



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

OFFICE-BEARERS FOR 1947

President: Sir Manilal B. Nanavati

Vice-Presidents:

1. Prof. D. R. Gadgil
2. Sardar Bahadur S. Kartar Singh
3. Dr. T G. Shirname.

Hon. Secretary & Treasurer: Prof. M. L. Dantwala.

Members of the Executive Committee:

1. Prof. K. C. Ramakrishnan
2. Dr. A. I. Qureshi
3. Dr. D. K. Malhotra
4. Mr. B. R. Shenoy
5. Mr. J. P. Bhattacharjee
6. Dr. B. N. Ganguli
7. Prof. S. Kesava Iyengar
8. Principal N. K. Bhojwani
9. Rao Sahib P. D. Nair
10. Hon. Secretary & Treasurer.

Members of the Advisory Committee:

1. Sir Manilal B. Nanavati (*Chairman*)
2. Prof. D. R. Gadgil
3. Mr. Dinkar Desai
4. Prof. C. N. Vakil
5. Mr. R. G. Saraiya
6. Dr. N. S. R. Sastry
7. Mr. V. L. Mehta
8. Mr. Sher Jang Khan
9. Mr. N. C. Mehta
10. Prof. M. L. Dantwala (*Hon. Secretary*).

PUBLICATIONS OF THE SOCIETY

1. **THE INDIAN RURAL PROBLEM** (3rd edition) by
Sir Manilal B. Nanavati & J. J. Anjaria .. Rs. 12
2. **LAND TENURES IN INDIA**
(Reprint from the Report of the Famine Enquiry
Commission 1945, including information supplied by
Provincial Governments) Rs. 2
3. **AGRARIAN REFORMS IN WESTERN COUNTRIES**
(An appraisal of European Land Reforms and their
suitability to Indian conditions) Rs. 3
4. **A STUDY OF PANCHAYATS IN MADRAS**, by
K. Jayaraman, M.A., M.Litt. Rs. 5
5. **PROCEEDINGS OF THE CONFERENCES OF THE SOCIETY:**
First (Out of Stock), Second, Third, Fourth and Fifth
available Rs. 5 each
6. **THE INDIAN JOURNAL OF AGRICULTURAL ECONOMICS**
Vol. I, Nos. 1 & 2 (2 being Sixth Conference Number) .. Rs. 3 each
Vol. II, Nos. 1 & 2 (2 being Seventh Conference Number) Rs. 3 ..
7. **RURAL LIFE SERIES :—**
(1) **MONOGRAPH ON RURAL PROBLEMS IN
MADRAS** (Prepared and published by the
Government of Madras, pp. 545) Rs. 5

Nos. 1, 2 and 3 can be had from :

Messrs. VORA & CO., Publishers, Ltd.,
3, Round Building, Kalbadevi
Road, BOMBAY.

Nos. 4 to 7 (1) can be had from :

THE HON. SECRETARY,
Indian Society of Agricultural Economics,
46-48, Esplanade Mansions, Mahatma Gandhi Road,
Fort, BOMBAY.

No. 7 (1) can also be had from :

THE SUPERINTENDENT,
Government Printing Press,
MADRAS

and their employers. As for the rest of the wage-paid labourers and the host of working-dependents of the farmer who also come under the class of farm-workers comprehensive economic planning on the scale indicated earlier is the only solution. This problem concerns the well-being of more than 33 million workers or nearly three times the number of industrial labourers. The Census returns show that their number is increasing at an alarming rate every decade. Should the situation be left to itself, the country might soon have a demonstration of the warning given by the International Labour Office that poverty anywhere constitutes a danger to prosperity everywhere.¹ The problem, therefore, brooks no further delay.

DEMOGRAPHIC PRESSURE ON AGRICULTURE IN MADRAS

BY

S. TIRUMALAI

I

INTRODUCTORY

History has sufficiently revealed that the demographic forces in a country have great significance and importance in influencing the economic structure of society in that area. In fact, in all the countries of the world recent investigations have proved that not one aspect of society will be free from the effects of population changes in the next few decades. For example, changes in the size and composition of the population will be important determinants of such widely divergent matters as trends in social stratification, the function of the family, the status of women, systems of land tenure and the structure of labour organisations etc. In a Planned Economy, they will be no less important in solving the difficult economic problems of agrarian reform, the fluctuating levels of economic activity, the market for capital goods, credit, international trade and the protection and care of the aged and dependent groups. What is more, they will be of critical importance in the problems of establishing a just and durable peace in a world whose changing economic and military man-power exert shifting pressures on the maintenance of fixed relationships. In India we are today witnessing a terrific destruction and movement of population, the catastrophic effects of which on our economic framework and all our planning for the future cannot be easily assessed. In any study of one particular aspect of the demographic problem, the effects of such changes have to be borne in mind in arriving at certain deductions from the present trends. Having, therefore, stressed the importance of the subject of demography in any scheme of planning, this paper is confined to an examination of the pressure of population on agriculture with particular reference to the Presidency of Madras.

THE PROBLEM

A full appreciation of the impact of population on agriculture in any area requires as much information as careful analysis, but unfortunately it is regarding the former that we are in woeful lack of material in this coun-

1. Declaration of the 26th Session of the I. L. O.

try. Whatever data we have is both fragmentary and often unreliable. It is on these inadequate information that certain general deductions have been made regarding the population growth and agricultural production in the country. It must be made clear that such of these inferences as are already arrived at by economists in India on the population problems are therefore not wholly unassailable. They are open to controversy and this study examines only the implications of the underlying processes and structure of the population as related to agriculture on the basis of the material available and does not attempt to review or discuss the doctrinal controversies in this field as to how far the traditional Malthusian theory of population which predicates an unstable balance between population size and food supply can be supported on the basis of trends in our country. It is, however, necessary for purposes of our study to observe that a primary dynamic factor in the relation of population to resources is the level of technological development in the country.

The problem of population pressure is fundamentally the relation between agricultural population and production with particular reference to agricultural "over-population." The size of the total population has little relation by itself to population pressure. The problem is mainly to determine the excess of population on agriculture considered in the light of the technological and agricultural features of agricultural production in the country with a view to find out the causes of low productivity and provide solutions for improving the agricultural situation. It may then be possible to estimate the size of the population that can be maintained on or released from agricultural pursuits at a given rate of technological progress. In order to have a clear and fairly accurate estimate of the carrying capacity of a country's agriculture, it is necessary to know precisely what pursuits we include under the term "Agriculture" and also the other factors which determine or influence the utilisation of land. It is not accurate merely to take into account, as is often done, the size of the agricultural population in ascertaining the carrying capacity of a country, but it is also necessary to examine the other factors in the agricultural organisation which may act as bottle-necks in the exploitation of land to its fullest capacity. It is necessary to lay emphasis on this point because it is taken for granted that the size of the agricultural population alone is responsible for the low productivity and poverty that are existing in this country. The problem of population pressure should always be studied in relation to the methods of agricultural production and development.

The first point to be clarified is regarding agricultural pursuits. Ordinarily in studying population pressure the carrying capacity is measured by field crops alone. The proper and scientific way of estimating the population that can be supported on agriculture will be to include occupations on pasture land if any, forests and other full time pursuits which are antecedent to but mainly dependent on the utilisation of land. In the case of some countries and regions within a country, it may be necessary to take into account even mineral, climatic and other geographical factors to correlate population with resources. To determine the man-land ratio, land must not be measured simply in square miles, but evaluated as to the carrying capacity, i.e. the capacity to support human life, to satisfy human wants.¹ Though density figures per square mile or per cultivated area are revealing, they are too crude to be of great value for a scientific approach of the pro-

(1) World Resources & Industries. Zimmermann, Erich., p. 124.

blem. Indeed, any method based solely on the two factors—soil and population—cannot hope to provide a basis for describing adequately the demographic situation of a country; nor would it suffice to take account of the resources consisting of the productive power of the soil and the wealth of raw materials. For an advanced country, abundance of capital, the development of technical methods, the degree of industrial, financial and commercial education and experience of individuals, marketing facilities, the frequency and good organisation of exchanges, the balance of trade and the balance of payments are all resources which are equally important and which, to a great extent, condition the development of the other resources. Theoretically it would be the ratio of the population of a country to all these factors taken together that would be required to determine the demographic situation and trends in that country.¹ Thus it would be an ideal method for our purpose if we could calculate the ratio of the population to all these physical, economic and human factors. As our statistical methods are not, however, sufficiently advanced, it has been possible to determine only a ratio of man to cultivated land or a ratio of cultivated to total area. All these qualifications must, therefore, be borne in mind before venturing to infer from the imperfect and incomplete statistical data (which is only available to the student of demography) an exact size of the agricultural over-population and predict the future occupational distribution. At best, any estimate of the 'agricultural over-population' can only be rough and before rushing to simple conclusions, the careful student should examine to what extent remedial measures undertaken in other factors above mentioned will maintain a larger proportion of population than at present on land while at the same time increasing its productivity. Apart from productivity in land, prices and therefore incomes are other important factors which enter into the determination of a perfect size of agricultural population for the country. In fact, the problem is so complex and complicated that our economic experts should first decide on the method of ascertaining the adequate size of population for our agriculture and take efforts to collect the necessary statistical data of all the factors that influence demographic pressure in the different geographical regions within the country.

II

DEMOGRAPHIC PRESSURE IN MADRAS

The population of the Madras Province according to the census of 1941 was 49,341,810. In 1891, that is fifty years ago the population of the Province was only 33,732,664. In half a century it has increased by 46.3 per cent. Taking the population growth according to four distinct but representative areas of the Province, certain characteristics are noted. The Tanjore Deltaic area, one of the most advanced region and where land has been cultivated since the dawn of history with irrigation facilities as old as the ancient Cholas, records a flat population curve. The district has a very high density of population with 686 persons to the square mile. The level of agricultural production is low but steady and unvarying. The problems to be considered as far as this District is concerned is whether an adjustment has been effected between population and production and what conscious effort can be taken to increase or at least prevent deterioration in standards of living in the area.

(1) Population and social problems—Industrial Labour Review, March 1939, p. 309.

In the second region, the Godavari and Kistna deltas, during the 80 years the population has increased by 274% or nearly threefold. It is suggested that this is due to increased production from the land brought about by irrigation facilities during the period. The *per capita* income however has not increased and there has not been a considerable rise in the standard of living. In the third region, Ceded Districts, the population growth is considerably below normal and in West Coast it is at about par with the presidency growth, being 47% as against 46%. In the third region considerable uncertainties exist in the expectation of harvests while in the fourth region in spite of bringing more land under cultivation, agricultural production is reported to be far below the requirements. As per the density of the population in the whole Province the predominance of rice cultivation co-exists with a high density of population.

Out of the total population of over 49 millions, 41 millions live in villages and only 8 millions inhabit the towns. There has been little progress in urbanisation. The percentage of urban to total population was 11.2 in 1901 and in 1941 it had risen to only 14.9. Thus the proportion of the rural population to total population is as high as 84% though lower than the all India figure of 87%. This is very high when compared to other countries as Canada where it is 46%, Northern Ireland 49% and France 51%. There are 35,430 villages in the Province and agriculture is the dominant, if not the sole occupation in the villages. Since the advent of the British Rule the economic self-sufficiency of the villages has been rapidly broken and the village is tending to become only a unit of agricultural production.

In the background of these facts, for our purpose of studying the population pressure subject to the qualifications mentioned in Section I, we have to consider in more detail the occupational distribution of the rural population. Even here the census figures have not been compiled for 1941 and we have to depend on the statistics given in the census for 1931. This cannot form a basis for any comparison of current trends but we have to assume that there has not been any perceptible change in the proportions in the groups and general trends. The following table gives the occupational distribution as in 1921 and 1931 :

	1921	1931
Pasture and agriculture	14,986,910	12,570,439
Fishing & hunting	113,972	116,567
Mining	4,208	13,177
Industry	2,215,497	2,288,206
Transport	208,543	294,535
Trade	1,204,109	1,035,043
Public Administration & Arts	406,690	522,752
Miscellaneous	1,346,744	9,304,702

The census figures reveal that out of every 1,000 persons enumerated 445 persons have no work and are classed as dependents. The remaining 555 people consist wholly of workers or working dependents. Of these 270 are dependent on agriculture, 77 on industry, trade and transport, 11 on public administration and 197 on miscellaneous occupations. The number of persons actually dependent on agriculture has increased from 21 millions in 1891 to 24 millions in 1931. The small increase is due to a system of classification in 1931 in which non-working dependents were excluded. In 1921, 71% of the population was dependent on agriculture and from the

fact that the number of persons employed in industry has been going down from nearly 7 millions in 1901 to just over $4\frac{1}{2}$ millions in 1931, the general tendency may be taken as an increasing dependence on agriculture. This is also confirmed by the man-land ratio during the four decades which is as follows:—

Year	Man—Land ratio	Cultivated area per head of population
1911	288	0.78
1921	313	0.79
1931	315	0.78
1941	326	0.69

It will thus be seen that agriculture is the primary occupation in the Province and the gradual increase in the total population has been exerting an increasing pressure on land more than anywhere else as comparatively there has been little progress either in urbanisation or industrialisation while on the contrary the existing handicrafts and cottage industries have been completely extinguished by the impact of external forces.

The agricultural labourers constitute the predominant group among those dependent on agriculture. For every 1000 persons there were 429 agricultural labourers, 390 cultivating owners, 120 cultivating tenants, 34 non-cultivating owners and 16 non-cultivating tenants. This shows that the evil of absentee landlordism is perhaps not yet as rampant as in other provinces and except in the rich deltaic area of Tanjore District most of the cultivation is being still carried on by peasant-proprietors with the assistance of labourers. However, recent village surveys conducted in the various parts of the province indicate a definite tendency for an increase in the category of agricultural labourers, with a continuous and gradual decrease in the category of landowners. This is a very serious problem which should be fully examined in considering the low productivity of land and population pressure.

Other factors which have a bearing on population pressure are the effects of movement of population which cover internal migration, within a district or within a small region, within the province and to other provinces. Except for seasonal migration of labour in the non-cultivation season to nearby regions and emigration of a small proportion but a substantial number from among labourers for distant places as Burma, Ceylon, Malaya, etc., for work in Estates, there is not a significant movement of population in the province to relieve the pressure on land. As for immigration it is not a very common phenomena and is not important enough to affect the population pressure.

Having reviewed briefly the main statistical information regarding population it is necessary to note a few facts in respect of the land and holdings. Madras is a province of small holdings though the exact size varies from region to region according to the soil, cultivation, climate and other factors. The percentage of cultivable area to total area is 64.3. Of this the net cultivated area is 38.9 per cent. Of the cultivable area the net area cultivated is 60.5 per cent of which 9.0 per cent is double cropped and 27.5 per cent cultivated under irrigation. The area of cultivated land per cultivator is 5.99 acres and the average size of a holding is 4.5 acres. Of the Pattadars 94 per cent hold nearly two-thirds of the cultivated area of the province and they pay an assessment of less than Rs. 30 each. Their

average holding ranges from 0.63 to 6.56 acres with a mean of 3 acres. It follows that a substantial number of holdings in the province is uneconomic for cultivation purposes. There are no reliable statistics to show the extent to which fragmentation of agricultural holdings has taken place, but in a province of small holdings it is obvious that the evils of fragmentation should be very pronounced.

III

The statistical summary of the demographic situation in the province as affecting agriculture does not enable one to draw any precise conclusions as to cause and effect. Attempts have been made by persons like Mr. Tarlok Singh to estimate the surplus population on the basis of a "work unit." The limitation of such a calculation is that it takes into account only one factor to the exclusion of others which equally influence the pressure on land. The one obvious general conclusion that can be drawn in the case of Madras is that the burden on land is at the present technological level excessive and that there has not been a corresponding increase in the agricultural production. The *per capita* real income has been falling. The standards of living differ in the various districts and either they are maintained or deteriorating in some districts while there has been no general improvement. The methods of cultivation still remain mostly primitive.

As has been mentioned in the beginning, the object of this paper is to raise certain issues on the basis of the study of population pressure in Madras and not to attempt an estimate of the surplus population for which it was emphasised a more scientific method should be adopted. The important issue to consider will be whether the general and special unemployment prevalent in the rural areas in India has any direct connection to the size of the agricultural population and whether by mere transfer of population a higher productivity in agriculture can be obtained. Though in all schemes of planning a different occupational pattern is envisaged, there is not conclusive evidence to show that the causes of chronic under-employment and unemployment among the rural population is mostly due to the excessive population burden. As the National Planning Sub-Committee have rightly stressed, unemployment and under-employment in India are the symptoms of an economically unprogressive society. The economic backwardness in itself as also the absence of rational control and guidance of the economic life of the community constitute more important causes of unemployment. These are independent of the number or trend of population.

During the course of more than a century of Western influence, our agriculture has been completely neglected in spite of the advance that is claimed in scientific knowledge. The villages which are and which shall still remain the mainstay of Indian economic life have been allowed to deteriorate. If agriculture were freed from its dependence on the vicissitudes of the monsoons and made not only a method of living as at present, but a business organisation, with the introduction of scientific agriculture, use of improved implements, rotation of crops and introduction of supplementary occupations, the wider problem of increasing the standard of living and finding full employment would have been attacked on right lines. All these improvements and expansion in agriculture can be brought about only after a thorough reform in our system of Land Tenures with a view to provide an economic holding for the cultivators. Attention should, therefore, be

concentrated on implementing an agricultural policy which should aim at securing full and profitable employment to all those engaged in cultivation. With an improving agriculture there will be simultaneous expansion in industry which will automatically balance the excess population on agriculture. What is required therefore is a revolution in the outlook, habits and agricultural organisation of the country which will alone solve the problem.

✓ PRESSURE OF POPULATION ON AGRICULTURE AND THE PROBLEM OF ITS REMOVAL ✓

BY

Dr. V. V. SAYANNA, (M.A., Ph.D.)

Lecturer, University School of Economics & Sociology, Bombay

SCOPE

The topic assigned for discussion may be split up into two parts for our consideration, namely, the first dealing with the problems connected with population pressure, particularly with regard to agriculture and the second with those pertaining to its removal. We may deal in the first section with trends of population growth, its relation to expansion of arable land and developments of natural resources, classification of population into rural and urban, occupational distribution and incidence, and effects of demographic pressure on agrarian economy. Some might feel that, if time and space permitted, a brief critique of Malthusian thesis on population under present day conditions and some of the fallacies often advanced with regard to the so called over-population of India should be also given attention to. The second section consists of answers to questions of availability of employment on the farm for various classes of agriculturists viz. landlords, tenants and field labourers, provision of effective employment of rural people on the countryside in agriculture and in subsidiary occupations such as cottage industries and possibilities of diversion or absorption of excess population in other sectors of economic activity such as industry, trade, mining and commerce. These necessarily include an examination of land settlement schemes, migration and emigration, implications of application of technological improvements to agriculture, industrialisation, programme of economic regeneration of the country and other matters of social and economic significance of the chief underlying issues. An attempt is made in the following pages to lay down the bare outlines of some of these aspects.

SECTION I

DEMOGRAPHIC PRESSURE ON AGRICULTURE: POPULATION GROWTH AND ITS DISTRIBUTION

In spite of the appalling conditions of life, the Indian people are increasing in numbers, at a rate of one per cent every year, a rate at which it is estimated that the population can double itself in course of sixty years. The population of India¹ has increased from 253.9 millions in 1881 to 388.8

* 1. This increase of population in fact was not entirely due to the natural increase of excess of births over deaths. A considerable portion was due to improved method of compilation of statistics and inclusion of areas formerly excluded. In the essay by India, it is meant "India undivided" which comprises the present new dominions of India and Pakistan.