reputed results achieved by the successive Five-Year Plans of Russia, the introduction of the Four-Year Plan in Germany and similar proposals in a number of other countries and, of course, the advocacy of planning by men of high standing belonging to so many different schools of thought, the opinion that counts in India would, if a referendum on the subject were taken in this country, be found to be overwhelmingly in favour of planning.

It would be idle to deny that planning of some sort is possible under the existing or any other conditions in India or elsewhere. Any time table of individual or collective life is planning and

any public authority from the village Panchayat to the Government of India can draw up a schedule for the execution of public policies over a certain number of years—say five—carry out the policies according to the schedule and call it planning. The programme of investment of Rs. 150 crores adopted in 1921 by the Railway Board and put into effect in five years was in the above sense a Five-Year Plan. And any Provincial Government can, within the limits of its powers and resources, adopt a programme of development, e.g. the establishment of health centres, the increase in the number of schools or the creation of village Panchayats and rural uplift centres, extending over five years and also call it the Five-Year Plan of the Province concerned. Such Five-Year Plans will also require a great deal of thought and work and our Provincial Governments would do well to give a purpose and certainty to their beneficient endeavours by adopting a programme of development in the first term of their office, which too, happens to be five years. In that sense we can and should have our Five-Year Plans. They will involve foresight, elaboration of a unified policy, adjustment of means to ends and should therefore produce good results.

But economic planning, as the phrase is understood, involves a great deal more than carrying out a programme of development according to schedule. The phrase has become as current as it has because of the promises implicit in it of a different and far better social order. The new social order is generally assumed to be a socialistic order. But that need not be so. "All Equalitarian States," as Professor T. E. Gregory, the present Economic Adviser to the Government of India, puts it, "must to some extent be planned, but not all Planned States need be equalitarian."* According to Professor Gregory all Socialist States must be equalitarian States, but that is a misconception of the socialist theory and practice. It is well known that the only Socialist State, i.e. Soviet Russia, does not aim at or practise absolute equality of incomes and in this it is true to the essentials of Socialism. But the point which is relevant here is that all planned states need not be socialistic.

* *Planned State and the Equalitarian State.* Lecture delivered before the Ethical Union, London, p. 5.

They must, however, stand for a clear, well-defined ideal of social economy, otherwise coherent planning is impossible. Soviet Russia has, in the words of Mr. and Mrs. Webb, " what most governments lack—a fixed purpose of social change to be persistently pursued and relentlessly fulfilled at whatever cost or sacrifice. This purpose they themselves describe as the creation of a new social order, 'the classless state'."* The ruthlessness with which the Russians have fulfilled their purpose and the sacrifice which they have made or inflicted in doing so have given rise to extreme differences of opinion; but their achievements, which even their relentless critics admit are remarkable, are due to their having pursued a fixed purpose of social change. " Logically," to quote Mr. and Mrs. Webb again, " planning implies a purpose outside itself, a purpose to be decided on and determined by human will."† It is possible to create a state of any variety within the limits set by nature and social environments, according to the values which commend themselves to and inspire the architects of a new social order; but it must have a purpose and the plan must be put through in accordance with it.

Russia has a plan because Russia has a purpose—a purpose with which every action and policy of the Soviet State is instinct. And any country which wants to achieve results on the scale achieved by the Russians must also have a purpose. The plan, it must be repeated, need not be socialistic. It may be based on a different set of values. In India we may have " Ancient Scientific Socialism " which Dr. Bhagwan Das advocates, or base our economic system on the theory of " trusteeship " which Mahatma Gandhi favours. I regard both as impracticable and anachronistic, but that is a matter of opinion. What matters is the recognition of the fact that India can have no economic planning in the real sense of the word unless India has a definite directive ideal of its own.

That ideal India has not framed and as things are, she cannot frame. That is due, of course, to a lack of agreement as to what should be the essentials of the new order for which India must work. The absence of agreement among our

* *Soviet Communism* by Sidney and Beatrice Webb, p. 603, Vol II (1st Edition). † *Ibid*, p. 631.

political leaders is partly due to the fact that the need for it does not exist. Indians are not in a position to establish a new order. We do not possess the necessary political power and its acquisition is not even in sight. It seems hardly worth while to think in terms of an order the prospect of establishment of which must for the present remain very remote. But the other reason for the absence of this agreement is that even in the realm of thought the urge to envisage a new order does not exist. We can think of a united India, an India which will revive her past glory and take a place of equality among other nations. Our disunity, our present abject position and the contempt in which we are held by others, make such a consummation an object of our devout wishes and has given and still gives vitality to our national movement. But that is not the stuff out of which a clear conception, even in its outlines, as to what the India of our dreams and efforts is to be, can grow. The exigencies of our national struggle and the impact of world forces have created the need of having such a conception. That is why Jawaharlal asks the question " Whither India ? " and gives his own answer to it with increasing clarity and earnestness. That is also the reason why the socialist movement and its allied organizations have come into being and are gaining strength rapidly. But Jawaharlal, in spite of his mental vigour, extraordinary energy and tremendous influence, has not converted Mahatma Gandhi and his other colleagues to the need of defining our objective, and the Socialist Party though a growing force, is still only a portent and not an instrument of action.

It is possible to state, as the authors of the Wardha Education Report do, that education must help to bring into existence " the new social co-operative order to replace the present competitive and inhuman régime based on exploitation and violent force." That is hopeful as an earnest of the desire for social change but carries us only a small way. What is the new social co-operative order going to be which education is to help to bring into existence and which presumably other formative forces will seek to establish ? What is meant by exploitation and what is it going to be like when it has been ended or replaced ? Are we in a position to end or replace it

with such power as Provincial Autonomy has placed in our hands? These questions the authors of the Report neither raise nor answer. But the new education, if it is to be really creative, must be based upon fairly clear answers to these questions. It may be that it is premature and even unnecessarily distracting to raise such issues. Possibly it is. But if it is premature to clarify these vital points, it is much more so to speak of economic planning as the method of economic development. It may be sufficient for the time being to say that we will wait for India to be free and work for that end. In that case we have to plan for freedom and not for a new social order; and if freedom cannot be won except by mass action in one form or another we have to pursue a line of action which will give the masses a faith in the national movement and organize them for the struggle for freedom.

The other essential condition of economic planning is that the economic policy of the country has to be planned as a whole. The plan in order to be effective must be comprehensive. Professor Robbins, who has no faith in planning but understands its implications, has said that, "planning involves central control and central control excludes the right of individual disposal."* Central control need not and ought not to be centralized control, but for the preparation and execution of any plan of all-round development central control is essential. Instead of central control in India it looks as if we are, if the present tendencies continue to operate, going to have control of public policies from two mutually suspicious centres. Congress controls seven provinces and may acquire control of more, though two or three are likely to remain non-Congress for some years. The Secretary of State through the Governor-General controls all the Governors and through the Political Department exercises control over the Indian states in varying degrees. Congress has been warned by Lord Zetland against the dangers of enforcing a uniform policy on all the provinces under its control. Dangers there are, and Congress will have to give and is giving a fair amount of latitude to every province to adjust its policy to local conditions; but it is difficult to conceive how in existing circumstances the Congress High

* *The Great Depression*, by L. Robbins, p. 146.

Command can help keeping all the main strings of power in its hands without condemning itself to futility. The central control exercised by Congress cannot but have a stiffening effect on the Government of India and will lead them to tighten the control over the Provincial Governors and frame their policy in matters subject to their direct control with a view to consolidating their position still further.

The Federal scheme is, as a matter of fact, a measure of consolidation. The reservation of Defence, External Affairs and Ecclesiastical matters, the creation of the Reserve Bank and the Federal Railway Authority and placing them outside the control of the responsible ministers, the adoption of indirect election for the Federal Legislature and giving the nominees of the Rulers of Indian States and the representatives of special interests a position which will make it possible for them to defeat all progressive measures and policies—and which from the experience of the past, it may be assumed, will be so used—are all devices for holding the progressive forces in check and strengthening the reactionary ones. Federation is viewed with universal suspicion in India, because of the certainty of its becoming a bulwark against the force of progress. The Federal Government, instead of working for the harmonious development of the country and providing the necessary measure of co-ordination of economic policies, will use its power and authority to prevent the Provinces from initiating and carrying out any measures of comprehensive reconstruction.

The Federal Government will be in charge of Tariffs, the Railways and the Currency and Credit of the country. Any plan, which is designed to bring about an all-round development of the country, must include measures which will involve the use of these powers. The Indian States, five hundred and sixty of them, will be autonomous in internal affairs and apart from the fact that a vast majority of them are too backward and too small to plan or be planned for, there is no chance of their collaborating in any scheme of economic planning on a national scale. They may accede to Federation in their own interest or under the political pressure to which they have been and are amenable; but there cannot be any possibility of their becoming willing and enthusiastic partners in any plan for the

economic development or reconstruction of the country as a whole. And as regards the Provinces, their autonomy can be used as a measure of national planning only to the extent to which they submit to measures of central control and co-ordination. The Congress Provinces may, and probably will, be willing to carry out a national plan; but if the Provinces of Bengal, the Punjab, Assam and Sindh remain non-Congress,* national planning cannot but be an impossible proposition. If Professor Robbins' view that planning involves central control is right, as it undoubtedly is, the one essential condition for introducing national planning must not only be taken to be non-existent, but as things are, beyond the range of practical politics.

The political situation in India is a relevant consideration in the discussion of the question, because planning is impossible without unity of objective, purpose and action. India is passing through a period of struggle for complete political freedom. The struggle is likely to become more intense and involve even greater conflicts of interests and purposes than exist at present. At a time like this the only thing that matters is the success of the struggle. The prospect of success may improve by the adoption of certain economic measures and policies and it will be necessary to introduce them if that lies in our power. But our future is incalculable and will be determined by the course of events which we can neither foresee nor control. We are living in a world in which, in the words of G. D. H. Cole, " within far less than ten years the entire situation in Europe (the world would be more appropriate) will almost certainly have so changed that nothing that can be said now will have any relevance."† Yes, whatever we can say now will become irrelevant in far less than ten years and that is as true of India as of Europe or the rest of the world. It is really truer of India, for to the uncertainties of the world situation we have to add grave uncertainties of our own.

* Since this was written Assam and Sindh have become nearly and quasi-Congress respectively and in Bengal the position of the present Government has become very shaky. That shows the growing strength of the progressive forces but does not indicate that central control can become a practical possibility in the near future.

† *What is Ahead of Us?* by G. D. H. Cole and others, p. 40. (George Allen & Unwin).

In view of the considerations referred to in the preceding paragraphs it has to be taken for granted that planning, using the word to mean rapid economic development of the country involving a comprehensive reconstruction of our entire national economic life, is out of the question. A country which finds itself in the throes of a political struggle, the end of which cannot be foreseen and whose future is altogether uncertain owing to the extreme obscurity of the position at home or abroad, cannot possibly undertake the overhauling of its economic and social life. Its supreme pre-occupation must be the acquisition of the power to shape its own destiny. The course which it has to adopt to achieve this end has to be set by the different phases of the struggle and the disposition of forces, favourable or otherwise, and cannot be set by the choice of her people. In developing the necessary strength to achieve its object, re-adjustments have to be made and new instruments of effective action forged. But the re-adjustments and instruments cannot give us a new economic or social order. They can, if the necessary foresight and understanding of the trend of affairs are available, pave the way for it. But the advent of the order must wait until the country is in a position to realize the essential integrity of its national life and with it integrity of purpose.

It would have been hardly necessary to refer to this fact, much less to stress it, if the belief that India ought to work out her economic salvation through economic planning were not as widespread as it is. It is creating a confusion of thought and practice and raising hopes which are as illusory as they are misleading. By way of illustration references may be made to Sir Vesvesvarya's earnest advocacy of planned economy for India.* Sir Vesvesvarya has great concrete achievements to his credit. His record as an engineer, an administrator with a long and varied experience and an earnest student of our economic problems entitles him to the respectful attention of his countrymen, which he generally receives from the general public and the men in authority. Sir Vesvesvarya is for action without delay. He is not in favour of socialism and wants India to have a regulated and controlled capitalism like the one

* *Planned Economy for India*, by M. Vesvesvarya.

which has been the aim of President Roosevelt's policy in the last few years. But he is definitely of the opinion that for the introduction of planned economy and rapid economic development of the country, it is essential that a " Genuine Responsible Government " should be established at the centre, which according to him, must mean full dominion status. He is for the transfer of all political power to Indian hands with control of the army, foreign policy, shipping, railways, credit and currency. He proposes to " liquidate " all foreign privileges and interests by paying compensation in 20 to 25 years and to introduce complete Indianization of the army in 15 years. In his opinion without the establishment of a true national Government, " no constructive policies can be built up," for according to him, the present Government is, owing to its composition and spirit, incapable of any initiative or far-sighted policy on a large scale.

The view put forward by him is not new and will receive a general measure of agreement in this country. But the view that the British Government should be invited to agree to the transfer of political power and the abandonment of economic privileges according to an appointed schedule in, say twenty years, cannot but be regarded as naïve in the extreme. Now the appointed schedule is that our division of the Indian Army is to be Indianized by about 1945. The recruitment to the Imperial Service is to continue on its present basis for another five years when the question will be reviewed, but there is no chance of British recruitment being stopped in the future with which we are concerned. The Indian Army and military policy will, of course, be administered by the Governor General " in his own discretion " without any time limit whatsoever. This fact was brought forcibly home to us by Sir James Grigg recently when the right of expressing the Indian point of view on the defence policy of the country was withdrawn from the Central Legislative Assembly. That is the position now and it will not be changed by the British Government being invited to replace the present appointed schedule by another. So far as Indians are concerned, it has been much more than abundantly clear that the present régime is being maintained by force and without our consent. There is a

standing invitation to the British authorities to make room for "a genuine Responsible Government run by and for the Indians." The invitation is not lacking in warmth and sincerity but it has not been and, if the present position remains unchanged, it will not be responded to.

What Sir Vesvesvarya calls the "fundamental weakness" of the present position will, it may be assumed, remain unremedied. Indians will not be appointed to key positions, the Army will remain an army of occupation, the Rupee will remain linked to sterling and not, to use Sir Vesvesvarya's words, "find its own level" and the railway, fiscal and currency and banking policies of the country will be governed by considerations which do not commend themselves to him or the vast majority of Indians. There will be a fundamental variance between the policies of the autonomy Provinces and the centre and there is no prospect of the two, to use his words again, "being brought into unison with each other."

Sir Vesvesvarya wants to include the Indian State in his planned economy. But the facts cited by him are a proof positive of the hopelessness of such an undertaking. The average area of a state is 1,272 square miles and the average population 145,198.* There are only 38 States with a revenue of Rs. 20 lacs or more and though a state like Hyderabad with an area of 42,000 square miles and a population of nearly 13 millions might do something in the way of planning, the majority of the bigger states cannot possibly do much in that direction. There are 119 States with an aggregate revenue of 47·48 crores and the average per state is Rs. 8·66 lacs, and there are 444 others whose aggregate revenue amounts to Rs. 3·02 crores with an average of 68 thousand. Even if we leave out the States, which, in the words of the Butler Committee, are "minute holdings which yield an income not greater than the annual income of an ordinary artizan," a great majority of them are not large enough to have even an efficient administration for the discharge of ordinary functions and a greater majority of them are still standing, to quote from the Butler Committee

* "For the sake of comparison, it may be stated that the area and population of an average district in British India are 2,789 square miles and 690,908 respectively." *Ibid.* p. 311.

again, " upon their ancient ways " and will if left to themselves, take long to be " swept by the breath of the modern spirit."* There are a few really progressive States. The others are not only ruled according to feudal conceptions of government which, of course, are a negation of self-government, the existence of which, in Sir Vesvesvarya's opinion, is essential for the exercize of initiative for economic development, but their economic conditions are archaic in the extreme and the will to change them is practically non-existent. The times, it is true, are changing and the States cannot stand still ; but the vision of their changing fast enough to make planned " action without delay " on a national scale possible cannot be conjured up even upon a most optimistic view of the situation.

Apart from the difficulties in the way of planning arising from the small size, limited resources and political and economic backwardness of most of the Indian States, which in themselves are insuperable, there is, from the point of view of national planning, the supreme difficulty of introducing and developing an all-India plan in the States owing to the jealousy with which they have been and are guarding their " sovereignty." Paramountcy will remain paramount and the Viceroy, as His Majesty's Representative, will continue to exercise a large and undefined power of interference and control over the States ; but under the Act of 1935, the Federal authorities' power will be confined " strictly within the limits defined by the Instrument of Accession." The Instrument is still in the process of definition and revision, but it is certain that the process will, if anything, delimit further the sphere of effective action of the the Federal Authorities. Even granting that the Federal Government will itself be alive to the necessity of planning and eager to take the necessary measures, an inconceivable possibility in existing circumstances, it will not possess the power to carry out the plan. H. G. Wells' ever-recurring complaint is that geographical fragmentation of human politics makes concerted action for the well-being of mankind impossible. But the geographical fragmentation of Indian politics, which is

* In a few months, since this was written, the " breath of the modern spirit " has swept over a number of important States and more, it appears, are likely to be brought within its ambit, but the fact has only laid bare the real position without rectifying it to any considerable extent.

the result of the existence of 560 Indian States, is from the point of view of developing India as one economic unit, an even greater evil. There is a Pax Britannica over the Indian States as well as the Provinces, but though adequate as an instrument for maintaining suzerainty it will not lead to the fullest possible utilization of our economic resources for the welfare of our masses. For that a Pax Indianna has to be established which will not happen until the national movement acquires a strength and effectiveness which it does not at present possess.

Sir Vesvesvarya gives a picture of the immediate future which would appear to even the most ardent supporters of the existing régime to be somewhat overdrawn. According to him "the age of new capitalism—of balanced order and discipline, of co-operation within and between nations—is fast upon us" and he wants "India to drop off her age-long apathy, deficiencies and defects and evolve a plan of work that will help her to retain the best features of the individualism to which she has long been so deeply attached and yet build up to advantage that system of collective effort without which economic salvation to-day is all but impossible."* Sir Vesvesvarya wrote his book in 1934 and since then we have had Abyssinia, a ferocious international war in Spain, Japan's invasion of China, the rape of Austria, the betrayal of Czechoslovakia and the growing sense of imminence of a catastrophe which might overwhelm and paralyze the world for a long time; and even Sir Vesvesvarya would probably, in the light of these events, realize the necessity of revising the view that the "age of new capitalism—of balanced order, discipline and co-operation within and between nations is fast upon us." What is "fast upon us" is unknown, but the "capitalism of co-operation within and between nations" has receded farther than ever into the background and violent non-co-operation within and between nations is the order of the day. India too has to reckon with the menace. Let us hope that violent non-co-operation will not be India's lot, but the omens "for that system of collective effort without which economic salvation to-day is all but impossible" could not be more inauspicious.

It may be possible to create a hierarchy of economic councils,

* *Ibid.*, p. 387.

local, district, provincial and central, for which Sir Vesvesvarya and so many others show such enthusiasm, but it will be a useless and cumbersome skeleton into which it would be impossible to infuse life. Organization is necessary for planning but organization without life cannot but be worse than useless. It will be the *N*th wheel to a coach which has got stuck and cannot be drawn because the motive power, the sense of direction and the unity of objective are all lacking. H. G. Wells, who too is a great believer in order and planning, sees in the years immediately ahead, the greatest dangers to our hopes.* We have our peculiar difficulties and dangers owing to, to use Wells' phrase again, the fragmentation of Indian politics and the increasing earnestness of the struggle for political freedom. Though this is the most hopeful sign of the times, it will make the years that lie immediately ahead a period of divided counsels, divergent policies and concentration on the problems of power politics—taking the phrase to mean the problems of the transfer of political power from British to Indian hands. It may be that world forces will make the solution of these problems easier, but it is more probable that they will make it much more difficult. In any case, it would be far too optimistic to assume that economic planning, in the sense in which the word has been used in the foregoing paragraphs, is a practical political proposition. At present it is not; and in our estimate of the future which concerns us, we have to take the limitations of the existing situation as a given fact which must orient our economic outlook and limit our expectations.

Sir Vesvesvarya provides in his Ten Years' Plan for an increase of our national income from Rs. 2,500 crores to Rs. 5,000 crores and most of the increase, according to him, is to come from the development of industries. In agriculture he provides for an increase of Rs. 500 crores, from Rs. 2,000 to Rs. 2,500 crores. These estimates are purely hypothetical for, as stated in a previous chapter, estimates of our existing agricultural and non-agricultural incomes cannot be made owing to the lack of reliable data; and if the estimates of present income are hypothetical, those of the incomes ten years after the inauguration of the Plan must, based as they are on assumptions

* *The Work, Wealth and Happiness of Mankind*, H. G. Wells, p. 674.

which a realistic view of the present position makes invalid, be much more so. But these estimates assume that increase of our national income in the future must mainly come from the industrialization of our economic life. This view is shared by a large majority of our people. It is held, and rightly so, that unless we can take a considerable proportion of our population off the land, we cannot expect a material relief from the present distressing position.

But even in Sir Vesvesvarya's plan we can only expect the population supported by industries, large and small, to increase from 35 to 85 millions,* an increase which will involve almost an economic revolution in this country and create problems some of which are referred to below. But even if this hope is realized, that will still leave four-fifths of our population on the land, for it is almost certain that in 1948 our population will be not less than 425 millions. Nearly 330 millions will, as they do now, depend upon agriculture for their livelihood and their economic well-being will be determined by the return which they can get from it. That brings us to the point, which now no one disputes, that agriculture is and must remain the key industry of India. The prosperity of our people or its reverse must largely be determined by the possibilities of its development. The future of agriculture must be viewed in the light of existing circumstances and the changes which can be introduced in the years to come. Collectivization of agriculture or its tractorization with the possible increase in the return from agriculture may or may not be desirable, but changes of this order cannot be taken into account in our forecasts and calculations. They are not practical politics and therefore not practical economics. The changes, that we can and should base our calculations upon, are those which are already in progress and which may, perhaps will be, accelerated. That means that the changes worth considering are changes which the existing framework of economic society makes possible. That does not mean that the status-quo can be maintained indefinitely. It cannot and will not be, but its underlying principle will define the limits within which changes in agriculture and in other spheres of economic life will have to

* Vesvesvarya: *Op. cit.*, p. 295.

be confined for a decade or two, it being impossible to state with any amount of assurance what will happen thereafter.

The changes in agriculture which are within the range of practical politics are well known, but they may be briefly recounted. First among them is the introduction of scientific agriculture and includes the points to which the Imperial Council of Agricultural Research and the Provincial Departments of Agriculture devote their entire attention. They are better varieties of crops, better control of pests and diseases, better control of water supply for crops, prevention of soil erosion, soil research, better use of manures and fertilizers, better implements of cultivation and a better system of cropping, in particular a better rotation of crops. All these changes have as their object improvement in the yield of crops. The work on these lines has been carried on with varying degrees of success all over the country and it is on these lines that the work will, possibly with greater vigour, be carried on.

The introduction of improved varieties of crops through plant breeding, by selection and hybridization, occupies the most important place in the activities of the Agricultural Departments and, according to its latest figures, nearly one tenth of the total area under cultivation, or about 21 million acres, is reported to be under the improved varieties. In the case of sugar cane, on 80 per cent. of the area improved varieties are being grown; of jute, 50 per cent.; of wheat, 21; and of cotton, 19 per cent. In the case of rice, which is by far the most important crop in India, the area under improved varieties is only 4·3 per cent., and in the case of millets, which are collectively the next most important food crop, the proportion under the improved varieties is hardly ·34 per cent.* There is obviously plenty of room for the extension of improved varieties of crops and consequent increase in the agricultural produce of the country.

"The great need," says Sir John Russell, from whose Report the figures given above have been taken, "at the present time, however, is the greater and fuller use of the existing science than the development of new science."† With regard to the

* These figures are taken from the Report of Sir John Russell on the *Work of the Imperial Council of Agricultural Research in Applying Science to Crop Production in India.*

† *Ibid*, p. 6.

extension of the improved varieties the fuller use of the existing knowledge would involve the creation of a more adequate and efficient agency for the distribution of certified seeds of the improved crops. The creation of the agency and appointment of more officers charged with the duty "of bridging the gap between the experimental station and the cultivator" is mainly a question of funds though the selection of the right type of officers must, as Sir John points out, be an important factor in its success. In 1935–36 the total public expenditure on the Departments of Agriculture, Central and Provincial, was nearly Rs. 138 lacs, a sum utterly inadequate for promoting the fuller use of the existing knowledge. This expenditure could, with advantage, be greatly increased and with a change in the spirit of administration and replacement of the unduly expensive staff by equally well qualified but more sympathetic and economical staff, better return could be obtained for the expenditure of public money. But the increase of expenditure on this, as on other heads, will be limited by the inelasticity of provincial revenues. The new Provincial Governments may use their financial powers to the utmost, but owing to the rigid limits set by the poverty of the people, it is impossible, as is well known, for them to raise adequate funds for the development of agriculture and other vital services. It has become almost impossible to break the vicious circle in which the poverty of the people and the low level of taxation reciprocally limit each other and make the full development of the country a well-nigh hopeless task.

It is not necessary to say anything about the other factors upon which improvement in the yield of crops would depend. They are all important and the necessity of gaining more knowledge and making it available for the use of the peasant is as pressing in their case. Besides the limits set by the inelasticity of the financial resources of the Provinces, the poverty of the people limits the introduction of agricultural improvements so far as they depend upon the investment of funds. Something can be done by propaganda and demonstration and improvements which call for better farming but do not cost money can thereby be introduced; but most improvements require a larger outlay than the peasants can afford. The

wasteful practice of making manure into cakes and burning it continues unabated not because the peasant is not aware of its value as a fertilizer, but because, to quote from Sir John Russell's Report, " no other equally useful fuel is available." That of course means that the fuel that could be made available is beyond the peasant's means. The peasant needs education in order to know what improvements to make but he also needs funds and in most cases larger holdings to try out the improved methods with success. The officer who is to bridge the gap between the experimental station and the cultivator can give the latter the light which he may be lacking now, but he cannot increase his resources and the size of his holdings.

That brings us to one of the most fundamental difficulties of Indian agriculture, i.e. the size of holdings and their fragmentation. The difficulty and its seriousness is admitted. " The agricultural holdings of the Bombay Presidency," according to Mr. Keatings, " have to a large extent been reduced to a condition in which their effective cultivation is impossible," and the Royal Agricultural Commission, while endorsing this statement, adds that " in other provinces conditions are much the same." In the thickly populated Provinces of Bengal, Behar and the U.P. they are as a matter of fact much worse. Steps are being taken to consolidate holdings—to substitute compact blocks for a number of scattered fragments by exchange. A certain measure of success has been achieved in the Punjab and the C.P. but the progress has been and cannot but be slow owing to the nature of the difficulties to be surmounted and the voluntary basis of the schemes of consolidation. The other Provinces are giving similar schemes an important place in their rural reconstruction programmes. It is absolutely essential that this should be done ; but even if a certain amount of compulsion is introduced, it would be necessary to pay, to quote from the *Report of the Agricultural Commission,* " scrupulous attention to the wishes of the people."

The Agricultural Commission stressed the need for caution and pointed out that " in any scheme involving the uprooting of people from their ancestral fields full provision should be made for the utmost possible consideration of their opinion

and prejudices."* The ten years that have passed since these words were written have not made any change in the situation. The peasant to-day is very much more wide-awake than before, but the exchange of plots for creating compact blocks of land is not less difficult on that account. Whatever is possible should be done and with persuasion backed by a mild measure of compulsion, the schemes of consolidation should be proceeded with as vigorously as possible. The problem is not, as Sir John Russell points out, " peculiar to India ; other countries have had to solve it, but it has never been easy."† Sir John refers to consolidation in England in the 17th and 18th century after serious trouble, and in Poland where it is being brought about now with much objection from the peasantry. An authoritarian government might disregard the risk of " serious trouble " and " objection from the peasantry," but in India the authoritarian element is on the decrease and not increase in our government. The Agricultural Commission's advice that the opinion and even prejudices of the people should be respected in the matter of consolidation has, owing to the growing agrarian discontent, acquired a greater practical importance ; and if it is acted upon, we will have to be content with slow and inadequate progress in the consolidation of holdings.

Consolidation however, as is well known, will not take us far. What is needed is not merely consolidation of holdings but their enlargement in order that they become economic. Holdings in order to become economic must not only be compact, but much larger than they are in most cases. Consolidation will give compact holdings but will not increase their size except to the extent to which fragmentation makes cultivable land useless owing to the increase of area under demarcation boundaries which cannot be more than five per cent. If agriculture is to be a solvent industry and make use of the fruits of scientific knowledge for its rehabilitation, the tiny holdings of one to three acres, which are the rule all over the country, must be replaced by much larger holdings, by units on which effective cultivation may be possible. The

* *The Agricultural Commission Report*, p. 141.
† Sir John Russell's Report, p. 64.

size of these units will vary according to the nature of the soil, crops grown, irrigation facilities and other factors; but their size must in the vast majority of cases be at least three to four times larger than at present.

This too has to be done, and the simple and inescapable fact of the matter is that it cannot be done. That is not merely because the Laws of Inheritance cannot be changed. That would involve uprooting of the people which in existing circumstances cannot be attempted; but even if the people are willing to be uprooted, there must be provision for enabling them to take their roots elsewhere, to find alternative and better methods of making a living. If for effective cultivation it is necessary that the size of an average holding should at least be trebled, it is simple arithmetic that two-thirds of the cultivators would be displaced and would have to find places in other occupations. That means that of nearly 112 million agricultural workers, taking the 1931 figures for illustration, nearly 75 millions will have to be provided for if India is to be a country of small *economic* holdings.*

By legislation these holdings may, once created, be made impartible; but that would mean that any increase in population will have to be absorbed in non-agricultural industries. The facts have to be stated to show why it is impossible to create holdings large enough to make rational, scientific and economical cultivation possible. "The fragmentation (by which he means what is generally known as sub-division) of holdings is," says Sir John Russell, "a more deep-seated matter and may be incapable of remedy." As things are, it is incapable of remedy and "yet," he adds, "unless some solution is found, the rate of progress must be extremely slow."† This is the opinion of an eminent agricultural expert who has reviewed the whole agricultural situation recently. It may be possible to increase the yield of crops materially if the seven-

* Displacement will be necessary on the assumption that the remaining 37 million workers and their dependents will be able to provide the necessary labour for the cultivation of the entire cultivable area. That will require re-organisation, but if the existing science is put to the greatest and fullest use, there is no doubt that the change can be made and will be to the advantage of all concerned. But the change requires the absorption of 75 million workers in trade and industry—an impossible task in existing circumstances.

† Russell: *Op. cit.*, p. 64.

fold path referred to in the earlier paragraph is adopted; but the fact that progress in increasing the yield must be extremely slow unless a solution is found for the problem of sub-division of holdings has to be clearly understood. And, it has to be repeated, a solution of this problem cannot be found.

The problem of rural indebtedness presents another difficulty with which the various Governments in India have been and are struggling in vain. The new Provincial Governments are scaling down debts, rendered necessary by the fall of prices, reducing the rate of interest, providing conciliation and arbitration boards and legislating for controlling the activities of the money lender. That has to be done; and the Governments deserve full credit for the energy with which they are dealing with the situation. The efforts should ease it appreciably and give the cultivators badly needed relief from an intolerable situation. But the debt, though made less burdensome, will remain and grow. The burden of what the Agricultural Commission calls "the debt of yesterday," the "inherited debt," is oppressive enough and the clearance of 1,200 crores, or whatever the actual figure may be, is a stupendous task; but what makes the position much worse is the future prospect. Sir John Russell says that in many villages which he visited, where rural uplift work is being done, he was shown a balance-sheet of the income and expenditure of selected families and almost invariably there was a deficit which had to be made up by borrowing from the village moneylenders. Economic enquiries carried out in all parts of the country confirm that conclusion. Insolvency of the cultivators is not merely due to the debt of yesterday but also to that of to-day and therefore of to-morrow and the day after. His growing family reduces his assets, increases his liabilities, further increases the gap between expenditure and income and makes an unbalanced budget more unbalanced. Unbalanced national budgets are the order of the day and are even approved of by the students of finance as a measure for balancing national economy. But the unbalanced budgets of the Indian cultivators become more and more unbalanced every year and have no redeeming feature. The measures taken by the Provincial Governments are, it may be repeated,

commendable but they do not and cannot solve the problem. The Indian cultivator not only is born to and dies in debt, but his position is rendered as bleak as it is because he has no hope of keeping out of debt even if his existing debt is by some heroic measure wiped off at a stroke.

The above consideration has a very important bearing upon the future of the co-operative movement upon which such hopes have been and are still built. It has now become quite common for the co-operators in India to say that the deficit of the cultivators must be converted into a surplus if co-operation in India is to be placed on a sound basis. That is so ; but that, of course, means that either his expenditure should be reduced or his income increased. There are occasions on which the cultivator spends beyond his means and even spends more than he has need to ; but on the whole there is practically no margin for the reduction of expenditure and all that is possible is its redistribution to a very limited extent. If he is to change over from the deficit to a surplus economy, his income must be considerably increased. That means better farming and better prices for the produce. The use of better seeds, manures and better implements—but more than these, much larger holdings—will increase his income but, owing to the reasons given already, progress in making these improvements cannot but be slow. Better marketing, a point about which more is said below, will also increase his income but he sells such a small proportion of what he produces, that even if he can keep or gain for himself what now goes to the middleman, the addition which he can thereby make to his income cannot be considerable. Surplus economy is, it must therefore be realized, a phrase of far-reaching implications and the state it represents cannot be created without far-reaching changes in economic life, and if, in existing circumstances, such changes have to be ruled out, the very basis of the co-operative movement in India must remain unsound and insecure.

A surplus, moreoever, is not a question of excess of income over expenditure on present needs, which are woefully small, but on his real needs which are largely unsatisfied and unsatisfiable. His needs in respect of food, housing, health, security and education are clamant and cannot be satisfied.

If his surplus is to be a real surplus, it must give him an excess over what should be the irreducible minimum for satisfying them. That surplus is unattainable at present, and without it co-operation in the real sense of the word cannot be more than a promise and a hope. " If the cultivators of India in the mass are to be won over to the use of better seeds, to the improved methods of cultivation, it must be through the agency of their own organizations. Nothing else will suffice. With the mass of cultivators enlisted in the campaign for their own improvement, miracles can be achieved."* This view of the Agricultural Commission is, everyone must admit, essentially sound; but the position is that enlistment of the cultivators in the campaign for their own improvement is just the one thing which has not been done and the whole spirit and method of co-operation in India will have to change before it can be done.

So far co-operation has been mainly confined to the credit side and even in that respect the movement, due partly to the world depression and partly to the faults of organization, has got into serious difficulties. In order to conserve what has been gained drastic reorganization of the movement is admitted to be absolutely necessary. A considerable part of its debts have to be written off as irrecoverable and the movement set on its feet again. That can be done but it will take time and we cannot expect miracles from a movement, which must for some time be engrossed with the problem of its own rehabilitation. If it can win the confidence of the masses which it does not now enjoy and attract a better type of official and non-official workers, it can look forward to a better future. But there are certain things which it cannot do. It cannot replace the moneylender. He occupies a paramount and indispensable place in rural economy as it is to-day and will be in the near future. It cannot increase the credit-worthiness of the members of the village co-operative societies so far as that depends upon the purchasing power of the cultivator. And it cannot insure itself against risks accruing from the fluctuations of prices which are due to causes beyond its control.

* *The Agricultural Commission Report*, p. 418.

Credit co-operation must, therefore, in its own interest grow into all-sided co-operation—campaign of the masses for their own improvement, and economic and social self-redemption. Whether this is possible raises issues which cannot be dealt with here. But the co-operative workers in India have got into the habit of speaking about the need of establishing a new social order without understanding the full implication of their words. For a movement which is limited to 3 or 4 million members, which does not affect even 5 per cent. of the population of the country and is struggling with formidable difficulties both of its own making and those caused by world factors, a more realistic appreciation of the position is better suited to its needs and possibilities. A realistic view of co-operation will make it clear that the movement, in spite of its potentialities, cannot affect or change the fundamentals of the situation.

It is true, as pointed out by the Agricultural Commission, that if co-operation fails, with it fails the only hope of rural India. Co-operation in its aims and methods must mean a new and better life for the peasant and must be based on the assumption that he has to be made to realize that he and no one else can save him from misery and destitution. But he is ignorant, poverty-stricken and weak, owing to his not having had any scope for initiative for ages. Now by the force of circumstances, of which the co-operative movement is not one, he is becoming conscious of his needs and even powers. The process has just begun but it is likely that the new sense of awareness will grow in volume and in the precision of its aims. The peasant is being driven to realize that the odds are against him, but he has to master them and his own destiny. When this process has gone further and set free new energy, the co-operator in the sense in which we are using the word will get his chance and be able, if he knows how, to canalize the energy, to use it for building a healthy, vigorous and efficient co-operative organization.

The position, therefore, taking a long view of the matter is more hopeful for the co-operative movement. But the immediate future has to be a period of slow progress. The time for achieving miracles is not yet. The co-operative movement has to size itself up properly, take a correct measur

of what it can do, learn the lessons of its own experience and proceed with both caution and courage. It is not easy to find an alternative to co-operation both as a goal of the economic efforts of the peasant and the means of attaining it. The times are on the side of the co-operator in giving the peasant what he needs to become a good co-operator, faith in himself and opportunities for working for common ends. The co-operative movement has so far been lacking in the one thing which was and is essential to its success, i.e. good co-operators. Co-operation, as its authors have from the very outset stressed, means first and foremost better business, and the business of co-operation has to be learnt and practised. Even when the peasant is fully alive to the need for and advantage of co-operation, he will have to be trained to become a good co-operator. The fact that a sense of community and community of purpose are growing in the countryside is a very hopeful sign for the success of co-operation in the future. But the sense and purpose have to grow very much more before we can get or even expect marvels. For the present, co-operation must remain a nucleus of fuller and better life for the people. Even to become a good nucleus it has to transform itself by an intensive education of its members and by becoming an instrument of all-round change in the life of our people.

Another aspect of economic life which is going to be a very important factor in conditioning the development of agriculture in India is the system of land-tenure in the country. The problem has two aspects. One is the adjustment of relations between what may for the sake of convenience be called different grades of right-holders in land, and the other, change in their relations with a view to bringing about the fullest utilization of our agricultural resources. India is neither a country of peasant proprietors nor a country of landlords. Even in a province like the Punjab more than half the land is cultivated by a system of crop-sharing in which neither the owner nor the cultivator does anything to improve agriculture. In the provinces of Bombay and Madras, which are Ryotwari provinces, a considerable proportion of the land is owned by non-cultivating proprietors who are rentiers pure and simple

and, in the opinion of several well-informed students of the subject, their proportion is steadily increasing. In the provinces of Bengal, Behar, U.P., C.P., and Orissa, there are practically no peasant proprietors. There are millions of landless labourers and tenants-at-will, whose number is growing owing to the growth of population. Above them are tenants of various grades who are enjoying security of tenure of varying degrees. These tenants have been protected owing to their not being able to hold their own against the landlords and in most cases need further measures of protection. But quite a large proportion of them are not actual tillers of the soil. Sub-letting at rents higher than those which they pay themselves is common and the protected tenants themselves sometimes have to work as casual tenants for the landlords on what was meant to be their home farms or sometimes take the sub-lease of lands from the more substantial tenants, and pay much higher rents than are considered fair under the law.

At the top are the landlords who pay revenue to the Government but between them and the tenants there is, in the permanently settled areas, a chain of intermediate holders each of whom is entitled to his own share of the rent. Between the Government and the actual cultivators, therefore, there intervenes a large body of right-holders whose interest in land is confined to the collection of rent, and whose only contribution to the rural economy is exclusive regard for their own interests irrespective of its effect on the interests of the community as a whole. In the case even of the owning cultivator the magic of property hardly produces any effect. The smallness of his holding, his resourcelessness, the burden of indebtedness, his ignorance and inertia make him ultra-conservative. Even when there is the will to introduce progressive measures, the incentive to do so is generally lacking. But in his case, demonstration and propaganda, proving to his satisfaction that improved methods pay, can and often do move him to action and some small measure of improvement may and does take place.

The landlords are, as is well known, economically not homogeneous. A large majority of them are men of limited means and from the point of view of their incomes and status

belong to the lower middle class. They combine in some cases landlordism with other occupations; but whether they do or do not they make, as a rule, bad masters. Their small estates are often their only title to distinction as a class of which they are keenly aware and which they are desperately anxious to preserve. They have all the faults of a *petit bourgeosie* without their redeeming qualities. They have a class complex; labour of any kind is to them a social indignity and their most absorbing concern is to make enough out of their estates to remain above the necessity of having to work on the land. They are finding their position very difficult. Their small estates are growing smaller by the sub-division of property. They are exacting in the collection of rent, and have been in the habit of using their powers and position to get other payments in cash and kind to which they are not entitled in law—but which they have been receiving all the same—and expect general subservience from the poor wretches who have to toil to enable them to maintain their economic status.

The small landlords find the new spirit that is abroad exceedingly disquieting. Reduction of rent is a very serious matter for them for they have little or no margin to draw upon. But what is worse, they find that their power and position is being undermined by the dawning sense of self-respect among the cultivators. From this class have come some of the finest workers in the national movement, but as a class they are self-centred, narrow-minded and arrogant. When they find the pressure from below getting more serious, they will fight with their backs to the wall for the preservation of their position and privileges.

If that happens, it will mean strife which it need not be said will hinder the progressive development of agriculture. They have neither the means nor the inclination to introduce any improvement. But even if they had, the existence of tenancy rights would make it impossible for them to introduce any substantial improvements. Their estates are not only small but scattered. It is very unusual for a landlord to have a compact plot of even fifty acres in his estate. And what is more, the landlords have the right to collect rent, but no right to do what they like with the land. The tenants have the right

to sell, mortgage and bequeath the whole or part of their holdings. Their right is subject to reservations in some cases, but most of these have been done away with by the recent tenancy legislation, and those that remain are likely to go before long. The protective legislation was fully justified by the circumstances of the case and more of it is necessary in the interests of equity. But it is a system of dual and in some cases multiple ownership of land which makes it impossible for the landlord to assume a progressive rôle in agriculture even if he wants to. Land is not his, it is also his tenant's and he is only entitled to his rent. He can evict the tenant for the non-payment of rent, but not otherwise. Even this power has been and is being abused, but he cannot evict his tenants or buy them out as a matter of right in order to carve out large farms for himself to cultivate scientifically. On *Bakasht or Sir*, the so-called home farms, there are no tenancy rights but even in this case it is rare to have large blocks of land in compact plots. Tenancy legislation was and is rendered necessary by the gross abuse of their rights by the landlords and the helplessness of the cultivators who, in spite of the growing population, had no alternative occupation to turn to and were, therefore, driven to bid for the right to cultivate land on uneconomic rents. But the result is that the system of land tenure has become a serious bar to the introduction of improved cultivation. The tenant's holding is small and scattered, his resources are limited and his knowledge and outlook much more so. The landlord has been and is a rentier by choice but now he cannot change his rôle. The law makes it impossible for him to do so.

What is true of the small landlords is also true of the bigger ones. The biggest among them have very large estates and large resources. They are landed magnates—a feudal aristocracy with all its rights, but without its obligations. They have done nothing to improve agriculture and their contributions to our cultural or civic life are inconsiderable. Some of them have given liberally ; but as a class they too have neglected their duties. They are men of independent means, i.e., they can live in luxury without work. But they have used their independence for self-indulgence and pleasures of the

grosser kind. They do not belong to the new India and have done nothing for it. Politically they are backward, and have allied themselves with the foreign Government; and the challenge of the times finds them unprepared and readier than ever to seek safety in reaction. Their privileges and unprogressive conduct in matters of vital import to the nation serve only as an irritant and strengthen the case for their abolition as a class. They will not be easily abolished, and in justice it can very well be argued that there is no reason why they should be singled out for liquidation. In any case, they will not permit themselves to be liquidated. They will fight for their existence or their rights as they call them. And they will not fight alone. They will find helpers among the other vested interests, particularly among the smaller landed gentry. For a time it may be possible to detach the latter from the former but that cannot last long. They have common interests and common dangers and will band together to protect themselves. The wiser among them will try to change with the changing times. But they are the outstanding case of a privileged class who are living on the hard toil of their fellowmen and doing nothing in return for what they are getting. They may for a time if they know their tactics, allay the prejudice against them, but they cannot disarm it. The prejudice against them is bound to grow as the nation becomes politically and socially self-conscious to a greater degree. They may call themselves natural leaders of the agricultural community but an unkind fate has marked them out as its natural enemies.

The system of land-tenure makes it impossible for them to become progressive gentleman farmers. But apart from the fact that very few of them have any desire to play that rôle, the force of circumstances will make self defence their principal pre-occupation in the years to come. Their resources will be used for protecting and promoting their interests and not for improving agriculture. Sir John Russell attributes the agricultural backwardness of India to the absence of agricultural aristocracy.* Aristocracy there is in the village but it is neither educated nor does it recognize any responsibility

* Russell: *op. cit.*, p. 67.

towards the community. Sir Daniel Hamilton, whose example Sir John holds up for emulation of other landlords, does not belong to this class. It is comparatively easy to organize tenants in Sunderban where land had to be cleared for cultivation and new settlers established on it. The late Sir Ganga Ram in the Punjab also showed great enterprise in developing his estate in the Lower Chenab Colony; but there again it was a case of new land brought under cultivation for the first time and he was not handicapped by any pre-existing rights in land. But conditions in the plains of India are entirely different. Here settled cultivation has been carried on for ages and over a large part of the country both landlords and tenants have been caught in a network of rights and counter-rights which make it impossible for either to get out of the land what it is capable of yielding. The result is stagnation and a severe struggle for existence. The struggle is becoming more severe every year and makes the prospect of unhampered development of agriculture commensurate with the economic needs of the country anything but re-assuring.

This unsatisfactory position is a matter of common knowledge. Landlords are not enterprising because of their being unprogressive as a class but even the progressive ones among them have no incentive to invest in land or take to scientific farming because tenancy legislation has put strict restrictions on their power to acquire farms which they can develop with improved methods. Protection for the tenants was, as already stated, rendered inevitable owing to the land-hunger created by lack of other occupations and the pressure of population. The smaller landlords have the same disadvantages without having the same resources. The tenants who have been granted fixity of tenure are themselves in a number of cases rentiers and even when they are not, the smallness of their holdings, besides of course, their ignorance and resourcelessness, rules out the possibility of their making substantial improvements in agriculture. Below them are sub-tenants and landless labourers. They are exploited and have no reserve or resources. From landless labourers to landed magnates the agricultural heirarchy is well stratified so far as the inequalities

of incomes and prosperity are concerned; but apart from minor improvements which the peasant proprietors can introduce on their small holdings, there is no class of people which is in a position to take a lead in bringing about a rapid development of agriculture. The result, as stated above, is that the progress is exceedingly slow and cannot be accelerated.

This deadlock cannot now be ended by creating a class of enterprising, progressive and rich landlords who will bring their qualities and wealth to bear upon the task of rapid development of agriculture. This class is non-existent and even if it was ever possible to create it, it is not now. This class of agricultural *entrepreneurs* cannot get opportunities for their enterprise without material modification of the rights of tenants in their favour. That, it is known, cannot be done. Abuse of their powers by the existing landlords makes protection of the tenants' interests more necessary than ever and their enfranchisement makes it impossible for any party which proposes to tamper with their existing rights, to come to or remain in power. Political expediency and justice both require that their position should be greatly strengthened; but that involves greater restriction on the power of the landlords to develop their estates. Estate management in India must in these circumstances remain, as it has been since landlordism was introduced in this country, an art of increasing and collecting rents efficiently and without any regard for the interests of the tenants or agriculture. The awakening among the tenants to the consciousness of their strength and power will make it increasingly difficult to practise this art with the old unconcern for its social results. But whether that happens or not, landlordism in India cannot become an instrument of progress and development.

The other method of increasing what it has become common to call the tempo of progress is to introduce co-operative cultivation in some form or other. With all the existing rights in land—of occupancy and other protected tenants, of intermediate right holders, of small and big landlords which are often interlaced, the same persons having different rights on different plots of land—the problem of co-operative cultivation

presents initial difficulties which are almost insuperable. Anyone who has experience of the difficulties of persuading the cultivators to exchange their plots for consolidation of holdings, can easily realize what re-adjustments would be necessary if all who have rights in land have to pool them together and collectively cultivate the whole arable area of a village with greatly improved methods of agriculture.

The difficulties of adjustment of rights and the distribution of agricultural produce under co-operative farming are formidable in themselves and if to those are added the difficulties of creating or sustaining the co-operative fervour and spirit necessary for a task of such magnitude, it will become abundantly clear to anyone who knows the elements of the present position and what is involved in co-operative cultivation that this method of increasing the productivity of land is not practicable at present in our country. In Soviet Russia, co-operative cultivation on a large scale has been rendered possible by the liquidation of landlords and *kulaki* by the million and the use of the whole power of the centralized authoritarian state. In Palestine co-operative cultivation on a small scale has been practised because of the moral earnestness and high level of education of a small number of persecuted young men and women who have been provided with land and equipment free by an international organization. In India, it is obvious that the conditions are entirely different and co-operative farming as a method of agricultural development is even more Utopian than the conversion of landlords into a class of agricultural *entrepreneurs*.

Our country must for the time being therefore remain a land of small-scale cultivation with holdings of less than five acres in a vast majority of cases whose size will be, as it has been, progressively diminished by the growth of population. Whatever agricultural development can be brought about by improvements like the introduction of better seeds, manures, better implements, etc. should be proceeded with. Progress on these lines also cannot but be slow owing to the ignorance and poverty of the cultivator and the limited resources of the Government. But that is all that can be done. It is impossible to say to what extent agricultural produce will be

increased by these methods.* But with ninety per cent. of the cultivable area still sown with unimproved varieties, the room for expansion of the area under better seeds is great, and also a great deal can be done to extend the use of other improvements. There are, however, limits to the extent to which small holdings of five acres and less can be made to provide wealth for raising the standard of living of the people and maintaining a population which is growing at the rate of three to four millions a year.

In India there are some tea, coffee and rubber plantations and also a few large estates cultivated with the most advanced methods of agriculture. But it is the peasant with his tiny little holding who will continue to be the most important figure in Indian economic life. What he can grow on his holding will be the decisive factor in determining the size of the national heap; from it the landlords, small and big, the intermediate right-holders, moneylenders, landless labourers, village artizans, merchants engaged in national and external trade, and even professional classes and public servants have to be supported. The peasant is India's Titan who has to carry almost the whole country on his shoulder. His prosperity and increase in the capacity to grow two blades where one is grown now are matters of vital importance for the nation. But in making an estimate of the extent to which he can increase his own and the country's purchasing power, his limitations have to be vividly realized. The first charge on any increase in his resources must be relief for him from his present misery. That relief itself will involve the use of all that he grows or can grow for himself; and even then he will have a deficit family budget if on the debit side is put the minimum necessary to support him and his family as they ought to be supported.

The struggle for existence, which is being intensified by the growing acuteness of want and the impact of new social forces, is the struggle to share what the peasant produces between the different right holders in land. The struggle is bringing strife into the countryside and to the cultivator a growing

* The Agricultural Departments estimate that the improvements introduced by them have increased the agricultural income by Rs 4 crores; but that is, as pointed out in Chapter XI, a small contribution to our national income if we consider our total agricultural population and needs.

realization that he is not being fairly treated. The justice of his case and the strength of his numbers will be factors of increasing importance in the making of the future. But it will not give us in the near future the means to make his lot what it ought to be. His masters will be prepared to do everything for him except to get off his back. That fact will give the struggle greater earnestness and piquancy but will not increase the income or wealth of the country. Reduction of revenue and rents, scaling down of debts and restrictions on rate of interest and similar other measures are the first fruits of the political power acquired by the peasant. They will bring him relief, self-confidence and faith in his capacity to defend and promote his own interest. That will mean a great moral gain but the material gain will be small and of a limited duration. It will, on the other hand, create among the landlords, money-lenders and other classes now living on his labour, greater solidarity of interests and action and bring matters to a head. The development may or may not be regarded with favour or approval; but it is certain that it will not increase the wealth of the country. It may lead to its redistribution to a very small extent and bring with it the promise of different and more spacious times; but its immediate result will be disharmony and that, whatever the ultimate result, cannot increase the material prosperity of the country while it lasts or remains unresolved.

Chapter X

ECONOMIC OUTLOOK, II

AGRICULTURAL improvements, therefore, during the years that lie ahead, will be confined to such measures as the Agricultural Departments can persuade the cultivators of small holdings to adopt. These measures, though important in themselves owing to the necessity of doing what is possible to improve agriculture, must be regarded as minor improvements. Apart from the fact that their introduction, owing to the limited means and ignorance of the cultivators and the limitations of the Agricultural Department, will be a slow process, they cannot convert agriculture from the insolvent industry that it is to-day into a prosperous one. Smallness of holdings, indebtedness, the growing antagonisms, ignorance, poverty and disease are evils which will remain serious difficulties in the way of agricultural progress. All of them are related to one another as cause and effect, but of them poverty both as cause and effect, is by far the most important single factor and it will remain the root cause of the present state of agriculture.

But before the prospects of industry and trade are reviewed as a part of the general assessment of the economic outlook, it is necessary to say a few words about two possible developments which would have important bearing upon the future of agriculture. One is the possible extension of cultivation to lands which are now lying waste. The area classified as culturable waste in agricultural statistics is large ; and if it is really cultivable, the extension of cultivation to it would bring material relief to our people. Excluding Burma, nearly one-fifth of the land of British India is returned as " culturable waste " or potentially cultivable. The total area so returned is about 93 million acres. Taking the major Provinces the following table gives the culturable waste in each province, its proportion to the total culturable waste in British India and its proportion to the total surveyed area of the Province :—

TABLE 76

	Total culturable waste (Million acres)	Proportion to the total culturable waste of British India %	Proportion to the total surveyed area of the Province %
1	2	3	4
Assam	19	20	44
Punjab	14	15	22
C.P.	14	15	22
Madras	13	14	14
U.P.	10	11	14
Bombay	7	9	9
Behar & Orissa ..	7	7	13
Bengal	6	6	11
N.W. Frontier ..	3	3	33

The above table would, at first sight, appear to point to the possibility of considerable agricultural development. Not only nearly one-fifth of the total area of British India is classified as cultivable but in every Province except Bombay its proportion to the total area of the Province is above 10 per cent. and in four Provinces, viz. Assam, Punjab, C.P., and North-West Frontier above 20 per cent. In Assam nearly nine-twentieths of the area would, according to the table, be available for the extension of cultivation. If the area were really suitable for new cultivation, it would present an opportunity to the new Provincial Governments to set up large, even in some cases giant, farms, use the very latest methods of cultivation and provide means for the increase of agricultural wealth and the relief from the pressure of population at least for a decade or two.

The opportunity, however, does not exist because most of the land shown as cultivable waste is really uncultivable. That it exists even in statistical tables is due to the ineptitude of the authorities responsible for compiling these tables. It was pointed out by the Agricultural Commission, as stated in a

previous chapter, that much of the area could in no conceivable circumstances be brought under tillage and they pointed out that "the statement reported annually in a volume (*Agricultural Statistics of India*) which is issued under the imprimatur of the Government of India, that very nearly one quarter of the total area of British India (that includes Burma) is culturable but not cultivated is calculated to give rise to misconceptions which it would be well to avoid."* That was in 1928 and six years later Messrs. Bowley and Robertson in their report referred to the distinction between "culturable waste" and "not available for cultivation" and suggested that the matter be examined afresh and added, "In the last resort we think that it would be better to abandon the attempt to distinguish between the various kinds of uncultivated land than to continue to publish the present figures which in a country already full of real problems, suggests the existence of one which is almost certainly imaginary."† In spite of these authoritative warnings, the volume continues to suggest the existence of an "almost certainly imaginary" problem, the problem of bringing culturable waste under cultivation. But the problem in most Provinces of India is practically non-existent and the problem not being there, the hope of using its solution as a practical solution of the population problem of India cannot be entertained.

That is true of much of the land classified as "culturable waste" but not of the whole of it. In one Province, i.e. Assam, the waste land is being brought under cultivation and half a million immigrants from Bengal, mostly from the district of Mymensingh, have already settled down there. What proportion of the 19 million acres shown as "culturable" is suitable for cultivation it is very difficult to say. Here, as in the other Provinces of India, the distinction between "not available for cultivation" and "culturable waste" is very thin; but a considerable extension of cultivation has already taken place and more is taking place. From 1924 to 1930 nearly 69,000 acres have been settled with the immigrants from Mymensingh and the census superintendent writes in his

* *The Agricultural Commission Report*, p. 605.
† *A Scheme for An Economic Census of India*, Bowley and Robertson, p. 42.

report of 1931 that " the invasion is by no means complete." Since then immigration into Assam has been going on and more waste land has been brought under cultivation, still more land is being thrown open to colonization and the difficult problems of assimilation are arising. In order to regulate the stream of immigration certain reservations for the new settlers have been set up and restrictions imposed on their further penetration. The settlers are chafing against these regulations and a forward pressure is being exercized, which indicates not only the need but also room for further expansion. In districts like Goalpara and Nowgong the saturation point seems to have been reached, but there are other districts like Kamrup and Lakhimpur which can take and hold more settlers. This immigration will raise a host of new problems for the people of Assam and probably alter their whole future ; but it has afforded some relief to the over-populated districts of North and East Bengal and to the extent to which further immigration takes place, it will afford more relief.

The absorbing capacity of the Assam waste lands is, as already stated, an uncertain quantity, but very few will maintain that these empty spaces can hold more than half a million new colonists. Half a million of hardy, industrious, somewhat troublesome and, what is more important, prolific settlers is an important matter for the Assamese and the districts from which they go will get some little relief. But what is half a million taking the population of the country as a whole ? The divisions of Rajshai and Dacca from which these trekkers have gone and are going had a population of about 24 millions in 1931 which will most likely increase by two millions by 1941. One fourth of this increase will be drained off by the stream flowing eastwards, but it will leave the area concerned not much less densely populated than it would be otherwise and for the population of the country as a whole, of course, this invasion will hardly be of any consequence. Twenty per cent. of the total culturable waste in India is in Assam and from the point of view of the extension of cultivation is the most promising area. In some other Provinces also, e.g. C.P., there is some little room for extension ; but taking the country as a whole, the statement of the Agricultural Commission that most

of the so-called culturable waste can under no conceivable circumstances be brought under tillage holds good. India, taking a broad view of the situation, has no empty spaces to fill and this is a hard fact which has to be understood and borne in mind.

The other point to which reference here is necessary in considering the future of agriculture is the extension of State irrigation in India. The development of irrigation, in the words of Sir John Russell, is one of the most remarkable features of modern India. It is probably the most important economic development in the last 150 years from the standpoint of the increase of wealth. The area irrigated by Government works has increased from 10½ million acres in 1878–79 to over 31·5 million acres in 1933–34, an increase of 20 million acres in 55 years and since the beginning of the century the area has increased by nearly 11 million acres. Great works like the Sukkur Barrage Scheme, Sutlej Valley Project, Sarda Canal and Mettur Project which have been completed in recent years, increased the security and productivity of the area served by them and in several cases converted extensive barren wastes into cultivated lands of very great value. About Rs. 150 crores in all have been invested in the construction of State irrigation works and the value of crops irrigated by them has been estimated at nearly Rs. 100 crores. The completion of the State tube-well project recently in the U.P. at the cost of Rs. 138 lacs, which is expected to command 1½ million acres and comprises 1,490 tube wells open a new possibility in the development of irrigation. These developments are likely to have important results, and have already stimulated other Provinces to consider seriously the possibility of following the example of the United Provinces. India does occupy a pre-eminent position in respect of irrigation and the acreage irrigated in India, according to a recent official statement, will exceed the combined total of that in the six countries which stand next to her in the list of the world's largest irrigation countries.*

The development is remarkable, but what really matters for our purpose is the possibility of future development of irrigation. A little less than 80 per cent. of the sown area in

* *Information Series.* Vol. I, p. 3.

India is still unirrigated and it is clear that the possibilities of the extension of irrigation have been far from exhausted. The Agricultural Commission expressed the opinion that there is still large scope for development, though in some cases on entirely different lines from those which have hitherto been followed.* They gave the instances of the Thal and Haveli projects in the Punjab from which a large extension of irrigated area could be expected. In the other Provinces there are also outstanding projects which for financial or other reasons have not been proceeded with. Attempts are being made to have the existing restrictions on the undertaking of irrigation works relaxed in order that in considering the worth-whileness of the projects decisions might be arrived at not only with reference to the direct financial revenue from irrigation but also its indirect returns in the shape of increased railway earning, larger tax-receipts and development of the trade and commerce of the country. This proposal has its risks for once indirect returns are made the basis for launching costly undertakings like irrigation works, the same principle can be extended to works other than irrigation which may not be productive in the financial sense, but may be beneficial for the community from the wider standpoint. There are very few undertakings in India on which a large expenditure of money cannot be justified from the point of view of the greater good of the community.

The proposal has its risks which, if overlooked, might involve the danger of the country heading for financial bankruptcy. But in view of the urgent necessity of forging ahead in India, some risks have to be run and orthodox canons of financial propriety modified to provide funds for carrying out works of public utility and the introduction of measures for partially satisfying the crying needs of the country. That applies with special force to irrigation, the profound importance of which to the country as a whole admits of no doubt whatsoever. The possibilities of extension of irrigation in India are great, and therefore in considering the value of the projects, it is necessary not only to take into account their potential direct and indirect returns, but also their potential disadvantages

* *The Agricultural Commission Report*, pp. 328 and 333.

such as seepage and its resultant water-logging, alkaline deposits and danger to health in irrigated areas owing to the likelihood of their becoming malarial. A bold policy of irrigation development is called for, and every possible measure by which the precariousness of agriculture on account of its dependance upon uncertain rainfall or scarcity of water can be reduced, has to be introduced with skill, courage and foresight.

It is not possible to estimate the extent to which the national income can be increased by further extension of irrigation. But judging from the achievement which the irrigation engineer has to his credit in India the further development of irrigation must be reckoned as one of the most fruitful methods of increasing the resources of the country. It may be possible, if foresight is exercised and the benefits of large-scale cultivation are appreciated, to reserve the greater part of the area thus made cultivable for the first time for cultivation either by the state or by a co-operative organization of the cultivators. Proprietary rights in the areas brought under the plough so far by state irrigation have been granted with reservations to prevent sub-letting and sub-division of holdings below a certain limit ; but owing to the strong bias in favour of small-scale individual farming, the consideration of raising the standard of cultivation far above the present level has not received its due attention. But on account of the fact that in the new cultivable areas it is possible to write upon a clean slate, irrigation, so far as these areas are made available through public enterprise, can be made an even more powerful instrument than it has been hitherto for increasing the agricultural produce and, therefore, the national income of the country. Whether the necessary amount of foresight in this respect will or will not be forthcoming will depend upon diverse factors whose relative importance cannot be judged in advance. But whatever happens, it may be repeated that the extension of public irrigation has to be set on the right side of the account in making a balance sheet of future economic gains and losses. It is not, as already stated, possible to indicate the exact value, absolute and relative of this important asset, but that it must be regarded as an asset of considerable importance in any

economic forecast of our country cannot but receive general assent.

Extension of irrigation is important and combined with other improvements will afford relief; but these measures, everyone admits, are no solution of India's economic problems. Industrialization of the country has been and is regarded as our hope of making the country strong and prosperous. The demand is for a balanced economy in which our dependence upon agriculture will decrease and we will be able to come into line with the most advanced countries of the world by having large modern industries.

The question of industrialization naturally brings up the issue of small versus large industries and on this point there is confusion of thought and practice. The Congress view has been influenced by Mahatma Gandhi and is strongly in favour of small industries. The British Government through tariffs has been helping the industrialization of the country on modern lines. The policy has the whole-hearted support of the public, but is regarded by it as being only half-hearted and the adoption of a more full-blooded policy of protection is advocated. But the Provincial Departments of Industries have been devoting their limited resources almost entirely to the support and revival of small industries, among these the most important being the hand-loom industry, and the Government of India have, by giving grants from central revenues to the Provinces for schemes for the improvement of small industries, actively associated themselves with this policy. Of late the revival of these industries has come to be regarded as a solution of middle-class unemployment and almost all Provinces, particularly Bengal, have taken steps to give effect to this view with which the Government of India are in full sympathy. In this attempt to develop both large and small industries, their mutual relation receives hardly any consideration and the necessity of development of large industries is reconciled with the sentiment in favour of small ones by assuming that both must have an important place in our economic life. The view expressed by the Commerce member in his opening speech at the Ninth All-India Industries Conference held at Lahore in December, 1937, that " the encouragement and development of the major

industries must be concerned equally with the cottage industries" probably represents the view of most people in the country and is considered a happy solution of a difficult problem.

But the solution, if it is accepted as such, will only resolve the contradiction of arguments but not of facts. How far the small industries can stand against the competition of large factories is the crux of the whole matter. The competition will be the more severe owing to the fact that it is between domestic large and small industries and not between foreign large and domestic small industries. The odds against which the small-scale producers have to contend will be the greater because the rival is nearer home and has greater advantages than the foreign large-scale producer. The practice of what the Congress Working Committee calls "the dumping of foreign industrial concerns" has assumed large dimensions and "has the effect of robbing India" (to quote from the resolution of the Committee), "of such advantage or benefits as are expected from the policy of discriminating protection." These foreign firms are not only creating a difficult problem for us, but also for the countries from which they come, for they can use their resources, experience and technical skill combined with advantages of cheap labour not only to undermine the position of Indian industries but also the industries at home. In one case at least, i.e. jute, the British producers in the United Kingdom are, owing to the severity of competition, seeking protection against the British producers in India.

This is a development which may be considered as inevitable according to the Marxian interpretation of history, but is nevertheless a serious complicating factor in our economic position. The Congress considers it right to discriminate against such industries; but it is very unlikely that it will be able to do so unless, of course, the country attains complete independence or its substance. In the meanwhile large industries in India, both under Indian and foreign control, will continue the process of building up their position and power at the expense of foreign large-scale producers and Indian small-scale producers.

Apart from the above aspect of the matter, it has to be

accepted that there is no escape from industrialization for India. We have already industrialized ourselves to a considerable extent. We cannot close down the cotton, jute, sugar, cement, paper and all the other mills in India even if we are convinced that they do more harm than good. " However much we may dislike modern industrialism and condemn the evils which follow in its train," as pointed out by Mr. Subash Chandra Bose, the present President of the Indian National Congress in his presidential address at Haripura, " we cannot go back to the pre-industrial era, even if we desire to do so. It is well therefore that we should reconcile ourselves to industrialization." That is the truth of the matter. Whether we reconcile ourselves to it or not industrialization has come to stay and cannot but grow in magnitude and importance. The point which matters for the purpose of this chapter is the extent to which it can grow and support the increasing population of India. Industrialization is held to be one of the prime needs of India because of the necessity of taking people off the land and finding alternative occupations for them. The importance of industrialization consists in its being a measure of relief from the increasing pressure of population on the land, and it is as such that its possibilities have to be examined here.

It is not as well and widely appreciated as it ought to be, that though India is still a very backward country industrially and less than one per cent. of her population is supported by factory industries, we have in the last quarter of a century made, relatively speaking, considerable progress in industrialization. In order to know the possibilities for further expansion of industries we have to examine the present position and see what has been and remains to be done in the way of industrialization. The cotton industry may be referred to first owing to the fact that it has a special place of its own in the economic and industrial history of India. The following table on page 264 gives the volume of mill and handloom production of cotton cloth and import of cloth and yarn since 1913–14.

The progress achieved is evident from these figures. India now produces more than three fourths of its total requirements of cotton cloth and with further efforts could probably become

TABLE 77

	Production				Import			
	1913–14	1921–22	1929–30	1935–36	1913–14	1921–22	1929–30	1935–36
Cotton piece goods (Million yards) ..	1,164	1,782	2,419	3,569	3,042	1,405	1,919	764
Cotton yarns (Million pounds)	688	694	834	1,058	44	87	44	45
Handloom production (Million yards)	1,184	1,148	1,400	1,660				

self-sufficient in the production of cloth. But even now the total consumption of raw cotton in India in 1935–36 was 2·6 million bales out of the total production of 5·9 million bales. Even if India produces all the cotton cloth that it needs, more than two fifths of raw cotton will still have to be exported to foreign markets.

The increase in production has also meant improvement in the quality of cloth produced and there has been considerable increase in the output of finer yarn and twist. The production of cotton yarn of 31 to 40 counts has increased since 1913–14 from 20 to 112 million pounds and above 40 from 2·5 to 58·5 million pounds, and since 1929–30 the ratio of the quantity of yarn above 40 to the total quantity has increased from 1·80 to 5·48 per cent., which indicates that India is not only increasing the quantity of her output but also improving its quality. If therefore reorganization of the industry can be brought about and its well-known defects of internal administration removed, there is no reason why it should not make further progress in the home market at the expense of imported cloth.

There is, however, one feature of the cotton industry in India which has to be noticed and is of great importance, so far as the future of the industry is concerned. Though the mill and handloom industries in India have achieved rapid progress the total consumption of cotton cloth in India has not made any appreciable progress and the per capita consumption of cotton cloth has practically remained unchanged since 1913–14. The

following table indicates the changes which have taken place since 1913–14.

TABLE 78

Table Showing Total and Per Capita Consumption of Cotton Cloth in India

	1913–14	1929–30	1935–36
Net available for consumption (yards crores)	528	559	613
Per Capita Consumption (yards)	16·50	15·97	16·57

The above figures are estimates and are to be taken as such, but they show, what the economists call, the comparative inelasticity of demand for cotton cloth in India. India has lost her position in the export market and the value of our export of cotton manufactures has decreased from the average of Rs. 11·40 crores in the pre-war quinquennium to Rs. 2·93 crores in 1935–36. The lost ground has been more than made up by the capture of the domestic market, but the expansion has taken place at the cost of foreign manufactures and not by the expansion of the market itself. Further expansion of the industry can take place by the displacement of foreign goods ; but when that process is complete the limit of expansion for mill production will have been reached and the competition between the mills and handloom weaver will become more severe. In 1913–14 the total per capita consumption was divided among imports, mill production and handloom production in the proportion 9·78, 3·38 and 3·34 respectively. In 1935–36 the corresponding proportions were 2·62, 9·46 and 4·49. With the improvement in productive efficiency the Indian mills can supply the 2·62 yards of per capita consumption which is now supplied by foreign producers ; but, having done so, they can grow either by displacing the handloom-weaver or by the development of the home market which, experience shows, is not capable of much expansion.

The jute and tea industries require only a passing mention.

They are important, but the future of these industries is determined more by foreign than by domestic factors. The following table shows the progress of these industries since the pre-war year :—

TABLE 79

	Pre-War average	Post-War average	1935–36
Export of Raw Jute (thousand tons)	764	554	771
	1913–14	1931–32	
Export of Manufactures—			
Bags (in millions)	369	389	459
Cloth (Million yards) ..	1,061	1,021	1,218
	1915	1930	1935
Production of Tea (Million lbs.)	372	391	396
	1915–16	1930–31	1935–36
Export of Tea (Million lbs.) ..	338	356	312

In the manufacture of Jute considerable progress has been achieved and Dundee is keenly feeling the competition of Calcutta ; but the future of jute is unstable owing to the possible extension of bulk loading and wider use of other packing materials. In the production and export of tea, India has regained the pre-war position and her position as a producer is strong ; but the future development of these industries, whose prosperity is so very important for Bengal and Assam, will depend upon factors which we will neither be in a position to regulate nor control. Restriction of production, which has been tried with some effect, must be regarded as an emergency measure and cannot be counted upon to ensure the future prosperity of these industries which, as stated above, will be determined by world factors.

In the production of iron-ore, pig-iron and iron and steel India has made rapid progress since the war due to the enterprise of Tatas and the grant of tariff protection. The development of the industry is shown by the following table :—

TABLE 80

Production of Pig-Iron and Iron and Steel in India since 1916–17
(1,000 tons)

	1916–17	1921–22	1929–30	1936–37
Pig-Iron	148	270	1,391	1,582
Iron & Steel—				
Steel ingots	139	182	—	865
Finished Steel	99	126	—	962

Progress made in the production of pig-iron and iron and steel is reflected in the decrease in the import of these articles since 1913–14, the figures for which are given in the following table:—

TABLE 81

Import of Pig-Iron and Iron and Steel (In 1,000 tons)

	1913–14	1929–30	1936–37
Pig-Iron	12,881	—	1,730
Iron & Steel	1018·2	972·7	362·8

India has also built up a considerable export trade in pig-iron, iron and steel, and in 1936–37, 574,300 tons of pig-iron, or nearly 33 per cent. of the total production, and 108,600 tons of iron and steel were exported.

The iron and steel industry has been able to attain a high standard of technical efficiency and, with further enterprise, can expand production and hold its own against foreign competition. The present prosperity of the industry is partly due to the programme of rearmament of various countries and is to that extent insecure. But apart from that factor the scope for development of the industry is very large if the production of machinery, motor cars, locomotives, etc. can be started in India in right earnest. The imports of machinery, motor cars and hardware has increased in India from the pre-war average of

Rs. 9·78 to Rs. 21·42 crores in 1935–36. In spite of the increase in the production of iron and steel, India is still dependent on foreign sources for her capital equipment. The production of machinery, motor cars, etc. requires technical efficiency, enterprise and organizing ability of a high order and, of course, large capital, but there is no reason why India should not now seriously turn her attention to the production of these capital goods.* The extension of their production is the most important and hopeful line of development and if it can be brought about, we will be able to remove the weakest spot in our industrial production.

There are four other industries which have developed in the last decade whose position and prospects have to be briefly examined. They are sugar, matches, cement and paper. Of these sugar is the most important and has been developed with phenomenal rapidity. The production of factory sugar has increased from 159,000 tons in 1931 to 1·1 million tons in 1937 and its import, which was one million tons in 1929–30, has practically ceased. India is now self-sufficient in respect of the production of this important commodity. Besides factory sugar, India produces over 4·5 million tons of Gur and sugar refined from Gur; but factory production has reached the limit of development and now the problem is restriction of production and not its increase. The Sugar Control Act passed by the U.P. and Behar Governments jointly is a measure of regulation which has already produced good effects and, if administered well, is likely to stabilize the industry. But the industry cannot expect expansion of production unless it can develop an export market of which at present there is no chance.

The industry will, it appears, continue to need protection unless the problem of securing an adequate supply of sugar-cane in concentrated areas can be solved. This is "the crux of the factory problem,"† as was stated as far back as 1920 by the Sugar Committee. It will only be solved when by co-operative production, land acquisition or some system of long-term leases, large sugar-growing farms in the close vicinity of the

* Since this was written, a proposal for establishing these industries has been seriously taken in hand by the Congress Provinces and will, it may be hoped, materialize.

† *The Sugar Committee Report*, 1920, p. 329.

factories can be established. But the industry, through proper regulation and control, can be better organized and placed upon a sound basis behind the tariff wall. That will be a distinct gain and will consolidate the position of the industry. Consolidation, however, is not expansion and its limit of expansion, it may be repeated, has already been reached.

In respect of the manufacture of matches also, India has become self-sufficient and our import of matches which in the post-war years was valued at Rs. 1·76 crores has reached the vanishing point. Import of cement has since pre-war years decreased from 130,000 to 58,000 tons in 1935–36 and the production of cement in India in 1936–37 amounted to 897,000 tons. The cement industry is well-organized and has become a monopoly* which needs to be watched in the interest of the community; but the industry is in good hands and though there is room for increased production, its extension cannot but be gradual and India can be taken to be independent of foreign supplies. In the production of paper also India has reduced her imports which in 1935–36 amounted to 40,000 cwt., while her domestic production in the same year reached the total of 962,000 tons. Wood pulp for manufacturing paper has still to be largely imported but with the utilization of bamboo pulp, India will be able to reduce materially the import of the raw material. There are altogether eleven mills in the country and with the construction of a few more and with improvements in the methods of production, imports would probably become insignificant.

The above developments, actual and potential, do not exhaust the possibilities of industrialization in India. But if we take our imports as the measures of our needs and of the markets for industrial production in India, we shall realize that besides the industries referred to above there are only a few others which can be developed or started. Among the articles wholly or mainly manufactured which we imported in 1935–36 are woollen yarns and manufactures, rubber manufactures, glass-ware, dyes and colour and chemicals, the aggregate values of

* At present there is going on a rate war between the two cement syndicates, but it has to be taken as only a prelude to the formation of a bigger merger. The rate war cannot but be a passing phase, and will end in the emergence of an even stronger monopoly.

which amounted to about Rs. 20 crores. All these industries are already in existence in India and are to the extent of the value of our imports, capable of further development. There are a number of other small industries which too are partly supplying the market and could with assistance and proper organization produce more. But the main point to realize is that the limited purchasing power of our people, i.e. their extreme poverty, sets definite limits to industrialization in the country. When more than nine-tenths of the people purchase hardly any manufactured commodities except cloth, matches and kerosine oil and have not the money to buy even those in sufficient quantity, it is idle to expect that we can establish a large number of modern industries and find a market for their products. The logic of facts is driving the simple lesson into the minds of people everywhere that for mass production it is necessary for the masses to have sufficient purchasing power to buy the goods produced, otherwise, for want of effective demand for commodities, men and machines have to be put out of action. In India the masses are without that purchasing power and industrialization cannot give it to them. A very small proportion of our people can be absorbed by factory industries and the owners of the latter will find, as, for example, they are finding in the case of sugar now, that they can produce goods but cannot sell them. Surplus economy of the cultivator, which was referred to in the previous chapter as a necessary basis for a sound co-operative movement in India, is also an essential condition of the further development of industrialization in the country. But the introduction of surplus economy, it may be repeated, requires far-reaching economic and social changes which have at present to be ruled out as impracticable.

There is another aspect of industrialization which is also relevant in this connection. At present our organized industries employ about 3·5 million workers. The number of workers in the cotton industry is about 4·54 lacs. In 1923–24 their number was 3·56 lacs. During this period the production of cotton piece-goods has increased from 150 to 350 crores yards or by 150 per cent. and of cotton yarn from 617 to 1,058 million pounds or by nearly 75 per cent. In other words the number of workers has increased by nearly a lac since 1923–24 or by

nearly 28 per cent. while the production of cloth has increased by 150 and of yarn by 75 per cent. This disparity is due to the increasing mechanization of industry or rationalization as it is generally called. In 1934 an enquiry was conducted into wages and unemployment in the Bombay Cotton Industry which revealed the fact that there had been introduced changes in plant, in the character of production and also an increase in the number of machines tended by one operative. These changes increased production of cotton goods but also caused unemployment among the workers. The figures given above suggest that the same tendencies are at work in the other cotton centres as well. Industrialization in these days involves a much larger measure of mechanization than before and, therefore, decreases the proportion of workers needed for tending the machines. The number of workers in the sugar, match, cement and paper industries in respect of which we are almost self-sufficient is 60,000, 14,000, 6,000 and 6,000 respectively. In the iron and steel industry, which satisfies nearly two thirds of the requirements of the country, 24,000 men are employed. Another lac of workers will at the utmost be needed to produce within the country the quantity of cloth and yarn now imported. The development of industries, railways, mines and plantations from 1901 to 1931 increased employment, as stated in Chapter III, by 20·15 lacs. It is not possible to say definitely how much more employment will be created by the expansion of the other industries which can be expanded or developed in the next twenty years. But if we assume that in 1951 large industries will employ double the number supported by these industries in 1931 and if we take for granted that the general framework of our economic society will in essentials remain unchanged, we will in all likelihood be erring on the side of exaggeration. The annual increase of population can in the current decade be estimated at 3·5 millions ; and if in the next two decades the above assumption comes true, we shall find work for the one year's addition to our population since 1931.

There is still another factor which has a bearing on the question of employment for our increasing population through industrialization. Rationalization, i.e. replacement of men

by machines, depends upon the level of wages of the workers. If wages are raised the process is bound to be accelerated. Mr. G. D. Birla, the Marwari millionaire of Calcutta, in his speech at the annual meeting of All-India Organization of Industrial Employers held at Delhi on April 4, 1938 warned the public against the dangers of always pressing for increase of wages of the workers. He said " So far India has lagged behind the other countries in respect of rationalization and labour-saving devices. Once the wages are put unduly high in extreme disparity of the rural wages, labour-saving devices will be resorted to. The country should not fail to take note of this aspect of the question. We have to choose between higher wages with less employment and moderate wages with large employment."

Mr. Birla's conception of moderate wages as wages which are more or less related to rural wages will not give the worker a living wage ; but that question apart, he is right in pointing out that raising of wages will mean much greater rationalization than has been resorted to hitherto in India. The choice lies between low wages with comparatively large employment and high wages with less employment. This is a dilemma which is inherent in industrialization through private enterprise. An increase of wages in the future seems to be inevitable ; and that not wholly because the present level of wages in India is woefully low, but also because the organized labour will use its growing strength to force an increase in the level of wages. That has already happened recently in Cawnpore and Bombay and will happen more and more as the time passes by. It is a development which is necessary and desirable from every point of view. But it is true that under the existing conditions the price of decent wages is less employment or more unemployment. Industrialization will go on, labour-saving devices will be introduced, a smaller proportion of workers will find work and those who do will run a greater risk of being " fired." The same thing has happened and is happening in other countries and is bringing the anomalies of the whole industrial problem to the fore. In India we have to face the same prospect, which means that if we industrialize the country we cannot employ as many people as we otherwise could have

done. If we take 1938 as our base year, the estimate of employing 3·5 million workers through industrialization by 1958, would, in the light of this consideration, appear to contain really a very liberal margin of error.

That does not mean that we should not industrialize our country or regard it as an unimportant measure of development. It is very important; and as industrialization is inevitable, let us proceed with it with the utmost expedition and mastery of its technical problems. Our immediate task, as pointed out above, is to concentrate upon the development of "heavy" industries. The problems of developing these industries are more intricate and difficult. India is lacking in the technical skill, the experience of organizing these industries and the financial resources necessary for developing them. In due course our men will be quite equal to the task of running these industries. But in the initial stages we will need the help of foreign experts and most likely foreign capital. Our problem will be how to get both without mortgaging our future. Ours is an already encumbered estate and three thousand millions of sterling capital invested in India accounts for the provisions of safeguards, special powers and responsibilities in the new constitution. We cannot incur further liabilities in this respect. The view that we should keep our resources undeveloped rather than increase the power of high finance over our national destiny is essentially sound. We have, therefore, in the matter of industrialization, to be very careful not to prolong our political subjection by raising foreign loans unless we can get them on terms compatible with our demand for full political freedom.

But if we can, we should avail ourselves of foreign capital and foreign expert assistance to develop our heavy industries as early as possible. We should make use of every available means for the purpose, tariff duties, state subsidies, industrial research, technical training, provision, if necessary, of Economic General Staff, reorganization of banking and large measure of public regulation and control over the nascent industries. We should also do all that we can to develop such light industries, i.e. industries for the production of consumption goods, for the products of which a market can be found within the country.

In increasing the pace of industrialization we will be creating for ourselves new problems and even perils. But we have to face them and do what we can to make the necessary re-adjustments.

The point, however, which we cannot lose sight of in the discussion of industrialization in relation to population is that in itself it is only a partial solution of our economic problem. The extent to which it will be possible to industrialize the country will depend upon our ability to pool our resources and use the whole power of the state for realizing this object. If India remains a country of divided counsels and powers, as it most likely will, the rate of our industrialization cannot be as rapid as it should. But even if this political difficulty can be overcome, we shall have to reckon with the difficulty created by the extremely limited purchasing power of our people and therefore, by the limited markets. A few millions more—say 3·5—will as already stated be the limit of the increased employment which we can provide through industrialization even if the process is speeded up under the most auspicious circumstances.

Industrialization will require the development of all ancillary economic activities like roads, railways, banking, etc. There again we will come up against the difficulty created by the divergence of aims and policies of the different political authorities in India. As stated before, we are passing through a period of political transition which makes and will make, as long as it lasts, the political equilibrium in our country unstable. We should try our best to enlist the co-operation of all concerned in the building up of our industries. But if the institutions like the Reserve Bank and the Federal Railway Authority are going to be concerned more with safeguarding of vested interests than developing the country, we cannot assume that all concerned are going to pull their full weight in the industrial transformation of the country. Industrialization even with the utmost speed is only going to take us a small part of the way, but in actual practice it is going to be a halting and disharmonious process and the assumption that we are going to go full speed ahead is not going to be realized in fact.

No discussion of our economic prospects can be regarded as

complete which does not include the discussion, no matter how brief, of the place of small industries in the economic development of the country.

Of the 17·2 million persons, or 10·38 per cent. of the entire working population, who are shown as employed in industry in the Census Report of 1931, all except less than 2 millions, are working in small, mostly cottage industries. These workers can be divided into three classes: (1) The workers in village industries or village artizans, who are a part of the village economy. (2) The workers in what may be called art-crafts who are producing fabrics, brassware, etc. of artistic merit. (3) The workers in localized industries producing staple goods and independent producers making goods to order, mostly in towns. Figures are not available of the number of workers in each of these classes. But it is necessary to consider separately their position and the effect of the likely economic changes.

Of these workers the village artizans are the most numerous. They are members of the village community and, except for the weavers and to a certain extent the oil-men (Teli), they are not exposed to the competition of large-scale industries. They perform functions which the village community cannot do without as long as it remains what it is. Apart from the weavers, it is very unlikely that their number will decrease. The average population per village in India is 450. Forty-one per cent. of the rural population is living in villages of less than 500, 44 per cent. in villages from 500 to 2,000. The number of artizans necessary is limited by the size of the village and in small villages the increase of artizans cannot be in proportion to the increase of population. It is therefore likely that the children of these artizans will be thrown out of their caste or ancestral occupations in large numbers and will swell the ranks of landless labourers unless they can find work in other industries. There is no risk of any considerable decline in the number of these artizans. Their proportion will decrease and their economic position will be determined by that of their clients, the cultivators.

The artizans employed in the artistic industries have a place of their own in our national life. Their work is a part of our

national heritage. The high standard of workmanship and artistic excellence has to be maintained and improved. These artizans, who are also artists in their own way, are now living under most depressing conditions. Their wages are low, their living conditions sordid and they are being exploited by the middlemen most ruthlessly. They have not lost their inherited skill, but they are an ignorant, hidebound and unprogressive set of people. And what is worse, they are being driven by competition to lower the standard of their workmanship and produce goods of doubtful artistic value.

These industries have to be saved. Even if they cannot hold their own on purely economic grounds they have to be subsidized, for their extinction will be a great national loss. By education, reorganization and the introduction of protective measures, the position of these artizans has got to be improved. In spite of the technical schools that have been started for their benefit and other measures that have been taken to help them, their exploitation is now worse than ever and their future distinctly unpromising. But the number of these artizans is small and it cannot increase appreciably. If by state-help and self-help they can become independent, comparatively prosperous and given a new interest and pride in their work, they may attain a status worthy of the quality of the work that they can turn out. But art-crafts cannot be regarded as an outlet for our growing population and it is not unlikely that a certain proportion of the children of these artizans will, even under improved conditions, find it necessary to move, if they can, to other occupations.

The crux of the whole problem of small industries, however, consists in the possibility of maintaining and strengthening the position of the producers of staple goods. Have they a future ? Can these industries continue to find employment for the existing number of workers and by expansion absorb many more ? That the number of persons employed in these industries is large is an undisputed fact, even though their numbers cannot be stated exactly. Among them the weavers are the most important. If we take the 1931 Census figures of the workers engaged in cotton spinning, sizing and weaving and deduct from them the number employed in the cotton mills,

we get nearly 2·4 million workers who are presumably handloom weavers. This number would include the village weavers, the weavers producing costly fabrics and the weavers making staple goods in localized industries. This number is larger than the number of workers employed in all the factories and mines in India and most of them are producers of goods of every-day consumption.

The handloom weaving industry has been an object of special interest and solicitude on the part of the general public, the political leaders and, for the last two decades, of the Government. Mahatma Gandhi has laid stress both on hand-spinning and hand-weaving and made the former the more important of the two in his economic and political programme; but his influence has undoubtedly focussed general interest in handloom weaving to a greater extent. The Provincial Departments of Industries, since their inception, have devoted most of their energy and resources to the improvement and revival of handloom industry; and almost every Province now has its own textile expert, weaving institute, demonstration parties and even marketing organization. As a result of these efforts and owing to the advantages which it enjoys, this industry has made some progress. Its estimated production, as stated earlier in this chapter, was in 1935–36 a little less than 50 per cent. more than in 1921–22 and it supplied nearly one third of the total cloth consumed in India.

That is a matter for satisfaction and it is possible to infer from it that the industry has great vitality and power of growth. But we have to remember that 1921–22 to 1935–36 has been a period of expanding market both for the mill and handloom industry; and though the latter has increased its production and sales, the expansion of the mill industry has been far greater. The real test of the ability of the handloom industry to maintain its position will come when the mill industry in India has completely replaced the foreign producer or finds that it cannot increase its gains at their expense and, therefore, has to grow by capturing the market of the handloom weaver. Experience has shown, as stated already, that the market for cloth is not elastic and its consumption per head has not increased materially and, therefore, when the mill industry

is unable to grow by ousting its foreign rivals in the market, it will direct its attention to the field now occupied by the handloom weaver. The latter will then be exposed to the full blast of the competition of Indian mill industry and the power of handloom weaving to maintain its ground will then be put to the real test.

What will be the issue of the struggle ? It is widely believed that with the improvement of technique, co-operative purchase and sale, better finance facilities and possibly the use of cheap electric power, the industry has nothing to fear from the mill industry. As the handloom industry has not had its strength really tried, it is premature to say how far this belief is well founded. But if the experience of other countries is any guide, it is doubtful whether an optimistic view of the future of the handloom industry in India is justified. In almost all other countries the industry has succumbed to the attack of mass production. The handloom weaver does not, excepting the finer fabrics, produce anything which cannot be produced by the mills. The total output of 1,660 million yards, which the handloom weaver now provides for the Indian market can be easily produced by the mills. At present the latter employ 4·56 lacs of operatives and produce not only more than twice as much cloth as the weavers do, but also spin 1,058 million pounds of yarns, a considerable proportion of which is used by the weavers in making their goods. With rationalization, probably less than a lac of factory operatives will be able to turn out as much cloth as is being produced by nearly 2½ million handloom weavers. The number of cotton mills in India has been increased from 275 in 1924–25 to 367 in 1933–34 or at the rate of more than 9 a year. If the same rate of progress is maintained for the next ten years, they should be able to capture the whole market of the handloom weavers.

That may happen but it would not be desirable to let it happen. If 2½ million persons are thrown out of work in the handloom industry and only a lac can be provided in the expanded mill industry, the displacement will cause an amount of distress which ought to be prevented. Millions of human beings cannot be permitted to become obsolete by the progress

of technique unless the community can find other equally suitable occupations for them. It has been suggested that the mills should be prohibited from manufacturing lower counts and the field should be left clear for the handloom weaver. The mills have been increasing their output of finer cloth and the process should be carried further. If it is necessary for the protection of the handloom weavers, the mills should be made to confine their weaving to piece goods over, say 20 counts. At present more than half of the yarn spun by the mills is below 20 counts, but a very large proportion of it is sold to the handloom weaver ; and it may be necessary to protect him by imposing the restriction on weaving referred to above.

Even if these steps could be effective for increasing the lease of life of handloom weaving, it has to be borne in mind that it is, and has to be more and more on the defensive in the future. It is fighting what is really a losing battle. As Marshall has pointed out " Textile materials are delivered by nature in standardized primary forms well suited for massive change into standardized finished products."

More important than technique for the handloom weavers are the problems of marketing and finance, and the experience of non-credit co-operation all over India has shown that these problems are not capable of easy solution. Further and more efficient attempts have to be made to solve them. But all these measures are necessary to prevent dislocation of our economic life and cannot be regarded as the solution of the problem itself. Handloom weaving as a primary or principal occupation needs and deserves assistance because of the difficulty of transferring labour employed in it to other industries. That being the case, it has to be regarded as an industry, the relative importance of which will decrease and not increase with the passage of time. If we take the 1921 Census figures of persons engaged in cotton weaving and sizing and weaving and deduct from them the number of mill-workers, we get 2·4 million workers which is the same as in 1931. The increase of handloom production has probably meant a little increase in the exceedingly meagre income of the weavers ; but it has not increased their number. The industry cannot be allowed to die out ; but it is also clear that it cannot be counted

upon to provide work for even a small proportion of our growing population.

The handloom industry is the most important small industry ; but the above considerations apply as much to the other small industries as they do to this industry. There are certain limited spheres in which the small producer has an advantage, but in the case of goods capable of standardization, mass production reduces costs and therefore, increases efficiency and makes commodities available at low prices. It is not possible to examine the case of the other small industries. They, like handloom weaving, should be helped to maintain their position as long as possible and even new small industries should be created if large-scale production in those lines has not been started in India. But the extent to which we speed up industrialization in India to that extent we make the odds heavier against the small-scale producer. We cannot in the case of the same or similar commodities accelerate industrialization and at the same time develop small industries. As a matter of fact, before we decide to develop an industry on factory lines, we should carefully weigh the consequences of its development for the small-scale producer. India is a poor country, the needs of her people are few and simple and they must be satisfied, if they can be satisfied at all, at low prices. Industrialization can give us lower prices than small-scale production. But we cannot ignore the interest of those engaged in the latter and leave them to the tender mercies of ruthless economic forces. Readjustments have to be made with care and shock absorbers provided in order that the incidence of the change may not fall with undue severity upon a small and helpless section of the community.

But just because these considerations are important and the small industries need the fostering care of the community not because they are nascent but because they are antiquated, we have to realize that the future does not lie with them. Industrialization has paradoxical results. It increases production and decreases employment. People thrown out of work can, through suffering amounting almost to agony, find their way to other industries if markets are expanding and even can, as they have done in the West, raise their standard of living.

But India cannot expect to capture foreign markets. There are far stronger rivals already in the field and they are taking good care to fence it off by tariffs and other restrictive devices. India has to rely mainly on her own market for the disposal of her manufactures. Her own market is limited, owing to the poverty of the bulk of her customers, the agriculturists. But industrialization has already started and has to go on. The decrease of employment that it will cause will fall mostly on the small industries. Hence the need of making their displacement as little painful as possible. The problems which industrialization is creating and will create on a larger scale as the process goes on, cannot be limited to their effect on small industries. India has to share them with the rest of the world and stumble upon a solution which can make increased production the blessing it ought to be, not the cause of distress it often is to the masses suffering from acute want. But until that solution is found, the illogical course of preserving the small industries as far as possible and developing mass production through industrialization has to be pursued. The course is illogical but necessary; but if we realize the logic of this necessity, we shall also realize that the journey's end is an India of power production and not of handicrafts.

It is a hazardous journey and its hazards are all the greater because we are passing through a period of all-round strain. The political changes which have taken place and are likely to take place will make the strain greater and set up stresses of their own. But the small industries, owing to the nature of the process at work, will have to bear the brunt of the risks involved. They will be necessary for a long time to come, and will continue to support a large number of persons.

Though the outlook for the three classes of small artizans has been examined, there is another important aspect of small industries about which a few words have to be said. Mahatma Gandhi's gospel of the spinning wheel has had many important effects and among them the one whose economic interest is the greatest is that it has made the nation realize the enormous amount of man-power which could be productively used and is now running to waste owing to the agriculturist having no work on the average for at least four months in the year. He

has suggested cotton spinning as the most suitable occupation for the purpose. Spinning and weaving can be combined together and provide work for the idle days of the agriculturist and if he consumes his own products, he will have no problems of marketing and finance and run no risk owing to the fluctuations of prices. There can be no possible economic argument against the form of production for use ; and if some other occupations, besides cotton spinning and weaving, can be suggested which will enable the agriculturist to provide himself with the things which he needs but cannot buy, they too will serve the same purpose, the condition of course being that the occupations should be easy to learn and not require investment of capital beyond the means of the agriculturists. The spare time of the agriculturists can be used co-operatively for village reconstruction and the provision of amenities for which the state cannot find funds. This too can and should become a very important subsidiary occupation of the agriculturists for which the agriculturist can get payment in kind i.e. the improvement of his living conditions. It will require central initiative and direction and a much higher order of public spirit than is ordinarily found among the cultivators. But it should be possible to create conditions favourable to co-operative use of labour for common enterprises.

These subsidiary occupations, though important, will have a limited value. They can improve the conditions of the cultivators a little but they cannot enable them to increase their purchase of other commodities. But if it is possible to provide subsidiary occupations the products of which have money value, they will not only increase his purchasing power but create a demand for the products of other industries and even enable him to buy food which he may not be able to grow himself. They will make possible the expansion of the home market in India and enable other industries to grow. They will remove the fundamental weakness of the economic system of India, viz. the inability of the cultivators to buy anything except a limited quantity of salt, kerosine and a few other necessaries. The important question therefore is whether it is possible to provide such occupations. If we can convert the unused labour of the cultivator and even landless labourer

into marketable goods, we may be able to neutralize at least partially the cramping effects of the complicated and parasitical system of land tenure, small holdings, etc., and release productive sources which may enrich the country.

The first point to remember is that even if such subsidiary occupations can be provided, the achievement will be beyond the material and initial resources of the cultivator himself. The moment production becomes commercial, the question as to what to produce, how to produce and sell it, i.e., the questions of technique and marketing the products assume importance. When the cultivator produces for himself, he is his own market and if he has a simple appliance like a spinning wheel or hand-loom and knows how to use it, he can produce what he needs. But when he produces for the market, he has to take into account the competition of other producers, large and small, and must be in a position to sell on terms comparable with those at which they sell. He must, of course, know what is wanted, use efficient though not complicated technical methods and have organizations at his disposal which will find markets for him and finance production and give the necessary technical assistance. It will also be necessary to take steps to prevent the cultivators being defrauded and exploited for there is a risk that his helpless condition might be used by the middleman to his serious disadvantage. He can neither find the market in the village or near his residence nor buy his raw material near at hand. All this requires planning and co-ordination which either must be provided by private enterprise or public agencies. He has his labour which he can use for production; but he cannot perform functions necessary for competitive success in the market. If all that work can be done for him, he may be prepared to work even long hours for low wages and get something for his time for which he can find no productive use at present.

The All India Spinners' Association is such an organization for hand-spinning and weaving. It has its Khaddi centres which give the necessary training and guidance to the weavers and provide sales depots for selling the wares. It has created a special market for the handspun and woven cloth by making hand-spinning what Mahatma Gandhi calls a "sacrament"

whose virtues the people have been made aware of by a strong appeal to their political and moral sentiments. It has also its own funds which it invests in the business of producing and selling Khaddar. The association however does not confine itself exclusively or even mainly to giving assistance to the agriculturist to supplement his income by hand-spinning and weaving. It is primarily interested in hand-spinning and most of the weavers working for it or under its direction are whole-time workers.

In Japan, the silk industry has become an important subsidiary occupation of agriculture and accounts for 20 per cent. of the income of the agricultural classes, more than 36 per cent. of whom combine silk-worm rearing with agriculture. But most of the silk is exported, and as Japan produces nearly four-fifths of the total raw silk of the world, the agriculturist in Japan is, to the extent of his income from silk, living on export mostly to the U.S.A. Japan is a country of small industries, but she has not been able to make any important industry other than silk subsidiary to agriculture. The silk industry in Japan on account of its dependence on foreign markets is not secure and its position is being seriously threatened by the rapid development of artificial silk. Moreover, silk being an article of luxury, its market is specially sensitive to fluctuations of prices and prosperity and the Japanese cultivator has suffered particularly from the ups and downs of trade in the U.S.A. But the development of silk as a subsidiary industry for agriculture shows what can be done under favourable circumstances.

In India it is worth while making a serious attempt to introduce such industries in the countryside which may enable the cultivator not only to increase his production for use, but also his purchasing power. Khaddar-making, though admirably suited as a subsidiary occupation for the former purpose, has no prospects as a source of increased purchasing power, unless not only the weaving of cloth but also the spinning of yarn below 20 counts is not permitted to the mills. But a measure of this kind even if it is introduced, must be a temporary expedient ; and it is necessary to look for some other industries which may be suitable as occupations subsidiary to agriculture

and which can be introduced on a large scale. Industries like fruit canning, poultry farming, in certain areas paper making, ceramics, and of course, the industries like lac and sericulture suggest themselves; but despite the fact that the question has been before the public eye since 1921 when Mahatma Gandhi made hand-spinning the most important plank of his programme, the matter has not been investigated as scientifically or carefully as it deserves to be.

The Agricultural Commission in their Report expressed the opinion that the possibilities of improving the conditions of the rural population by the establishment of rural industries were extremely limited and added that in the intensification or diversification of agriculture was the chief solution of the problems of the cultivator.* The Agricultural Commission was precluded from dealing with the vital problem of land tenure and its relation to agricultural development. They dealt with the problem of small holdings, but could not suggest any solution for it and nor has any been suggested since. These problems have an over-riding importance for us and since they cannot be solved, we will have to do what we can for agriculture in spite of their handicap. Intensification of agriculture means use of better seeds, manures, control of pests, etc. That will improve the position of the cultivator but will neither solve his problem nor that of using his spare time productively. The introduction of subsidiary occupations cannot place him above want or make an essentially unsound position sound; but all measures that can be adopted for his benefit are palliatives, and among them the provision of spare-time occupations should have an important place.

Necessary as it is to develop subsidiary industries, we must not expect that, as a result thereof, we will bring into being " a new mode of social and economic life superior to that which has gone before,"† to quote the words of Mr. R. B. Grigg The introduction of this measure is rendered necessary owing to " the desperation of Indian poverty." But it is not a step forward and cannot give us a stable and sound system. I we are—in the words of J. M. Keynes whom Mr. Grigg quotes–

* Vide *The Agricultural Commission Report*, p. 575.
† *Economics of Khaddar*, by R. B. Grigg, p. 224.

to make an effort of the mind to elucidate our own feelings we shall realize that we have to give hand-spinning and weaving and other subsidiary occupations an important place in our economic life. We have not the means at present and probably not even the will to make a real effort. When we have we shall have other and more fruitful ways of using the spare time of our people.

It has been necessary to state the possibilities of this development because of its importance and the sacramental character given to it by Mahatma Gandhi. Similarly the other possible developments of our economic life have been dealt with at some length, because, as it was said at the end of Chapter VIII in the discussion of population, the future is more important than the present or the past. If we can increase the pace of economic progress in the country and make full provision for our present and growing population the present position, unsatisfactory as it is, can be accepted more cheerfully.

It is in the nature of things impossible to make a forecast of our future quantitatively or indicate the rate of progress, because of the presence of the numerous incalculable elements in such estimates. If we were masters of the situation and central direction and control were possible, we could have what are called control figures in Soviet Russia and make our estimates the measure of our likely achievements. As it is we have to deal with many imponderables and the uncertainty of the whole situation. It is not necessary to dwell on them. The situation at home and abroad is changing almost daily and presenting new issues and prospects. Only recently has the world escaped narrowly from a terrible doom and by doing so has probably made even a worse disaster inevitable. We have no means " to defeat," to quote the words of J. M. Keynes* used in a very different context, " the dark forces of time and ignorance that envelope our future " and also none to anticipate the results of their working, much less to estimate them quantitatively.

In spite of the future being a gamble and everything being at stake, nearly 100 pages of this book have been devoted to

* J. M. Keynes. *The General Theory of Employment, Interest and Money*, p. 155.

assessing its possibilities. That has been done on two assumptions. One, that though the present equilibrium is unstable and will remain so during the time with which we are concerned, it will not be upset altogether. The other, that taking things as they are and granting the necessity of finding some safety valves, the parties concerned will feel impelled to do what they can to alleviate the situation without causing any serious disturbance in the existing order of things. The assumptions are made more for the convenience of argument than in the belief that they will come true. In the discussion of the population question it is generally asserted that the prevailing misery of the people is no indication of the pressure of population being excessive and that India has resources, which, when fully developed, will be quite adequate for the support of the existing and increasing population.

This view has been referred to before and will be more fully examined in the next chapter. But in order to see how far it is supported by facts, it was necessary to take a measure of the progress that is attainable in our country. For this it had to be assumed that though the conditions have changed and are changing, what are called catastrophic changes will not happen; for if they do, any forecast of the future becomes impossible. Catastrophes may be good or bad but they do not respect anticipations of any sort. It had also to be assumed that within the limits set by the precarious balance of forces the utmost that can be done will be done. That does not imply that gradualness is inevitable or that the Federal, Provincial and State Government are all going to exert themselves to the utmost for the fullest possible development of our national resources. The inevitability of gradualism in a world in which shock methods are being favoured and used in so many countries is refuted by contemporary events; and the very fact that the equilibrium in India is unstable is due to the disparity in the stages of development and the willingess to go ahead of the different authorities on whom the pace of progress depends. But since the argument is that India is a country of vast possibilities, the estimate of the possible development has been made on the assumption that the tendencies at work will be made to yield the best of which they are capable.

The view enunciated in the preceding paragraphs has been made purposely optimistic without making it out of accord with the facts, and the conclusions to which it has led, is that the facts do not support the view that future developments will materially relieve the pressure of population. Since the poverty of India is a grim fact, all that can be done to mitigate it should be done. That we cannot do everything is no reason for not doing anything at all. But in our forecast of the future we must not lose the sense of proportion or build exaggerated hopes of what can be achieved. We have not come to a dead end and must bring into play regenerative forces to the fullest extent. Let us therefore bank on the future by all means but let us also realize that in the economy of nature, there is no system of overdrafts. We can draw upon our account only to the extent to which we can put liquid resources into it and the conclusion of this chapter is that our capacity to do so is limited owing to internal and external factors.

Before this chapter is closed, it is necessary to deal briefly with one more point whose bearing on the population problem is obvious. The point is the possibility of migration as a method of relieving the population pressure. It has already been pointed out that the redistribution of population for relieving the most densely populated parts of the country is not possible on a large scale.* India, as already stated, has no empty spaces worth speaking of to fill and the fact that population has been growing, as stated in Chapters III and IV, more rapidly just in those parts where the pressure is already the greatest, indicates the inability of comparatively sparsely populated areas to absorb more people.

It is true that social factors like the caste system increase the immobility of our people by making them unwilling to try their fortunes far afield. Economic pressure in many parts is, however, so great that if the outlets were available for migration on a considerable scale, a system of assisted and regulated migration, by which people could be transferred in communities from the more thickly to the less thickly populated parts, could be put into operation. This has already been tried with success on a small scale in the areas opened up by the construction of canals.

* Vide pp. 255–258.

In areas like Sindh and Bikaner migration has been important and in the Punjab intra-provincial migration has given some relief to the districts where the pressure of population was severe. In Assam, as already stated, the influx of immigrants from East Bengal has been an important factor and is likely to continue though on a reduced scale for a decade or two. But the extent to which relief can be afforded in this way is small and does not even touch the fringe of the problem.

TABLE 82

Table showing Excess or Deficiency of Migration in the Major Provinces (In thousands)

	1901	1911	1921	1931
Assam	699	757	1,140	1,241
Bengal	—	286	1,132	771
Bombay	148	351	472	597
C.P.	323	428	197	227
Punjab	185	117	69	67
U.P.	−895	−818	−974	−1,063
Madras	−467	−585	−718	−888
Behar & Orissa ..	—	1,491	−1,567	−1,291

These figures do not show the excess or deficiency of emigration or immigration in the successive decades but excess or deficiency of those enumerated at successive censuses. If we take Assam for example, which shows an excess of 1,241,000 in 1931, the actual increase due to immigration in that Province in 1921–31 was only 121,648 (*Assam Census Report*, 1931, p. 11). But all the same it is clear that Madras, U.P., and Behar and Orissa have been losing by migration and Assam, Bombay and Bengal have been gaining.

Industrialization of the country is also likely to lead to internal migration. From the table given above it would appear that the Province of Behar and Orissa, the U.P. and Madras have had the balance of migration against them for several decades, i.e. they have by emigration lost more than they have gained by immigration.

That is due to the labour of these Provinces having been in demand in the Provinces of Bombay, Bengal and Assam and also Burma, which, by separation, will now become an area of external immigration. Whether the process will continue on the same scale remains to be seen; but owing to the limited extent to which industrialization can create new employment and the relative smallness of the proportion of those who go out to those who remain behind, the redistribution of population sufficient to affect the pressure of population cannot be expected from this source.

Migration between the Indian States and British India is also not an important factor. The gain or loss of the States since 1891 is given in the following table :—

TABLE 83

Table showing Gain or Loss by Migration of the Indian States (Gain + Loss − in thousands)

1891	1901	1911	1921	1931
−231	−221	−132	−124	+495

The stream which has, for the Indian States been flowing outwards, has in the last decade turned inwards. The States are, as a whole, less thickly populated than British India, but they are also backward economically, and it is very difficult to say whether they will in future receive more immigrants from or send more emigrants to British India. But as the population of British India in 1931 was 272 millions and of the Indian States 81 millions and it increased since 1881 by 73 and 25 millions respectively, it is obvious that migration of a few hundred thousand from or to British India and the Indian States will be practically insignificant. On the balance the Indian States have gained about 2 lacs since 1881 which is ·8 per cent. of the increase of their population since that year and less than ·3 per cent. of the increase of British India. And when it is remembered that a considerable proportion of the internal migration in India is of a casual and periodic character,

the insignificance of the internal migration in relation to the population problem becomes all the greater.

Emigration outside India is even less important than migration within the country as a measure of population relief. The total number of Indians living in foreign countries has been estimated as 2·4 millions, and if Burma is now treated as a foreign country and the number of Indians living there is added to this number, the total emigration from India can be taken as 3·2 millions which is less than one per cent. of the total population of India. This emigrant population, with the exception of 100,000, is living within the British Empire and mostly in Burma, Ceylon, Malaya, and Mauritius, which account for 2·2 million. The other important countries are British Guiana, Trinidad, Jamaica and South Africa. Emigration to the first three countries is still important and for Malaya and Ceylon amounted to 8·65 lacs out of the total emigration of nearly 10 lacs in 1921–30. Emigration to Burma has been decreasing but is still of considerable importance. The Indian population in Ceylon has increased from 277,000 in 1881 to 778,000 in 1931 and in Malaya the total is now nearly 700,000.

Our total emigration is small and due to well-known causes is bound to remain small. In Burma and Ceylon the prejudice against Indians has been increasing and even political discrimination has been started. In Malaya, owing to economic causes, the stream for some time flowed backward and a large number of Indians were repatriated ; and though the conditions have improved a little, it is known that Malaya cannot accommodate many more Indians. In British Guiana, Trinidad and Jamaica, etc. there is no discrimination against Indians ; but there has been no emigration to these countries for a considerable time. As their total population is less than two millions and their area small, the absence of disabilities is not much of an advantage from the standpoint of immigration.

The Dominions and the U.S.A. have closed their doors against Indians and there is no chance of their being reopened. The disabilities from which the Indians suffer in South Africa, East Africa and Kenya may increase or decrease, and it looks as if they will increase rather than decrease. Australia, New

Zealand and Canada may give equality of political status to the few thousand Indians who have permanently settled down there; but they have absolute power to determine the composition of their population and there can be no abatement of their resolve to keep coloured people out of their territories. The U.S.A. has been excluding Indians from immigration since 1917, and as later restrictions on immigration are intended to reduce and have reduced even immigration from South and Central Europe, the Asiatic exclusion from the U.S.A. must be taken as a settled fact. The only countries where there is room for colonization but which do not specifically discriminate against Indians in the matters of immigration, are most of the countries of South America. But the disturbed political conditions there, their distance and absolute strangeness of the conditions for Indian emigrants rule out the possibility of our people migrating to those countries on any considerable scale.

The present conditions are known to be prohibitive for emigration from India; but it is generally assumed that relaxation of these restrictions can well be expected when India is politically free. As complete political freedom of India is itself not in sight, it is not possible to count upon the relaxation of these restrictions, even if the assumption is tenable. These restrictions are the result of the white man's superb faith in his own superiority. "The essential superiority of the European is often taken as an axiom, a doctrine—almost a religion." Mr. C. F. Andrews makes this statement about the prevailing attitude in the colonies in his *India and the Pacific*,* but it is equally applicable to the self-governing Dominions; and the All-white policy in Australia, Canada and New Zealand is their religion applied to international relations. Japan is free and strong. She has excelled Europe in her belief in force and its use in the most brutal manner; but her armed strength and the frightfulness with which she is using it are of no avail to her in opening the bolted doors of the U.S.A., Canada and Australia to emigration from Japan. She has, on that account, been forced to embark upon the risky adventure of conquering China in her search for assured markets, raw materials and

* *India and the Pacific* by C. F. Andrews, p. 102. (George Allen & Unwin).

outlets for her surplus population. Rise in the political status of India will enable us to better the interests of Indian residents abroad; but unless the whole complexion of international politics becomes entirely different and the Europeans find that the undesirable people now excluded from the territories under their control have not only a just case but can back it with force at least equal to theirs, there is no possibility of " men of colour " being admitted as immigrants in countries with vast areas of uninhabited but good arable land and large resources which the European now considers his own special preserves. That may happen at some distant date but is of no practical interest in the discussion of our population problem.

The other point which may be urged in favour of the situation becoming more favourable to Indian emigration is that in tropical regions, the predominance of Europeans will, for climatic reasons, give way to the need of these areas being developed by people who can best thrive under the conditions prevailing there. Mr. Andrews in the book cited above points out the folly of the European trying to retain everything in his own hands. He speaks of the finger of Destiny writing its final verdict all the while and pointing to the necessity of the European making room for Indian and other Oriental races in the tropical regions. The assumption on which this view is based is that in the tropics the white man cannot beat Nature and live in health and efficiency. Mr. Andrews also points out that Australia is nearer climatically to India than it is to Great Britain, and in the long run the geographical factor will work subtle changes and give " what may be rightly called a new orientation " to Australian life.* The view implies a possibility of *rapprochement* between Australia and East Asia—a possibility which may change the outlook with regard to migration.

It is well known that geographical factors, even when they change racial constitution and psychology, take a long time in producing their effect. But it is not certain that the tropical character of Australia can be expected to produce the change anticipated by Mr. Andrews. As pointed out by Professor Carr-Saunders in his *World Population*, in Townsville, the most

* *Ibid.*, p. 168.

tropical of the towns in Queensland, there is no evidence that the European is enervated by the conditions under which he has to live. "While there may be no proof that the white men can work and live in the tropics and remain as healthy and vigorous as in temperate climates, there is no evidence that they cannot do so."* Be it as it may, we in India cannot derive any comfort from "brilliant sunshine beating down day by day" "orienting" Australia or other vast territories in the Pacific which white man has now "enclosed" for his own exclusive use. These territories are closed to us and will remain closed to us so far as we can see.

Looking far ahead one can see that the "White Australia" policy has in it the seeds of conflict which cannot be put off indefinitely. The birth rate in Australia is declining. After 1940 the population of Great Britain is expected to show a downward tendency and the same will happen in other European countries a little later, so it is very unlikely that through surplus of births over deaths and immigration Australia will be able to maintain a rate of increase of 2 per cent. every year, which even Professor Carr-Saunders thinks is necessary for filling up the empty spaces ofAustralia in a reasonable time. The same is true of Canada and it seems likely that these countries will follow what has been called a "dog-in-the-manger" policy, and with so many other countries full to overflowing, they will neither develop these areas themselves not let others develop them. The position is truly a grave danger spot in the world situation and the barriers which have been created as a result thereof will have to be maintained in face of an increasing pressure until they give way under the stress of the unprovided-for population of the over-populated countries of the world.

The danger spot is there, and sooner or later the rising tides of colour and populations will sweep away these barriers; but for India this fact has little significance. All that really matters for us is that we have no outlet for our population outside India and cannot expect to have any. We will have to maintain our population with our own resources; and if it keeps on growing, the only barriers which we can remove are those set

* *World Population*, Carr-Saunders, p. 172.

up by our own inertia or lack of enterprise. That would be a welcome result ; but we must see facts as they are and realize vividly the limitations under which the development of our resources must take place. The fact that our horizon has to be limited to our own country makes these limitations the more striking and significant. For us there are no new pastures and the old ones, though by no means exhausted, cannot be developed to their potential capacity.

Chapter XI

IS INDIA OVER-POPULATED?

THE purpose of this book being practical, i.e. to make a contribution to the solution of a vital problem of our national life, the above is the most important question to which an answer has to be given. It has become customary with writers on the population question in India to dismiss the question in a somewhat offhand manner. Mr. Subash Chandra Bose, for example, said in his presidential address at Haripura : " I do not want to go into the theoretical question as to whether India is over-populated or not." In a presidential address of the Indian National Congress it is not possible to discuss the pros and cons of the question of over-population ; but the question whether India is over-populated or not is not at all a theoretical question. Mr. Bose, in the same address, committed himself to the view that " we cannot afford to have our population mounting up by 30 millions during a single decade," which is a practical answer to a practical question, and the answer given by Mr. Bose is that India is over-populated and that restriction of numbers is urgently called for, for restriction of population can be justified only if India is over-populated.

From the trend of the arguments developed in the preceding ten chapters it must have become abundantly clear that in the writer's opinion the answer does not admit of any doubt or dispute. But as there is wide disagreement of opinion on this point, the various considerations bearing on it have to be dealt with in a sequential order in spite of the fact that in doing so a certain amount of repetition cannot be avoided. That there is divergence of views on this point is very well known. Mahatma Gandhi's view is that the country can support twice its present population if its resources are developed* ; and although his arithmetic is not to be taken literally, his implication, of

* " If it is contended that birth control is necessary for the nation because of over-population, I dispute the proposition. It has never been proved. In my opinion by a proper land-system, better agriculture and supplementary industry, this country is capable of supporting twice as many people as there are in it to-day."—Mahatma Gandhi, *Young India*, April 2, 1925. Mahatma Gandhi adds in the same article, " But I have joined hands with the advocates

course is that there is a very wide margin for the growth of population in India. On the other hand, the view expressed by the Census Commissioner in the *All-India Census Report*, 1931, that " the increase of population is from most points of view a cause of alarm rather than for satisfaction " is being expressed with increasing frequency and earnestness. The Public Health Commissioner for India has been reiterating it in every annual report of his since 1931. Sir Herbert Emerson, Governor of the Punjab, while opening the annual conference of the All-India Board of Agriculture at Lahore on December 6, 1937, emphasized the necessity of intensifying agricultural research in view of the rapid and cumulative growth of population in India and implied that there was every danger that resources of science would not be able to keep pace with the growth of population. Mr. Bose's view that it is necessary " to restrict our population until we are able to feed, clothe and educate those who already exist " has been referred to above. As this is being written, the newspapers report that the Honourable B. G. Kher, Premier of Bombay, in the opening address at the All-India Population and Family Hygiene Conference said, " There are very few countries where the question of population threatens to become as acute as in India."

In the above paragraph opinions of our eminent public leaders and highly placed administrators have been cited to indicate the divergence of opinions that exists ; and though only Mahatma Gandhi's view that there is no danger of over-population in India has been cited, there is no doubt that this view is fairly widely held and in the subconscious mind of most of the educated persons in India there is still the lurking suspicion that the over-population idea is being exploited for political reasons and that, as a problem of national life, the importance of the population question is only secondary. The reason for this long standing suspicion was referred to in Chapter I ; and as the poverty of India is more than ever a live

of birth control in India from the standpoint of the present political condition of the country." That can be taken to mean that owing to the present political condition of the country it is not possible to have a proper land-system, better agriculture and supplementary industry or in general terms the fullest development of the economic resources of the country and therefore restriction of population is necessary.

issue of our public life and the population argument is likely to be used against the introduction of urgent political and economic changes, the ground for the suspicion exists and will continue to exist for many years to come. But the question as to whether India is over-populated is, nevertheless, of fundamental importance and it is necessary to clarify the issues and give a definite answer to it.

It was stated in Chapter II that the recent discussions of population theory have made it increasingly difficult to suggest any clear criteria of over-population. Many and varied considerations are involved in the treatment of the question and it is not possible to lay down any reliable quantitative tests with reference to which a state of over or under-population can be posited. But in spite of the refinements of the theory which have given us a truer and fuller insight into the problem, the problem of food supply or subsistence is now as ever of vital importance. In India its importance is obvious for if it is undeniably true that semi-starvation is very common in the country, the desirability or otherwise of the growth of population must more than anything else depend upon this all-important factor.

Reasons were given in Chapter VIII for the conclusion that in India it is not possible to estimate the total food supply of the country or the rate at which it has been growing. It is even more difficult to state at what rate the food supply will grow in the future. The extension of irrigation and the introduction on a much larger scale of improved varieties of seeds, or the use of artificial fertilizers and better implements will increase the food production of India but it is impossible to say in what proportion or to what extent. Whether the production of food has kept up, or will keep up, with the increase of population is a point with regard to which, therefore, no statement which has a reasonable claim to accuracy can be made. However, as pointed out in Chapter VIII, there is reason to believe that the increase of cultivated area has fallen short of the increase of population by nearly 11 per cent. if the area under food crops is taken into account, and if allowance is made for the increase in the area under non-food crops, by 8 per cent. This deficiency has partly been

made up by irrigation and intensive cultivation but again it is impossible to say to what extent.

These figures are repeated here for what they are worth, but it has to be borne in mind that their value is limited. But even if our food production had increased or is increasing in the same proportion as the population, would it follow that an adequate food supply can be taken as assured for the country ? If, for example, in 1934 our food supply had increased by 21 per cent. since 1901, would it have been safe to assume that we were not short of food in that year ? That would, of course, depend upon whether we were or were not short of food in 1901. If there was a serious initial deficiency in that earlier year, the parallel increase of production and population would only show that the deficiency has not been increased. The extent of deficiency of food supply in 1901 or 1871, or whatever year we take as the basic year for comparison, being incalculable, even a comparative estimate of the shortage of food cannot be given. But the chronic semi-starvation of a vast majority of our people, which no one does or can deny, means, if it means anything at all, that India has been and is suffering from shortage of food. As remarked earlier, for practical purposes it does not matter whether our people are better or worse off than they were in the pre-British times or since say, 1901. The comparative estimate, if it were possible to make it, has a value of its own for historical or political purposes ; but that would not change or mitigate the fact that, whatever progress has been achieved in the last six or seven decades, stark hunger remains the most outstanding fact of our national life.

The extent to which our people are suffering from under-nourishment, for which the word malnutrition is now commonly used, has still to be investigated. Sir John Megaw's view that nearly three-fifths of our people are under-nourished has already been quoted. But the data available for making a proper estimate of under-nourishment on a country-wide scale are not available. Attempts are now being made to replace general observations by precise knowledge, by conducting dietary surveys in order to study " the state of nutrition " in the country. " Investigations carried out in recent years and months " to quote once more the *Public Health Commissioner's*

Report, 1935, " have now proved that a considerable percentage of the population of India presents many and diverse malnutritional conditions in greater and less degree and these are due in most parts to the qualitative defects in the ordinary diets of the people."* " The qualitative defects " referred to here are due to under-consumption of milk, vegetables, fruits and animal foods.

In India, as elsewhere, there are well-to-do people whose diet is ill-balanced, i.e. owing to ignorance of food values they eat the wrong foods in wrong proportions and combinations, and in most countries far more extensive use of green and leafy vegetables, fruits, nuts, milk, etc. is being advocated and adopted, and this change in diets has, so far as it has taken place, been an unmixed good. Improvement in such cases is due not to larger expenditure on food but to changes of dietary habits. But in India a " well-balanced " diet is beyond the means of most of our people. Dr. Akroyd, Director of Nutrition Research, Coonoor, under whom the dietary surveys are being carried out, has estimated that in India a well-balanced diet would cost Rs. 5 to 6 per month per capita,† i.e., the minimum amount which an individual must spend every month in order to have an adequate supply of the essential ingredients of a good diet like proteins, fats, carbohydrates, calcium, phosphates, iron and, of course, the three vitamins, would not be less than Rs. 5 to 6. That would mean that a family of father, mother and three children would have to spend nearly Rs. 18‡ per month on their food if they are not to suffer from malnutrition. That gives an annual expenditure on food of Rs. 216 per family. The average family in India consists of more than 5 persons ; but even calculating on the five-persons basis, the minimum amount of expenditure on food would

* *Annual Report of the Public Health Commissioner for* 1935, p. 3.

† *Health Bulletin*, No. 23, p. 15.

‡ " In dealing with groups of mixed age and set composition the number of ' consumption units ' in the group—its ' adult man-value ' is first calculated. A family of father, mother and three children aged 10, 8 and 6 respectively has ' a man-value of 3·6.'—*Health Bulletin* No. 23. That means that food requirements of women and children are calculated in terms of those of an adult man. In the above example the mother and three children are taken to need, in physiological terms, as much food as 3·6 adult men."

be Rs. 216 per annum, an amount which is beyond the means of at least three-fourths of the people in India.

They may know all about the nutritive values of various foods and be prompted by a new " health conscience " to use their knowledge with scrupulous care, but conscientious use of the knowledge would be of little avail to them in overcoming the " many and diverse " forms of malnutrition. In order that the whole nation may be able to afford a " well-balanced diet," we must be able to fix the national minimum at at least Rs. 25 per month in order to provide, besides the expenditure on food, a very small margin for other elementary needs. Even a national minimum of Rs. 10 per month cannot be the immediate ideal for the country. For a minimum of Rs. 25 per month we shall have to wait until we can bring about a manifold increase of our national income. Until then our people must continue to suffer from malnutrition and as in India malnutrition is hardly distinguishable from starvation, it means that the very minimum of subsistence must remain beyond the means of the bulk of our people. Starvation on a large scale, taking the physiological standard suggested by Dr. Akroyd has, therefore, to be taken as inevitable in India.

The above conclusion is merely a restatement of the fact that apart from the deficiency of cereals, the deficiency of milk, vegetables and fruit is and will be a very serious national problem. In 1933–34 nearly 5 million acres were under fruit and vegetables as against the total of 232 million acres of sown area and 206 million acres under food crops. The area under fruit and vegetables being less than 2½ per cent. of the area under food grains, there is obvious deficiency of vegetables and fruit. According to the above standard one-third of the food consumption should consist of fruit and vegetables. That would mean that the area under fruit and vegetables would, roughly speaking, have to be increased nearly fourteen times to about 70 million acres if we are to work up to that standard, taking it for granted for the sake of argument that there is no deficiency of cereals in India, and an acre under fruit and vegetables provides the same amount of nutrition as an acre under food crops, which, of course, is a somewhat arbitrary assumption.

Sir John Russell in his report says, " one great need for the food supply is to increase the production of these three (fruit, vegetables and milk) and it is essential, therefore, to increase the yield of staple crops so as to liberate land for the cultivation of these supplementary foods."* Greater use of vegetables, etc. is not only a question of production. The reason why the area under fruit and vegetables is small is not merely due to the land being required for the cultivation of food grains. Lack of demand for " these supplementary foods " is a more important reason for their not being grown in larger quantities and will hold good as long as the bulk of our people remain as poor as they are. Fruit and vegetables in season are very cheap in India and give to the producers a very small return ; but even at these low prices only a small proportion of the population in India can afford to buy and consume them. Liaison between agricultural and food research is necessary and may in some cases lead to the introduction of a new crop of great nutritive value. But the problem is essentially economic and not technical.

Deficiency of milk is again due to the same cause. The vicious circle referred to in Chapter VIII which makes it necessary to breed more cattle as they become inefficient and undersized and increase their number, further increases the pressure on the meagre resources of the agriculturist. But even most of the agriculturists who produce milk have to sell it in order to meet their need for cash and most people can neither produce nor buy milk for want of means. Various surveys† which have been made have established the fact that milk consumption in India is much below the minimum

* *Report of Sir John Russell*, p. 20.

† For example, Dr. Norman C. Wright, Director of the Hanna Dairy Research Institute in Ayrshire, carried out a survey for the Government of India of the production and consumption of milk and milk products in India and found that the daily consumption of milk per head in the country was less than seven or eight ounces. Consumption of 15 to 30 ounces per head is considered necessary for the maintainance of satisfactory growth and health. In India, owing to a large majority of people being vegetarian by choice and necessity, the importance of milk as a " protective " diet is relatively greater and the average necessary consumption must be taken to be nearer to 30 than 15 ounces. The average of seven or eight ounces, in view of this consideration, must be considered distressingly low ; and when it is remembered that this average is the average of the rich and poor, and the poor in a large number of

required for health and a vast majority of children do not get any milk at all. Lord Linlithgow has said that " any race of men must be below par in direct ratio to the consumption of milk by the children." Judged by this test, there is no chance of our coming up to par. Milk and allied foods should, in a well-balanced diet, provide 20 per cent. of nutrition. At present the proportion in most cases is below one per cent. India, as remarked in an earlier chapter, does not need a " drink more milk " campaign. What the people are lacking in is not desire to drink more milk, but the means to buy it.

It is hardly necessary even to refer to these facts. We all know from personal experience that there is widespread under-nourishment in India. But in spite of that, it is often contended that there is enough food in the country for everybody and that there is no need to restrict population on that account. India hardly exports any food and is now importing it in increasing quantities. The area under food crops is not increasing as fast as the population and there is a serious deficiency of "protective

cases cannot afford any milk at all, the gravity of the position becomes fairly obvious.

A survey carried out by the students of Patna College in Patna shows that the average consumption of milk in this town is 4·3 Chattaks or a little over eight ounces. In the lowest group, with an income of Rs. 25 per month or less, it was found that only 4·6 per cent. consume milk, the percentage for adults being 3·3 and for children 6·3. The average consumption per head in this group was 0·2 Chattak, i.e. 0·25 ounces. The contrast between the average consumption and that of the poorest group is significant and typical of the state of things all over the country.

The average consumption in a number of Indian towns is as follows :— Lahore 0·25 lb., Lyallpur 0·54 lb., Delhi 0·25 lb., Calcutta 0·26 lb., Ahmedabad, 0·24 lb., Srinagar 0·31 lb.

The Imperial Council of Agricultural Research has recently carried out a survey of the production and consumption of milk in seven breeding tracts of the different Provinces. In these tracts the consumption is naturally higher than in other parts of the country ; but even the average of these parts is only 10·16 ounces per head, and includes liquid milk, ghee, butter and curd. In these tracts 16 to 26 per cent. of the holdings do not produce any milk and most of the non-producers consume very little or no milk. The survey was confined to persons in possession or occupation of holdings and did not include landless labourers who in almost all cases are neither producers nor consumers of milk.

Another point brought out by the survey is the proportion in which fluid milk is consumed. The quantities of fluid milk consumed per head per day by adults, children and infants are respectively :—

1. Males, 6·63, 5·82 and 3·77 ounces.
2. Females, 3·44, 3·77 and 2·53 ounces.

The fact that the females, even the female infants and children, consume less milk than the males is also significant and illustrative of the position of women and girls in this country.

foods " in our diets and no chance of our being able to make it up, and yet it is maintained that our food supply is quite adequate* for our needs. We, as a nation, are dying at the rate at which we are, because we are hopelessly ill-fed. The facts given in Chapter V need not be repeated here. Of the nearly 8 or 9 million deaths in India at least half can be assumed to be due to poverty diseases, and could be avoided if an adequate food supply could be assured to our people. With the reported death rate of 25 per 1,000 and probably the actual one of 33, while the death rate in most of the civilized countries in the world is 11 per 1,000, we cannot possibly deny the fact of over-population in the country. Wealth in India is unequally distributed and there is a drain of wealth from the country owing to foreign exploitation; but the prime cause why life is so cheap in the country and death so common is that there is absolute scarcity of food.

Intensive cultivation can and will increase our food supply. But the rate at which intensive cultivation will increase is limited by the rate at which we can " bridge the gulf " between the agriculturists and the agricultural departments and by the ignorance and poverty of our people. The provinces must spend, as already stated, many times more than they are spending on their Agricultural Departments. They must also change the spirit and methods of work if they are to make any real impression on the art of agriculture in India. Primary education which will make the agriculturists more receptive and responsive and therefore readier to apply knowledge made available for them is a luxury which the country cannot afford at present. There is ample evidence of real earnestness on the part of the new Provincial Governments to overcome financial difficulties. But everyone knows that the difficulties cannot be removed easily. The position in the Indian States is much more unsatisfactory. Very few of them are doing anything to improve agriculture and those that are have to contend with greater difficulties. Their resources are more limited and their people are, if anything, more backward and ignorant. The development of intensive cultivation cannot unfortunately be

* Jawaharlal Nehru, for example, says in his autobiography, " Even in India, considered apart, there is no lack of food." *See* quotation given on page 44, Chapter III, of this book.

brought about within a short time. In the meanwhile the population of the country is increasing every year at the rate of more than 3·5 millions a year and the rate of increase is cumulative.

But even if intensive cultivation is promoted with the utmost zeal and vigour, and fertilizers*, better improvements and improved seeds increase our agricultural production, the point which has to be considered is whether the increase will be adequate for our needs. Improved art of agriculture cannot increase the size of holdings in India or prevent them from becoming smaller. Economic waste due to that factor and impossibility of having holdings large enough for making the most advantageous use of our resources and knowledge will remain. It has been claimed by the agricultural departments that the total agricultural production has increased by Rs. 4 crores per annum owing to the improvements introduced by them. The estimate is conjectural, but even taking it as it is, it means that the annual income of the agriculturist has increased by about three annas per head on account of agricultural improvements. Four crores is a large amount but we have to remember that we are a nation of 375 millions, and also to bear in mind the destitution of our people in order to appreciate what relief this increase can give us. It has been estimated that improved methods would result in an increase of thirty per cent. over the whole of India.† How long will it take to introduce improved methods all over the country ? It has taken over thirty years to introduce improved varieties of seeds in 10 per cent. of the cultivated areas of British India. Even if we can accelerate our speed and go ahead ten times faster in this respect, we may be able to cover the whole of British India in the next thirty years with improved crops. We may also be able to make other improvements, and if we

* When people speak of introducing sulphate and nitrate in this country, they forget the simple and well-known fact that the fertilizer which the people have already at their disposal is being burnt in the form of cowdung cakes because they cannot buy any other fuel. It is not, as stated in Chapter IX, their ignorance but their poverty which is responsible for this waste. People who have to burn a manure, because they have not the money to buy fuel, cannot be expected to use chemical manures. They may give much better return ; but the fact that they will cost much more does and will prevent the agriculturist from using them.

† G. Clark, *Proceedings of XVI Indian Science Congress.*

take it for granted that the States will go even faster and come up to the same level, 30 per cent. increase in agricultural output will take place, if this forecast is realized. But in 30 years our population will have increased, if it goes on increasing at the present rate, by over 120 million, i.e. by nearly 30 per cent. of the population in 1931. The whole of the agricultural increase will be needed to support the larger population and the level of life at which people will be living will be about the same as it is now.

Even if the population were to remain stationary, it is very doubtful whether 30 per cent. increase in food output will be enough to get over the present state of malnutrition in the country. With increasing population it is almost certain that either they will continue to starve as they are starving now, if food production and population increase at the same rate, or suffer from even worse pangs of hunger if they do not. Dr. Akroyd, in the *Health Bulletin* referred to above says, " experience has shown that human beings can adapt themselves at a low level of vitality, and with their powers impaired, to an insufficient ration and scarcely realize that they are under-fed." People in India have suffered a lot in pathetic contentment and still are suffering. They attribute the inhumanity of man to man to acts of God and watch passively the procession of death which daily passes before their eyes and which they themselves join long before their appointed time. " They scarcely realize that they are under-fed." But they are under-fed, and the cause of this is that the output of food is not enough to meet the minimum physiological requirements. There are clear signs that some of them are realizing rather acutely that they are under-fed and the proportion of such people is bound to grow. This makes the whole economic and social position precarious, and economic and social changes involving removal of all obstacles which impede progress will have to be made much sooner than most people realise. But even when such changes do come and the discontent born of hunger can be directed into constructive channels—a task which will require the highest qualities of social craftsmanship—raising the 400 million to a level at which there may be practically no under-feeding is going to be an enormous undertaking, which will be rendered

almost impossible of accomplishment if the number of half-starved people goes on increasing. Is there over-population in India ? The answer to the question is given by the facts which prove that semi-starvation exists in India on a vast scale and all that we can do at present can only mitigate it to a small extent. It is extremely dangerous in existing circumstances to make this state more acute by adding to our numbers.

Closely related to the question of food supply is the amount of cultivable land available in the country. It has already been stated in Chapter IX that most of the cultivable land is already under cultivation and the land that is not being cultivated is, with a few exceptions, more or less uncultivable. The following table which is taken from Sir John Russell's Report gives figures of cultivated area per head in British India since 1903–04.

TABLE 84

Area per head of population. British India.

	1903–04–1907–08	1908–09–1912–13	1913–14–1917–18	1918–19–1922–23	1923–24–1927–28	1928–29–1932–33
Net area sown acres per head	0·883	0·906	0·918	0·879	0·868	0·841
Acres under food crops per head	0·829	0·862	0·873	0·833	0·803	0·785
Area under food crops, omitting sugar, per head	0·818	0·852	0·862	0·822	0·792	0·774
Area under non-food crops, per head ..	0·053	0·043	0·045	0·065	0·065	0·057

A decrease, both in the sown area and area under food crops, has taken place. The area under non-food crops has slightly increased but the increase is nothing compared to the decrease in the area under food crops. The estimate that 2·5 acres of cultivable area per head are required for the maintenance of a reasonable standard of living has already been referred to. Every estimate of that kind must be based upon assumptions which cannot hold good in all cases. But an important factor in

any such estimate must be the standard of cultivation of a country. In India the standard is low and, therefore, the small and decreasing area is a matter for greater concern. Up to 1917–18 the area increased, but since then the decrease has been continuous. Even the maximum reached in the 30 years, viz. ·918 or $\frac{23}{25}$ acre in 1913–14—1917–18 must be regarded as utterly insufficient for the support of our population, and the 1928–33 average of $\frac{21}{25}$, of course, accentuates the deficiency. This is a stubborn fact of the population situation in India. Under the extremely small-scale farming which is prevalent in this country, there is a limit to the amount we can get out of nearly four-fifths of an acre, even with the most intensive methods of cultivation and the progressive decrease of the area per head is inevitable with the growth of population. So long as India remains mainly an agricultural country this fact must limit severely agricultural production and, therefore, production in general.

The scale of farming depends, of course, not upon the average cultivable area per head but upon the size of holdings, but both are closely co-related. The size of holdings varies in different parts of the country and depends upon different factors which need not be discussed here. But all the inquiries so far made have established the fact that the size of holdings is in a vast majority of cases uneconomic,* i.e. it is too small to enable the cultivator to make the fullest use of the art and science of agriculture. The position is rendered much worse by what is called " fragmentation of holdings "—the division of holdings into small and scattered plots. As pointed out earlier, consolidation, i.e. replacing scattered plots by compact blocks of land, though an important measure of agricultural improvement, is no remedy of the smallness of holdings themselves. Even consolidation has not been attempted on a large scale in any Province except in the Punjab and the difficulties in its way are serious ; but if consolidation is seriously undertaken, it will easily take a generation to carry out even if it is promoted with zeal and vigour by judicious combination of persuasion

* For size of holdings, *vide* Appendix to Chapter XI.

and pressure. Moreover, there is no guarantee, as pointed out in Chapter IX, that the holdings once consolidated will remain so. The forces which have produced the present fragmentation may be partially counteracted by education of agriculturists, but cannot be nullified by it. Better education will prevent fragmentation so far as it is due to the sub-division of the plots by different successors ; but the holdings are fragmented also by the acquisition of land by the money-lender and so long as rural indebtedness continues, fractions of holdings will be mortgaged and sold in discharge of unredeemed debts and fragmentation will be the result. But fragmentation, it may be repeated, is a lesser evil than diminution of the size of holdings owing to the increase in population—an inevitable result if the cultivated area does not increase in the same proportion as the population.

It has also been pointed out that it is not possible to create "economic" holdings and declare them impartible. The process in its inception and working will involve the creation at a growing rate of a vast army of landless proletariat which will gravely endanger the very existence of the present rural economy. So long as other avenues of employment are not there, sub-division of holdings is an economic and social necessity. To the right-holder, whether owner or occupancy tenant, his property in land is his only sheet-anchor, without which he would be rendered resourceless, and deprived of his only chance of finding employment. The employment which his land gives him does not, in a large number of cases, enable him even to earn the wage of a casual labourer at the current rate, and exposes him to grave risks against which he cannot insure himself ; but without it he will lose his only instrument of production and, therefore, the chance of finding work. The greatest difficulty in the way of increasing the size of holdings, it has to be repeated, is not the Hindu or Muslim Laws of Inheritance which "enjoin the succession to immovable property by all the heirs, usually in equal proportion," but the almost exclusive dependence of our people on agriculture for their livelihood. We may introduce a law by which the eldest son may be given the right to inherit the property, or to buy out his brothers, but the law would stand self-condemned if the younger brothers cannot be

provided for. The smallness of agricultural holdings in India is the most striking index of over-population in the country and, as stated above, the size of holdings will diminish if the population continues to increase at the present rate. Owing to the present size of holdings, any material improvement in agriculture is rendered very difficult.*

If our occupational statistics were dependable, they would indirectly show the extent to which the pressure of population is increasing, but every census report admits that they are very defective and cannot be made the basis of any inference as to the trend of population. Schemes of classification have been altered materially at successive censuses and comparison with the figures of previous censuses is thus rendered difficult. In 1931 no attempt was made to ascertain the number of persons dependent upon the different occupations and the distribution of the total population had to be inferred; but it is doubtful whether any reliance can be placed upon the percentages of population derived by the method of inference used. According to the census figures the proportion of persons dependent upon agriculture has decreased from 72·41 per cent. in 1921 to 67·0 in 1931, but in the same decade the proportion of persons under class D—miscellaneous—has increased from 6·14 to 13·9 per cent. and the whole of the increase is due to the increase in the number of persons unclassified and engaged in domestic service. Persons dependent upon agriculture have, it is obvious, been wrongly put into a different category; and the percentage of the agricultural population must, if anything, have been greater in 1931 than in 1921. In Madras the miscellaneous category accounted for 372 per 1,000 of the population in 1931, and if in a province with a population of nearly 47 millions or about one-seventh of the total population of the country, about two-fifths of the population are unclassified, it becomes almost impossible to use census figures for ascertaining changes in the economic distribution of population in India.

It has to be remembered that, apart from the fact that agriculture has most likely to support an increasing proportion of the population of the country, in spite of being in a moribund

* *Vide* Sir John Russell's opinion quoted on p. 239, Chapter IX.

state, most of the so-called industrial occupations in India are closely allied with, or rather, are entirely dependent upon, agriculture. Agriculture and rural occupations taken together support more than 90 per cent. of our people and the village artizan, besides being exposed to the competition of mass production at home and abroad, is being seriously affected by the growing strain of the entire rural economy and has to share with the agriculturist the misfortunes caused by increasing numbers, fluctuations of prices and uncertainty of markets. Instability of economic conditions is being felt all the more intensely by a majority of our non-agricultural classes because, though not directly supported by agriculture, their prosperity is ultimately interwoven with that of the agricultural classes. Agriculture is our " key " industry and all but a few occupations, though not agricultural in form, are really agricultural in the sense of being an integral part of our rural economy. It is, therefore, not only the proportion directly supported by agriculture which indicates the increasing pressure of population but, and even more so, the fact that in India nine out of ten persons are deriving, and for the past seven decades have derived, their subsistence from agriculture or occupations allied with agriculture.

One very good index of the pressure of population in India would be the number of landless labourers. Unfortunately the figures of field and other labourers, who are hardly distinguishable from the former, are also neither accurate nor conclusive. But such as they are, they show a rate of increase in agricultural proletariat far in excess of the rate of our agricultural population. Their number in 1901 was 18·69 millions and it increased to 49·51 millions in 1911. In 1921 the figures show a slight decline and their number according to the census report, was 46·5 ; but in 1931 the total number of labourers was inflated owing to the working dependants of the owners and tenants being shown as agricultural labourers. The census superintendent has, however, calculated the proportion of agricultural labourers to persons whose principal occupation was cultivation, and finds the proportion increased from 291 to 407 per 1,000 cultivators from 1921 to 1931. The total number of agricultural and unspecified labourers who were shown as actual workers

increased from 32·75 to 36·34 millions in the same decade. The real value of these figures, it must be repeated, is much less than their face value; but an increase of landless labourers from 18·69 millions in 1901 (of persons supported by farm and unspecified labour) to 36·34 millions (actual workers) in 1931, does indicate an enormous growth in the number of persons who have become the flotsam and jetsam of Indian agriculture. They are the waifs created by the growing pressure of population and their lot, as is well known, is much worse than even that of the cultivators. Their wages are extremely low, unemployment among them is chronic and they have no means to protect themselves against exploitation by farmers and landowners, large and small. They are real waifs and they do not wander away from the villages they call their "homes" because, in most cases, they have nowhere to go.

There is a general impression that increase in the number of landless labourers is accounted for, not only by the increasing pressure on the land but also by the decay of industries, mostly village and small industries. For the country as a whole, in the absence of any industrial census covering a fairly long period, it is not possible to adduce absolutely authentic facts. But local inquiries conducted in the various parts of the country support the conclusion that the impression is well-founded. Occupational statistics of the decennial censuses confirm the impression. The following table gives figures of actual workers in trade and industry and in principal industries for the last three censuses :—

TABLE 85

(In Millions)

Occupation	1911	1921	1931
Trade	8·10	8·04	7·91
Industry	17·50	15·71	15·35
Textile	4·45	4·03	4·10
Wood	1·73	1·58	1·63
Ceramics	1·16	1·08	1·02
Food Industries ..	2·13	1·65	1·47
Industries of dress, etc.	3·75	3·40	3·38

Most of the workers in trade and industries, are, as stated above, mainly dependent upon agriculture, but, taking them as non-agricultural workers, the above figures show that their absolute number and their ratio to the total population are both steadily decreasing. Since 1911 the proportion of workers in industry has been reduced from 11·27 to 9·7 per cent. and in trade from 5·7 to 5·4 per cent. These figures are, like all occupational figures, not above suspicion, but, taking them as they are, they indicate that trade and industry have absorbed a decreasing proportion of Indian population.

Industrialization of the country will further accelerate the process of the decline of small industries and, instead of relieving the pressure of population, will most likely actually increase it. As pointed out in the previous chapter, further development of large industries in this country is limited by intractable factors of Indian economic life, and if the tendency to replace men by machines even in large industries is further developed, i.e. the industries are " rationalized," they will produce the irrational but inevitable effect of increasing unemployment, particularly in industries which will be exposed to the full blast of their competition. The paradox of increasing unemployment being the result of all-round industrial development on modern lines is the hard core of the most baffling economic problems of to-day, and can only be resolved by measures designed to establish a co-operative social order in which men will be in the saddle and put an end to the " dictatorship of things." That may happen, but in the discussion of the population problem of India we can bank not upon the fond hopes of revolutionaries, scientific or otherwise, but upon what is likely to happen within the existing framework of society.. On that assumption it is not possible to regard industrialization as a remedy of over-population in India. The industrialization which has already taken place has, it is clear from these figures, decreased the number of workers engaged in industry and has thereby presumably increased the number of persons dependent on agriculture and, therefore, made our economic life ill-balanced to a greater degree and caused greater over-population.

The problem of population in this, as in any other country, cannot be studied without reference to the question of the

standard of living of the people. Whether a country is or is not over-populated depends upon the national income of a country and the standard of living which its people want to attain and maintain. The argument that increase in production has been keeping pace with the increase of population is singularly unconvincing as an argument against India being over-populated. The argument implies that so long as the state of semi-starvation in this country does not become more acute on account of the growth of population, we need not feel concerned about it. The implication has to be stated in order to make obvious how very unsound the argument is. Its underlying assumption is that the present level of existence of our people can be accepted as an enduring basis of our national life. This is an assumption to which even those who use this argument in the controversy over the population problem, would not like to subscribe. But there is no escape from it if we conclude that India is not over-populated because the increase of our population and national income have been or are likely to be in the same proportion.

The plain and the most crucial fact of the matter is that it is not only imperative that the increase of population should not cause a further deterioration in the economical conditions of our people, but that these conditions should be changed out of recognition, and the level of life in India be made worthy of a people with a great past and, let us hope, with a greater future. That cannot be done unless the increase of population is brought under control and, if possible, prevented. If our existing population is to have the minimum necessary for healthy and progressive life, our production must be increased many times.

The problem, of course, is not merely one of production. We want not only more wealth but wealth more equally distributed. More equitable distribution of wealth is, as a matter of fact, in this, as in every country, an essential condition of greater production. But owing to our political conditions and the social structure of our country we have to reckon with serious inhibitions of our power to reconstruct the economic system with a view to ensure to all the minimum of civilized existence. Even to relieve materially the appalling distress of our people is, as pointed out before, going to be a stupendous task. To

place them absolutely above want and in a position to realize their creative possibilities is a task which cannot be accomplished without a political and social revolution in the truest sense of the word. As the latter is not " on the cards " and as even the attainment of our political freedom has to be a matter of long and strenuous struggle, all that we can look forward to in the immediate future is the introduction of measures of paltry relief to our people in order to win and retain their confidence and allegiance for carrying on the struggle. Increase of population will only increase our existing difficulties and reduce the chances of our being able to do anything at all. We have already to carry an enormous weight of numbers. We shall only increase our handicaps if the weight is increased by our growing population.

Our ideal should really be an emptier India, i.e. the decrease of population. Stationary or declining population has always been regarded as an evil. It has been, and is still, termed race suicide. For India, instead of being suicide, it would be an essential measure of national redemption. Our entire resources, and whatever additions we can make to them, should be utilized for improving the quality of our people. Decreasing population up to a point will make it easier for us to reduce the death rate and enable our people to rise above their present sordid and squalid existence. We need not have the remotest fear that we shall thereby start a process of racial extinction, which we would find impossible to arrest later. We are a dying race in spite of the increase of population. Death, disease and poverty have acquired a stranglehold over our people and cannot be displaced unless our population ceases to grow, at least until the nation as a whole is well on its feet again, after which the position may be reviewed. The process of renovation will have to be initiated and sustained by positive measures. But getting population under control is an essential condition for making any progress with the measures of rehabilitation of the nation.

The point is simple and obvious. Most of our people are living at a level which is sub-human. We have to raise the level to a point which may give them a reasonable chance for a healthy, cultured and full life, and all that we as a nation have,

or can have, should be devoted to raising the level of the people and not to supporting a larger population. Our resources being extremely limited we have to choose between a larger population living at the present, or, most likely, a lower level and a smaller population living under improved conditions. The improvement cannot be brought about merely by restricting the growth of population, but the persistence of the present level, or even a further fall in it, are inevitable unless restrictive measures are adopted. The choice is clear, and we should have no difficulty in making it. We cannot possibly accept starvation of our people as a normal or natural state of things.

Simple as the point is, to some people it presents difficulties with which it is easy to sympathize, but which need not arise at all. Restriction of population in order to raise the standard of living of our people savours of a view of life which appears to the critics of this policy as essentially Western, and foreign to the traditions of our culture. The Indian ideal, according to this view, is the ideal of simple living and high thinking. The quality of life depends, not upon what we have or want, but upon what we are ; and what we are depends upon our values and our success in making them an organic part of our individual and social lives. To these critics the conception of a high standard of living appears to be materialistic and to involve the sacrifice of the highest value of life and, therefore, its degradation.

In one place* Marshall refers to this view as " the Buddhist doctrine " according to which placid serenity is the highest ideal of life and the right course for a wise man to take is to root out of his nature as many wants and desires as he can, for real riches consist not in abundance of goods but in paucity of wants. That this is the Indian or rather Oriental view of life, and intrinsically superior to the gospel of life according to which " real riches " consist " in the abundance of goods " is widely held in India. Mahatma Gandhi is, as is well known, an exponent of this view and his influence has given to it wider currency; and it has now come to be used as a stock argument against the plea for raising the standard of living of our people by modernization of our economic life and restriction of

* Marshall, *Economics of Industry*, Book III, Chapter IV.

population. " Paucity of wants " we are told, is the way to " real riches." Our saints and seers proclaimed it even before Buddha and we are asked to follow it if we want to be true to ourselves and escape the over-hanging disaster to which the mad pursuit of " abundance of goods " has brought the West, and countries like Japan which follow the West.

It can be further contended that this is not only the right way of life according to the Indian point of view, but that it is the only right way of life. Dean Inge, for example, while discussing the ethics of what he calls " consumptionism," i.e. the demand for a steady rise in the standard of living, says that the point at issue brings us back to two rival philosophies of life which have divided mankind since men first began to think and choose their way of living. " We have to balance our account," he goes on to say, " with environments and the sum may be represented as a vulgar fraction, the numerator being what we have and the denominator what we want. We may bring them together by increasing our numerator, which is the wisdom of the West, or diminishing our denominator which is the wisdom of the East," and concludes that " it does not seem that the science of increasing men's wants is on the lines of the teachings of Christ."* The Dean in this quotation also sets forth the two rival philosophies of " paucity of wants " and " abundance of goods " as alternative ways to " real riches," and definitely commits himself to the wisdom of the East— " diminishing our denominator," the annihilation of wants.

The issue is fundamental, even metaphysical. It is not necessary to discuss it here. But it is so often raised in the discussion of the population problem that a few words showing its practical bearing on the points under consideration seem to be called for. A low standard of living can, as pointed out in Chapter II, be a higher standard of life. It may indicate a richer inner life, wealth within of incomparably greater value than the " abundance of goods." When renunciation, whether it is Buddha's renunciation of a kingdom or Gandhi's renunciation of a lucrative practice or a scientist's renunciation of a life of luxury for that of the quest of truth, is voluntary and self-imposed, there can of course be no doubt that it represents

* *Lay Thoughts of a Dean*, p. 193.

life at its highest and best. The same is true, in a different degree, of the preference for art, culture, adventure or any other similar values of life which involve renunciation of material goods in some form or other ; and it is right that as a general standard of individual and social conduct the ideal of the reduction of wants—" diminishing our denominator "—should be regarded as much worthier than that of accumulation of wealth, " increasing our numerator." That is a far nobler method of balancing our account with environments than merely the multiplication of wants, and acquisitive pursuit of wealth for their satisfaction. If this is the wisdom of the East —as Marshall, Dean Inge and so many others tell us it is—it is not only the path of virtue, but also of sane and rational living both from the individual and social standpoints. There is no merit in " consumptionism " in that sense of the word. It is low life and when it degenerates into an orgy on a large scale it spells ruin and destruction all round.

Moreover, the so-called low standard of living may be a perfectly natural and legitimate way of living. As Lord Crewe pointed out at the Imperial Conference, 1911, in the course of his denunciation of the exclusion of Indians from employment on vessels trading to the ports of New Zealand, " There is nothing morally wrong in a man being a vegetarian and a teetotaller and his wife and children being able to live very much more cheaply than people who adopt the European standard of comfort. If a man is content to live on rice and water and does not require beef or rum, he is naturally able to support his family on a much lower scale." Simple fare so long as it is wholesome and nutritious is not only not " morally wrong," but is positively beneficial for health. The art of living consists in making the little go far and in expressing one's standards through few and simple articles of every-day use. A people, who have limited means but use them to the greatest advantage for their health, efficiency and culture, have really a higher standard of life and the fact that they live cheaply and can do without things which neither contribute to health nor to the dignity or refinement of life have not only nothing to be ashamed of, but are really at a higher stage of civilization in the true sense of the word.

In Japan, for example, the workers and peasants have, as compared with the American and English standards, a lower standard of living ; but except for the fact that they are being exploited, and badly, by the governing class—in which respect their lot is not different from that of similar classes in other countries—their lower standard of living and, therefore, lower cost of production and stronger position in international competition, is not a point against them but in their favour. The fact that they are satisfied with rice and fish, simple but beautiful cottages, and mats as their chief article of furniture, implies skill, knowledge and capacity for balancing accounts with environments of which they have every reason to be proud. They are cleaner than the labourers and cultivators of the countries with higher standards of living ; they have a more highly developed artistic sense and in most other respects are no worse off. There is great room for improvement in their conditions of life ; but they have shown to the world that comparatively low wages and low standard of living, using the phrase again in the accepted sense, can be combined with a fine art of living, refinement, efficiency and poise.

But in India, the low standard of living is a fact of a different order altogether. It means want, insecurity and utter inability to provide for the most elementary needs of life. A rise in the standard of living of the masses here would mean sufficient food, including not only cereals but also milk and fruit, better housing, provision of education and medical aid, a reasonable measure of economic security and some surplus for recreation and culture. It is a cruel mockery to exhort the bulk of our people to reduce their wants or ask them to be true to the wisdom of the East when the majority of them are suffering from utter want and starvation. Placid serenity of life has no meaning for them. They have nothing to compensate them for their resourcelessness. The oppression of ages has left them without any physical or mental reserves. We, as a nation, are derelict and have to be set up again. We shall have to develop our resources by increasing the efficiency of production, and change our social structure to command the means to introduce it.

In India, education in the art of living will have to be com-

bined with improvement in the standard of living. In other words the people will not only have to be given greater purchasing power but educated to use it well. But we need not have imaginary fears about our people being de-spiritualized by striving for a considerable rise in their standard of living. There is no spirituality in their abject poverty. It is imposed upon them and has broken their will to live. Their lives are devoid of hope, initiative or cheer. Force of events and probably the inscrutable ways of Providence are awakening them to the wretchedness of their lot and more and more they will refuse to suffer and die in silence. Their refusal will be a negative and even a destructive force unless they can get their due by necessary social re-adjustments. There must be a check on the growth of population in India and an increase of the " real riches " of the country, not by the reduction of wants but by the reduction of numbers.

It may, however, be contended that it is no use discussing the population problem of India or any other problem in the consideration of which a long range view has to be taken in terms of the existing facts. The India of to-day is a nightmare which has to pass away if the country is to regain complete mastery over its own affairs. That means that India has not only to be politically free but internal homogeneity has to be established and the existing contradictions due to the co-existence of medieval feudalism and growing industrialism have to be resolved.

We do not know how long it is going to take before the country becomes really free, what will be the phases of the struggle and to what extent the survivals of the past will be liquidated in the process. As world events have and will have profound and far-reaching effects upon our economic and general position, we cannot forecast the conditions with reference to which our population policy will have to be framed. We are all being driven by forces the direction and meaning of which we cannot understand, much less control. It has taken the West sixty years to change the trend of population and the change has taken place without any forethought on the part of the nations concerned. If India takes one generation and not two, to bring about a change of the same magnitude and does so

with a clear understanding of its necessity and purpose, we should have to envisage what India will be like thirty years hence. That cannot be done. Apart from the certainty that in a generation India and the world will be very different from what they are now, we cannot be certain of anything in particular ; and as the population which we ought to have must be a matter of resources and our conception of the life we should want our people to live, we cannot, in the state of flux in which India and the world are at present, proceed with population planning as a part of the general planning of our national life.

It can, therefore, be maintained that even if India is over-populated in relation to the existing resources of the country and the extent to which they can be developed in the near future, it does not mean that India is also over-populated if we take a long view of the population situation. The present position is precarious and the future extremely uncertain. The normal practice of projecting the present into the future and assuming that the latter can be inferred from the former, can be no guide to action. The present population has to be provided for and its sufferings mitigated as far as possible. But there are other urgent problems of national life which have to be tackled and solved. We can and ought to wait before deciding our course of action with regard to the population problem, until we are out of the wood and in a position to forecast our future with some confidence.

That the argument has a force of its own has to be admitted. India's only hope is that the future is going to be very much better than the present, otherwise it is hardly worth while to look ahead and have any long-term expectations. Not only has India to be politically free but she has to acquire control of the factors which are at present creating internal strains and stresses. The differences which now divide us have to be transformed into distinctions to enrich our national life and used as raw materials for giving it diversified unity and fullness. The five hundred and odd separate political units called " Indian States," disparate and fragmented, now held together by the iron bonds of paramountcy, have to be assimilated into the larger life of the nation. And, of course, the whole economic and social structure of the country has to be changed funda-

mentally to put an end to man's inhumanity to man and to release new productive forces which are now rendered ineffective by the predominance of the individual and group interests over those of the community.

In India, as elsewhere, national self-realization must be a process and not a state and the ideal has to be fused into the real not by being, but by becoming. No country can achieve absolute perfection; and India with the diversity and magnitude of her problems will, more than most other countries, have to use the standard of relativity in determining the goal and measuring progress towards it. We cannot, therefore, fix a point of time at which we can assume conditions to be normal and deal with a major problem like the population problem in the light of anticipations based upon existing trends. At present everything is in the melting pot. India's political and economic future is obscure. The world as we know it is on the brink of destruction; we cannot foresee what drastic changes are going to occur nor how our productive resources and the development of our internal economy will be affected. We are therefore left without any reasonable basis upon which to estimate the desirable population of India in the next few decades.

The point, however, which matters is that even if we take an optimistic view of the future and assume that India will regain her political freedom and solidarity without any upheavals and the world will, in spite of the crisis through which it is passing, be able to establish a world order based upon equity and co-operation, India will need all her resources for raising the level of life of her existing population and providing for the conditions of full life. Our man power is quite enough for all our possible needs—for defence, the development of agriculture and industry and reorganization of our social life. We need have no fear of suffering from the lack of numbers, whatever the future has in store for us and in whatever form we may like or have to shape it. It is also clear that improvement in the quality of our people, in their health, social efficiency and general outlook is our paramount need and the quality will not only not be improved but definitely get worse unless we can control our population by preventive measures and develop

our assets without increasing our liabilities in the same or greater proportion.

" Is India over-populated ? " is therefore a question to which only one answer can be given. Judged from any point of view a check on the growth of population of India is an urgent practical necessity. We cannot, it may be repeated, make India a much better place to live in without concerted efforts on a national scale. Death, disease, ignorance and poverty cannot be brought under control unless we have political power and the will and ability to use it to combat and overcome these evils. But we are suffering from an excess of numbers which is frustrating the limited efforts we are making, and can make, in the existing circumstances. Ahead of us lies a period of strenuous political and economic struggle during which it will be necessary to concentrate on its exigencies, a struggle which will impose serious limitations on the possibilities of our adopting or introducing a programme of all round development. In the course of the struggle the nation will necessarily develop itself and acquire greater capacity for united and effective action. But when the struggle is over and the task of reconstruction can be seriously taken in hand, we shall be face to face with a situation which will put a very great strain upon our resources if we attempt to liquidate the accumulated arrears of the past and build for a future worth living for. The task will not be beyond us, but an essential condition of our being able to perform it will be that we shall have to limit our population quantitatively, in order that we may be able to improve it qualitatively.

APPENDIX

Size of Holdings

For our knowledge of the size of holdings we have to depend upon the various inquiries which have been conducted into agricultural conditions in different parts of the country. Among them the most comprehensive is the inquiry into the size and distribution of agricultural and cultivators' holdings in the Punjab. As a result of the inquiry it was found that in the Punjab 17·9 per cent. of the owners' holdings were under 1 acre, a further 23 per cent. between 1 and 3 acres and 14·9 per cent. between 3 and 5 acres, i.e. in the Punjab where the size of an average holding is larger than in most other Provinces and where the pressure of population has been considerably relieved by the opening up of the

canal colonies, over 55 per cent. of the owners possess holdings of less than 5 acres. The number of cultivators in the lower groups is larger than the number of owners and 22·5 per cent. of the cultivators at the time of inquiry (1928) cultivated one acre or less and the number of these people was 904,000. Conditions in the other provinces are worse. In a village in Malabar, 34 per cent. of the holdings were found to be under 1 acre (S. S. Aiyar, University of Madras, Economic Series, No. 11) and in a Kokan village (*A Social and Economic Survey in a Kokan Village*, by V. G. Ranade) nearly 23 per cent. The average size of holdings in Madras, Bengal, Behar and Orissa, Assam and U.P. was according to the *Agricultural Commission Report*, 4·9, 3·1, 3·1, 3·0 and 2·5 acres respectively, and as land in these provinces is even more unequally distributed, a much larger proportion of holdings there is likely to be below one acre. In Behar the average size of holding and plot according to the *Settlement Reports* in the years in which the Settlement was made, is given in the following table :—

District	Size of Holding	Size of Plot	Year of Survey
	Acres	Acre	
NORTH BEHAR			
Muzzaffarpur ..	1·97	·44	1892–99
Darbhanga ..	2·00	·40	1896–1903
Saran	1·82	·35	1893–01
Saran	1·41	·28	1915–21
Champaran ..	3·19	·74	1892–99
SOUTH BEHAR			
Bhagalpur ..	5·00	·68	1902–10
South Monghyr ..	4·80	·73	1905–12
North Monghyr ..	2·90	·70	1905–07
Patna	1·62	·37	1918–19
Gaya	3·60	·50	1911–18
Shahabad ..	2·90	—	1907–16

Since the year in which the settlements were made, the population of these districts has increased from 5 to 20 per cent. and as almost the whole increase is supported by the land, the size of holdings has presumably decreased in the same proportion in which the population has increased. Data are not available for stating the rate at which the size of holdings has decreased on account of the growth of population. As stated in the text, the smallness of holdings is the most significant fact so far as the increase of population is concerned and shows the severity of its pressure.

Chapter XII

BIRTH CONTROL

If the conclusion that India is over-populated and a further increase of population highly undesirable is sound, the practical question as to what is to be done to bring the population under control has to be faced. What can or ought we to do to check its growth ? In answering the question it has to be assumed that mere control or reduction of population will accomplish nothing, or even less than nothing if it fosters the belief that it is the sovereign remedy for curing the ills that afflict us. Positive measures of economic and social change will have to be introduced but they will have to be supplemented by negative measures of population control on the assumption that without the latter the positive measures will only lead to an intensified sense of frustration owing to their inability to produce any appreciable results and, therefore, create a dangerous sense of futility of these efforts. In order to work off the evil legacy of the past and bring sunshine, which is non-existent at present, into the life of our people, we will have to devise measures by which effective control of population on a national scale can be introduced. Population control, however, has so far everywhere been and will be a matter for individual choice. Each nation has its own standards and through its prevailing moral sentiments develop its mores—established customs—which govern the social conduct of individuals in this as in all other matters. But so long as the brave new world, in which babies will be conceived, incubated and born in genetic laboratories of the state, does not become a reality, the birth of babies must remain the most intimate part of the life of individuals and the process continue to be an act of sacrament in the most real sense of the word. The question, therefore, as to how many babies are to be born must depend upon the action of individuals and society has to shape its population policy by influencing their choice and conduct in this respect. If population has to be controlled, the size of families must, therefore, be limited by

individuals and in doing so they must make appropriate changes in their attitude and practice.

The bearing of this simple and obvious consideration on the control of population is that we cannot have social control of population or planning in the sense of determining by social measures what the total population of the country should be after a particular policy has been adopted and implemented for a specific period. We can have general directives and try for example to achieve a stationary or declining population; but there can be no question of having control figures or instituting measures by which our progress towards them can be watched and its rate stimulated or slackened by agencies of social control. That is not possible for India or any other country in the existing circumstances.

Social considerations should, in theory, be paramount in determining the choice of individuals in this matter and in practice also they should carry very great weight with them in a well-organized society. But so long as children are almost exclusively a charge on the parents' income and their undivided responsibility, parents must be guided by their private judgment and circumstances in making their decision regarding the size of their family. The striking fall in the birth rate, which has taken place in the last three decades in so many countries, is not the result of any far-sighted social policy as to its need or consequences. It has occurred because the parents have realised that they cannot afford to have an unlimited family and the practice means all-round misery for them and their children. Appeals to the social sense of the people to limit the size of their families owing to population pressure being an important cause of war and a host of other evils, has created an atmosphere favourable to the limitation of the size of the family; but the fact which has really determined the action of individuals in this respect is the realisation of the serious disadvantages of large families for the parents and children themselves. The tendencies which have been brought into operation thereby carry with them possibilities which the parents take no account of whatsoever. The prospect of stationary or declining population with consequent changes in the relative strength and, therefore, position of nations and

races is the result of the fall in the birth rate which has taken place, but was neither anticipated by the parents nor will it deter them from persisting in the practice of not permitting the size of their families to exceed the limits set by their personal needs and circumstances. Bribes and threats administered by the dictators in pursuit of their aggressive policies with a view to securing a larger man-power for their execution, have not had any appreciable effect so far, and the experience of France in the matter of reversing the tendency, which has been in operation there longer than in any other country, shows that it is very unlikely that the parents will be coaxed, tempted or coerced into having larger families than they can afford or want to have in view of their private circumstances.

Initiative in limiting the size of families and checking the growth of population must, therefore, in the main, lie with individuals. In India the prime necessity is that the nation should acquire the power to win its political freedom and use it for fundamental economic and social changes; but it has also to wake up to the fact that the increase of numbers cannot but be a serious handicap in the task of national reconstruction and has to be prevented. But the nation in its corporate capacity can do little more than impress upon the people the gravity of the present position, educate them in the necessity of combating it by all effective and wholesome methods and devise means by which they can be placed in a position to adopt them.* Brain trusts are the order of the day and it may be that in the near future India will need one and be in a position to have it. But no brain trust can lay down rules by which the population of the country could be regulated and have recourse to any methods other than persuasion for attaining even general objectives. Quantitative and qualitative control of population by a central planning department of the state may some day become a practical possibility. Even if it does, it will probably involve a sacrifice of values which very few people will be prepared to disown at present. But as that eventuality cannot be made a basis even of hypo-

* Widespread changes in social customs such as the tendency to marry at a later age, although not aimed at doing so, have of course an indirect effect on population.

thetical argument, we have to proceed on the assumption that the control of population must in practice mean limitation of the size of family by individuals according to their own light and needs.

This conclusion makes it necessary to deal with contraception as a method of population control in India. The declining birth rate in the West is, it is universally admitted, the result of the use of contraception having become common in all classes of society. The practice was limited to the more progressive section of the people when the birth control movement started in the last quarter of the 19th century; but in the 20th century and particularly after the war, barring a small and dwindling section who have conscientious objection to the use of contraception, the practice is now all but universal in the countries in which the birth rate has rapidly declined. The use of this method has, as stated above, been dictated by personal considerations which, of course, include a change in the whole outlook of the people in matters relating to sex, marriage and family. This development is really a revolution in human affairs the full effect of which will become more manifest in a decade or two—a revolution, more fundamental than most of the contemporary political revolutions. And it has been brought about by the " invisible hand " working through and on individuals in their efforts to promote their good and that of their children.

In India the process of population control has to be the same and can be initiated with full assurance that the best interests of the country make it imperative to introduce it. That, however, raises the question as to whether contraception, or to use the more common expression, birth control is right from the medical, moral and social standpoints. The issues involved are many and complex and it is not possible to discuss them at any length in this chapter. But they resolve themselves into the fundamental issue of birth control, the use of chemical and mechanical methods of family limitation versus self-control, sexual abstinence. Mahatma Gandhi clinches the argument with his usual lucidity and succinctness in the following words, " There can be no two opinions about the necessity of birth control. But the only method handed down

from ages past is self-control or Brahmacharya. It is an infallible sovereign remedy doing good to those who practice it. The union is meant not for pleasure but for bringing forth progeny. And union is criminal when the desire for progeny is absent."* Mahatma Gandhi believes in the necessity of birth control "because it is wrong to bring forth progeny in India so long as India is in bondage"†; but the only method which he would permit for the purpose is absolute sexual abstinence.

India is in bondage; but as the bondage is not going to last long and the extinction of the Indian people is not desirable, we cannot suspend, what Mahatma Gandhi calls, "bringing forth heirs to our slavery." Racial propagation is a continuous stream and even a generation of "heirs to our slavery" is essential for its continuance. But his argument would hold good even if it is conceded that family limitation is an urgent economic and social necessity. Mahatma Gandhi's method of limitation is the "infallible sovereign remedy" of Brahmacharya. That the method is infallible goes without saying, but that it is also the sovereign remedy for the evil of the large unlimited family involves the consideration of the whole question of sex, its purpose and function in the economy of human affairs. It is not possible to discuss it here fully. All that can be attempted is to deal briefly with those aspects of the question which are of practical interest from the standpoint of population control in India.

At the outset it must be stated that it is extremely unfair to speak of birth control as a gospel of self-indulgence. Indulgence implies recklessness, lack of all restraint, libertinism of the worst type. Mahatma Gandhi paints a very gloomy picture of social life in the West and attributes its evils to the belief that it is right to have sexual union without the desire for progeny. The West has its social evils and some of them are due to over-indulgence of the sexual appetite which has become possible by the discovery and use of contraceptives; but self-indulgence is not a new phenomenon and some of the forms which it has recently assumed in the West, are in no way worse and in some ways distinctly better than the forms

* *Young India*, March 12, 1925. † *Young India*, April 26, 1928.

which are as ancient as humanity itself. Marital self-indulgence, which the Mahatma condemns in unmeasured terms, is as common in India as elsewhere; and as the subjection of women, which is the primary cause of this evil, is greater than in the West, the evil here is more deep-seated and takes cruder forms. The so-called moral chaos in the West is a process of transition from the old to the new standards of conduct in matters of sex and marriage, and as the old standards have the sanction of the church and tradition and in most cases involve the negation of freedom, which must be the essence of all moral actions, the new standards are being evolved in an atmosphere of revolt and defiance of authority and are, therefore, often egotistic in appearance while being idealistic in reality. This new freedom, the extent of which is grossly exaggerated and its character misrepresented, instead of being moral bankruptcy is an attempt to build up a new moral order based on knowledge, free choice and true affection without the taint of possession. The new order is not even clear in its outline and the proper social setting for its introduction has still to be provided. But to see in the process nothing but degradation of life and morals shows inability to distinguish essentials from non-essentials and amounts to taking the travails of a new order still to be born as the order itself.

It would not be necessary to discuss the inwardness of what is happening in the West in the discussion of the point at issue but for the fact that the alleged sorry state of things to which the West has been reduced owing to the practice of birth control is often used as an argument against its adoption in India. It is not possible to say more on the point here. It has, however, to be realized that for one person who uses birth control in the West for unconventional purposes, there are probably a hundred men and women, whose lives are strictly conventional and from the accepted standpoint unexceptionable, who use it only to space and to limit the size of their family. The rapid decline in the birth rate which has occurred, is due to the millions of men and women, who do not deviate from the straight and narrow path, using the "artificial" methods of birth control for having no more children than they can afford to bring up according to their

ideas of what is the children's due. There are some persons of the higher classes who condemn themselves to voluntary sterility because they prefer meaningless pleasure to the joy of parenthood; but a vast majority of people, who practise birth control in the West, do so because of their heightened sense of parental responsibility, because they want to do much more for their children than they could if they had unwanted children and too many of them. It is the choice and conduct of millions of persons, whose lives are entirely governed by convention and tradition and who have hardly any ideas on morality, old or new, which has been the decisive factor in determining the birth rate and, therefore, the growth of population in the countries concerned.

The lives of these persons are conventional in the sense that they take their standards and ideas ready-made from tradition; but, of course, with one important difference. They have learnt by voluntary action to separate sex from parenthood and can and do have the former without bringing forth progeny. That, according to Mahatma Gandhi and others of his way of thinking, both in the East and in the West, is sinful. "It hurts the soul" and "puts a premium upon vice." It is cheating nature because it means having the pleasure of the sex-act and escaping its consequences; and nature, we are told, never forgives or permits its laws to be violated with impunity. Nature is already, according to this view, having its revenge and its lesson is writ large in the figures of broken homes owing to the increasing divorces, senseless pursuits of the pleasures of the senses, wide prevalence of certain diseases and general lowering of the moral tone of the community. All these results have followed because a majority of people in the countries, in which the use of birth control has become common, have been taught to regard lust as right in itself and a necessary and essential condition of human happiness and conjugal harmony.

Lust is a word which is charged with the meaning which the use of thousands of years has given to it and implies dissipation and giving free reign to the lowest impulses. But it is manifestly wrong to regard all love as lust or argue that love becomes lust when it is inspired by passion or seeks fulfilment in

complete sexual union. "Except in possibly the case of a few imbeciles," as H. G. Wells puts it, "the sexual act is never merely physical. It is not even mainly physical. It is involved with a whole world of sensuous and aesthetic discriminations."* The sexual impulse covers a vast variety of emotions and is expressed through acts ranging from rape to the experience of lovers who find in their mutual union an outlet for the deepest and best in them. In marriage the lowest and highest forms of sex-expression are found, but the ideal marriage should be sex at its highest and not a union which becomes sexless once its procreative function has been fulfilled. Ordinary marriages provide a mixed fare of emotions and experiences because men and women are imperfect in this as in other respects and social conditions do not make it possible for them to choose their mates with care, knowledge or understanding or treat them with consideration and due regards for each other's individuality.

In marriage continence is absolutely essential for its success but continence is not abstinence. It implies a point of view and standard of conduct according to which sex is regarded as one of the finest experiences of life; firstly, because the mystery of new life is interwoven with it and secondly, because in and through it the contradiction of flesh and spirit is resolved and they become one in a manner which is no less mysterious than the birth of new life. Over-indulgence kills the finest part of sex and blunts the sensibilities of the partners. Continence is moderation, balance, a proper sense of proportion, art of living in loving; but to regard abstinence as the ideal and rule out sex altogether once the need or desire for children is over is a way of escape from problems for which much better solutions can be found by facing them.

Abstinence is not impossible in or without marriage and men and women, some of them truly great, have practised it in all times and countries with advantage to themselves and the community. But that does not mean that abstinence is desirable in itself or married persons should be asked to resort to it as a method of birth control. It involves a nervous strain which can and ought to be avoided and such preoccupa-

* H. G. Wells, *The Science of Life*, Vol. III, p. 926.

tion with sex as to render the persons concerned morbid in different degrees in spite of their being in some cases sound in body and mind to all outward appearances. Asceticism is good when it is adopted as a way of life in response to some deeper urge within; but as a rule it means self-mortification and denial of needs, the satisfaction of which adds to the beauty and meaning of life. "It is one thing" to quote Mahatma Gandhi once more, "when married people regulate, so far as it is humanly possible, the number of their progeny by moral restraint and totally another when they do so in spite of sexual indulgence and by means adopted to obviate the result of such indulgence. In one case people gain in every respect. In the other there is nothing but harm."* Mahatma Gandhi has practised what he preaches for nearly forty years but his whole attitude on this point is contrary to the experience of ages and is refuted by the dreams, aspirations and achievements of lovers who have found in sex-love inspiration for right living and great deeds. He, it may be repeated, confuses continence with abstinence and attributes to the latter benefits which the former confers.

Apart, however, from the view that sexual co-operation among married persons is a means to their mutual happiness and ought to be not only permitted but insured, there is the practical question of abstinence having been found impracticable by men and women everywhere. Their failure may be due to the flesh being stronger than the spirit, or as Mahatma Gandhi tells us, to "our diet, our ways of life, our common talks and our environments", but the failure is a patent fact of history and common experience; otherwise there would have been no population problem in India or elsewhere. According to the view which Mahatma Gandhi represents, it is wrong and immoral "for a person to indulge his animal passions and escape the consequences of his acts." But what are the consequences which the person escapes by preventing conception while he indulges in his "animal passions"? Are children a punishment for carnal indulgence? It may be good for a person who over-eats to have an ache and a fast, but is it good for a person who commits acts of sexual excess

* Mahatma Gandhi, *Self-Restraint versus Self-Indulgence*, p. 8.

to have children in order to balance his moral account ? And what about the suffering of the children ? If men and women continue to yield to sexual craving to satisfy their carnal passion, we will have as we have had, in Mahatma Gandhi's own words, "countless swarms of feeble, sensual, crippled and timid children multiplying endlessly in India as elsewhere," unless they devise methods "to escape the consequences of their acts." The parents, particularly the mothers, have to pay for these excesses by having to endure hunger, disease and even death, but the sufferings of the parents are nothing compared with those of the children. They may not be born feeble, crippled or timid but the hardships that are inflicted upon them owing to swarms of them multiplying endlessly undermine both their body and mind beyond repair and ruin their chances of getting anything like a fair start in life. It is not the parents who suffer for the sins of sexual enjoyment but their children, and what is worse, their suffering is cumulative. The sins of the parents are visited not only upon their children but also their grandchildren, great grandchildren and the generations that follow.

Life is full of many hard cases in which the innocent suffer for the sins of others but the suffering which is inflicted in the form of maimed bodies and minds of children born of the so-called sexual excesses of their parents is impossible to justify in the providential scheme of things. Can they escape from the consequences of their acts ? Is it wrong or immoral to save the unborn children from misery and starvation even if it is granted that self-control is better than birth control as a method of family limitation ? Is it wrong for a drunkard to take action to protect others against the consequences of his orgy ? It would be, of course, better for him not to drink at all, but if the temptation is too strong for him, would it increase the gravity of his offence if he had his bouts under conditions which make him suffer alone for his folly ? In a novel by a well-known author, a boy of thirteen hangs himself and his two brothers because he is convinced by his experience that they were three too many in the wretched world to which they were born and writes for all the three the epitaph "We did not ask to be born." Millions of children in India who

are born every year to indescribable wretchedness and misery and are doomed to premature death can also ask " Did we ask to be born ? " And will their parents be sinning against them if they listen to the mute cry of these millions and take preventive measures against their children being damned in the world below and risk, if necessary, damnation for themselves hereafter ?

Brahmacharya or abstinence as a rule of life has been preached in India and elsewhere for thousands of years by saints and seers before Mahatma Gandhi, but excepting a limited few, its only effect on the people has been to create the complex that sex is sinful and dirty and make them ashamed of a fact of life which, they know from experience, can be beneficent for themselves and the community and at its highest brings with it a sense of exaltation hardly distinguishable from the experience of the mystics and poets. The whole world loves a lover, but owing to the mistaken belief that love is a matter of the senses and not of the spirit, repression of this vital force has been practised everywhere and has produced sordid intrigues, crimes of passion and prostitution on the one hand and inhibition, vicarious thrills in the forms of pornography, sex films and plays and night-life, and, of course, frustration and, therefore, sex-obsession on the other. But granting once again that men and women must tread the path of " righteousness " and violate Brahmacharya only for the sake of offspring, everyone, including Mahatma Gandhi, admits that the path is as sharp as the edge of a razor and the chance of failure is far greater than that of success. On the assumption, however, that the ideal is not to be lowered owing to the inability of men to live up to it, they must, of course, persist in their efforts to apply the infallible sovereign remedy of abstinence and regard every child that is born owing to the parents having fallen short of the ideal, in Mahatma Gandhi's words, as " a sign of the wrath of God " and try again.

Perseverance in the path of " purity " may be a virtue in the parents, but that does not alter the fact that children, even if they are signs of the wrath of God, will keep on multiplying in their countless millions owing to the perseverence being of little avail in preventing the birth of unwanted children. Are

we to wait until men and women in India have learnt to practise Brahmacharya efficiently and effectively? The Mahatma counsels patience and reminds us of the scientific fact that man is not far removed from his animal ancestors, evolution is a slow process and man has a long way to go before he realises fully the divinity within him. That is so; and yet it is inconceivable that we in India or any people in any part of the world should be patient with the evils which are the result of an excessively high birth rate merely because abstinence, according to a particular view of life, is the moral method of restricting the birth rate. Even if it is a choice of evils, birth control with fewer and better children is a much lesser evil than ineffective self-control with a multitude of unwanted and un-provided-for children. The children are the sacred trust of humanity and their interests must be the first consideration in the choice of social policies. That India should continue to suffer from over-population and find it impossible to raise her masses to a level of civilized existence because the parents cannot live up to the ideal of absolute abstinence when it is known that the odds are against the age-old struggle ever being successful, is not a counsel of patience but despair. It is a deterministic attitude and involves sacrifice of the welfare of millions, born and unborn, for the sake of a theological dogma.

As a matter of fact, even without sexual excesses of any kind there is a grave risk of one's having a family too large for one's means or the needs of the country. Even if a husband permits himself sexual intercourse once a year, it is possible for him to get a child every year, and though Mahatma Gandhi would call it self-indulgence, it would in reality mean a life of great austerity for almost all people and be worthy of commendation from the most orthodox standpoint. Control of the senses in thought, word and deed is necessary for culture, poise and refinement of life. Mind and body are one so far as life on earth is concerned, one in the sense that it is wrong to set one against the other or assume that denial of the needs of the body is necessary for the health and development of the mind and soul. Control is necessary in order to make both function well and in harmony and express the integrity of life.

Birth Control

Sex is a function both of the mind and the body. At its best it is the deep calling the deep, a union of spirits for the completion of which what is called physical union is essential. Words are an expression of the spirit within and do not become an act of the senses because of articulation. Love, which begins as the stirring of one's innermost being, does not become sensual because of its seeking fulfilment through the co-operation of the senses. It is and must be sensuous but that is because of the integrity of life. To divorce spirit from body is to disrupt life and declare war within as the necessary condition of its mastery. Social evolution has rendered it necessary in the past to refine emotions through inhibitions, and to a certain extent inhibitions must remain the mechanism of integral life. Love, however, like life, is an art and the control which is necessary for its self-realization, is the control of a tight-rope dancer and not that of an ascetic on a bed of nails. Constant vigilance and continuous re-adjustment are required in order that marriage should be a complete success. Excesses ruin all that is best in sex and marriage, and levity makes it impossible to use both for enriching life. Abstinence is not a method of avoiding excesses but self-mortification and ordinarily speaking is, therefore, to use the words which Mahatma Gandhi uses for sexual union without the desire for progeny, wrong and immoral in the case of married people.

Birth control is, therefore, necessary for limiting the size of family even if laxities of life are scrupulously and intelligently avoided. Self-indulgence is neither the necessary condition of birth control nor its result. There is, however, another aspect of the matter which Mahatma Gandhi and all other opponents of birth control lay stress upon with which it is not necessary to deal here. It is maintained that birth control puts a premium on vice and leads men and women to seek sexual gratification before and outside marriage. It has already been stated that in the countries in which birth control is being widely used, it is mainly used by married people to prevent the birth of unwanted children. But it is true that it is also being used for purposes which have not the sanction of tradition. In some countries the use of birth control for pre- and extra-marital sex relations has become

fairly common and presents new problems of social ethics. That is partly due to laxity of conduct on the part of the less responsible members of the community, but the main reason for the development is the changing standard of sex-conduct about which there is and bound to be a sharp disagreement of opinions.

It is not necessary to discuss the question of standards here ; but it may be pointed out that the change that is coming or advocated need not be a matter for jeremiads. There is not and has never been a uniformity of standards in the mutual relations of men and women. It should be possible for those who disapprove of the changes, to appreciate the sincerity and force of convictions of those who from their point of view are inspired by the highest motives and are by precept, and in a few cases by example, trying to place sexual relations on what appears to them a higher and more satisfactory basis. No harm can come to society by the earnestness of their advocacy or even defiance of the established view-point. They have almost in all cases to do so against blind prejudices of the worst kind and suffer for their unorthodoxy by putting themselves outside the pale of conventional social relations. The changes that are taking place are due to the battle of standards and not to birth control ; and knowing as we do that marriage as a social institution is everywhere far from perfect and re-adjustments in it are called for, we in India should not permit ourselves to be prejudiced against birth control because of the new morality of these social heretics. They are not common libertines or even Don Juans, but from their standpoint builders of a new social order.

Moreover, it has to be realized that all that birth control does is to remove the fear of undesired parenthood. The fear has been and is used as a prop of morality ; and in the case of children born out of wedlock the inhuman treatment to which they are subjected everywhere is an index of the extent to which the children are used to make the adults virtuous. But it is a violation of the most elementary ideas of justice that the unborn should be called to the aid of society for imposing its moral standards on the weaker members of the community. Morality born of fear is no morality at all, and when the fear

is fear of getting children, whom neither the parents nor society welcome, the position becomes grossly unfair and should be strongly deprecated by all fair-minded people. People, who cannot remain straight without the dread of unwanted children are, from the moral standpoint, better left alone to sink to their own level or develop safeguards within against lapses from any standard which society wants to maintain. Virtue, which requires an aid like the one which we are considering here, is hardly worth preserving; and to apprehend that a nation will rush to its moral ruins if this dread of inflicting vicarious suffering on children is removed, is to betray a lack of faith in virtue itself and its being the result of voluntary choice. Birth control requires a higher and not a lower standard of social conduct, and it should be possible to attain it if the conspiracy of silence in matters relating to sex, which, notwithstanding the labours of social philosophers like Havelock Ellis and Edward Carpenter, still exists for all practical purposes, is put an end to. Birth control does not put a premium upon vice. It only renders it necessary for virtue to find its own feet and that must be reckoned as a social gain and not loss.

In considering the above point special circumstances existing in India have also to be borne in mind. In a country in which a vast majority of marriages are arranged by parents, caste considerations have such a strong hold as to daunt even the liberal-minded people from going outside caste in making matrimonial arrangements for their children, young men and women have hardly any opportunities of meeting or knowing one another and even the grown-ups are hedged in on all sides from developing healthy social contacts in their relations with members of the opposite sex. In view of these considerations to raise the alarm that birth control would mean dissipation and vice is, it should be obvious, very premature. These social restrictions are being very slowly relaxed and a small minority of educated persons believes in and is working for their abolition. But if we keep in mind the tremendous difficulties which still remain in the way of removing evils like early marriage and the ban on widow-remarriage, we will realise that it will be a long time before the relations of men and women are placed on a rational basis in our country.

Some go-ahead young men and women are shaking themselves free from caste and other conventional restrictions and breaking new paths. All credit is due to them; but their number is negligible and they do not count. It may be hoped that both their number and influence will grow with time. But India for decades to come will be struggling with problems like early marriage, polygamy, widow-remarriage and as a nation will neither have to face nor solve the newer problems of sex-morality. These restrictions have done and are doing a lot of harm to our people but, from the conventional standpoint, are the bulwark of purity and chastity. It may be that we will have to go ahead by forced marches in this as in all national matters. If women of Angora, Samarkand and Bukhara can in less than one generation leap from behind the veil to modernism in the best sense of the word, the possibility of a similar change coming in India cannot be ruled out. But if that happens, the new times will find their own morals and manners and they cannot be lower than ours. As things are, in India social sanctions and restrictions against Bohemianism, even of a very mild variety, are more than adequate and those whose opposition to birth control is due to their solicitude for the conventional moral standards have very little to fear from its being adopted as a method of population control.

India, like every other country, has and will have her own merry birds who will use birth control for their irresponsible enjoyment. This set will be there, birth control or no birth control; but with it some waverers on the fringe will possibly decide to cross over and join the merriments. But to withhold the knowledge of birth control from the starving millions in order to save the souls of these weaklings is not worth the enormous sacrifice involved. It is far better that they should join the group to which they really belong rather than countless married people go without the knowledge which is their only way of escape from their crushing responsibilities. Anyway, it may be taken as certain that birth control for the next generation in India will be almost exclusively used by the legally wedded couples for reducing their birth rate and, therefore, the size of their family. They will not give themselves up to excesses any more than they do now and will achieve a sense of

security and freedom from the fear of having children for whom they can do almost next to nothing and many of whom cannot survive. There may be a few heretics and more irresponsible persons who will find in birth control an opportunity for trying out their heresies and indulging in their revelries. But that will do the nation no serious harm and the great gain will be that parenthood will become a matter of choice and cease to be a responsibility unwillingly assumed and badly discharged.

Birth control is a well-worn theme and the arguments for and against it have been discussed threadbare. Mahatma Gandhi's opposition to it is well-known and the grounds for it are about the same as those on which it has been opposed in other countries. But his unique position in our public life, and the fact that whatever he says or writes bears upon it the impress of first hand experience and deep thinking, gives to his view on birth control a significance of its own for us. It was, therefore, necessary to state the case for birth control by countering his arguments against it. Fortunately in India so far as the educated classes are concerned, in theory the battle for birth control has already been almost won and they hardly need to be converted to the view that it is both necessary and right. Mahatma Gandhi's opposition to it is uncompromising, but it is also well-known that other eminent Indians like Rabindra Nath Tagore, Jawaharlal Nehru and Sarojini Naidu are in favour of birth control.

The birth control movement in India is not well organized and not very strong as yet. But it has made considerable progress and is, to quote from the *All-India Census Report*, 1931, "less hampered in India by misplaced prudery than in some countries which claim to be more civilized." The sympathetic note struck by Mr. Subash Chandra Bose in his presidential address at the Haripura Congress to which a reference was made in the last chapter, indicates the growing importance which the subject is assuming as a major problem of our national life. The All-India Women's Conference has urged the necessity and desirability of making birth control knowledge available to the people in India. The Mysore State has provided clinics in some of its hospitals and a few

clinics have also been started in other parts of India and are doing useful work. British official opinion is known to be solidly for birth control, and though owing to political changes it does not count as much as it could have some years ago, the fact shows how men of widely divergent views and interests are more or less convinced that the adoption of birth control is one of India's vital needs.

But it has also to be remembered that the birth control movement has not as yet acquired any great practical importance. The number of educated Indians, who are practising birth control, is probably growing but even they find it difficult to get advice from qualified doctors or the necessary clinical assistance. Practical interest in the subject is increasing among them but facilities for satisfying the demand for expert advice, which is the direct result thereof, are almost non-existent. The books of Dr. Marie Stopes and several other books on the subject, including some vernacular books written by authors of very doubtful authority, are finding a large and steady sale. They serve a useful purpose ; but cannot take the place of expert advice and on that account failures, in spite of the use of contraceptives, are more common than they need be and in some cases are followed by distressing results. Use of these methods without competent guidance cannot but be harmful in a large number of cases and is likely to retard further progress of the movement or strengthen the case against it. And of course it has not touched the masses at all. They are ignorant of the fact that avoidance of unwanted children is possible and have neither the desire nor the knowledge and means to prevent their being born.

This is the crux of the birth control problem in India. So far the movement has met with very little opposition ; but it cannot be assumed that it can become a mass movement without stirring up dormant prejudices and have arrayed against it dogmas and authority of the priests of every religious community in India. The major communities do not profess allegiance to any religious head like the Pope whose damnation of the movement might create insuperable difficulties in its way. But India is still a priest-ridden country and the priesthood cannot be left out of account as a factor potentially hostile to the

movement if an attempt is made to carry its message to the masses and convert them into being its supporters. To reach them in order to win their sympathy and active co-operation is itself an extremely difficult task. They cannot read any literature on the subject because of their illiteracy, and the powerful political organizations like the Congress and Muslim League, which have influence over and access to the masses, will not lend their support to the movement. In no country of the world have the politicians openly associated themselves with birth control. Its advocacy is a bad political strategy and results in the loss of votes. In India the confidence of the masses is even more difficult to win and retain, and at a time like this when the struggle for political freedom and power is in progress, no political party or politician of any consequence will risk the loss of supporters, who otherwise might be with them, by the advocacy of a cause like birth control. There are more urgent needs of the hour and considerations of political strategy dominate practical policy. Jawaharlal Nehru is in politics and in favour of birth control. But he is much more than a politician and a public leader of an entirely different order. Even he is too pre-occupied with other matters to make birth control an active public interest of his own. The first serious difficulty that we have to reckon with in enlisting the interest and co-operation of the masses for birth control is the risk of arousing irrational prejudices, which are latent now, and the obstacles in the way of reaching them for the purpose.

But an even more serious difficulty in making birth control a practical proposition in India for the masses is that of suggesting a suitable contraceptive and providing an agency for teaching them how to use it. A perfect contraceptive is still to be found. The contraceptives in use in other countries are not absolutely infallible and call for intelligent co-operation on the part of the users. They are also open to criticism owing to their requiring a certain measure of preparation in advance and therefore interfering with the spontaneity and un-premeditation of the sexual union. A simple, absolutely certain, fool-proof and aesthetically satisfactory contraceptive has not been made available as yet. In India the people are

ignorant, their conditions of life primitive in the extreme and of course poverty-stricken. A contraceptive that will be acceptable to them and can be popularized must be within their means, should not be complicated in the least and should be effective and satisfactory otherwise. In spite of the fact that the birth control movement has been in existence for over sixty years in the West and has produced revolutionary results, all birth controllers agree that the methods now in use are imperfect and must be improved upon.

This difficulty is further aggravated in this country by the fact that, with a few exceptions, doctors are singularly ignorant of the technique of birth control and have neither studied it nor understand fully its medical aspects. This deficiency India shares with other countries of the world and the difference that there is is one of degree. The doctors have proved to be untrustworthy guides of the people in the matter of birth control or rather they are no guides at all for they are extremely ill-equipped for the purpose. In their courses of studies birth control has no place ; and though the use of birth control has become common and widespread, most doctors know very little of its scientific or practical side. Of late in Western countries a certain amount of research has been and is being conducted in the subject and a few experts in it are available. In India very little is being done in this line and doctors in the majority of cases do not know any better than their clients.

This, however, is a defect, which can, given the will, be removed. The doctors in service or practice can be given a supplementary course of training and the study of birth control introduced in medical courses. But the real difficulty is that the rural areas, in which 90 per cent. of our people live, are practically without medical facilities. In most cases there is no one to give advice and assistance. Few as the men doctors are in the villages, the lady doctors are fewer. As the methods of birth control, which experience has proved to be most satisfactory and trustworthy, are those which women have to use, the assistance of lady doctors is almost indispensable for giving them expert guidance, and in the villages that assistance is available at present only to a very limited extent. Before birth control can be brought to the doors of the people—and

without that it will not make much headway among them—medical facilities must be extended in India and placed within the reach of humble dwellers in the villages.

These practical difficulties are very serious, and have to be taken into account by the advocates of birth control. We have to come to close grips with them. It is no use discussing the economics, politics and ethics of birth control if it is not possible to give its knowledge to those who need it most. The primary difficulty of suggesting a method which our people can use has to be got over. It is there but it must not be exaggerated. The methods now in use are imperfect but they are not at all ineffective, otherwise the " catastrophic " fall in the birth rate would not have occurred in Western countries. A contraceptive which is not infallible has the serious disadvantage that those who use it are always in doubt about its efficacy. That has bad psychological re-actions and does not give the necessary confidence. As no method, except abstinence, is infallible, this drawback has to be admitted and the other defects referred to above also detract from the value of these methods. For the time being we in India will have to accept these disadvantages and use such methods as are recommended by expert investigators, singly or in combination. We can do so with the knowledge that, in spite of their shortcomings, they work and do not have any harmful results if they are properly used.

We can have also the satisfaction of knowing that further investigations in the subject are now being carried on and those, who are in a position to know and judge, are of the opinion that it will not be long before absolutely safe, reliable and otherwise satisfactory methods of birth control are made available. The doctors have not done their duty by society in this respect and they owe to it to make amends for their remissness in the past. Something in this line is being done and more can be done. Some of our public-spirited doctors can take a hand in the investigation and study the problem from the Indian standpoint. Here the economic factor is particularly important and the special conditions of the life of our people have to be borne in mind. Even the price of the contraceptives now in use can be materially reduced for our people if an Indian industry for their

production is started and fostered. If it is admitted that the supply of contraceptives at as low a price as possible is a public necessity, public aid and even subsidy for making it available will be perfectly justified. And what is more important is the discovery of better and cheaper contraceptives than those now available. There is an international Birth Control Investigation Committee at work on the problem. We can and should have a national committee for investigation to co-operate with it and contribute to the results of its inquiries. The birth control movement in India will take time for extension and development, and it may be assumed that before it attains the dimensions of a mass movement, scientific progress will have solved the problem of a suitable method of contraception. The movement can, of course, be started straight away on a national scale by advocating use of the existing methods with care, intelligence and proper guidance.

For overcoming the other difficulty, the development of public health and medical services is absolutely essential. Development of these services has to be provided for and should be accelerated. Travelling dispensaries, subsidized doctors, health units and training village guides and co-operative workers in preventive medicines are the various schemes which are under consideration or being introduced. The need for lady doctors and trained midwives for rural areas is being acutely felt and will have to be satisfied. Birth control has to be made a part of the public health programme of the state and made available as a measure of marriage hygiene. If the present state of utter helplessness in face of the prevalence of endemic and epidemic diseases in the country continues, nothing can be done for the improvement of the health of the people by the introduction of preventive and remedial measures. Birth control is, as stated above, a measure of preventive hygiene, and, apart from the question of over-population, has to be introduced to space out children and save the lives of women for whom childbearing is extremely risky for reasons of health. But owing to the fact that the country is suffering from over-population, it is more than a measure of public hygiene. It is a measure of national reconstruction, an indispensable method of improving the quality of our people and giving them relief from the grim and

unremitting struggle for their very existence. It must be a part of the reconstruction programme of the nation, and can be so made by increasing the number and variety of health workers and giving them the necessary training to impart the knowledge of birth control to the people under proper hygienic conditions. The difficulty of providing expert assistance to our people is, therefore, a part of the larger difficulty of having an adequate health organization for meeting the country's urgent needs and will be removed when we bring about the development of our health services.

Opposition or even resistance of the conservative and reactionary elements in the community has also to be anticipated and provided against. Fortunately they are less important or influential than might appear at first sight. In the West the birth control movement has made progress in spite of their opposition. They were and are in control of the church, the press and the educational institutions and have used these powers to retard the progress of birth control and even to suppress it. Comparatively recently a few protestant and non-conformist churches have given a qualified support to birth control in Great Britain and America, but they have done so when birth control had won almost all its battles. They have changed sides because they know that opposition to it is futile. But opposition of the conservative elements has had the effect of creating an atmosphere of social hypocrisy. The important daily papers take no notice of birth control, never write for it, though now very seldom against it, and do not even take birth control advertisements for publication. In educational and even medical institutions birth control is a forbidden subject and a frank discussion of it is not permitted. The people, excepting a few ardent believers, practise birth control but seldom profess any sympathy for or interest in it. But in spite of active or passive opposition and apathy, anti-birth control is a lost cause in the West.

In India also birth control will be condemned as unnatural, immoral and harmful, and scriptural authority will be quoted against it. We will be warned against " wine of libertinism " of the West and doleful prophecies of what will happen to the youth of the country, if the knowledge and practice of birth

control becomes common, will fill the air. The instances of irresponsible young men and women, who might 'let themselves go' because of the security offered by birth control, will be cited as typical cases of what can happen to the country by the use of birth control. And persecution of these advocates of birth control under the cover of anti-obscenity, public decency or safety of moral laws will also take place and cause suffering and resentment. But the need for birth control is so real and urgent that, in spite of the opposition, birth control will find ready practitioners if not supporters among the masses if they only know that a way of escape is possible from "the cascade of babies." What matters is that each province and the country as a whole should have provincial and national organizations for country-wide propaganda and instruction. These organizations need not have hundreds of thousands of members. They may be small but if they are active and efficient, rapid progress of birth control in the country may be taken as assured. Public opinion will take time to change, but it will change and become favourable. The people in general will not publicly support the movement. Monster meetings for birth control—of the kind which are fairly common in the country—will not become usual. But nevertheless the progress of birth control will be continuous and steady and the people will practise it and demand facilities for instruction in it.

The experience of other countries in this respect is instructive.* Dr. Drysdale's Neo-Malthusian League in England with its limited membership and resources did a yeoman's service to the cause of birth control and small organizations like the

* A quotation from H. G. Wells in support of the point made here is worth giving: "There seems to be irresistible seeping of birth control knowledge now throughout the world, even where all outward discussion of birth control and all facilities for its practice are forbidden. There is a direct correlation of the standard of life with the birth rate, and no population to which these ideas have come has failed to respond to them. Even in blackest Italy, in spite of the most vigorous formal suppression of birth control propaganda, the eloquent exhortation of the Duce to Italian womanhood and the threatening and outrages of philoprogenetive Fascisti, spread the suggestion, and the birth rate falls—under conditions of dingy concealment, no doubt, and with much mental trouble. For some generations, and more and more universally as the modern ways and conceptions that are known as Westernization spread about the world, the birth rate will probably continue to fall, and it is quite possible that there may even be a marked diminution of the total human population in the concluding phases of the process."—*The Science of Life*, p. 967.

Birth Control Information Centre and the Birth Control World-wide Group which have succeeded it, are exercising an influence far greater than one would expect from their size and membership. Help has been given to India by the propaganda tours undertaken by Mrs. Edith How-Martyn and Mrs. Eileen Palmer. Mrs. Margaret Sanger, who visited India on her world tour, has fought a heroic battle in America against reaction and won it. But co-workers are few and for the U.S.A. the organization which she is running has a limited membership. The influence of her work and of similar other organizations is great and on the increase. These Leagues, Centres and Federations are the real spearhead of a movement for which a large reserve of support is available among the masses owing to its answering a deeply felt need of their life. This reserve has to be tapped and mobilized. That cannot be done without thought, initiative or drive ; but for its success organization of the masses is not necessary, and a mass movement in favour of birth control can be created without mass action.

But in India as elsewhere mass contacts are essential for a mass movement. Owing to the illiteracy of our people and their comparative isolation access to them presents difficulties of its own. These difficulties are decreasing owing to the development of communications, the awakening of political and, therefore, social consciousness and the impact of economic forces. Once our people are freed from the benumbing effect of the inertia of ages, their discontent will become a power for good and they will be made susceptible to new trends of thought and action. Birth control must begin in India, as it did in other countries, at the top, among the higher and middle classes, but by a process of infiltration it will find its way downwards ; and once people adopt it, they will stick to it tenaciously. France has been a stronghold of birth control in spite of the fact that birth control propaganda and the sale of contraceptives are penal offences there.* Germany, Italy and Belgium have adopted even more stringent measures against it but with little or no success.

* It has been possible to purchase condoms in France ; the sale of these was permitted, not for birth control purposes, but as protection against venereal disease. But it can be safely assumed that their availability has been an important factor in limiting the size of families.

In the matter of birth control a silent revolution can be brought about by a force of example. Knowledge spreads and is passed on by word of mouth quickly and without fuss. We will have, as suggested above, to incorporate birth control in the public health programme of the state. That is necessary in order to ensure that the use of harmful contraceptives is minimized. But even without it birth control will spread to the masses though the process cannot be as rapid in India as it has been in other countries owing to important differences in circumstances. But it will spread ; and it is, therefore, the more necessary that steps should be taken to prevent any unhealthy developments. In most countries the state has either been hostile or indifferent to birth control. But once official recognition of the importance of birth control is granted, much more rapid progress can be made. In England in 1930, the Ministry of Health sent a circular to local public health authorities permitting them to give information on contraception where a further pregnancy would be detrimental to the health of the mother. In circulars sent since that date, the Minister of Health has extended the list of illnesses considered detrimental to the mother's health and has altered the wording of the circulars from " permitting " information to be given to " advising" that it should be. To-day, according to the latest information, 245 municipal health authorities out of a total of 414 provide information on contraception. But the commercialized advertisement and the sale of contraceptives, often useless and frequently harmful, are still common. In India commercial exploitation of the interest in birth control has already started and is increasing ; and if the state does not take action to regulate the sale of contraceptives, the evil is likely to grow. On this account, if for no other, it is desirable that public authorities in India should step in and provide reliable information on birth control.

Since it is in the public interest that the state should promote the introduction of birth control in India, it is necessary for it to assume more direct responsibility for the provision of birth control information on lines recommended by expert opinion.

But democratic governments in the Provinces cannot take initiative in the matter unless they can count upon public

support or rather know that public opinion demands that such initiative should be taken. The first necessity, therefore, is education of public opinion and the countrywide organization proposed above has to undertake not only to arouse public opinion to the need of birth control in the country but also to that of its being introduced under state auspices. The organization has to be non-partisan and be prepared to meet opposition. It may appear incredible that a course of action which most of the Western states have not been able to take should be adopted by the new Governments in India based upon popular franchise.* The difficulties are there; and it will in the first instance probably be necessary to depend upon voluntary effort for the provision of sound birth control information. But voluntary organization cannot possibly meet the needs of the situation. In England where the circumstances are far more favourable, there are only 57 birth control clinics provided by voluntary organizations and in the U.S.A. the number is less than a hundred. The fact that, although the number of centres at which medical advice on birth control is available is so small in England and the U.S.A., in these countries which are facing the prospects of diminishing population owing to the use

* Most Governments in Western countries have tolerated birth control but the Fascist countries have taken steps to repress it by most brutal methods. However, the latest developments in the Scandinavian countries show that at least a few Governments are capable of taking a rational view of the population situation. In Sweden, Norway and Denmark the declining birth rate has brought to the fore the necessity of stabilizing population. But they, instead of adopting savage repressive measures against birth control, have taken steps to tackle the problems of parenthood, steps like family endowment, improvement of housing conditions, provision of free meals for children and protection of children born out of wedlock and their mothers. Besides taking these steps they are also going to open birth control clinics for giving reliable advice to married persons and persons about to marry through the state hospitals and maternity and child welfare centres. Provision of sound birth control information is a part of their population policy which has as its aim a rise in the birth rate so that the prospective decline of population may be arrested. This is as it should be, and shows, as stated above, that there are at least a few Governments which can adopt an enlightened population policy in dealing with the present situation. Their whole approach to the population problem is different and entirely sensible. Information regarding the population policies in Scandinavia is given in *The Eugenics Review*, Vol. XXX, No. 2, July, 1938, in an article contributed on the subject by the author of *The Struggle for Population*—Mr. D. V. Glass. In England, too, the legislation recently passed with regard to the registration and provision of trained midwives indicates the increasing appreciation of the importance of giving the mothers of the nation every consideration and care.

contraception on a national scale, the practice has been so widely adopted shows how silent the revolution has been and how the information has filtered through ; for creditable as is the record of work of these clinics, they by themselves have not and could not have made the revolutionary change. In India a similar revolution may take place ; but besides the fact that there is no chance of its progress being as rapid, it is extremely unwise to leave the matter to uninstructed individual action and commercial enterprise. Contraceptives, even more often useless and more frequently harmful than in the West, will come into use, discredit birth control and injure the health of our people. The voluntary organizations can lead the way in making the people 'birth control-minded' and run a few model clinics ;* but a birth control service, which will be adequate for the needs of the country and manned by a competent staff, must be a public service and part of the public health organization of the country.

The State can do no more than provide an agency for supplying sound birth control information to the people, and carry on or at least welcome and help the propaganda in its favour. The number of children, whom the parents choose to have, must be left to their unfettered free will. Mahatma Gandhi is of the opinion that the parents should not have more than three children and if they cannot practise abstinence after they have got the required number, they should if necessary, be forced to separate. It is needless to say that a measure even half as drastic is utterly impracticable. But it will not be necessary to adopt any drastic measures if public opinion is called to our aid. At present large families are regarded with approval by society. " The superstition of a large family " in the words of Mahatma Gandhi " being an auspicious thing and, therefore, desirable, still persists."† It was not long ago that the same superstition existed in England and other Western

* Already there are a few birth control clinics in Bombay run by voluntary organizations and in other towns in India there are some hospitals which have a birth control session in their maternity and child welfare departments. The Society for the Study and Promotion of Family Hygiene has done some valuable propaganda work and conferences such as the Second All-India Population and First All-India Family Hygiene Conference, held in Bombay in April, 1938, deserve strong support.

† *Young India*, April 2, 1925.

countries but it no longer persists now. James Stuart Mill, in 1848, lamented the same "superstition" and wrote "Little improvement can be expected in morality until the producing of large families is regarded with the same feelings as drunkenness or any other physical excess, but while the aristocracy and clergy are foremost to set the example of this kind of incontinence what can be expected of the poor?"* The aristocracy, clergy and other professional classes started regarding large families with "the same feelings as drunkenness or any other physical excess" three or four decades after Mill wrote his principles and lamentations went forth that the nation was dying at the top owing to the differential fertility of the better stocks and its downfall was inevitable. Now the differential fertility has disappeared because the feelings with which the upper classes regarded large families in the inception of the change, have become common among all classes and "the two-child family is now the fashionable family!"† The fashion has changed because a large family has ceased to be a matter of pride and has become an object of public pity and even opprobrium. In India the superstition that a large family is auspicious can also become a thing of the past if the well-to-do set a new fashion and let it be known that the change is the result of a rational purpose. It is true that in India religious beliefs have a bearing upon procreation; but the Biblical command to be fruitful and multiply has not prevented a fall in Christian countries and there is no religious belief in India which makes it obligatory for the people to have 'Victorian' families. Men, in the matter of breeding, as in all other social matters, are highly imitative and it is possible to make overbreeding obsolete and a thing which is not done.

Taking it for granted that a change in social behaviour is to be the method of introducing the small family system in India, the point which has to be considered is, what should be the norm of social behaviour in this respect? Mahatma Gandhi's three-child family rule may appear fair and reasonable; but it has to be realized that its adoption in India would mean a decline in population after some time. Lancelot Hogben in the essay

* J. S. Mill, *Principles of Political Economy* (Ashley's edition), p. 375, Note.
† L. Hogben, *Planning for Survival*, p. 174, in "What Is Ahead Of Us."

referred to a little earlier holds " that the problem in England of maintaining a population is, therefore, the problem of getting most people to have at least three children."* This conclusion is based upon the assumption that the present marriage, death and sterility rates can be taken as normal. In India, both the marriage and death rates are higher than in England. The former is favourable and the latter unfavourable to survival, but the difference between the death rate of England and India is much greater than that between their marriage rates ; and India will need an average of more than three children per marriage to maintain our population, i.e. to keep it just stationary. What the average should be would depend upon the net reproduction rate, which, as stated in an earlier chapter cannot be calculated owing to the necessary data not being available.†

The present death rate in India, however, has to be, and it may be hoped, will be reduced ; and the greater this reduction is the less will be the decline in population owing to the adoption of the three-child family rule. But after the necessary time-lag before a reduction of the birth rate exerts its full effect, it may be expected that the rule will lead to a decline in our population, the rate of which will vary in inverse ratio to the rate at which the death rate can be reduced in India. But that is a prospect which need not cause us any concern. There is such a large margin for the reduction of the death rate in India that even if we have a period of declining population, we can use it for improvement in the general health condition of the people, reduction of the death rate and increase in the chances of survival. The size of our population should be a guarantee against our declining population developing into the menace of under-population. This decline can be welcome only up to a point at which it will have to be arrested. What that point will be it is impossible to determine now and it is not necessary to do so. The decline, even if it sets in, can later be arrested ; for the obvious but all-important point has to be borne in mind that birth control will not reduce the reproductive capacity of men and women, i.e. their fecundity. It will only reduce their fertility which will be the result of

* *Ibid* page 173.

† *Vide* Ch. VII, p. 179.

voluntary partial sterility. On the average the parents may only have three children, but if the circumstances change and they want to have more, they will be in a position to act according to their inclinations. In other words sterility will not only be voluntary but revocable.

On the last point lately a great deal of doubt has been expressed by competent writers. Carr-Saunders, for example, says in his *World Population* "Once the voluntary small family system has gained a foothold, the size of family is likely, if not certain, in time to become so small that the reproduction will fall below replacement rate, and when this has happened, the restoration of a replacement rate proves to be an exceedingly difficult and obstinate problem." * Lancelot Hogben in his *Planning for Survival* commits himself to a similar view and says " The psychological difficulties of raising fertility to the survival level when it has fallen below it, may be immeasurably greater than checking its descent below the survival minimum when it is still at a much higher level." † In other words it means that it is much more difficult to raise the birth rate once it has fallen to a level dangerous to the continued existence of a community than to prevent it from falling below the minimum necessary for maintaining its population, and further that family limitation once it is started is bound to become excessive and lead to the extinction of population. Similar assumptions underlie the arguments developed in their books ‡ by Kuczynski and Enid Charles, who, by careful statistical survey of the position in Western countries, have come to the conclusion that their net reproduction rates are below unity and cannot be raised to the replacement level unless fertility rates are raised. It follows that in all these countries the position is dangerous and the extinction of population inevitable unless the present trend is reversed.

Discussion of the position of Western countries does not fall within the scope of this book, but the point which is relevant to the argument in hand here is whether the fertility rate can

* Carr-Saunders, *World Population*, Chapter XXII, p. 327.
† Hogben, *op. cit.*, p. 180.
‡ Enid Charles, *The Menace of Under-Population*, and Kuczynski, *The Measurement of Population Growth and Population Movements.*

or cannot, if necessary, be increased. Is it possible to get parents to increase the size of their families if they get used to a size unduly small? The point is not only relevant, but also important. In every country and in the world as a whole big changes are imminent and it is possible that these changes, scientific, technical and social, may change the whole outlook and necessitate or render desirable the increase of population. In India particularly the whole position is tentative to a degree. It has been argued in this book that the present position is extremely unsatisfactory and the chances of any great improvement in it in the near future are very meagre. But that also implies that the position is capable of improvement when the circumstances are entirely different and there can be no question of adopting a population policy which cannot be revised and reshaped. A free and reconstructed India will require a very different population policy from what has to be adopted by the India struggling to be free and suffering from acute internal stresses. Our present need is that the growth of population should be checked and even its decline welcomed. But the decline cannot go on indefinitely and at a later stage the whole position will have to be reviewed and the course of population modified. When a change of policy will become necessary cannot be forecast, but the need for the change is inevitable and has to be allowed for. If the policy of partial sterilization of the nation, for that is what a fall in the birth rate means, cannot be reversed, we will find ourselves in a predicament which cannot even in prospect be regarded without dismay.

The point, therefore, is whether birth control really means revocable sterility. From the biological standpoint there can be no doubt that it does. Parents will be able to get more children. Their reproductive capacity will remain unimpaired. The difficulty if it arises will not be biological. It will be a problem of social psychology and not of biology. Parents will be able to have larger families but they may not want to. According to Carr-Saunders the problem is likely to prove "exceedingly difficult and obstinate" because "all habits connected with the small family system will harden into customs." Social mores, once they are securely established, are not very easy to change; but if the tradition of large and

unlimited family of thousands of years has been replaced by the small family system in five or six decades, there is no reason why the latter should not be replaced by a tradition of limited but larger families if there is a change in the whole population situation and the outlook is very different. It is true what Glass calls the struggle for population* has been a conspicuous failure in Germany, Italy, Belgium and France. But it does not follow that a rise in the birth rate is almost impossible under any circumstances. The experience of the last two decades is no guide to what will happen in the future. The world is an exceedingly unsafe place to live in, brute force in its grim nakedness is threatening the very existence of civilization and the prospect of people having the minimum of economic security and sufficiency is very remote. The fact that the parents' strike is still on, cannot be condemned with all these dangers ahead. No one should blame them for not producing more cannon or bomb fodder.

The birth rate is also, as Carr-Saunders admits, a question of scale of values and social attitudes. Rational birth control should mean that the people should be prepared to have a four-child family as willingly as a two-child family if placing of the children ceases to be the problem that it is and parenthood does not involve unreasonable handicaps in other ways. Men and women will not cease to be educable after the small family system is fully established. They will remain amenable to influences which determine and change values and attitudes. " There is a considerable fallacy " as Mr. F. H. A. Marshall has pointed out, " underlying this argument, namely that because the birth rate in any country tends to react in a certain way to rising population, therefore, it will react in the same way to a falling one."† The reaction of parents can and will change, and that they will not is an untenable generalization from what has happened under circumstances which are special and inauspicious to a rise in the birth rate.

But if once people learn that voluntary parenthood and a limited family are possible, they will not go back to an unlimited family and indiscriminate multiplication of numbers. The

* D. V. Glass, *The Struggle for Population*.
† *Time and Tide*, Feb. 5, 1938.

population situation to-day is not the result of any population policy. It is the outcome of the individual's desire to master an imperious force for improvement in his and his children's position and re-ordering of their lives on a different basis. Now it is necessary to educate them in the social significance of what has happened as a result of their individual action and co-relate their social behaviour to social policies. For that it is necessary to carry out social reconstruction in order that the family be placed, to quote Carr-Saunders again, " where it, on all grounds ought to be, in the centre of the social field."* Recruitment of population must henceforth be a conscious process and social traditions so maintained as to respond to changes in situations and social ideals. Traditions, if they are living, must remain pliant and not only permit but require that the re-adjustments necessary to achieve a greater integrity of social life be brought about. The small family tradition is still a living tradition and the pessimism of those who have raised a cry of the menace of under-population in the West, besides being alarmist in character, is unjustified by the facts of the case.

The bearing of this argument on our population problem is that we in India can and should build up a new social pattern for the family and it should for the present mean that an average of three children per marriage should become the rule. The actual number of children in each case will, of course, depend upon individual circumstances. There are bound to be some childless families and in other families the number of children will vary. But a social norm has to be established and if a three-child family becomes the new pattern, it will probably meet the requirements of the situation. That will mean a declining population for a time, but the decline will increase our national strength and make it easier for us to deal with the formidable problems of national reconstruction. And the decline will not go on or become progressive. We will be able to arrest it. It is only a matter of social behaviour. If we can change it with a view to securing the decline of population, we will also be able to change it, to cry halt and stabilize our population at the level which may suit our national needs and values.

This chapter may be concluded by summing up its argument

* Carr-Saunders, *op. cit.*, p. 257.

briefly. In the last five or six decades a revolution in human affairs, which has made parenthood voluntary and the growth of population a conscious process, has occurred. The revolution is not complete as yet and in our country it has still only made a beginning. It is our national interest and duty that we should encourage it with a full understanding of its meaning and importance. Contraception which has to be the method of initiating and developing this revolutionary change, has to be introduced in India on a national scale. A perfect contraceptive has still to be made available, but a contraceptive, " cheap, effective, easy to use and infallible " may be invented at any time and a " painless, acceptable and fairly effective method of family limitation now lies ready for use "* and ought to be used. It must be ensured that its use is made common on medical advice and, therefore, birth control information should be provided by the state, and by propaganda and persuasion parents brought to adopt the three-child family rule as a general principle of social conduct. The rule can be made operative by precept and example of the more enlightened sections of the community.

Birth control will not be a cure-all. It, in and by itself, will not abolish poverty, starvation and unemployment in the country or teach people the art of living. But it will reduce the problem to manageable proportions and give the people an urgently needed measure of relief from the pressure of population. That is a sufficient reason for regarding it as one of the most imperative needs of the country. Without it we shall be condemning ourselves to futility and frustration. With it we may be able to make our country, to use the phrase which has been used already, a fit place for human beings to live in.

* Carr-Saunders, *op. cit.*, p. 244.

Chapter XIII

ANTICIPATIONS

INDIA'S population problem, like the population problem in general, has many other aspects than the restriction of numbers. It was stressed in Chapters I and II that the problem of population is the problem of the whole life of a people. In India it is the problem of the remaking of a nation—a derelict nation. Restriction of numbers is essential; but much more than that is necessary for nation-building. "India is ill-equipped," according to Mahatma Gandhi, "for taking care of her present population, not because she is over-populated but because she is forced to foreign domination whose creed is progressive exploitation of her resources."* This view is widely held, and though partially true is, as was pointed out in the introductory chapter, a source of confusion of thought. That a free India would be able to do more for her people than India in bondage goes without saying. But the Indian struggle for freedom has still to go through many phases and will not be won without some very anxious moments and even reverses. The world situation is serious but it is idle to expect that world factors will necessarily help the cause of India's freedom. As this is being written the Four Power Treaty is being drafted and Czechoslovakia is still bleeding profusely from the wounds which her erstwhile friends have inflicted on her by letting the "law of the jungle" become once more the principle of international relations. The next phase of international politics is not clear, but the world, it seems, is heading for an even greater disaster than the one which has just been averted; and the most important factor in this dismal situation is most likely to be not a war in Europe but an unholy alliance of the powers represented at the Munich Conference. Their mutual interests are irreconcilable, but it is in their interest for the time being to continue the armaments race and maintain peace among themselves at any price.

India will eventually be free but it is not in our interest to

* *Young India*, Oct. 13, 1920.

nurse the illusion that the path of freedom is going to run smooth. It is also becoming more and more abundantly clear that the interests who stand to lose by the country's freedom, are ranging themselves against it. Progressive exploitation of these interests and not only of our resources is a part of the creed of foreign domination. It is good to have self-confidence and the faith that the struggle for freedom can have one end and only one end, i.e. India's freedom. But the struggle will engross our attention and energy for a considerable time yet and we will not have the power or opportunities to embark upon large-scale national reconstruction until the struggle is at an end.

The above point has been dealt with already, but it is necessary to emphasize it further. India's freedom will give us the power to solve our problems, but it has still to be won and a quick victory is neither in sight nor assured. While our immediate future is still uncertain, and we are woefully ill-equipped to take care of even the existing population, our population is growing and if no steps are taken to check it, will keep on growing. Increase of the population in India in the existing circumstances—that is the refrain of all that has been written in this book—is bound to weaken and not strengthen the nation.

" Political freedom is," as Jawaharlal Nehru has put it, "the first and essential objective for us to-day. Everything else must follow it and without it there can be no other radical change."* It is a reasonable anticipation from the facts that political freedom has to be a matter of prolonged struggle and is not round the corner. But the widening of our social horizon which has taken place in the last few years has made it clear to us, to quote from the resolution passed at a meeting of the All-India Congress Committee held in Bombay in 1929, that " the great poverty and misery of the Indian people are not due only to foreign exploitation of India but also to the economic structure of society which the alien rulers support so that exploitation might continue. In order, therefore, to remove this poverty and misery it is essential to make revolutionary changes in the present economic and social structure of society and to remove the gross inequalities." The masses

* Jawaharlal Nehru, *Eighteen Months in India*, p. 29.

are not only exploited by foreign rulers, but also by our own people, and if political freedom is to include real economic freedom of the starving millions, as the famous Karachi resolution says it must, " revolutionary changes in the economic and social structure of society " are inevitable. These changes may come after and not before political freedom, but whether they come sooner or later, they are not going to come merely by faith in their necessity. They will involve a period of even more prolonged, strenuous and sustained struggle on all fronts. Even if the fond hope of our people that both political and economic struggle should remain strictly non-violent is realised in practice, the social struggle will also be a period of manœuvres and counter-manœuvres, of positions gained and lost, of retreats, masterly and otherwise, and intrepid sallies. The period may be shortened by " the force of events or pressure of reality " but it has to be a necessary phase for winning the real economic freedom of the starving millions in India. This is another anticipation which is fair and reasonable and also justified by the facts, trends and portents. This period will be a period of substantial gains but the gains will not involve the fullest development of our productive resources or give us economic sufficiency for providing a sound material basis for an all-round development of the country.

But even if the struggle is over and India does not fall a victim to re-action before it is over—a possibility which has to be reckoned with owing to happenings all over the world—and we can settle down to our task of national and social reconstruction, an enormous development of our resources will be necessary in order to give our people the national minimum. India may in the reconstruction stage of her national life have all the advantages of Russia and not have to pay for them in bloodshed and the loss of civil liberties, but the problem of India will be different from that of Russia. India will have her 400 millions or more to provide for and no Siberia and other tracts to colonize and develop. India has large potential resources and will be able to increase the wealth and income of her people. But the population factor is going to be an all-important difference between India and the country whose problems were and are in many ways the same as ours. The

people of India are and will be numerous enough to supply all the man-power required for reconstruction; but the depth of misery from which they will have to be raised will make the task more formidable in proportion to the increase in population between now and the time when our people can completely master their destiny and use it for building up a new life and a new future.

Reconstruction, when it can be undertaken, may be socialistic or based on values of a different order. In the opinion of the author socialistic reconstruction is the only possible line of development for this country if India is not to be "a mass of hungry, starving, miserable people." But the argument need not be complicated by making this assumption the basis of the above anticipation. Reconstruction in India on a national scale is going to be a colossal undertaking in any case, but the magnitude and difficulties of its problems will be increased if the growth of population continues unchecked and we have many more mouths to feed and many more human beings to raise to a reasonable level of dignity and self-respect.

We cannot stand still till history runs its course and brings us to a position of relative calm and stability. We have to do what we can to strengthen ourselves and reduce our deficiencies. In anticipation of a different and better future we must use our limited resources and opportunities to gain practical experience and greater confidence. But if we realize how little we can do and how necessary it is that the little should yield tangible results, we shall also realise that the increasing numbers will militate against the success of the measures which we can and ought to take. The makers of modern India have had their lot cast in stormy times, and among the storms which they have to face is, what H. G. Wells calls, the breeding storm. This storm, if the analogy is permitted, has not been confined to India; and, as a matter of fact, as shown in Chapter III, its severity has been much greater elsewhere than in India. But it has abated in Western countries and its abatement, in spite of its comparative mildness in India, is a necessary condition of our success in dealing with our national problems. We are comparatively weak and cannot let the storm rage without detriment to our best interest. We must bring it under control. In this, as in

other matters, " either," to quote from H. G. Wells again, " we take hold of our destiny or failing that we are driven to our fate."*

H. G. Wells in speculating about the possible future of India says that she and China are both in a phase of great changes and reconstruction. " But " he goes on to say, " is it not reasonable to assume that the same economic and social forces that have brought or are bringing, the advanced communities of the world nearer and nearer to a stabilisation of population will ultimately become operative throughout the whole planet ? . . . The lean Indian in a loin cloth living in a hut with a cowdung floor . . . is no more a permanent actor in the world spectacle than were the British savages in woad, or the Arab pirates and slave traders who raided the coast of Provence in the Middle Ages. The Indian Ryot is not there for ever. The stuff that may be stirring in the being of his grandchildren may be so different from that in his own, that his way of living may have become an almost incredible horror to them."† It is difficult to understand what is common between the lean Indian in a loin cloth and the British savages or Arab pirates and slave traders ; but the Indian Ryot will not pass away alone. With him will have to pass away the shirted Germans and Italians and the unshirted but in spirit kindred British and French populace who give triumphant welcome to their statesmen after their return from a hold-up at which they deliver to a gangster all that makes life worth living. They all in different ways belong to the same phase of human history and will not be there for ever. But the only hope of India is that the stuff that may be stirring in the being of the great grand-children of the Indian Ryot will be so different as to make his way of living an incredible horror to them: Different stuff is already stirring in the being of the Indian Ryot himself. This process has only just begun but will go on.

H. G. Wells in another place in the same book makes a more appropriate comment on " humanity in a part of Bengal. " " The peasants," he says " are so cheap that it does not pay to give them adequate protection against wild beasts. It does

* H. G. Wells, *The Anatomy of Frustration*, p. 267.
† H. G. Wells, *The Work, Wealth and Happiness of Mankind*, pp. 682–93.

not pay. Every year hundreds of them are eaten by leopards, tigers and other carnivora. Man-eating beasts will come into the villages and carry off people in the night from their houses. Locks, bolts and bars cost money and peasants cost nothing."* This is the tragic truth. What is true of Bengal is true of the rest of India, more or less. The men, particularly peasants, are so cheap that it does not pay to give them protection not only against wild beasts but also against other ravages of nature and what is worse, the ravages of men. Life is dirt cheap. It does not pay tc save it from ignorance and disease. Schools and hospitals cost money, but children cost nothing. They are just born, many of them die before they can propagate their kind but nearly two-fifths survive to the reproductive age and breed abundantly. It is, according to one view, Nature's way of assuring the continuance of species. " Nature" in the words of G. Bernard Shaw, " without any interference, produces enormous numbers to provide against the extinction of the species."† That may be Nature's way but it is an inhuman one. The matter must be taken out of Nature's hands and made an object of human control. Life is cheap in India and the men cost nothing because both have, to use a common phrase of the economists, no " scarcity value." It will pay to protect and save the men if there are not so many of them and their multiplication is restricted.

We have not only to make life in India worth saving, but find the means of doing so. There is truth in what James Maxton the I.L.P. leader of England, says on the subject of population control in a newspaper article. " I believe " he says, " that on the right principles, it can be done as easily for twice the present population of the world as for half and that, on the wrong principles, the results are just as disastrous for a small population as for a large one."‡ There is truth in the statement inasmuch as the right principles matter more than population control for re-ordering the world or a part of it. World population is, however, not the subject matter of this

* *Ibid*, p. 678.

† G. Bernard Shaw, *The Intelligent Woman's Guide to Socialism and Capitalism*, Ch. 25, p. 90.

‡ James Maxton on *Socialism and Birth Control* in the *New Leader*, March 18, 1932.

book and in India the right principles cannot be made fully operative for reasons referred to above. The world has to be brought under the sway of right principles otherwise, in spite of the declining birth-rate, almost all countries of the world will soon show symptoms of over-population. But in India, it is certain, that if we relax our efforts to secure their ascendancy, we will not be able to solve our population problem. It is the hope that they will ultimately prevail which makes it worth while to raise the population issue and stress its urgency and importance. We will implement them the more easily if we understand the issue and develop the ability to deal with it. In India—that is the point on which the view expressed in the book is different from that of Mr. Maxton—a larger or smaller population will affect what and how much we can do for the population. Mr. Maxton expresses the traditional socialist view that under socialism there can be no population problem. This view, as pointed out in Chapter I, has acquired the currency for justifying and protecting the *status quo* with all its inequalities and inequities. Every social system must have its population problem; but if in India we want so to change things that it not only pays to save life but also we can find the means of payment for saving it, we have to keep the importance of " right principles " and the necessity of applying them in the forefront of the discussion of the population problem. Without them population control may create a vacuum, but not a state of things which will make the present way of living of the Indian Ryot an almost incredible horror to his grandchildren.

The right principle will not only require that the problem of intelligent production and fair distribution should be solved, but also that the problem of population be handled with reference to a scale of values and scheme of life of which intelligent production and fair distribution should be an integral part. Even if India is to have socialism, it should be conceived as meaning a lot more than the socialization of the means of production and an increase in the purchasing power of the masses. And if it is to mean some other social order, that too should be integrated with some unifying principle and frame-work of reference. This opens an entirely new vista of speculations which cannot be dealt with here. The speculations

would be legitimate but they cannot serve any useful purpose, for we cannot know the shape of things when India is politically free and can make her own future. No one knows what the population problem will be like when India is well set on the path of self-determination and nobody can now settle how posterity will, when a free choice of various alternatives is possible, decide between them. But we do all know that the lot of our people is very hard, it has to be greatly improved and the possibilities open to us are few and limited. In these circumstances our population problem is the problem of the excess of numbers. The problem does exist now and will exist till our people have enough food, are well-housed and clothed and have a minimum of security and voluntary leisure. It will take us a long time to satisfy these needs of theirs and there can be no difference of opinion about the imperative necessity of satisfying them. In providing even this minimum, difficult questions of means and ends will arise and have to be settled; but of the ultimate form of the population problem in India we can know nothing. There is really no ultimate population problem and its form and content always are and must be relative. Our immediate task is, however, urgent and difficult enough to justify our giving the present problem our most serious consideration. It is a major problem of our national life and must be solved.

In due course more positive measures of population control will have to be considered and adopted. Its eugenic aspects, for example, are of primary importance and in this country have not been studied. Eugenics is still a dream and an interrogation mark. But propagation of the unfit, the C3 and biologically tainted members of the community, is going on unchecked and unregulated. A scientific survey of the position will probably show that the problem is serious and has to be attended to. But its solution and that of other similar problems*

* Another aspect of Eugenics, which requires careful investigation and study, is the assessment of the eugenic value of caste restrictions. There is no doubt that one of the reasons why the caste system has acquired the importance it has is the empirically-felt need for preserving the distinctive features and values of different stocks. India having been a melting pot of races for thousands of years contains a variety of biological strains which are diverse and, to an extent which is indefinable, represent a hierarchy of racial values. Restrictions regarding inbreeding and outbreeding, which are the

must wait until the public becomes aware of the urgency of the whole problem of population of which these problems are constituent elements. For the time being the positive aspects of the problem, which are of practical importance, are the development of our economic resources and the execution of a vigorous public health programme. They will give us a lot to do and also an insight into other less well-known aspects of the matter. A start has to be made and the best start that we can make is to realise that India's population is in excess of her needs and resources and its growth must be checked.

most distinctive and rigid feature of the caste system, are based upon empirical eugenics which has hardened into tradition and even irrational prejudice. There is no chance of these restrictions being relaxed on a large scale and as a result thereof dysgenic forces being released in the near future. But it is all the same necessary to carry out a dispassionate scientific study of the eugenic aspect of the caste system and assess, as far as possible, the position of different castes in the eugenic scale. In India, in spite of the caste restrictions, mixture of blood has taken place and there are very few, if any, absolutely pure stocks. But there are some which are relatively purer. The Kashmiri Brahmins in North India, the Parsis in Bombay and the Nambudri Brahmins in Malabar, for example, represent types which are distinctive and have, by their outstanding achievements, been able to support their claims to superiority.

The problem is, however, complicated owing to the overlapping of caste and class distinctions and it would not be easy to distinguish the effects of heredity from those of privileged social and economic position. But an attempt should be made to eliminate, as far as possible, the effect of social factors and estimate the value of different strains from an objective standpoint.

In very few countries of the world has it been possible to maintain a strictly scientific attitude in the study of eugenic problems, and class bias has almost everywhere been introduced in the speculations of social biologists. Fascism with its racial myths and hatreds has made the position infinitely worse for the scientific study of eugenics. India is a land of caste prejudices and exclusiveness and it will perhaps be even harder to maintain a strictly objective attitude. But the task is worth attempting. That its practical importance is small is an advantage from the scientific standpoint. The problem has for the present only an academic interest and it should be possible to maintain its discussion on an academic level. Its study cannot but be fascinating from the academic standpoint and will open an almost inexhaustible field for the experimental psychologist and the social biologist in India.

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